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Democracy and Trends in Wealth Inequality: A Global Empirical Study

MA Thesis

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Declaration of Authorship

I have written and prepared this thesis independently. All of the viewpoints of other authors, as well as data from literary sources and elsewhere, have been cited.

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Abstract

Effective democracy relies on the political equality of individuals, which is in turn influenced by wealth inequality levels. However, within-country wealth inequality has reached extreme levels in the world today and continues to rise. Conclusive information on whether democracies are effectively reducing or limiting wealth inequality as compared to non-democracies is currently lacking. Here I show that generally countries with high levels of democracy are not any more likely to reduce or limit wealth inequality than non-democratic states, using a rigorous methodology and data from 146 countries. Conversely, I also find that two specific aspects related to democracy, strong and independent elected regional government and widespread respect for civil liberties, do function to reduce or limit wealth inequality. My results demonstrate that democracy is in need of certain reforms to both increase political equality and limit wealth inequality. Besides providing empirical support for the practice of federalism as well as policies protecting civil liberties for the disadvantaged, this thesis also examines reasoning for why democracy may not be functioning to reduce or limit wealth inequality, and relevant policy recommendations are highlighted.

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1. INTRODUCTION

An important feature of functional democracies is the political equality of every individual. One of the world's foremost scholars on democracy, Robert A. Dahl (1971), counseled that "a key characteristic of democracy is the continuing responsiveness of the government to the preferences of its citizens, considered as political equals" (p. 1). Political equality exists when every person in a country has similarly equal influence over governmental decisions.

Although *de jure* political equality can be guaranteed by institutions such as the franchise, equality before the law, and the right to run for office, *de facto* political equality is harder to achieve, especially when the possession of material goods and wealth is highly unequal in many democracies.

Unfortunately, with wealth inequality at extreme levels in democracies today, the existence of *de facto* political equality becomes questionable. Alvaredo et al. (2018) show that wealth shares of the top 10% and top 1%, after a slow decline through much of the twentieth century, have sharply increased since the 1980s in several countries. In the United States, for instance, the top 1% of wealth holders, who owned 22% of the nation's wealth in 1978, increased their wealth to 39% of the nation's wealth in 2014 and now collectively own more than the bottom 90% of the population combined. When looking at wealth inequality globally, the figures are also extreme; for instance, in 2018 the world's 26 wealthiest people together owned as much wealth as the bottom half of the world's population (Lawson et al., 2019).

Several studies highlight the mechanisms by which high levels of wealth inequality within democracies create political inequality. A task force commissioned by the American Political Science Association came to the conclusion that there is an "extraordinary association between economic and political inequality" (p. 655) due to differences in voting accessibility between economic classes, lobbying and campaign contributions encouraging legislators to spend more of their time with wealthy constituents and interest groups, and several other institutional factors. Reppeti (2008) suggests, in addition, that "the selection of interests and deployment of assets allow the wealthy to exert a disproportionate influence on governments and their communities" (p. 1159).

It follows then, that democratic states should act to limit wealth inequality levels so that political equality can be preserved and democracy continues to function as intended. Dahl (2006) argues that "if we believe in democracy as a goal or ideal, then implicitly we must

view political equality as a *goal or ideal*" (p. 2). Consequently, democracies should strive to limit wealth inequality, in order to avoid deteriorating into oligarchies, where a small group of people holds the political power. Democracies also have a number of other reasons to limit wealth inequality. For instance, higher levels of economic inequality result in increased violent crime (Fajnzylber et al., 2002), and lower levels of economic growth (Bagchi & Svejnar, 2015; Islam & McGillivray, 2020).

Despite it being increasingly vital for democracy to limit wealth inequality levels as wealth inequality continues to grow within countries worldwide, very little empirical research has gone into examining whether this is happening. Scheve and Stasavage (2017) have performed the broadest empirical study of democracy's effect on wealth inequality to date, and they find that democracy has little effect on wealth inequality. However, their study is severely limited by its methodology: the authors only use data from 11 countries which are all now Western democracies and expand their empirical data points by looking at different time periods. The lack of empirical studies directly relating democracy to wealth inequality might seem surprising at first, but upon closer inspection it becomes clear that the culprit has been the lack of extensive wealth data. According to Scheve and Stasavage, "Political scientists have spent a great deal of time analyzing the empirical correlates of income inequality, but far less effort has been made in the area of wealth inequality. There is a good reason for this: Wealth inequality data are generally much harder to come by" (p. 452). Thankfully, availability of data on wealth holdings and wealth distributions has vastly increased in recent years, making it a ripe subject for study.

Through writing this thesis, I intend to fill a lacuna in the literature relating wealth inequality to democracy. As best as I can tell, no large-N empirical studies have been done definitively examining democracy and its effect on wealth inequality. The objective of this thesis, then, is to provide empirical support for the relationship between democracy and wealth inequality. Specifically, I will be researching, in a large-N study with 146 countries, whether democratic countries are more likely to reduce or limit wealth inequality than non-democratic countries.

There are numerous practical reasons to believe that democracies might favor reducing or limiting wealth inequality over non-democracies. Perhaps the best-known is Meltzer and Richard's (1981) theory that under a democratic system, the majority of voters will rationally choose candidates who favor redistribution when wealth inequality is large. Related empirical studies also exist showing that democracy may reduce income inequality (Muller, 1988;

Huber et al., 2006), although other studies show mixed results (Gradstein et al., 2001; Acemoglu et al., 2015; Knutsen, 2015). These theories and studies, along with others, will be discussed further in Chapter 2.

The design and methodology of my empirical study will be highlighted in Chapter 3. I will be using the Electoral Democracy Index from the Varieties of Democracy Institute as my primary independent variable and will be examining its relationship with novel wealth inequality data from the World Inequality Database, which I will be using as my dependent variable. A series of multivariable linear regressions will be performed, some including additional independent variables related to democracy as well as control variables. The results of these regressions will be displayed and discussed in Chapter 4. The last chapter, Chapter 5, offers concluding remarks.

2. THEORETICAL FRAMEWORK

In this section, I introduce the theoretical framework underlying my hypotheses by providing an overview of relevant literature. In the first two subsections, I begin by conceptualizing both my dependent variable, wealth inequality, and my primary independent variable, democracy. In the final subsection I then thoroughly examine the relationship between these two concepts as evidenced by the literature and justify my choice of hypotheses.

2.1 Wealth Inequality

For the purposes of this thesis, when referring to wealth inequality, I intend to use a very specific conceptualization. First, I will discuss different definitional attributes of wealth inequality, and put together a precise definition. Second, I will discuss normative aspects related to wealth inequality. Finally, I will examine the prevalence of wealth inequality in the world today as well as its recent trends.

I will begin by explaining the differences between wealth inequality and income inequality. Wealth inequality solely refers to the distribution of wealth in a population, and I will define wealth and its components more precisely in the upcoming paragraphs. Income inequality, on the other hand, refers to the distribution of incomes, money received with some regularity through work or investments (Kaiser et al., 2017, p. 2). Although levels of income inequality are in many cases highly correlated to wealth inequality, they are almost always lower than levels of wealth inequality (Chancel et al., 2022). Economic inequality is an all-encompassing term which can refer to both wealth inequality and income inequality.

The second distinction I would like to make is between within-country and between-country wealth inequality (Chancel et al., 2022). The former refers to the inequality of wealth holdings between individuals residing in the same country and the latter refers to the inequality of average wealth holdings per person between different countries. For the purposes of this thesis, I will be referring to within-country income inequality. Within-country economic inequality has been increasing in recent decades, in contrast to between-country inequality, which has been decreasing (Chancel et al., 2022).

At this point it becomes necessary to specify the components of wealth as it is referred to in this thesis. Wealth can be broken down into three major categories: financial assets, non-financial assets, and liabilities. Non-financial assets can be further broken down into housing

assets and other non-financial assets to create a total of four categories (Blanchet et al., 2021, p. 70). Financial assets are comprised of currency, deposits, bonds, loans, financial investments, pension funds, and life insurance. Housing assets includes dwelling places and their associated real estate. Other non-financial assets include business assets, agricultural land, natural capital such as mineral deposits, and other items of value like vehicles, electronics, and everyday items. Finally, liabilities are obligations of repayments such as debts, and unlike the other three categories above, which add to wealth, liabilities are subtracted from wealth. Combining all of these categories creates what is more precisely referred to as net wealth, but in this thesis I will simply refer to it as wealth.

Lastly, it might make sense to delineate other types of wealth that will not be utilized in determinations of wealth inequality. First, I will not be discussing relational wealth, which according to Diwan (2000), “emanates from our interconnections with other human beings” (p. 305). Often, those that are materially the wealthiest are lacking in relational wealth, and those that are materially the poorest may have large amounts of relational wealth. However, for the purposes of my study, I will not be taking into account relational wealth when defining wealth inequality. Second, I will be referring to objective rather than subjective measures of wealth (Kaiser et al., 2017, p. 3). In other words, I will be looking at systematized collected data on objective wealth rather than individual assessments of standard of living or wealth comparisons with others. The key reason for this is that individuals’ assessments of their own wealth are likely to be biased, as people usually place themselves closer to average than they actually are (Centers, 1949; Hout 2008). To achieve my goal of producing generalizable findings across many countries and cultures, it is clearly necessary to use objective rather than subjective measures of wealth.

Considering all of this, I intend to provide the following working definition of wealth inequality. Specifically, I will define wealth inequality as the unequal distribution of material wealth, including both financial and non-financial assets minus liabilities, across individuals within the same country. I feel that this working definition provides a concise yet particularistic notion which can be used throughout the body of the text.

Now I will move on to the second part of this subsection, which addresses normative aspects of wealth inequality. From the working definition provided, it becomes clear that wealth inequality will always be present, as countries cannot have exactly equal distributions of material wealth. Dahl (2006) reasons that “a capitalist market economy...inevitably generates

a vast inequality in resources among its citizens” (p. 66) but admits that “a modern democratic country has no feasible alternative to an economy of market capitalism” (p. 67). In other words, although capitalist market economies create wealth inequality, they are necessary for democracy, as no viable alternatives exist. It is reasonable, therefore, to suggest that perfect wealth equality is not practicable and some level of wealth inequality is necessary.

Nonetheless, high levels of wealth inequality have been directly empirically related to undesirable outcomes. Economic growth, for instance, is generally seen as desirable, especially when it comes to economic growth in less developed countries, but high levels of wealth inequality have been related to low economic growth in the literature. Islam and McGillivray (2020) have performed the most comprehensive research to date on wealth inequality and economic growth, and find that high levels of wealth inequality are associated with lower levels of economic growth in a sample of 45 countries. The authors also find that this negative effect can be mitigated when good governance practices are implemented in a country. The findings of Islam and McGillivray (2020) match with earlier conclusions by Bagchi and Svejnar (2015), who performed a similar study which was more limited in scope.

Another reason that high levels of wealth inequality can be seen as normatively undesirable draws from peoples’ preferences. Two studies (Norton & Ariely, 2011; Franks & Scherr, 2019) found that survey respondents in the United States, one of the developed countries with the highest levels of wealth inequality, preferred much more equal wealth distributions, similar to those existing in Sweden. The surveys, interestingly, also found that respondents vastly underestimated levels of wealth inequality in the United States.

Because wealth inequality data is relatively novel, very few studies use it directly as a measure of inequality but instead use income inequality as a proxy. Looking at these other studies, one can find that high levels of economic inequality are also related to higher levels of violent crime and homicide (Fajnzylber et al., 2002; Daly et al., 2001), lower levels of subjective well-being (Napier & Jost, 2008), and lower levels of happiness (Oishi et al., 2011). Wilkinson and Pickett (2019) show that high levels of economic inequality are also related to a variety of poor health outcomes such as obesity and mental illness.

Finally, a couple of important studies prescribe causal mechanisms to explain the previously mentioned associations between high levels of wealth inequality and negative societal outcomes. An experiment by Greitemeyera and Sagioglou (2017) showed that specifically,

feelings of personal relative deprivation associated with high levels of wealth inequality can increase interpersonal hostility and aggression. This aggression could, in turn, lead to some of the negative societal outcomes found. Buttrick and Oishi (2017) identify two additional psychological mechanisms that could explain the relationships. They suggest that societies with high levels of wealth inequality have lower levels of societal trust and higher levels of consumerism related to status competition. These, in turn, result in some of the negative societal outcomes present.

After reviewing the literature, it becomes evident that although having a market-based society with completely equal wealth distribution is not attainable, having too high of a level of wealth inequality is clearly not desirable. Some level of wealth inequality between both of these extremes is preferred. Next, I will examine some of the data on where wealth inequality levels stand in the world today, as the final part of this subsection.

The World Inequality Report, produced by the World Inequality Lab, is a comprehensive source for identifying patterns in wealth inequality throughout the world. The newest report (Chancel et al., 2022) suggests that the top 10% of wealth holders worldwide own 76% of the global wealth, and the bottom 50% of wealth holders only hold 2%. On the global level, wealth inequality is holding fairly steady at these distributions and has not increased or decreased significantly over the past couple of decades. However, for the purposes of this thesis, we are particularly looking at within-country wealth inequality as outlined in the working definition.

If the global trend in wealth inequality is broken into two components, a between-country component and a within-country component, it can be shown that the between-country component of wealth inequality is decreasing. Chancel et al. (2022) suggest a reason for this: “the rise of private wealth has been faster in large emerging economies than in rich countries, a trend driven by high economic growth and large-scale privatization in transition economies. This tends to reduce global wealth inequality between the emerging world and wealthiest nations” (p. 95). However, the reduction in between-country wealth inequality has served to mask a notable rise in within-country wealth inequality. The majority of the world’s countries, including the four most populous countries – China, India, the United States, and Indonesia – have seen an increase in wealth inequality within their borders over the past few decades. The rises in China and the United States are particularly notable, with wealth shares of the top 10% increasing from 41% to 68% and 66% to 71% of total wealth holdings,

respectively, between 1995 and 2021. There are several causes for this rise in within-country wealth inequality, but Chancel et al. (2022) point out three in particular: rising income inequality, inequality of savings rates, and inequality of rates of return between different wealth groups (p. 95). I will further discuss these in the next three paragraphs.

The first reason for the rise in wealth inequality that the authors point out is rising income inequality. In the United States, the pay ratio between chief executive officers (CEOs) and median workers of firms has been on the rise over the past several decades. According to Mishel and Scheider (2018), it has risen from 20-to-1 in 1965 to 58-to-1 in 1989 to 312-to-1 in 2017. This is just one example in a larger trend: the income share of the top 10% of income earners has increased in nearly every country since the 1980s (Chancel et al., 2022).

The second cause that is given for the rise in wealth inequality, inequality of savings rates, is also relatively straightforward and easy to understand. It refers to the principle that larger wealth portfolios often have higher savings rates than smaller portfolios. Chancel et al. (2022) cite the fact that in a deregulated financial market, larger university endowment funds are able to produce rates of return almost double that of smaller endowments, and this likely carries over to private wealth funds as well.

However, the third reason that is given for the rise in wealth inequality, differing and unequal rates of return between different wealth groups, is a bit more complex so I will explicate it further. Most income for the majority of individuals comes from wages; however the majority of income of the ultra-wealthy comes from return on capital, which includes business income and growth of financial holdings. Picketty (2014) finds, using empirical data, that whenever a country's rate of economic growth is smaller than its rate of return on capital, wealth inequality will increase. Although Picketty's findings are novel, his explanation is relatively simple: national rate of economic growth is closely related to how much a typical individual in a country increases their wealth, and return on rate of capital is closely related to how much ultra-wealthy inhabitants of a country increase their wealth by. If the rate of return on capital in a country is high while the national rate of economic growth is low, it means that the wealthy will increase their wealth at a higher rate than a typical individual, increasing wealth inequality within a country.

So just how unequal is wealth distributed within different countries today? The short answer is, it varies a lot by country. On one hand, some of the lowest levels of wealth inequality can be found in Europe, where in a few countries the top 10% of wealth holders own as little as

47% of the overall wealth. In these same countries, the bottom half of the population usually owns between 5% and 10% of the wealth. On the other hand, in South Africa the top 10% of wealth holders own 86% of the overall wealth, and the bottom half combined have more liabilities than assets, making their wealth figures negative. South Africa is not alone in the bottom half of its population having more liabilities than assets, several other countries share in this fact (Alvaredo et al., 2022). When extreme levels of wealth inequality are becoming more and more common within countries in the world today, and these high levels are associated with negative societal outcomes, it becomes normatively desirable to limit or reduce wealth inequality to more sustainable levels.

Over the course of this subsection, I have conceptualized wealth inequality by providing a definition, outlining its important normative aspects, and demarcating to what extent it is present in the world today. In the next subsection, I will take a look at the primary independent variable, democracy.

2.2 Democracy

Democracy is not as precise of a concept as wealth inequality; for instance there is no definitive answer to whether Uruguay is more or less democratic than Czechia. For this reason, instead of creating a precise working definition of democracy, I will define and explicate its attributes and characteristics (Wonka, 2007). Afterwards, I will briefly examine democracy's varied presence around the world today.

Perhaps one of the simplest definitions of democracy is provided by Schumpeter (1942). He suggests that "the democratic method is that 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" (p. 269). This definition has been praised by some for its simplicity. For the purposes of this thesis, however, it is particularly problematic since it proposes that the electorate bestows full control of societal decision-making on a representative at a specific moment in time, the vote. Accountability of the representative to the public is non-existent outside of this short time window. The representative could choose to run the society as one with very few freedoms, and it would still fit within Schumpeter's definition.

Dahl (1989, p. 222) describes seven different characteristics of what he terms "polyarchies": elected officials, free and fair elections, inclusive suffrage, the right to run for office, freedom

of expression, access to alternative information, and associational autonomy. Dahl's reasoning for using the term polyarchy is that he viewed democracy as an ideal, and polyarchies were real-world manifestations of regimes with aspects of democracy. Although Dahl is correct in that no regime exists today that is an exactly ideal democracy, for the purposes of this thesis I will continue to refer to Dahl's polyarchies simply as democracies.

Even with each of these seven features in place, Dahl's conception of democracy is rather minimalistic. For instance, it lacks features fully guaranteeing *de facto* political equality, the rights of minorities, and checks and balances on government power. Despite these shortcomings, I intend to use these attributes to conceptualize essential aspects of democracy for the purposes of this thesis.

The first attribute, elected officials, echoes Schumpeter's (1942) definition. However, the second attribute suggests that elections must be free and fair. Free elections mean that individuals must be able to vote how they want, without intimidation or consequences. Fair elections are conducted only when any resident individual can run, all candidates are treated fairly by the media, fraud is not present, and results are respected.

The third attribute by Dahl (1989) suggests that suffrage must be inclusive. Inclusivity is widely regarded to be that citizens of voting age can cast a ballot, regardless of class, race, or gender. However, for the purposes of this thesis, it stands to reason that inclusivity of suffrage should also extend to resident foreigners. For instance, a large portion of the Gulf States have populations where the majority of residents are not citizens, and with increasing global migration and mobility, other countries are gaining a larger share of resident non-citizens. Altman (2020) suggests that immigrants should also acquire the right to vote when they settle in a country, regardless of citizenship, since they are also under the jurisdiction of political decisions that take place within states. For cross-comparison across states, measures of democracy should also take into account if a state has a large portion of disenfranchised residents.

The fourth attribute by Dahl (1989), the right to run for office, is relatively straightforward. Dahl's fifth and sixth attributes, freedom of expression and access to alternative information, are fairly intertwined. Democracy thrives on the ability of individuals being able to express their dissatisfaction with the government without fear of reprisal. Similarly, the news media in democracies should also be able to freely express opinions that dissent from those of the government, and individuals should have access to this information. In today's world, access

to alternative information is also becoming limited in many nations through blockages of the global Internet.

The final attribute, according to Dahl (1989), is associational autonomy, otherwise known as freedom of association. This not only includes individuals' ability to join associations, but also the right of associations to collectively advocate or bargain for rights.

It becomes clear that no democracies achieve complete perfection with regards to all of these essential attributes. However, when all of the attributes are analyzed comprehensively together, an idea of the level of democracy within a country becomes possible. Measurement of democracy, based upon this Dahlian conceptualization, will be covered in detail in Section 3.

It is important to note that I have conceptualized democracy rather minimally, and what I have referred to here is sometimes presented in the literature as electoral democracy. Other types of democracy include additional attributes. For instance, liberal democracy accounts for civil liberties and checks and balances between governmental institutions, and egalitarian democracy accounts for political equality. Additional categories of democracy, like participatory democracy or deliberative democracy, focus on more institutionalized inclusion of individuals in the democratic process beyond just regularly voting for representatives.

A strong case can be made that democracy is a normatively desirable political system. Dorn et al. (2007) find that democracy is positively related to happiness in the form of subjective well-being, even when controlling for income, language, and religion. Democracy is also associated with higher levels of secondary school education (Acemoglu et al., 2015), higher levels of transparency and data provision (Hollyer et al., 2011), and higher rates of Internet access (Weidmann et al., 2016). Even when accounting for endogeneity concerns, democracy reduces corruption (Kolstad & Wiig, 2016). Transitions from autocracy to democracy also result in increased access to safe water and increased immunization of infants (Lake & Baum, 2001), reduced mortality from tuberculosis and non-communicable diseases, and increased HIV-free life expectancy (Bollyky et al., 2019). Lastly, democracies are much less likely to go to war with each other; in the words of Levy (1989), "absence of war between democratic states comes as close as anything we have to an empirical law in international relations" (p. 270).

For the remainder of this subsection, I will evaluate literature regarding the state of democracy in the world today. For the purposes of this thesis, I will treat democracy as a continuous variable which ranges from more democratic to less democratic. I will interchangeably refer to less democratic countries as autocracies. However, some of the literature treats democracy as a categorical variable, so I will at times refer to the categories provided by the literature in place of my own conceptualization.

Perhaps the most authoritative sources for trends in democracy are the annual democracy reports released by the Varieties of Democracy Institute (V-Dem Institute). In these reports, the authors describe recent trends in the state of liberal democracy throughout the world, with a focus on the past year. The 2021 report by the V-Dem Institute (Alizada et. al, 2021) is titled “Autocratization Turns Viral” (p. 1) and the report outlines how liberal democracy has been in decline across the world in recent years. Unfortunately this decline has been picking up in pace, and as of 2020, a full 34% of the world’s population lives in countries where liberal democracy is decreasing, while only 4% of the world’s population lives in countries where liberal democracy is increasing. The report suggests that after a steady rise from the 1970s to around year 2010, including a notable jump around 1990 after the fall of the Soviet Union, average levels of liberal democracy worldwide peaked shortly after 2010. Since then, the trend has been a decline in liberal democracy. The report groups countries into four categories: liberal democracies, electoral democracies, electoral autocracies, and closed autocracies. In 2020, it suggested that 32 of the world’s countries were liberal democracies, 60 were electoral democracies, 62 were electoral autocracies, and 25 were closed autocracies.

In any case, today the world faces a range of countries with different levels of democracy, making it possible to study its effects on other variables and outcomes. In this subsection, I have conceptualized democracy by describing its attributes and features and discussing different types of democracy. I then briefly illuminated its current empirical trends. In the next subsection, I will highlight the existing literature relating democracy to wealth inequality, and end by introducing my hypotheses.

2.3 The Relationship between Democracy and Wealth Inequality

Democracy and wealth inequality are both salient concepts, but their relationship has not been fully established in the literature. Even so, there are numerous sources linking the concepts in different ways, and I intend to provide a comprehensive overview of existing literature in this subsection. I will begin by discussing influential political theory related to

wealth inequality and democracy. Then, I will examine causal theories of why democracy should impact wealth inequality. Finally, I will survey existing literature on the correlation between democracy and economic inequality.

2.3.1 Political Theory Regarding Democracy and Wealth Inequality

I will begin this subsection by describing the work of two political theorists on democracy and wealth inequality, John Rawls and Francis Fukuyama. Rawls' (1971) two principles of justice are fundamental to understanding the general thinking about what level of inequality should exist in a democratic society. Since Rawlsian thinking has influenced many democratic leaders, it is reasonable to believe that it could have influenced democratic states' policies towards economic inequality as well.

Rawls (1971) contends that his two principles are the result of what would be honestly decided upon by anyone who theoretically did not know what position they would occupy in a society, a position he calls the "veil of ignorance" (p. 11). The first principle is that "each person is to have an equal right to the most extensive scheme of equal basic liberties compatible with a similar scheme of liberties for others" (p. 53). This principle suggests that basic liberties are not to be infringed upon, and does not address economic inequality. However, the second principle is that "social and economic inequalities are to be arranged so that they are both (a) reasonably expected to be to everyone's advantage, and (b) attached to positions and offices open to all" (p. 53). The first part of this second principle suggests that economic inequality should only exist to the extent that it is to everyone's advantage, and this is of special interest when it comes to relating democracy to wealth inequality.

Interestingly and importantly, Rawls (1971) suggests that his first principle is more important than his second principle. He states, "These principles are to be arranged in a serial order with the first principle prior to the second. This ordering means that infringements of the basic equal liberties protected by the first principle cannot be justified, or compensated for, by greater social and economic advantages" (pp. 53-54). In other words, infringing upon basic liberties in order to reduce economic inequality is not justified. For instance, taking away basic liberties such as freedoms of expression and information, as was practiced in the communist Soviet Union, allegedly under the guise of reducing economic inequality, would not be consistent with Rawlsian thought. However, Rawls does go on to say that "the right to own certain kinds of property (e.g., means of production) and freedom of contract as understood by the doctrine of laissez-faire are not basic [liberties]; and so they are not

protected by the priority of the first principle” (p. 54). Taken together, the two principles of justice and their clarifications suggest that Rawls considers redistribution of resources as well as complete equalization of opportunity to be essential in a just democratic state. It also follows, though, that he does advocate that some amount of wealth inequality is tolerable, as long as it is for the benefit of the worst-off.

Fukuyama (2011) offers an alternative perspective of democratic thought on wealth inequality. He suggests that “in most liberal democracies, there is a consensus that excessive inequality is a bad thing, but considerable disagreement as to the practicality and likely effects of policies that governments can implement to mitigate it” (p. 83). Fukuyama goes on to say that democratic governments often fail to implement redistributive policies because of their worries about economic effects such as moral hazard. That is – they fear that redistribution may lead to unintended economic and societal consequences. Such thinking on the part of democratic governments is likely brought about by the prevalence of neoliberalism first popularized by economists Friedrich A. Hayek (1960) and Milton Friedman (1962), who have often eschewed political and economic equality in favor of less government intervention. Fukuyama (2011) finishes on a rather somber note by suggesting that it may not be possible for democracies to solve problems of inequality. He concludes, “One profound question left unaddressed here is whether deep structural inequalities of the sort plaguing many developing democracies can ever be solved through democratic means alone” (p. 87).

Rawls’ (1971) thinking prescribes a level of wealth inequality that is quite low, and democratic states taking his theories into account may strive to enact redistributive policies which lessen wealth inequality and increase equality of opportunity. On the other hand, Fukuyama (2011) approaches wealth inequality from a practical standpoint, and elucidates that perhaps democracy is not capable of solving deeply rooted problems of wealth inequality by itself. In response to the work of these theorists, two questions emerge. First, what are the causal mechanisms by which democracy could reduce wealth inequality? And second, is there any empirical evidence that democracies actually do reduce wealth inequality? I will address the first question by examining a selection of literature in the upcoming paragraphs, and address the second question afterwards.

2.3.2 Causal Mechanisms Relating Democracy to Wealth Inequality

The most salient causal theory for why democracies reduce economic inequality is outlined by Meltzer and Richard (1981). They use a series of mathematical equations based on

standard economic theory to suggest that in a democracy, policy on redistribution is determined by the preferences of one person: the voting individual with the median disposable income, who they term the “decisive voter” (p. 924). Meltzer and Richard contend that all of the voters with incomes above this individual will rationally prefer lower amounts of redistribution and all of the voters with incomes below this individual will rationally prefer higher amounts of redistribution; therefore, the decisive voter casts the deciding vote. They determine that the rate of redistribution is dependent on the relationship between the disposable income of the decisive voter and the mean disposable income in society as a whole. In particular, they imply a point of equilibrium where the mean income is a certain multiplicative amount higher than the decisive voter’s income. If the mean income in a democracy is higher than this equilibrium point, then the decisive voter will vote to increase redistribution, and if the mean income in a democracy is lower than this equilibrium point, then the decisive voter will vote to decrease redistribution. In any case, because of the change in redistribution from the vote, the theory argues, the equilibrium point will be reached once again. In this way, democracy limits income inequality from becoming too large.

Meltzer and Richard’s (1981) theory, admittedly, has some strong assumptions. First of all, it assumes that voters only vote for a candidate based on one political dimension, the economic left-right scale. Although historically this has been the dominant dimension in politics, it is becoming less salient. Second, the theory suggests that individuals are rational and know exactly how specific redistributive policies will affect their own take-home incomes as well as the mean income of society as a whole. Third, the theory relies on the government operating on a balanced budget, such that revenues are equal to expenses when it comes to redistribution. Finally, the mathematical equations that the authors utilize require that changes to redistribution happen near-instantaneously so that equilibrium will be reached; in reality, it takes a set time for candidates to get elected and implement their policies and for people to actually begin to see tangible effects. By the time the new policies are implemented, the relationship between the income of the decisive voter and the societal mean income could be much different than it was when the candidate was elected, and the redistributive policies would be inadequate.

Putting all of these assumptions aside, there are two main implications from Meltzer and Richard’s (1981) theory. First, that by limiting the franchise so that the decisive voter is more affluent (e.g. prohibiting those with low incomes from voting or encouraging them not to vote) it is possible to sustain higher rates of income inequality. Secondly and most

importantly, if it is assumed that democracy is at an ideal state and the franchise has been extended to all adult individuals residing in a country, then the rate of redistribution is entirely dependent on the ratio of median income (which in this case is the same as the median income of voters) to the mean income in the democracy, which happens to be a common measure of income inequality.

Up until this point I have discussed Meltzer and Richard's (1981) theory and its implications for income inequality in democracies. Although limiting income inequality can also strongly influence wealth inequality in a country, additionally it is possible that the theory could be applied to address wealth inequality in democracies. For instance, if the decisive voter was determined to be the voter with the median wealth, and this voter determined economic policies related to redistribution of wealth (e.g. the estate tax, taxes on capital gains, or a wealth tax), it would stand to reason that when wealth inequality was large, or in other words the wealth of the decisive voter was well below the mean societal wealth, wealth distribution policies would be implemented which would decrease wealth inequality to a more reasonable equilibrium level. In this way, it is possible to see how Meltzer and Richard's theory could also limit wealth inequality.

It is also important to note that Melzer and Richard's (1981) theory implies different outcomes in the case of non-democracies, or countries with very low levels of democracy. Applying Melzer and Richard's theory to non-democracies results in the decisive individual not being a voter, but a marginal member of a ruling group such as a military junta, or if power is completely concentrated in the hands of one person, the ruler themselves. Therefore, redistribution levels decided upon are those preferred by an average junta member or a ruler, who are likely to be better off economically than the voting individual with the median disposable income or median wealth in a democracy. Therefore, in non-democracies, Meltzer and Richard's theory would predict that less redistribution would occur than in democracies, permitting higher levels of income or wealth inequality.

Moving on from Meltzer and Richard, it is possible that other institutions within democracies, such as organized collective action, could limit wealth inequality.

Rueschemeyer (2004) proposes that "organization for collective action in voluntary associations, unions, and parties is the most promising power resource of 'the many.'" It is here that there are possibilities of compensation for the impact of social and economic inequality on democratic politics" (p. 86). He argues that collective organizations, especially

when funded by the small contributions of many individuals rather than donations by wealthy individuals, can advance economic equality. In particular, according to Rueschemeyer, they provide alternative points of view in academic research and within society which are sympathetic to the political demands of their constituent members, who tend to be working class or middle class. However, he suggests that autonomous organizations for collective action lose support, and consequently, effectiveness when they do not make political gains, so they require a particular type of democratic government which incorporates their views into the decision-making process in order to succeed. Fishman (2017) provides an excellent comparative study of Spain and Portugal after their transitions to democracy in the 1970s and shows that Portugal, which took concrete steps to incorporate the viewpoints of autonomous civil society groups into decision-making processes, has a stronger civil society today than Spain and has also incorporated policies more favorable to reducing economic inequality. The conclusions from this study are fully supportive of Rueschemeyer's (2004) ideas.

2.3.3 Empirical Studies Relating Democracy to Economic Inequality

Now I will discuss whether democracies empirically reduce economic inequality. Because the number of empirical studies directly examining how democracy affects wealth inequality directly is quite small, I will subsequently examine related empirical studies correlating democracy with income inequality and redistribution.

I begin by examining the most comprehensive empirical study to date relating democracy to wealth inequality, by Scheve and Stasavage (2017). In this study, Scheve and Stasavage examine 11 countries (Australia, Denmark, Finland, France, Ireland, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and the United States) and expand their data points by looking over time. Specifically, they look at each of these countries in five year intervals from 1900 until 2010. As their independent variable, they use "competitive elections" (p. 460), a binary variable which is equal to 1 if a country has a competitive multi-party free election for its legislature, separation of legislature and executive branches, and a franchise of at least 50% of adult males at the time of interest. As their dependent variable, the authors use the wealth share of the top 1%, a common measure of wealth inequality. They control for a variety of variables, including economic indicators like return on capital. Finally, Scheve and Stasavage realize that democracy does not immediately affect wealth inequality, so they take five-year averages of top 1% wealth shares beginning immediately after the measurement of competitive elections, as well as five-year averages of top 1%

wealth shares beginning 25 years after the measurement of competitive elections. The authors justify this 25-30 year lag period by suggesting that during 30 years, individuals in democracies would have received higher levels of education, and then would have started receiving higher wages and accumulating more wealth.

The results of Scheve and Stasavage's (2017) study suggest that democracy has no significant relationship to wealth inequality levels. However, the study has a couple of significant limitations. First, the independent variable, competitive elections, is rather simply defined. Thankfully, the authors take this into account and perform numerous robustness checks using a variety of indices produced by the Varieties of Democracy project. They show that the results remain unaffected.

The second limitation, however, is more serious and the authors do not acknowledge it. Only 11 different countries are included in the study, and nine of them are Western European (Denmark, Finland, France, Ireland, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom) while the remaining two (Australia and the United States) are Anglophone countries that have notable similarities and cultural ties to Western Europe. To the best of my knowledge, no empirical studies have been completed directly relating democracy to wealth inequality in a larger number of countries.

Islam (2018) does perform a somewhat unique study involving democracy and wealth inequality, involving 46 countries. He first finds that high levels of wealth inequality have a negative effect on different indicators of what he terms "economic freedom" (p. 920), specifically property rights, soundness of money, freedom to trade, and business regulations. However, he finds that this negative effect is mitigated by democracy. In other words, in less democratic states wealth inequality has a larger negative affect on these economic freedom indicators than in more democratic states. Islam (2018) also performs several robustness checks to confirm his findings, including the use of both top 10% wealth shares and top 1% wealth shares as measures of wealth inequality. In summary, although Islam (2018) does not research whether democracy affects wealth inequality directly, he finds that its presence can help limit some of wealth inequality's negative effects.

As far as I am aware, no other applicable studies relating democracy to wealth inequality have been completed, likely because of the difficulty in compiling wealth inequality data until recently, as mentioned by Scheve and Stasavage (2017, p. 452). However, now I will

provide an overview of some of the more relevant studies relating democracy to income inequality.

Muller's (1988) pioneering study on the effects of democracy on income inequality finds that long-standing democracies significantly reduce income inequality compared to very new democracies and autocracies. Interestingly, Muller finds that very new democracies are no different than autocracies when it comes to income inequality. Muller notably uses years of democracy as his independent variable, and finds that "at least 20 years of experience [in democracy] are required for [an] egalitarian effect to occur" (p. 59). Muller's study contains data from 55 countries. A second study from Huber et al. (2006) focuses on 18 countries in Latin America and the Caribbean and like the Scheve and Stasavage (2017) study previously referenced, expands its data points by looking over time. This study finds that in general, more democracy leads to less income inequality. However, when the authors break down democracies according to strength of their parties on a left-right economic spectrum, they find that only those democracies with significant participation of center-left and left parties have less income inequality. They also find that social security and welfare spending only decreases income inequality in strong democracies, and otherwise increases income inequality. The study employs a rigorous methodology with appropriate control variables. Altogether, both the Muller (1988) and Huber et al. (2006) studies empirically support the concept that democracy decreases income inequality.

Conversely, studies also exist which show mixed results on whether democracy affects income inequality. Gradstein et al. (2001) find that democracy only affects income inequality in societies where a large portion of the population identifies as Christian or Jewish. However, since they find that Muslim and Confucian societies are in general more equal to begin with, they theorize that cultural values associated with Islam and Confucianism keep inequality in check to begin with and democracy becomes redundant, giving no effect. The study also finds that while controlling for democracy, parliamentary systems reduce income inequality more than presidential systems. Knutsen (2015) finds that democracy is not correlated with any of the traditional indicators of income inequality, such as Gini coefficient, but does find that democracy increases wage shares, or the share of income coming from wages. Higher wage shares are generally, in turn, associated with less income inequality. However, other factors such as level of financialization are also associated with wage shares (Stockhammer, 2013), so it is difficult to say whether Knutsen's study implies that democracy is definitively associated with less income inequality. In any case, the findings of

Knutsen agree with an earlier study by Rodrik (1999) which suggests that democracy increases manufacturing wages. Finally, a study by Acemoglu et al. (2015) finds that democracy has no robust impact on income inequality but creates a mixture of effects that could either increase or decrease economic inequality. These studies, when taken together, suggest that democracy's effects on income inequality could be ambiguous, contrasting with the findings of Muller (1988) and Huber et al. (2006).

A variety of other studies show that particular, non-essential aspects of democracy can affect income inequality. I will outline two studies of interest here before moving on. First, an empirical study by Tselios et al. (2012) finds that decentralization of government power, in terms of granting more fiscal authority to regional governments, is correlated with less income inequality. The authors postulate a couple of simple causal mechanisms by which this happens. On one hand, they argue that if economic inequality is perceived to be an issue at the regional level, it could be more effectively dealt with by regional public officials who respond more efficiently to their constituents' wishes. On the other hand, they propose that a greater amount of social capital as well as more accountability and transparency at the regional government level limits wealthy elites from being able to dictate public policy and spending. Although the focus of Tselios et al., decentralization, is not an essential attribute of democracy, it is a related concept, and many democratic countries display decentralization of power in the form of elected regional or state governments. Second, an extensive empirical study by Bhagat (2020) reveals that rule of law, as measured by protection of property rights and access to justice for all, can limit income inequality levels. Although these specific individual protections, often called civil liberties, are not included in my Dahlian conceptualization of democracy, they are often present in democratic states. Bhagat's inclusion of 134 countries in his study further strengthens the applicability of his findings.

To close, I will present a few important studies relating democracy to redistribution. First, Iversen and Soskice (2006) empirically find that electoral systems in democracies play a defining role in determining the amount of governmental redistribution present. In particular, they find that democracies with proportional representation (PR) electoral systems redistribute more than those with majoritarian systems. The authors argue that this is because center-left governments dominate under PR systems and center-right governments dominate under majoritarian systems. On a more general note, Seelkopf and Lierse (2017) find that democracies do not tax more than autocracies in general, but democracies are more likely to levy progressive types of taxes, specifically inheritance and personal income taxes. These

taxes are generally more redistributive than other taxes like sales tax and value-added taxes and are more favorable for reducing economic inequality. Finally, supporting the theory of Meltzer and Richard (1981), Midtbø (2018) rather intuitively uncovers with survey data that lower income groups are more in favor of redistribution than higher income groups.

Considering all of the findings within this subsection, an argument could first be made that the influential political theory of Rawls (1971) might have motivated democratic states to limit or reduce wealth inequality more than their autocratic counterparts. Perhaps more convincing and practical arguments can be made based on Meltzer and Richard (1981) and Rueschmeyer (2004) that democracies have built-in mechanisms and characteristics that make them more likely than autocracies to reduce or limit wealth inequality.

However, comprehensive empirical evidence evaluating the relationship between democracy and wealth inequality is lacking. Only one study (Scheve & Stasavage, 2017) directly examines the relationship between both variables, and it only takes into account the experiences of 11 countries. With this thesis, I intend to fill the existing gap in the literature by providing a comprehensive empirical study on democracy and wealth inequality involving data from a large number of countries. Taking into account the arguments outlined in the previous paragraph, as well as existing empirical data from the studies by Muller (1988), Huber et al. (2006), Seelkopf and Lierse (2017), and Midtbø (2018), I specify my primary hypothesis that:

H1: Countries with a higher level of democracy will be more likely to reduce or limit wealth inequality than those with a lower level of democracy.

In addition to the primary hypothesis, two additional hypotheses will be examined which relate particular, non-essential aspects of democracy to wealth inequality. The first of these hypotheses takes into account the findings of Tselios et al. (2012), which suggest that having stronger and more independent regional government may decrease economic inequality. It follows that:

H2: Countries with strong and autonomous elected regional governments will be more likely to reduce or limit wealth inequality than those without such regional governments.

The second of the additional hypothesis is inspired by Bhagat's (2020) study, which finds that application of property rights and access to justice for all reduces economic inequality. It follows that:

H3: Countries with broader application of civil liberties, such as property rights and access to justice, will be more likely to reduce or limit wealth inequality than those that do not respect civil liberties for all individuals.

When examining each of these hypotheses, it is important that special attention is paid to additional factors that could affect the level of wealth inequality, in place of the independent variables of interest related to democracy. These factors will be taken into account in the form of control variables, the choice of which I will now justify. Total population and change in population will be included as control variables to test whether larger or faster-growing countries generally increase wealth inequality more, and control for it if they do, although Ahluwalia (1976) suggests this is not the case between population growth and increases in income inequality. It is also reasonable to assume that the level of absolute wealth of a country could affect whether its wealth inequality is more likely to increase or decrease, so this will also be controlled for. Murshed et al. (2020) finds that higher state fiscal capacity increases social welfare spending, especially in combination with level of democracy. Because of high degree of interrelatedness between social welfare spending and wealth inequality, it follows that state fiscal capacity should be controlled for. Finally, controlling for region ensures that any effects of specific regions or cultures on changes in wealth inequality are accounted for, as Gradstein et al. (2001) suggest may be the case. Indeed, as Chancel et al. (2022) find, inequality is distributed differently in the diverse regions of the world, and it would be unsurprising if any changes to wealth inequality are also regionally dependent. In sum, total population, change in population, absolute level of wealth, state fiscal capacity, and region will all be included as control variables.

3. RESEARCH DESIGN AND METHODOLOGY

In this section, I justify and clarify my chosen research design to test the hypotheses, and provide a step-by-step account of the methods taken in my empirical analysis. In the first subsection, I provide an overview and justification for the research design. Then, in the second subsection, I rationalize my data sources and clarify my data collection methods. In the third subsection, I provide a step-by-step account of data analysis procedures. The final subsection discusses the limitations of my research.

3.1 Overview of Research Design

To test the hypotheses, it is necessary to design and implement a rigorous empirical study relating the primary independent variable, level of democracy, as well as the additional related independent variables, regional government capacity and equality of civil liberties, to the dependent variable, level of wealth inequality. In this subsection I will justify the research design and choice of methods while also highlighting case selection.

To begin, it is important to clarify that I will be using a positivist epistemological approach, as described by Della Porta and Keating (2008, pp. 23-24). This approach agrees that objective reality does indeed exist and is knowable, and focuses on inductive procedures to generate empirical knowledge. King et al. (1994) suggest four different characteristics of scientific research in the positivist approach: “The goal is inference” (p. 6) from empirical data in the world, “the procedures are public” (p. 6), “the conclusions are uncertain” (p. 7), and perhaps most importantly “the content is the method” (p. 7) which implies that the validity of research depends on its conformity with the rules of scientific inquiry and inference. Each of these characteristics is rigorously adhered to in this thesis.

As outlined earlier in the research puzzle, this thesis intends to fill a gap in the literature when it comes to large empirical studies relating democracy to wealth inequality. As such, I intend to broaden my sampling of countries as widely as possible, while still limiting my cases to those countries which have reliable democracy and wealth inequality data. Landman (2002) suggests that “extensive coverage of countries allows for stronger inferences and theory-building, since a given relationship can be demonstrated to exist with a greater degree of certainty” (p. 53). By having a large number of countries in my study, and countries from every region of the world, I intend to make any inferences as strong as possible to allow for more generalizable findings than those of Scheve and Stasavage (2017). I will not be splitting

up countries into different within-country states or provinces in order to increase my number of observations because doing so would violate the assumption of unit independence, as described by Landman (2002). In the following subsections I will reveal precisely which countries have reliable data for both democracy and wealth inequality; for now I will just comment that the coverage is quite extensive.

Landman (2002) also suggests that linear regression is an ideal tool for conducting a quantitative analysis on a large number of countries, and aligning with this advice, I use a multivariable linear regression model with several control variables to conduct my study. Similar to a research design by Sylwester (2002), I take my primary independent variable, level of democracy, as well as my related secondary independent variables, regional government capacity and equality of civil liberties, at a single point in time and then relate them to how my dependent variable, level of wealth inequality, changes over the several years following. This design choice was made deliberately to ensure that it is democracy and its related variables affecting wealth inequality rather than the other way around, since both relationships are theoretically possible. In addition to level of democracy, regional government capacity, and equality of civil liberties, six additional control variables are added as independent variables. Five of them were already explained in Section 2: total population, change in population, absolute level of wealth, state fiscal capacity, and region. A sixth control variable becomes necessary because of the research design; it is reasonably possible that changes in wealth inequality are limited based on starting conditions. For instance, if inequality levels are already very high, it is suggested that they have less space to increase and therefore will be less likely to increase. Thus, like Sylwester (2002), I have also included starting level of wealth inequality as a control variable.

As an important component of research design, choices on temporal matters also need to be clarified. Like Scheve and Stasavage (2017, p. 460) admit, democracy clearly does not have an immediate effect on wealth inequality, but there is little empirical evidence to suggest what time frame to use to measure this lag. Scheve and Stasavage choose to measure both 5-year and 30-year lag periods, but because of data availability and reliability issues discussed later, I am constrained to a 20-year lag period at most. I settle on a 10-year lag period for my baseline regression model, and perform robustness checks using 20-year lags to account for the effect of democracy on wealth inequality being possibly due to changes in education and earnings rates, which take more time to produce wealth accumulation. This is the same reasoning used by Scheve and Stasavage when they chose to also look at longer lag periods. I

use the most up-to-date data available in my analysis, and therefore for my dependent variable I look at how wealth inequality changes in each country from the years 2010 to 2020. For my independent variables, I use empirical data from the beginning of this period, 2010. Control variables are generally also measured at the beginning of the period, but change in population is measured from the beginning to the end of the period and total revenue is measured as an average of the available years within the period. During the robustness checks using 20-year lag periods, I instead use the period 2000 to 2020.

3.2 Data Sources and Data Collection Methods

In this subsection, I will discuss my data sources and detail how I collected data for my variables. I will begin by discussing wealth inequality data, then cover democracy data, and at the end briefly discuss data for each of my control variables.

3.2.1 Wealth Inequality Data

I will first justify my reasoning for choice of wealth inequality data. Two comprehensive databases exist for wealth inequality data, and both are quite novel. The first database, the World Inequality Database (WID) (Alvaredo et al., 2022), is produced by the World Inequality Lab. It contains a variety of data on wealth, including various wealth shares as well as Gini coefficients, for around 175 different countries in the world. The second database is produced by an academic team at Credit Suisse (Shorrocks et al., 2021), and contains data on mean wealth per adult and median wealth per adult for 168 countries. This data can then be transformed into a mean to median wealth ratio, which is a measure of wealth inequality.

At first inspection, both teams employ rigorous data collection techniques for their wealth inequality data. Wealth distribution data is directly available for 32 countries in the WID dataset (Bajard et al., 2022) and 37 countries in the Credit Suisse dataset (Shorrocks et al., 2021), and the remainder of the countries have their wealth distributions imputed from income distribution data. All else being equal, I would be inclined to choose the data from Credit Suisse, since it is in the format of mean to median wealth ratio, which both fits more appropriately with the causal mechanism between democracy and wealth inequality proposed by Meltzer and Richard (1981) and is the measure recommended for use by Balestra and Tonkin (2018). However, a major difference between these datasets lies quite hidden. It seems that a large number of countries in the Credit Suisse dataset are missing income

distribution data, and the information about which countries are missing income distribution data for which years is not very transparent. Regardless, Shorrocks et al. (2021) are straightforward about their procedures dealing with cases where both wealth and income distribution data is missing. They say “For each country lacking income distribution data, we assign the average (adult population weighted) wealth distribution pattern for the corresponding subregion. This again was done in preference to simply disregarding the countries concerned” (p. 7). On the other hand, the creators of the WID dataset are very transparent about which countries are missing income distribution data, and although they use a similar regional average to derive estimates for these countries, the countries for which this are done are quite few (Chancel & Picketty, 2021). In any case, this difference between the two datasets becomes apparent when looking at the data graphically, as in Figure 1.

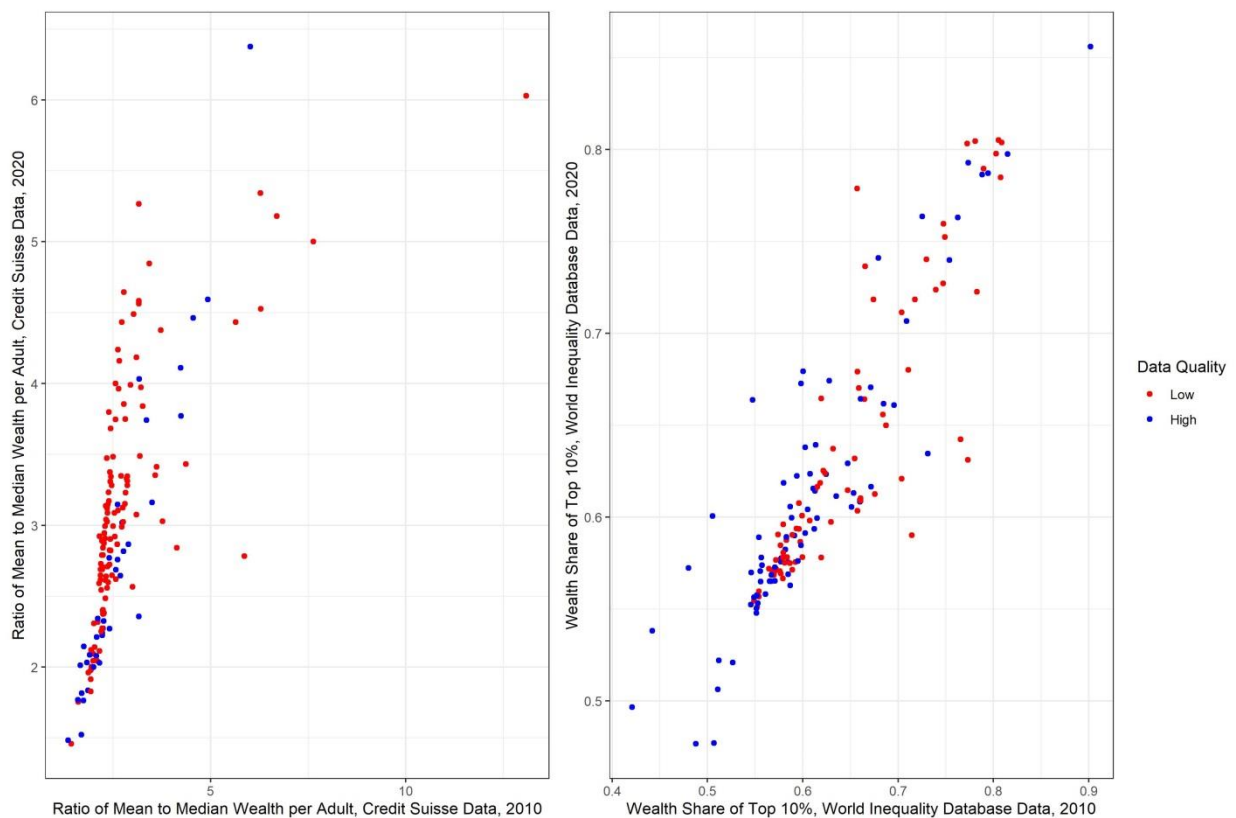


Figure 1: Wealth inequality data from Credit Suisse (Shorrocks et al., 2021) and the World Inequality Database (Alvaredo et al., 2022) in 2010 and 2020. Data artifacts are present in the Credit Suisse data, suggesting that the data is not suitable for use. Graphs produced with the software package tidyverse (Wickham et al., 2019).

The graph on the left of Figure 1 includes wealth inequality data from Credit Suisse in the form of mean to median wealth ratio, and the graph on the right includes wealth inequality data from the WID in the form of top 10% wealth shares. The x-axis for both graphs is data from 2010 and the y-axis is data from 2020. For the Credit Suisse data, the data quality is

rated either low or high based on whether the wealth inequality data from the country is directly collected or not, for lack of a better method. For the WID data, the data quality is rated based on whether the Inequality Transparency Index, a measure put forth by the WID to measure data quality, is higher than 1. As can be seen, data artifacts are present in the Credit Suisse data, with low quality data points lined up in certain areas, suggesting that data is likely based on regional averages for these points. These data artifacts are not present in the data from the WID, even the lowest quality data points seem to be independent from each other. By looking at Figure 2, which displays Credit Suisse wealth inequality data from 2000 on the x-axis rather than data from 2010, the data artifacts become even more conspicuous,

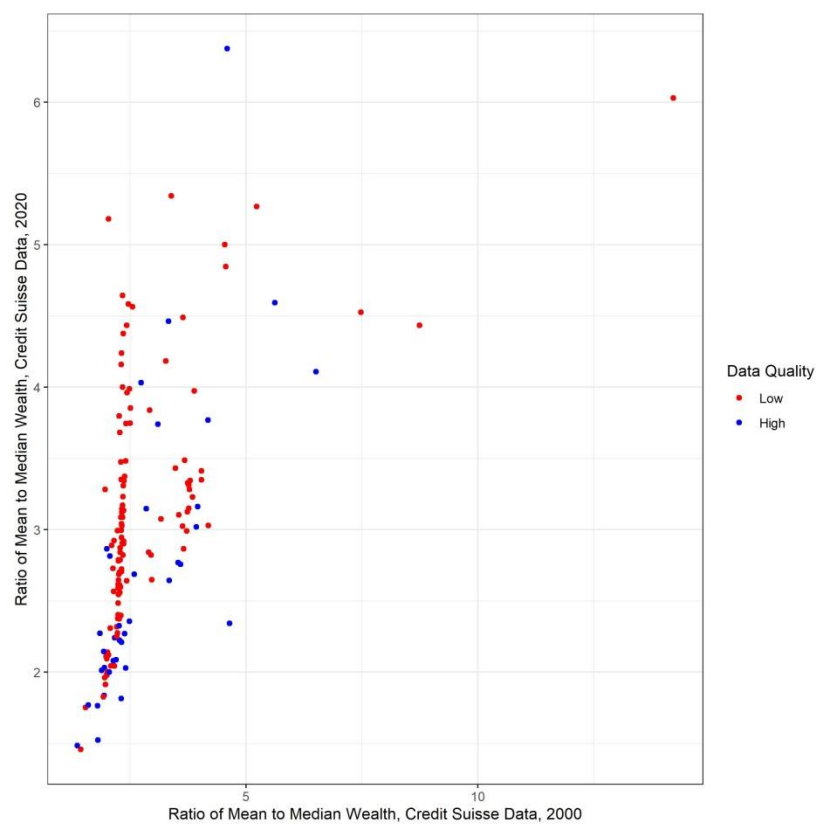


Figure 2: Wealth inequality data from Credit Suisse (Shorrocks et al., 2021) in 2000 and 2020. Data artifacts are clearly visible, suggesting that the data is not suitable for use. Graph produced with the software package tidyverse (Wickham et al., 2019).

and it can be inferred that the quality of much of the data is poor and does not meet regression standards for unit independence.

In any case, because of the superior quality of the WID data, I have chosen to use the World Inequality Database’s dataset for wealth inequality data. The WID database contains a number of indicators of wealth inequality, including top wealth shares, bottom wealth shares, and the Gini coefficient, although mean to median wealth ratio is notably absent. Because of negative values of wealth (e.g. debt) in the poorest portions of the population, calculating the

Gini coefficient for wealth inequality is not as straightforward as for income inequality and it becomes a less ideal indicator. Out of the remaining indicators, wealth share of the top 10% of wealth holders is likely the most standard, even though this is a rather arbitrary threshold. Nonetheless, it likely tells more about the overall wealth inequality in a country than a narrower indicator such as the top 1% wealth share. It also does not suffer from the possibility of becoming negative, as many of the bottom wealth shares do or any indicator that uses a ratio between top wealth shares and bottom wealth shares does. For all of these reasons, I have chosen to use top 10% wealth share from the WID as my primary indicator for wealth inequality. It theoretically ranges from 0.1, in a perfectly equal society, to around 1.0 in a society where the top wealth holders have all the wealth. Practically speaking, in recent times values have ranged from about 0.4 to 0.9. In any regressions performed, consequently, changes in the top 10% wealth share will be my primary dependent variable. The value of this change empirically ranges from -0.2 to 0.2 over the 20-year period from 2000 to 2020, and the range is less for the 10-year period from 2010 to 2020. To ensure that the arbitrariness of the 10% threshold is not an issue, robustness checks will also be performed where the Gini coefficient for wealth is substituted for the top 10% wealth share, and changes in the Gini coefficient for wealth are substituted for changes in the top 10% wealth share.

Now I will outline the specific data collection methods that I used to obtain wealth inequality data from the WID. Accessing the WID data download portal (Alvaredo et al., 2022), I selected top 10% wealth share data, and specified the data from equal-split adults rather than individuals. The major difference between the two lies with the fact of how couples' information is processed in countries that have individual data for each member of a married couple or larger family. Although using individual data would be preferable, it is unavailable in many countries which only collect data from couples or families as a whole, and in these cases it is calculated as equal-split adults (Blanchet et al., 2021). To ensure consistency between countries is important for the purposes of this thesis, so equal-split adult calculations are preferable. Next, I selected all countries, and all available years, which ranged from 1995 to 2021. I downloaded the data in Excel spreadsheet format with country and year on each axis, and after editing the country names in the spreadsheet to precisely match those from separate data sources, imported the data into the R programming language. The R programming language is fine-tuned for statistical computing, which makes it ideal for the regressions and calculations undertaken in this thesis. After importing the top 10% wealth

share data from the WID, I repeated this same process for Gini coefficient for wealth as well as for the WID's Inequality Transparency Index, both of which are used in separate robustness checks. Finally, I removed data from the 23 countries where wealth inequality measures were imputed from income inequality figures based on regional averages, the list of which can be found in a technical note by Chancel and Picketty (2021).

3.2.2 Democracy Data

I will now discuss my choices regarding democracy data. First I will discuss my selection of data source, since an abundance of data sources are available to describe level of democracy. The three most common sources are Polity IV, Freedom House, and the V-Dem Institute (Boese, 2019). Boese provides a comprehensive overview and critical analysis of the literature examining each dataset and concludes that “the measures developed by the V-Dem project outperform Polity2 and Freedom House Index (FHI) with respect to the underlying definition and measurement scale as well as the theoretical justification of the aggregation procedure” (pp. 95-96). In other words, the V-Dem Institute does the best job of justifying the reasoning behind its democracy indices and their aggregation methods. Although Freedom House, according to Boese, outperforms Polity IV on several measures, Steiner (2016) demonstrates that their democracy indices demonstrate bias towards allies of the United States, especially during the Cold War era where coding was in the hands of a single individual. Steiner (2016) also points out that much of leadership of Freedom House has ties to the United States government, and this possibility of conflict of interest further justifies the use of a different index. Altogether, the literature overwhelmingly supports the general choice of democracy indicators from the V-Dem Institute's dataset (Coppedge, Gerring, Knutsen, Lindberg, Teorell, Alizada, et al., 2021) rather than other sources.

Furthermore and perhaps more importantly, the V-Dem Institute's Electoral Democracy Index aligns particularly well with the Dahlian conceptualization of democracy I am using in this thesis. Each of the essential attributes I use in my conceptualization (elected officials, free and fair elections, inclusive suffrage, the right to run for office, freedom of expression, access to alternative information, and associational autonomy) are taken into account in the Electoral Democracy Index (Coppedge, Gerring, Knutsen, Lindberg, Teorell, Altman, et al., 2021). In addition to the Electoral Democracy Index, the V-Dem Institute produces a variety of other indicators for non-essential components of democracy, such as the Participatory

Component Index, the Egalitarian Component Index, and other more specific indices such as the Regional Government Index.

Given all of these benefits, I have chosen to use the V-Dem Institute's Electoral Democracy Index as my indicator for level of democracy, my primary independent variable. I will also use two of V-Dem's other indicators for my remaining two independent variables. Specifically, I plan to use V-Dem's Regional Government Index, which measures whether elected regional governments exist and whether they are able to operate without excessive restrictions, as my indicator for regional government capacity, and V-Dem's social class equality in respect for civil liberty indicator, which measures whether poorer people within a country have equal access to civil liberties such as access to justice and private property rights, as my indicator for equality of civil liberties (Coppedge, Gerring, Knutsen, Lindberg, Teorell, Altman, et al., 2021). All three of the indicators from the V-Dem Institute that I will be using are continuous variables, and both the Electoral Democracy Index and the Regional Government Index range from 0 to 1. Gründler & Krieger (2019) suggest that continuous democracy indices are preferable for use in ordinary least-squares regressions, further solidifying my indicator choices. Lastly and very importantly, neither V-Dem's Regional Government index nor their social class equality in respect for civil liberty indicator are components of their rather minimalist Electoral Democracy Index, so they can be included in the same regression equation as the latter without collinearity being an issue.

I will finish by discussing my relatively straightforward data collection methods regarding the V-Dem Institute's various democracy indicators. I first downloaded version 11.1 of the Country-Year V-Dem Core dataset in R format and selected the file formatted for the Windows operating system (Coppedge, Gerring, Knutsen, Lindberg, Teorell, Alizada, et al., 2021). After importing the dataset into the R programming language, I then renamed several countries to match with country names from other data sources.

3.2.3 Control Variable Data

I will now briefly describe my data sources and data collection methods for the control variables used in my regressions. As mentioned earlier, my control variables are starting level of wealth inequality, total population, change in population, absolute level of wealth, state fiscal capacity, and region.

I will begin with the two control variables that do not require additional datasets. Starting level of wealth inequality is retrieved from the WID dataset already imported into R. It consists of top 10% wealth share data at the time of interest (the year 2010 for most regressions, except for a robustness check where data from the year 2000 is used). In addition, for one robustness check, as already mentioned, the Gini coefficient for wealth is used in place of the top 10% wealth share to indicate starting level of wealth inequality.

The second variable not requiring an additional dataset is region, which is manually programmed by the author in the form of a categorical regional dummy. The region designated for each country can be found in Appendix A. There are seven different regions programmed, each with a unique culture and historical legacy. The groupings are based upon relatively standard world regions, but in some cases regions with very few countries are grouped together to avoid having regions contain only a small number of countries (e.g. the grouping of East Asia with Oceania). The regions are: North America and Western Europe, Eastern Europe and Central Asia, the Middle East and North Africa, South and Southeast Asia, East Asia and Oceania, Sub-Saharan Africa, and Latin America and the Caribbean.

Of the remaining four control variables, two use the same data source. Total population and change in population rely on country population estimates produced by the World Bank (2022). To obtain the data, I downloaded the Excel file of total population available from the World Bank. I then renamed several countries to match with country names from other data sources before importing the dataset into R. Notably, data from Taiwan is absent, but population data is present for every other country that also has democracy and wealth inequality data. Therefore, by adding these control variables into the regression we only lose one data point.

The last two control variables each have their own data sources. Mean wealth per adult is used as an indicator for absolute level of wealth, and is taken from the data compiled by Credit Suisse (Shorrocks et al., 2021). There is good reason to believe that although the wealth distribution data from Credit Suisse is not reliable, the wealth aggregate data is. This is due to the fact that the primary purpose of the Credit Suisse data is to measure levels of aggregated wealth rather than wealth inequality. In total, Credit Suisse has directly collected wealth aggregate data from 53 separate countries, mostly from household balance sheets supplied by governments and a few from surveys that are rigorously corrected for any sampling bias (Shorrocks et al., 2021). The remaining countries' wealth aggregates are

calculated through regressions of other measures such as consumption. The statistical techniques used are detailed in Davies et al. (2017) and are very rigorous, involving splitting wealth into its components of financial assets, non-financial assets, and liabilities and having separate regressions for all three. Although the Credit Suisse researchers are unable to find any data to create wealth aggregate estimates in a handful of countries (see Table 2-1 in Shorrocks et al., 2021), the authors exclude wealth estimates from these countries in their country-level data.

Regrettably, aggregate wealth data from Credit Suisse are not provided in an easy-to-process format for research, and only in a .pdf file. Collecting the data involved a time-intensive process of copy and pasting wealth data from Table 2-2 in Shorrocks et al. (2021) into an Excel spreadsheet and correctly formatting it. The data was then imported into R, and variables were renamed to enable easier understanding and a few country names were also renamed to match with names from other data sources. Unfortunately, the aggregate wealth data obtained from Credit Suisse is lacking information from eight countries which have both democracy and wealth inequality data: Bhutan, Cabo Verde, Cote d'Ivoire, Eswatini, North Macedonia, Palestine, Somalia, and Uzbekistan. This results in a decrease of eight cases when the indicator mean wealth per adult is added to any regressions.

The final control variable is state fiscal capacity, which is represented as total revenue as a percentage of GDP. Data for this variable is taken from the 2021 edition of the United Nations University World Institute for Development Economics Research's (UNU-WIDER) Government Revenue Dataset (GRD) (Opiel & McNabb, 2021). The Excel file was downloaded and then the tab with merged government data was imported into R. The merged data is used over the general or central government data at the advice of the dataset's authors (UNU-WIDER, 2021). Out of many available options for indicators, the one chosen to estimate total revenue includes non-tax revenue such as grants and revenue from resources, but excludes social contributions. My reasoning for excluding social contributions results from the authors' note that "most users are advised to rely on revenue and tax figures exclusive of social contributions, owing to problems of completeness and comparability for social contributions figures" (UNU-WIDER, 2021, p. 3). As comparability is of utmost importance for this thesis, this advice is taken.

Next, the average value of total revenue as a percentage of GDP was calculated over the entire period of interest, 2010 to 2020 (except in the case of one of the robustness checks

where it is 2000 to 2020). The reasoning for averaging total revenue as a percentage of GDP is twofold. The first reason is operational; a good number of countries are missing data for specific years, so by averaging total revenue the number of countries with data is increased. The second reason is theoretical; state fiscal capacity and revenues should be more important during the entire period of interest rather than just the beginning as they directly affect the amount of redistribution which in turn affects wealth inequality levels. To obtain the average value of total revenue as a percentage of GDP over the period of interest, the mean of all years with total revenue data was taken and recorded, and missing years were ignored. For every country that contained total revenue data in the first place, there were at least three years of total revenue observations, and for most countries only one or two years of observations were missing at most. This suggests that total revenue averages are comparable between countries. Regrettably, total revenue data from the GRD is missing for seven countries which have both democracy and wealth inequality data: Colombia, Cyprus, Ecuador, Iraq, Syria, Taiwan, and Turkmenistan. However, this only results in a decrease of six cases when total revenue as a percentage of GDP is added to any regressions, since data from Taiwan is already missing from the population-related control variables.

3.3 Data Analysis

In this subsection, I will provide a step-by-step account of my data analysis procedures, which are performed using the R programming language. I will begin by briefly describing the exact techniques that I use to combine the data from different variables, then I will describe my primary regressions, and finally I will thoroughly detail robustness checks that are performed to strengthen my findings.

To combine the data from the various sources above, I merge several variables. I begin by merging my three indicators from the WID, top 10% wealth share, Gini coefficient for wealth, and the Inequality Transparency Index, into a single data frame in R, since all of these variables contain data from the same countries. Next, data from the year 2010 is filtered from the V-Dem democracy indicator dataset and combined into the same data frame as the WID data, with any countries not having both WID data and V-Dem data excluded from the data frame. Finally, the country population figures from the World Bank dataset, the mean wealth per adult data for 2010 from the Credit Suisse dataset, and the total revenue averages calculated from the GRD are combined into the same data frame described above, but allowing for countries to not have data from these final three indicators. In this way, a

combined data frame is produced with data from five sources. This data frame contains information on levels of wealth inequality and democracy for all of the 146 countries listed in Appendix A, as well as population data for 145 of them, aggregate wealth data for 138 of them in the form of mean wealth per adult, and government revenue data for 139 of them in the form of average total revenue as a percentage of GDP.

Next, the remaining indicators for the regressions are produced. The indicator for the dependent variable is calculated by subtracting the top 10% wealth share for each country in 2010 from the top 10% wealth share for each country in 2020, giving a positive value for increases in wealth inequality and a negative value for decreases in wealth inequality. The indicator for the control variable change in population is calculated in a similar manner, subtracting the population for each country in 2010 from its population in 2020; however the difference is then divided by the starting 2010 population to produce a fractional change in population which is more comparable across countries regardless of size. Finally, the categorical regional dummy is coded as described in the previous subsection.

With all the data in place, a series of ordinary least-squares regressions are run. The first regression performed is a simple bivariate regression with change in the top 10% wealth shares as the dependent variable and the value of the Electoral Democracy Index from V-Dem as the sole independent variable. The results are presented in the first column of Table 1 in Section 5. The equation is written as follows:

$$\Delta W_i = \beta_0 + \beta_1 D_i + \varepsilon_i \tag{1}$$

where ΔW_i – change in top 10% wealth share from 2010 to 2020 for country i ;

D_i – Electoral Democracy Index in 2010 for country i ;

β_0, β_1 – regression coefficients;

ε_i – random error term.

A second regression is performed adding in the control variables, but otherwise identical to the previous regression. The results for this regression are presented in the second column of Table 1 in Section 5. The equation is written as follows:

$$\begin{aligned} \Delta W_i = & \beta_0 + \beta_1 D_i + \beta_2 W_i + \beta_3 \ln P_i + \beta_4 \Delta P_i / P_i + \beta_5 \ln w_i + \beta_6 r_i + \beta_7 X_1 + \beta_8 X_2 + \beta_9 X_3 \\ & + \beta_{10} X_4 + \beta_{11} X_5 + \beta_{12} X_6 + \varepsilon_i \end{aligned} \quad (2)$$

where ΔW_i , D_i , and ε_i – same as in Equation 1;

W_i – top 10% wealth share in 2010 for country i ;

P_i – total population in 2010 of country i ;

$\Delta P_i / P_i$ – fractional change in population between 2010 and 2020 for country i ;

w_i – mean wealth per adult in 2010 for country i ;

r_i – total revenue as a fraction of GDP, averaged over the years 2010-2020, for country i ;

$X_1, X_2, X_3, X_4, X_5, X_6$ – regional dummy variables, which are equal to 0 or 1;

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$ – regression coefficients.

A third regression is then performed again using top 10% wealth share change as the dependent variable but including both V-Dem's Regional Government Index and social class equality in respect for civil liberty indicator as independent variables in addition to the Electoral Democracy Index. In total, therefore, this third regression contains three independent variables related to democracy as well as the same control variables as before. Its results are presented in the third column of Table 1 in Section 5. The equation is written as follows:

$$\begin{aligned} \Delta W_i = & \beta_0 + \beta_1 D_i + \beta_{13} G_i + \beta_{14} C_i + \beta_2 W_i + \beta_3 \ln P_i + \beta_4 \Delta P_i / P_i + \beta_5 \ln w_i + \beta_6 r_i + \beta_7 X_1 \\ & + \beta_8 X_2 + \beta_9 X_3 + \beta_{10} X_4 + \beta_{11} X_5 + \beta_{12} X_6 + \varepsilon_i \end{aligned} \quad (3)$$

where ΔW_i , W_i , D_i , P_i , $\Delta P_i / P_i$, w_i , r_i , $X_1, X_2, X_3, X_4, X_5, X_6$, and ε_i – same as in Equation 2;

G_i – Regional Government Index in 2010 for country i ;

C_i – social class equality in respect for civil liberty indicator in 2010 for country i ;

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}, \beta_{13}, \beta_{14}$ – regression coefficients.

Finally, in order to determine whether the Regional Government Index and social class equality in respect for civil liberty indicator can influence wealth inequality by themselves, separate regressions are performed much like Equation 2, but with each of these secondary independent variables in place of the Electoral Democracy Index. The results of these regressions are presented in the fourth and fifth columns of Table 1 in Section 5. They are as follows:

$$\begin{aligned} \Delta W_i = & \beta_0 + \beta_{13}G_i + \beta_2W_i + \beta_3 \ln P_i + \beta_4\Delta P_i/P_i + \beta_5 \ln w_i + \beta_6r_i + \beta_7X_1 + \beta_8X_2 + \beta_9X_3 \\ & + \beta_{10}X_4 + \beta_{11}X_5 + \beta_{12}X_6 + \varepsilon_i \end{aligned} \tag{4}$$

where $\Delta W_i, W_i, G_i, P_i, \Delta P_i/P_i, w_i, r_i, X_1, \dots, X_6, \beta_0, \beta_2, \dots, \beta_{13}$, and ε_i – same as in Equation 3.

$$\begin{aligned} \Delta W_i = & \beta_0 + \beta_{14}C_i + \beta_2W_i + \beta_3 \ln P_i + \beta_4\Delta P_i/P_i + \beta_5 \ln w_i + \beta_6r_i + \beta_7X_1 + \beta_8X_2 + \beta_9X_3 \\ & + \beta_{10}X_4 + \beta_{11}X_5 + \beta_{12}X_6 + \varepsilon_i \end{aligned} \tag{5}$$

where $\Delta W_i, W_i, C_i, P_i, \Delta P_i/P_i, w_i, r_i, X_1, \dots, X_6, \beta_0, \beta_2, \dots, \beta_{12}, \beta_{14}$, and ε_i – same as in Equation 3.

Note that the natural logarithms of total population and mean wealth per adult are taken since these control variables are very skewed, with a small number of countries having much larger populations, and a small number of countries also having much wealthier populations than the rest due to between-country wealth inequality. This logarithmic transformation is done to improve the linearity of the regressions.

Next, I check the regressions for outliers. I do this by checking the values of Cook's (1979) distance measure. No extreme values of Cook's distance are present and all values lie at 0.20 or below, well below McDonald's (2002) guideline for points with excessive influence, 0.85. However, the values of two observations are consistently higher than others in the regressions, especially in Equations 2 through 5. These observations correspond to the countries of Angola and Lesotho. These two data points are removed in one of the robustness checks detailed in the next paragraphs, in order to confirm that the removal of these two points does not significantly affect the findings.

Finally, a series of nine different robustness checks are performed to test the quality and generality of the findings. The first check is performed in order to ensure that the findings are robust to choice of wealth inequality indicator. In this check, the Gini coefficient for wealth is substituted for top 10% wealth share, resulting in the dependent variable becoming change in Gini coefficient for wealth from 2010 to 2020 and the first control variable, starting level of wealth inequality, becoming Gini coefficient for wealth in 2010. A second robustness check is performed to ensure extreme values of the dependent variable do not happen to exist in the starting and ending years of 2010 and 2020. In this check, the starting and ending values of top 10% wealth share are five-year averages, also taking into account the four preceding years. Accordingly, the dependent variable becomes the average top 10% wealth share between 2005 and 2010 subtracted from the average top 10% wealth share between 2015 and 2020. A third robustness check removes mean wealth for adult and total revenue as a percentage of GDP from the control variables. By removing these control variables and their missing values from the regressions, the number of countries can be increased from 131 to 145. In this way, it is checked that the removal of these 14 countries is not significantly affecting the regression results.

The fourth and fifth robustness checks are performed by changing the dates of the time period of interest. The fourth robustness check changes the period of interest to 2000 to 2020, testing for the effect of democracy on wealth inequality in the subsequent 20 years instead of 10. As previously indicated in the first subsection, it could be possible that democracy primarily affects wealth inequality over longer lag periods because of the intermediate effects of increased education and earnings. In addition to changing the time period of interest in robustness check four, only the most reliable data is used, specifically countries with WID's Inequality Transparency Index having values over 1. The reasons for this are twofold. First and most importantly, it is likely that the wealth inequality data between 2000 and 2010 is less reliable than the more recent data because it comes from a time when fewer records were kept in developing countries and because it spans the 2008 financial crisis which had a significant effect on wealth aggregates and wealth inequality. Second, it is found that the predictive power of the regression rises significantly when only the most reliable data are used for the 2000 to 2020 time period. Interestingly, the opposite happens when only the most reliable data are used for the standard regressions using the 2010 to 2020 time period. So, in the fourth robustness check all of the variables using the time period 2010 to 2020 are replaced with the same variables using the period 2000 to 2020, all of the variables measured

during 2010 are replaced with their 2000 measurements, and only the countries with the most reliable wealth inequality data are added to the regression. The fifth robustness check is simpler than the fourth, only removing the year 2020 from the standard regression equations, so that the period of interest becomes 2010 to 2019. This check is specifically performed to test whether the Covid-19 pandemic of 2020 had any significant effects on the variables or results. During this check, the only change that is made is replacing the time period of 2010 to 2020 with 2010 to 2019, which only affects the values of three variables.

The sixth robustness check is performed in order to check whether democracy might have a continuous effect over the period of interest on wealth inequality, rather than just a lagged effect. Hence, democracy averaged over the period of interest, from 2010 to 2020, is used as the independent variable rather than just a single measurement at the start of the period, in 2010. Similar to the method used for averaging the control variable total revenue, the mean of the Electoral Democracy Index is taken over the years 2010 to 2020, and then this average level of democracy variable is added to the regression equations in the place of Electoral Democracy Index in 2010. A seventh robustness check is performed including data from all of the countries available, including those with wealth inequality data imputed from regional averages of income inequality. For this check, the countries previously removed during data collection are added back into the regressions. An eighth robustness check is performed where the countries that are moderate outliers, Lesotho and Angola, are removed from the regressions. Lastly, a ninth robustness check is performed because it is found that some of the regressions suffer from moderate amounts of heteroscedasticity, in which error terms have unequal variance, and non-normality, in which error terms are not distributed normally. Homoscedasticity and normality are relatively important assumptions for ordinary least-squares regression, so I have taken a custom square root transformation of the dependent variable, change in top 10% wealth shares, which preserves negative values. This transformation significantly reduces both the heteroscedasticity and non-normality present. The results of all nine of the robustness checks can be found in Appendix B.

3.4 Limitations

In this subsection I will review possible limitations to my empirical research and methodology. The first and most important limitation I will address is data quality. Because of the purpose of this thesis is to provide a large-N study with many countries to examine the empirical relationship between democracy and wealth inequality, where as far as I know, no

other large scale studies exist, I designed the study to include reliable data from as many countries as possible. In doing so, I needed to include data from countries that have very little to offer in terms of direct wealth inequality data. I have attempted to remove the countries with the lowest quality data, but nonetheless, the amount of data available for researchers at the WID is limited and wealth inequality estimates for many countries is based on very limited amounts of related data such as consumption, even if the methods used to impute this data into wealth inequality data are state-of-the-art and rigorous. The researchers at the WID admit, “Our objective in the World Inequality Database (WID) is not to claim that we have discovered perfect data sources and methods to measure income and wealth inequality, but rather to provide plausible and methodical strategies to reconcile the different data sources” (Blanchet et al., 2021, p. 128). This quotation truthfully frames the struggle inherent in imputing wealth inequality data from what is available.

Second, the timescale of the available data is also not ideal. It is fitting to suggest, as Scheve and Stasavage (2017) have, that democracy could take as long as 30 years or more to affect wealth inequality, because processes like educating a population, collective bargaining for better wages, and wealth accumulation can take decades. As the wealth inequality data available for a large number of countries does not even go back 30 years, this represents a conundrum.

A third and final limitation reflects a deficiency regarding independence of observations, an important assumption for the ordinary least-squares regression models used. Policy transfer and diffusion can happen at a greater rate between geographically neighboring countries than those that are physically far apart (Newmark, 2002). The same is likely true for policies dealing with wealth inequality. If one country initiates wealth equalizing policies, other nearby countries are more likely to follow. My regressions do not fully account for this effect, and doing so would entail a complicated regression design that is beyond the scope of this thesis. I do, however, attempt to partially account for policy diffusion by employing regional control variables.

4. RESULTS AND DISCUSSION

In this section, I present the results from the methodological procedures outlined in the previous section. In the first subsection, the regression results are presented primarily in tabular format, and important findings are highlighted. In the second subsection, a discussion ensues, placing the findings within the context of the literature. Policy recommendations and ideas for further research are given.

4.1 Results

In this subsection, I will present the results from each of my baseline regressions and discuss the importance and robustness of my findings. A graph of the bivariate regression is provided as well as a comprehensive table of regression results.

I will begin by focusing on my first, bivariate regression relating values of the Electoral Democracy Index in 2010 to changes in top 10% wealth shares between 2010 and 2020. A graph of this rather simple regression can be seen in Figure 3, and regression results are located in the first column of Table 1. Country codes used in the graph are listed in Appendix A.

At first glance, it seems that if anything, there is a weak relationship between democracy and wealth inequality in the opposite direction than expected; the bivariate regression results show that more democratic countries are more likely to increase wealth inequality. However, this association is barely significant at the $p < 0.1$ level, and in any case the bivariate model has almost no predictive power since it only accounts for between 1% and 2% of the variance in changes in wealth inequality.

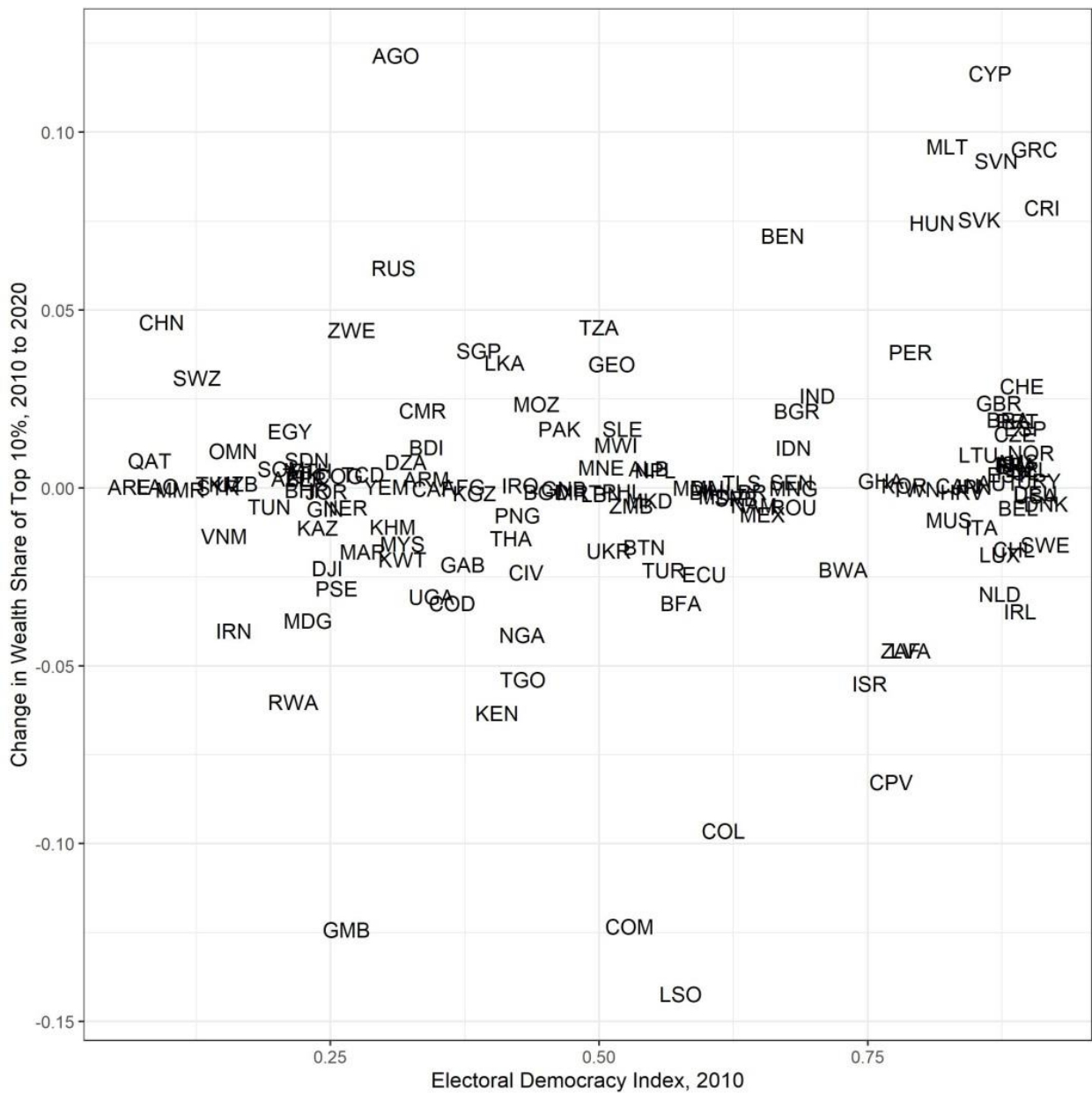


Figure 3: Electoral Democracy Index vs. change in wealth share of the top 10% of wealth holders. Graph produced with the software package tidyverse (Wickham et al., 2019).

Looking at Figure 3, we can see that a grouping of a few mostly Southern and Eastern European countries with high levels of democracy in 2010 increased their wealth inequality significantly over the following decade, which likely explains the weak relationship found in the bivariate regression. Along the rest of the graph, there seems to be no noticeable difference between more and less democratic countries: most countries change little in terms of wealth inequality, and the countries that do change are split fairly evenly between rises and falls in wealth inequality.

Table 1: Ordinary Least-Squares Regression Results

Table produced with the software package Stargazer (Hlavac, 2018)	<i>Dependent variable:</i>				
	Change in Top 10% Wealth Share, 2010-2020				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.020 ⁺ (0.012)	0.004 (0.019)	0.047* (0.020)		
Regional Government Index, 2010 (0 to 1)			-0.014** (0.004)	-0.010** (0.004)	
Social Class Equality in Respect for Civil Liberty, 2010			-0.023* (0.009)		-0.020* (0.009)
Top 10% Wealth Share, 2010		-0.172*** (0.045)	-0.186*** (0.043)	-0.188*** (0.044)	-0.180*** (0.044)
Logarithm of Total Population, 2010		0.004 ⁺ (0.002)	0.006* (0.002)	0.003 (0.002)	0.006** (0.002)
Fractional Change in Population, 2010-2020		0.057 ⁺ (0.032)	0.053 ⁺ (0.030)	0.046 (0.030)	0.048 (0.030)
Logarithm of Mean Wealth in USD per Adult, 2010		0.003 (0.003)	0.005 (0.003)	0.006 ⁺ (0.003)	0.005 (0.003)
Average Total Revenue as a Fraction of GDP, 2010-2020		0.002 (0.039)	0.018 (0.037)	0.016 (0.038)	0.009 (0.038)
Regional Dummy for Eastern Europe and Central Asia		0.020 (0.014)	0.016 (0.013)	0.014 (0.013)	0.018 (0.013)
Regional Dummy for Middle East and North Africa		-0.002 (0.016)	-0.011 (0.015)	-0.013 (0.015)	-0.010 (0.015)
Regional Dummy for South and Southeast Asia		0.007 (0.016)	-0.0002 (0.015)	-0.001 (0.016)	0.005 (0.016)
Regional Dummy for East Asia and Oceania		-0.001 (0.016)	-0.004 (0.015)	-0.005 (0.016)	-0.004 (0.016)
Regional Dummy for Sub-Saharan Africa		0.004 (0.020)	0.001 (0.019)	0.003 (0.019)	0.005 (0.019)
Regional Dummy for Latin America and the Caribbean		0.038 ⁺ (0.019)	0.027 (0.019)	0.035 ⁺ (0.019)	0.041* (0.019)
Constant	-0.010 (0.007)	-0.009 (0.060)	-0.037 (0.059)	0.008 (0.059)	-0.042 (0.061)
Observations	146	131	131	131	131
Adjusted R ²	0.012	0.145	0.243	0.193	0.180
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

Now I will move onto discussing the second regression, whose results are displayed in the second column of Table 1. This regression examines the same relationship as the bivariate regression, but with control variables added in (regional dummies use North America and Western Europe as a reference category). Any significance in the relationship between the Electoral Democracy Index in 2010 and changes in the top 10% wealth shares in the following decade immediately disappears, and the relationship is not even reliably positive anymore, with some of the robustness checks showing negative coefficients. In addition, the explanatory power of the model increases significantly, and now a whole 15% of the variance in changes in wealth inequality is explained. It seems that other characteristics of the Southern and Eastern European countries seen in the top right of Figure 3, rather than their level of democracy, more adequately predict their observed increases in wealth inequality.

The results of the third regression, located in the third column of Table 1, present a different and intriguing picture. When adding Regional Government Index and social class equality in respect for civil liberty into the regression, three significant trends appear for the first time. First, level of democracy as indicated by the Electoral Democracy Index again becomes positively correlated with wealth inequality, but this time with significant predictive power and at a higher significance level, $p < 0.05$. This would indicate that when accounting for strength of regional government and equality of civil liberties across social classes, democracies are more likely than autocracies to increase wealth inequality over the following decade, opposite to my expectations. In terms of the substantive size of this relationship, it is moderate, with the top 10% of wealth holders in the most democratic states increasing their portion of the total wealth by .04 (or 4%) more on average than their counterparts in the least democratic states between 2010 and 2020. Second, the results show that countries with strong and autonomous elected regional governments are more likely to reduce or limit wealth inequality than those without such regional governments, in line with my second hypothesis. The substantive size of this relationship is smaller, with the top 10% of wealth holders in countries with very strong, independent elected regional government bodies decreasing their portion of the total wealth by only .014 (or 1.4%) more on average than their counterparts in states without elected regional government bodies between 2010 and 2020. And third, it is revealed that countries with broader application of civil liberties, such as property rights and access to justice, are more likely to reduce or limit wealth inequality than those that do not respect civil liberties for all individuals, in line with my third hypothesis. This relationship is substantively the largest, since the social class equality in respect for civil liberty indicator is

not on a zero to one scale, but effectively spans from around negative one to three. It follows that the top 10% of wealth holders in countries with broad application of and respect for civil liberties decreased their portion of the total wealth by an entire .092 (or 9.2%) more than their counterparts in countries without broad respect for civil liberties between 2010 and 2020. Altogether, the third regression model explains a full 24% of the variation in changes in wealth inequality, and it can be seen that adding these additional independent variables into the regression significantly increases the predictive power of the model.

The results of the fourth and fifth regressions are displayed in columns four and five of Table 1, respectively. These results provide additional support that strong and autonomous elected regional governments as well as extensive application of civil liberties are associated with decreasing wealth inequality, regardless of if other aspects of democracy are included in a regression model. It is also important to note that in both the third and fourth regressions, the relationship between stronger elected regional government and decreasing wealth inequality is significant at the $p < 0.01$ level, and in both the third and fifth regressions, the relationship between broad application of civil liberties and decreasing wealth inequality is significant at the $p < 0.05$ level. In nearly every robustness check, these significant relationships are maintained, although in two out of 36 cases (the coefficient for Regional Government Index in the third regression of the fourth robustness check, and the coefficient for Regional Government Index in the fourth regression of the eighth robustness check), the relationship falls just below the threshold level for significance.

The relationship found between the Electoral Democracy Index and changes in top 10% wealth shares in the third regression is not nearly as robust. The primary reason for this is that as soon as the remaining two independent variables are taken out of the regression, the relationship disappears, as evidenced in the second regression. However, even when all three independent variables are kept in the regression equation, the relationship between Electoral Democracy Index and change in top 10% wealth share becomes insignificant and even reverses direction in the fourth robustness check where a longer time period, 2000 to 2020, is used. This suggests that the relationship could be dependent on what time period is analyzed. In sum, although there are preliminary indications that more democratic countries tend to increase rather than decrease wealth inequality when regional government strength and extensiveness of civil liberties application are also taken into account, this relationship may not hold under all conditions.

Now I will briefly address the significance of control variables as predictors in the regressions. As expected, top 10% wealth share in 2010, at the beginning of the period analyzed, strongly influenced changes in wealth inequality in the decade following; countries with already high levels of wealth inequality were much less likely to increase wealth inequality further, and countries with very low levels of wealth inequality were more likely to see increases in wealth inequality. Besides starting wealth inequality, the only other significant and robust finding was that larger countries in terms of population are more likely to increase wealth inequality. This relationship between population size and change in wealth inequality remained significant in most robustness checks and was reliably positive in every instance. The remaining weakly significant relationships between the control variables in Table 1 and change in wealth inequality, including for the predictors change in population, absolute wealth level, and the regional dummy for Latin America and the Caribbean, were not found to be robust at all.

In all, the regression results display solid evidence that both strong, independent elected regional governments and widespread civil liberty protections across all segments of a population could contribute to reductions in wealth inequality, providing support for Hypotheses 2 and 3. The results also indicate that democracy in general has insignificant effects on changes in wealth inequality, and if anything it increases wealth inequality when additional factors are accounted for, namely strong elected regional government and widespread civil liberty protections, so my primary hypothesis, Hypothesis 1, is rejected. A last, unexpected finding that is additionally worth mentioning is that countries with larger populations were found to be more likely to increase wealth inequality levels.

4.2 Discussion

In this subsection, I will discuss how the findings above can be placed within the scope of the scientific literature, and how the literature can help to illuminate possible explanations for the results. I will then provide policy recommendations connected with my findings, and finish by advocating some ideas for further research.

The primary finding of this thesis, that democracy does not empirically reduce or limit wealth inequality, was counter to my expectations and rather surprising. This finding reinforces similar results from Scheve and Stasavage's (2017) study and indicate that they are more broadly generalizable. However, the results suggest that Meltzer and Richard's (1981) landmark theory specifying mechanisms by which democracy could reduce democracy is

rather idealistic and not reflective of the complexities under which democratic states operate in the world today.

An extensive amount of literature can be referenced to uncover why democracy is failing to reduce or limit wealth inequality, and why Meltzer and Richard's (1981) theory does not necessarily match with the current reality. I will discuss five reasons provided by the literature in the next paragraphs: divided societies, fairness beliefs, a societal consensus of wealth tax cuts, a culture of overconsumption, and captured democracy.

I will begin by discussing divided societies. Scheve and Stasavage (2017) reference divided societies as one reason they believe democracy does not reduce wealth inequality. They argue that if societies are divided by political cleavages other than wealth, then distinct political dimensions emerge that can become more salient than the left-right economic dimension in politics. For instance, if a society is divided based on race or religion, then individuals may choose their political party based on if it represents the interests of their race or religion rather than whether it stands up for their economic interests in terms of redistribution policy. Much like Fukuyama (2011), Scheve and Stasavage additionally reason that even if there is societal agreement on a wealth-equalizing policy, details on how implementation should happen often delay such policies from being enacted. Providing further support for the divided society notion, Fernandez and Levy (2008) create a political model which suggests that homogeneous societies with low amounts of diversity are more likely to agree on general wealth-equalizing policies, but when diversity increases to a moderate level, targeted transfers towards certain interest groups, such as a certain race or industry, dominate in their place. Interestingly, Fernandez and Levy find that if diversity increases to very high levels, general redistribution again becomes preferable. In any case, societies divided along non-economic cleavages divert attention from policies targeted at reducing wealth inequality.

Next I will discuss how embedded fairness beliefs may explain why democracy is failing to reduce wealth inequality. Scheve and Stasavage (2016), in a separate study, find that on one hand, fairness beliefs regarding equal treatment often justify flat tax rates on everyone regardless of income or wealth, which fail to reduce income inequality. On the other hand, they find that fairness beliefs where thinking revolves around ability to pay result in support for higher taxes on wealthier individuals. The authors, however, come to the conclusion that the former equal treatment fairness belief is more prevalent in society which results in flat taxes rather than progressive taxes often being put into place in democracies. Savani and

Rattan (2012) conduct a related study where the fundamental concept of choice is examined, and find that in environments where choice is highlighted, people are more likely to overestimate the extent to which life outcomes result from personal agency and underestimate the role of societal factors. Consequently, in countries where choice is more culturally valued, such as the United States, individuals are less likely to support raising taxes on the wealthiest segment of the population. Although more of an economic belief than a fairness belief, Barnes (2021) shows that positive-sum economic thinking, or in other words when an individual believes that more economic growth will happen for everyone if taxes are lowered, also reduces support for redistributive policies. Taken together, these studies and others indicate that certain common concepts such as equal treatment, choice, and positive-sum economic thinking can reduce support for taxes on the wealthy.

Lierse (2021) argues for a third reason that could explain why democracies have not been reducing wealth inequality. She empirically finds that social democratic parties have been increasingly favoring wealth tax cuts since the 1980s, creating a sort of societal consensus between left and right wing parties on lowering wealth taxes. Lierse finds that in countries with greater capital market liberalization and financial openness, social democratic parties are more likely to support lower wealth taxes. In addition, this effect of globalization on left wing parties is even stronger in countries with large amounts of corporatism, where representatives of business and unions regularly meet with legislators. With a party consensus favoring wealth tax cuts, it is fairly unsurprising that many democracies may not be reducing wealth inequality more than their non-democratic counterparts.

Fourth, arguments have been made that overconsumption is responsible for democracy's failure to reduce wealth inequality. Dahl (2006) writes about two types of culture in democracies, a culture of consumerism and a culture of citizenship. On one hand, he describes a consumerist culture as one where individuals continue to envy others and want to consume more even after they have reached a high standard of living, leading to overconsumption. In this kind of culture, which Dahl describes as primal, status is what is most important, and comparisons with others are what matter most. On the other hand, Dahl describes a culture of citizenship, where he suggests that individuals acting as citizens engage with one another to pursue "the common good of all." (p. 90). Dahl suggests that in a culture of citizenship, individuals may not agree on what constitutes their common good, but discussion is stimulated and more value is placed on engaging in democratic politics as a solution to societal problems. Dahl contends that in the United States, the culture of

consumerism has become overwhelmingly dominant. Diwan (2000), an author who argues for the importance of relational wealth in addition to material wealth, also cites a habit of overconsumption of material goods, perhaps most salient in countries with developed economies but present nearly worldwide. He argues that television, because of its glimpses into the consumption and lives of the wealthy and subtle advertisements, has created a desire for high levels of consumption among the general population. In the decades since Diwan's article, it is likely that patterns of overconsumption have only grown, since attention has shifted from television to the internet and social media, with social media platforms intentionally designed for maximum addiction and advertising becoming individually targeted (Zuboff, 2019). In democracies where a culture of excessive consumption is present and a level of respect exists for those who consume and own the most, it is unlikely that voters' attention will be diverted towards implementing wealth-equalization policies in the interest of the majority.

A final and very convincing argument for why democracies have failed to reduce wealth inequality is capture of democracy by the wealthy. Rueschemeyer (2004) maintains that democratic capture is achieved primarily by two means. First, he reasons that extremely wealthy individuals in democracies possess what he terms "cultural hegemony" (p. 80), which refers to the production and diffusion of societal culture and ideology through education and mass communications. Rueschemeyer suggests that this cultural hegemony is maintained through influence over business, institutions of higher education, religious institutions, and perhaps most notably tax-supported private charities. Jane Mayer (2017), in her book *Dark Money*, further uncovers how these private charities operate in the United States, where a number of ultra-wealthy families utilize them to escape estate tax obligations and at the same time push anti-redistributive *laissez-faire* ideologies. According to Mayer, the pervasiveness of libertarianism and neoliberal economics, such as that espoused by Hayek (1960) and Friedman (1962), in the United States is not accidental; it is primarily due to the cultural hegemony that ultra-wealthy families have exerted, through their private charities, over institutions such as policy think tanks, government institutions, and even some of the most prestigious academic research institutions for decades. Second, Rueschemeyer mentions that many countries have not dealt with direct influences of money corrupting the political process. This is particularly the case in the United States, where money has been equated to free speech by the United States Supreme Court (*Citizens United v. FEC*, 2010), paving the way for unlimited outside spending for campaign donations and other aspects of the political

process. However, even outside of the United States, the inequality of lobbying can also contribute to democratic capture when lobbyists representing wealthier individuals or groups are much more prevalent than those representing groups with less financial resources. Building on Rueschemeyer, Repetti (2008) adds a third method by which captured democracy can happen; he states “the selection of investments and deployment of assets allow the wealthy to exert a disproportionate influence on governments and their communities” (p. 1159). In other words, ultra-wealthy individuals can tip government policy against redistributive taxation by threatening to move investments or capital to alternate locations. In an extensive study providing empirical support for the captured democracy theory, Gilens (2012) shows that elected representatives in democracies such as the United States overwhelmingly favor the interests of their affluent constituents above the interests of their middle and lower class electorate when enacting policy changes.

All of the five explanations given above are possible reasons for why democracy has not been found to reduce or limit income inequality. From these five explanations, it also becomes clear that Meltzer and Richard’s (1981) theory is lacking in many regards. For one, it doesn’t account for complex reasoning behind voting choices, such as salient non-economic political dimensions, fairness beliefs, or toleration for wealth inequality conveyed by a culture of consumerism. It also doesn’t account for obligations of politicians to campaign donors or special interest groups after an election, or for when there is a lack of candidates favoring redistributive increases due to an increasing party consensus around lowering taxes on the wealthy.

I will now move onto discussing the remaining significant findings of this thesis. First, in line with my second hypothesis and with the findings of Tselios et al. (2012), decentralization of government power in the form of strong and independent elected regional governments is shown to reduce or limit wealth inequality. Furthermore, countries with larger population sizes are found to be more likely to increase wealth inequality. When taking these two findings together, it becomes sensible that strong, independent regional governments could be an effective way for larger countries especially to tackle excessive wealth inequality. Large, populous democracies often have a disconnect between ordinary citizens and representatives that could be partially solved by diverting some decision-making and fiscal power to regional government. Tselios et al., in particular, propose that elected regional governments have more transparency and accountability than their centralized counterparts, and that more social capital exists on the regional level between citizen and government. If ordinary citizens could

address the topic of wealth inequality with elected regional governments in large countries rather than their central governments, action on reducing wealth inequality might be more likely. In any case, it seems reasonable to believe that larger countries may even see more reductions in wealth inequality than smaller countries if empowered, independent elected regional governments are present. Additional research on this topic would be valuable.

Another significant finding of the thesis is that countries with widespread civil liberty protections across all segments of their population are more likely to reduce or limit wealth inequality, in line with my third hypothesis and the findings of Bhagat (2020). Although my regression design with lagged time periods was chosen deliberately so that causality is likely to flow from widespread civil liberty protections to changes in wealth inequality levels, causality is not assured. For instance, some other factor could be associated with both widespread civil liberty protections and decreases in wealth inequality. However, from a conceptual standpoint it seems possible that if civil liberty protections, such as private property rights and access to justice, are present for the lower socioeconomic classes, it could act as a hedge against wealth inequality. As an example, in places where private property rights are nearly non-existent for the poor, it may be hard for them to begin to accumulate and store wealth, which would further increase the wealth inequality gap. In addition, access to justice in the form of relative equality before a court during disputes is more likely to help the poor as well, especially if the alternative is dispute resolution via extrajudicial means, in which wealthier individuals would have an advantage. In any case, additional research on the precise causal relationship between widespread civil liberty protections and changes in wealth inequality would be beneficial.

Having thoroughly discussed and analyzed my findings, I will next discuss specific policy recommendations that follow. As mentioned in Section 2, there are wide-ranging benefits to democracy, indicating that it should be kept as a political system, even though it is in need of substantial reforms which would both increase political equality, thereby strengthening democracy itself, and limit wealth inequality. I will now outline three concrete steps that democracies can take to combat high levels of wealth inequality and strengthen political equality. The first two policy recommendations outlined here counteract capture of democracy by the wealthy, and the last recommendation is related to overconsumption.

First, democracies should work to limit the influence of money in the political process as much as possible. In democracies such as the United States which allow unlimited

contributions to political campaigns, this means legally fighting the equivalency of money and free speech as well as creating strong incentives for candidates to avoid accepting large campaign contributions. In democracies around the world, sufficient public campaign financing should be made available to avoid capture of democracy by the wealthy. To ensure accountability, this public financing could be distributed in the form of Democratic Equality Vouchers, as proposed by Julia Cagé (2020), where each voter would designate a voucher containing an equal amount of funds to a candidate of his or her choice on a regular basis. Strong regulation of governmental lobbying activity should also be enforced, to ensure that groups representing lower socioeconomic classes are ensured a proportionally appropriate amount of access to legislators.

Second, cultural hegemony, as defined by Rueschemeyer (2004), should be countered through increasing public funding for cultural and academic institutions and reversing any funding cuts. This would counteract any leverage that wealthy individuals, through their private charities or otherwise, are able to exert over higher education and societal culture. In the United States, estate tax loopholes encouraging the wealthy to use private charities to push ideological agendas should be abolished.

Third, as suggested by Diwan (2000), advertising revenues should not be considered into the costs of operation for businesses, and should instead be made non-tax-deductible. This would hugely discourage the use of advertising by business, and consumers would be less bombarded by advertisements for products that they do not need, making the decision on what to consume a more personal one. With a weakened culture of overconsumption, an alternative culture of citizenship could grow in its place, making important societal debates like appropriate levels of wealth inequality more salient.

This is by no means an exhaustive list of actions that could be taken, but each of these policy recommendations would result in an environment where democracies are more accommodative of increasing political equality and limiting wealth inequality. In addition to these three policy recommendations, an additional three should also be mentioned.

First, this thesis provides support for the practice of federalism, where a central government and regional governments are given defined roles and power is split between them, and its role in limiting wealth inequality. When designing democratic systems, it makes sense to consider a federalist model which spreads power to elected regional governments.

Second, democracies should pursue policies which ensure civil liberties such as property rights and the rule of law for disadvantaged socioeconomic classes. This thesis has already found that countries which respect civil liberties for all sectors of society, including the poor, are much more likely to successfully limit wealth inequality, but there is a major additional benefit as well. According to Potts (2016), democracy's positive effect on subjective well-being, as evidenced by Dorn et al. (2007), only holds if civil liberties are widely respected.

My final policy recommendation is not directly related the findings of my thesis, but instead influenced by my experiences seeking reliable wealth inequality data while writing. I echo the call of Blanchet et al. (2021), who state, "In order to improve income and wealth distributional statistics worldwide, and absent micro data availability, basic informational tables should be produced by countries' tax or statistical authorities on an annual basis" (p. 160). Every country should strive to make wealth distributional data as widely available as possible, in the interest of scientific and policy research. Although slow progress is being made, the limited scope of wealth distribution data currently available severely affects the ability to do substantive research on wealth inequality.

I will conclude this section by offering ideas for further research. In addition to the two opportunities for further research already presented, one regarding whether strong and independent elected regional governments have a greater effect on reducing wealth inequality in larger countries and the other involving the causal relationship between widespread civil liberty protections and reductions in wealth inequality, several other opportunities exist. Perhaps the most basic idea would be to redo this study when additional direct wealth inequality data becomes available in the future. Moreover, if a democracy indicator which included immigrants when determining the size of the franchise became available in a large number of countries, similar to what Altman (2020) proposes, it may also be interesting to repeat my study with this indicator in place of the current Electoral Democracy Index.

Another interesting idea for further research related to democracy and wealth inequality can be found by looking at Hewitt (1977) and Huber et al. (2006). Both studies find that democracy only reduces income inequality in instances where left-leaning democratic socialist parties have a role in governing. It would be interesting to see if this trend holds for wealth inequality in addition to income inequality, and if it still applies today considering the findings of Lierse (2021), which show that left-leaning parties have increasingly supported wealth tax cuts in recent decades.

Furthermore, it might be worthwhile to do an in-depth study on post-communist countries and wealth inequality trends. Knutsen and Wegmann (2016) find that individuals who have lived under communist regimes are much less likely to hold that view that redistribution is an important feature of democracy. Perhaps unsurprisingly, Beloshitzkaya (2020) finds in an empirical study that post-communist democracies redistribute notably less than post-communist autocracies do. It will be interesting to see if this aversion to redistribution continues in post-communist democracies as generations who have not lived under communism increasingly hold voting power.

Two final opportunities for further research may also be worth examining. Considering my finding that countries with larger populations were more likely to increase wealth inequality levels, it might be prudent to conduct a simple study determining whether this also applies to countries with larger land surface areas. And considering Rueschemeyer's (2004) suggestion that collective action within democracies could lead to reductions in wealth inequality, it would be interesting to see if this is empirically the case.

In this section, I have presented my results, discussed and explained them thoroughly within the realm of the literature, and provided policy recommendations and ideas for further research. In the next and final section, I will summarize the content of my thesis and offer concluding remarks.

5. CONCLUSION

The objective of this thesis was to determine whether democratic states are effectively countering rising wealth inequality. The motivation behind this particular research topic stems from the fact that functional democracy relies on political equality, which is not assured when wealth inequality levels become extreme. Prior to this thesis, to my best knowledge, no studies involving a large number of countries had been undertaken to definitively determine the relationship between democracy and wealth inequality. This thesis was able to fill a gap in the literature by answering the pertinent question of whether democracies are more likely than autocracies to reduce or limit wealth inequality, specifically when a large number of countries are taken into account.

It was hypothesized that democratic states would be more likely than autocratic states to reduce or limit wealth inequality. This expectation was largely based on theorized causal mechanisms suggesting that democracy might reduce wealth inequality as well as a number of empirical studies showing that democracy may reduce income inequality and increase progressive redistribution, both of which are closely related to wealth inequality levels. This hypothesis was tested with a rigorous methodology relating democracy levels in 146 countries to changes in wealth inequality in the years following, while controlling for a number of other possible factors and performing several robustness checks. A couple of other secondary hypotheses relating particular aspects of democracy, strength and independence of elected regional government and equality of civil liberty protections, to wealth inequality were also tested with the same rigorous methodology.

Contrary to expectations, it was found that democracies are no more likely than autocracies to limit or reduce wealth inequality. Several reasons are suggested for this surprising result, notably that other political cleavages within democratic states, fairness beliefs among individuals, a consensus of wealth tax cuts among political parties, or a culture of overconsumption could be reducing support for wealth equalizing policies, or that wealthy individuals and corporations could have commandeered and captured democratic processes. In any case, the primary research question was answered; comprehensive evidence was provided that democracies are not limiting or reducing wealth inequality more than their authoritarian counterparts.

A couple of other notable results were also uncovered, in agreement with expectations. First, strong and independent elected regional government, a non-essential attribute of democracy,

was found to reduce wealth inequality. Second, widespread protection of civil liberties was also found to be associated with reductions in wealth inequality. Finally, it was additionally found that more populous countries were more likely to increase wealth inequality.

The primary finding of this thesis, that democracy is failing to reduce or limit wealth inequality, is quite worrisome. If democracies are not limiting wealth inequality to reasonable levels, then they may devolve into oligarchies, where there is little to no political equality between those who have large amounts of wealth and those who do not. A number of steps that democracies could take were suggested in the discussion, among them limiting the influence of money in politics, ensuring sufficient public funding for cultural and academic institutions to combat cultural hegemony by the wealthy, and discouraging advertising by making it non-tax deductible. All of these steps could indirectly act to reduce wealth inequality and increase political equality. Of course, if political will exists to enact policies limiting or reducing wealth inequality directly, especially in countries where it is very high, these policies should also be enacted. Examples would be raising inheritance taxes or creating wealth taxes on extremely wealthy individuals.

Although this thesis has found that democracy in general does not reduce or limit wealth inequality, it is possible that particular types of democracy might. In particular, two promising avenues for additional research are whether democracies with left-leaning parties in power and whether democracies with high levels of collective action act to reduce or limit wealth inequality more than democracies without such features or autocracies. Other possibilities for future research have also been highlighted in the discussion.

In addition to the primary finding of this thesis, the additional findings also provide some insights. The fact that strong and independent regional elected government was associated with reductions in wealth inequality levels highlights its importance in design of democratic systems. Furthermore, the association found between widespread respect for civil liberties and reductions in wealth inequality offers support for policies protecting civil liberties, such as property rights and access to justice, for everyone, including poorer or marginalized segments of society.

I conclude by remarking that democracy is far from perfect today. In a world of competing ideologies, internet censorship, disinformation produced by authoritarian governments, and massive gaps between the rich and the poor, democracy is no longer seen as the clear winner that it was decades ago from the perspective of a good portion of the world's population.

Although a very strong case can be made for democracy, its failure to deal with rising wealth inequality detracts from its appeal. It is imperative that democracy take high levels of wealth inequality, and their related political inequalities, seriously if it wants to remain desirable in the world today. With certain reforms in place, democracy will hopefully remain the prevailing political ideology in the world for years and centuries to come.

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Appendix A: List of Included Countries, Country Codes, and Coded Regions

Country	Country Code	Region
Afghanistan	AFG	South and Southeast Asia
Albania	ALB	Eastern Europe and Central Asia
Algeria	DZA	Middle East and North Africa
Angola	AGO	Sub-Saharan Africa
Armenia	ARM	Eastern Europe and Central Asia
Australia	AUS	East Asia and Oceania
Austria	AUT	North America and Western Europe
Azerbaijan	AZE	Eastern Europe and Central Asia
Bahrain	BHR	Middle East and North Africa
Bangladesh	BGD	South and Southeast Asia
Belarus	BLR	Eastern Europe and Central Asia
Belgium	BEL	North America and Western Europe
Benin	BEN	Sub-Saharan Africa
Bhutan	BTN	South and Southeast Asia
Bosnia and Herzegovina	BIH	Eastern Europe and Central Asia
Botswana	BWA	Sub-Saharan Africa
Brazil	BRA	Latin America and the Caribbean
Bulgaria	BGR	Eastern Europe and Central Asia
Burkina Faso	BFA	Sub-Saharan Africa
Burundi	BDI	Sub-Saharan Africa
Cabo Verde	CPV	Sub-Saharan Africa
Cambodia	KHM	South and Southeast Asia
Cameroon	CMR	Sub-Saharan Africa
Canada	CAN	North America and Western Europe
Central African Republic	CAF	Sub-Saharan Africa
Chad	TCD	Sub-Saharan Africa
Chile	CHL	Latin America and the Caribbean
China	CHN	East Asia and Oceania
Colombia	COL	Latin America and the Caribbean

Comoros	COM	Sub-Saharan Africa
Congo, Dem. Rep.	COD	Sub-Saharan Africa
Congo, Rep.	COG	Sub-Saharan Africa
Costa Rica	CRI	Latin America and the Caribbean
Cote d'Ivoire	CIV	Sub-Saharan Africa
Croatia	HRV	Eastern Europe and Central Asia
Cyprus	CYP	North America and Western Europe
Czechia	CZE	Eastern Europe and Central Asia
Denmark	DNK	North America and Western Europe
Djibouti	DJI	Sub-Saharan Africa
Ecuador	ECU	Latin America and the Caribbean
Egypt	EGY	Middle East and North Africa
Estonia	EST	Eastern Europe and Central Asia
Eswatini	SWZ	Sub-Saharan Africa
Ethiopia	ETH	Sub-Saharan Africa
Finland	FIN	North America and Western Europe
France	FRA	North America and Western Europe
Gabon	GAB	Sub-Saharan Africa
Gambia	GMB	Sub-Saharan Africa
Georgia	GEO	Eastern Europe and Central Asia
Germany	DEU	North America and Western Europe
Ghana	GHA	Sub-Saharan Africa
Greece	GRC	North America and Western Europe
Guinea	GIN	Sub-Saharan Africa
Guinea-Bissau	GNB	Sub-Saharan Africa
Hungary	HUN	Eastern Europe and Central Asia
Iceland	ISL	North America and Western Europe
India	IND	South and Southeast Asia
Indonesia	IDN	South and Southeast Asia
Iran	IRN	Middle East and North Africa
Iraq	IRQ	Middle East and North Africa
Ireland	IRL	North America and Western Europe

Israel	ISR	Middle East and North Africa
Italy	ITA	North America and Western Europe
Japan	JPN	East Asia and Oceania
Jordan	JOR	Middle East and North Africa
Kazakhstan	KAZ	Eastern Europe and Central Asia
Kenya	KEN	Sub-Saharan Africa
Korea	KOR	East Asia and Oceania
Kuwait	KWT	Middle East and North Africa
Kyrgyzstan	KGZ	Eastern Europe and Central Asia
Laos	LAO	South and Southeast Asia
Latvia	LVA	Eastern Europe and Central Asia
Lebanon	LBN	Middle East and North Africa
Lesotho	LSO	Sub-Saharan Africa
Liberia	LBR	Sub-Saharan Africa
Lithuania	LTU	Eastern Europe and Central Asia
Luxembourg	LUX	North America and Western Europe
Madagascar	MDG	Sub-Saharan Africa
Malawi	MWI	Sub-Saharan Africa
Malaysia	MYS	South and Southeast Asia
Maldives	MDV	South and Southeast Asia
Mali	MLI	Sub-Saharan Africa
Malta	MLT	North America and Western Europe
Mauritania	MRT	Sub-Saharan Africa
Mauritius	MUS	Sub-Saharan Africa
Mexico	MEX	Latin America and the Caribbean
Moldova	MDA	Eastern Europe and Central Asia
Mongolia	MNG	Eastern Europe and Central Asia
Montenegro	MNE	Eastern Europe and Central Asia
Morocco	MAR	Middle East and North Africa
Mozambique	MOZ	Sub-Saharan Africa
Myanmar	MMR	South and Southeast Asia
Namibia	NAM	Sub-Saharan Africa

Nepal	NPL	South and Southeast Asia
Netherlands	NLD	North America and Western Europe
New Zealand	NZL	East Asia and Oceania
Niger	NER	Sub-Saharan Africa
Nigeria	NGA	Sub-Saharan Africa
North Macedonia	MKD	Eastern Europe and Central Asia
Norway	NOR	North America and Western Europe
Oman	OMN	Middle East and North Africa
Pakistan	PAK	Middle East and North Africa
Palestine	PSE	Middle East and North Africa
Papua New Guinea	PNG	East Asia and Oceania
Peru	PER	Latin America and the Caribbean
Philippines	PHL	South and Southeast Asia
Poland	POL	Eastern Europe and Central Asia
Portugal	PRT	North America and Western Europe
Qatar	QAT	Middle East and North Africa
Romania	ROU	Eastern Europe and Central Asia
Russia	RUS	Eastern Europe and Central Asia
Rwanda	RWA	Sub-Saharan Africa
Senegal	SEN	Sub-Saharan Africa
Serbia	SRB	Eastern Europe and Central Asia
Sierra Leone	SLE	Sub-Saharan Africa
Singapore	SGP	South and Southeast Asia
Slovakia	SVK	Eastern Europe and Central Asia
Slovenia	SVN	Eastern Europe and Central Asia
Somalia	SOM	Sub-Saharan Africa
South Africa	ZAF	Sub-Saharan Africa
Spain	ESP	North America and Western Europe
Sri Lanka	LKA	South and Southeast Asia
Sudan	SDN	Sub-Saharan Africa
Sweden	SWE	North America and Western Europe
Switzerland	CHE	North America and Western Europe

Syria	SYR	Middle East and North Africa
Taiwan	TWN	East Asia and Oceania
Tajikistan	TJK	Eastern Europe and Central Asia
Tanzania	TZA	Sub-Saharan Africa
Thailand	THA	South and Southeast Asia
Timor-Leste	TLS	South and Southeast Asia
Togo	TGO	Sub-Saharan Africa
Tunisia	TUN	Middle East and North Africa
Turkey	TUR	Middle East and North Africa
Turkmenistan	TKM	Eastern Europe and Central Asia
Uganda	UGA	Sub-Saharan Africa
Ukraine	UKR	Eastern Europe and Central Asia
United Arab Emirates	ARE	Middle East and North Africa
United Kingdom	GBR	North America and Western Europe
United States	USA	North America and Western Europe
Uruguay	URY	Latin America and the Caribbean
Uzbekistan	UZB	Eastern Europe and Central Asia
Vietnam	VNM	South and Southeast Asia
Yemen	YEM	Middle East and North Africa
Zambia	ZMB	Sub-Saharan Africa
Zimbabwe	ZWE	Sub-Saharan Africa

Appendix B: Results of Robustness Checks

Note: In all regressions, the reference region for regional dummies is North America and Western Europe.

Table 2: Robustness Check 1 – Wealth Gini as Dependent Variable

	<i>Dependent variable:</i>				
	Change in Wealth Gini, 2010-2020				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.016 (0.010)	0.008 (0.016)	0.044* (0.018)		
Regional Government Index, 2010 (0 to 1)			-0.012** (0.004)	-0.008* (0.003)	
Social Class Equality in Respect for Civil Liberty, 2010			-0.018* (0.008)		-0.015* (0.008)
Wealth Gini, 2010		-0.186*** (0.042)	-0.198*** (0.040)	-0.199*** (0.041)	-0.191*** (0.041)
Logarithm of Total Population, 2010		0.003 (0.002)	0.004+ (0.002)	0.002 (0.002)	0.004* (0.002)
Fractional Change in Population, 2010-2020		0.049+ (0.027)	0.046+ (0.026)	0.038 (0.026)	0.041 (0.026)
Logarithm of Mean Wealth in USD per Adult, 2010		0.002 (0.003)	0.003 (0.003)	0.004 (0.003)	0.003 (0.003)
Average Total Revenue as a Fraction of GDP, 2010-2020		-0.010 (0.034)	0.004 (0.032)	0.002 (0.033)	-0.004 (0.033)
Regional Dummy for Eastern Europe and Central Asia		0.012 (0.012)	0.008 (0.011)	0.006 (0.011)	0.009 (0.011)
Regional Dummy for Middle East and North Africa		-0.003 (0.014)	-0.011 (0.013)	-0.014 (0.013)	-0.011 (0.013)
Regional Dummy for South and Southeast Asia		0.001 (0.014)	-0.005 (0.013)	-0.007 (0.014)	-0.002 (0.014)
Regional Dummy for East Asia and Oceania		-0.006 (0.014)	-0.009 (0.013)	-0.010 (0.014)	-0.009 (0.014)
Regional Dummy for Sub-Saharan Africa		-0.003 (0.017)	-0.006 (0.016)	-0.004 (0.017)	-0.003 (0.017)
Regional Dummy for Latin America and the Caribbean		0.029+ (0.016)	0.019 (0.016)	0.027+ (0.016)	0.032* (0.016)
Constant	-0.009 (0.006)	0.072 (0.055)	0.053 (0.054)	0.089+ (0.054)	0.048 (0.056)
Observations	146	131	131	131	131
Adjusted R ²	0.011	0.174	0.260	0.212	0.199
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

Table 3: Robustness Check 2 – Averaged Top 10% Wealth Share as Dependent Variable

	<i>Dependent variable:</i>				
	Change in Averaged Top 10% Wealth Share, Average of 2005-2010 Subtracted from Average of 2015-2020				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.018 (0.013)	0.003 (0.021)	0.051* (0.023)		
Regional Government Index, 2010 (0 to 1)			-0.015** (0.005)	-0.010* (0.004)	
Social Class Equality in Respect for Civil Liberty, 2010			-0.034*** (0.010)		-0.031** (0.010)
Top 10% Wealth Share, 2010		-0.109* (0.051)	-0.125** (0.047)	-0.125* (0.049)	-0.121* (0.049)
Logarithm of Total Population, 2010		0.006* (0.002)	0.009*** (0.003)	0.005* (0.002)	0.009*** (0.003)
Fractional Change in Population, 2010-2020		0.047 (0.035)	0.042 (0.033)	0.037 (0.034)	0.036 (0.033)
Logarithm of Mean Wealth in USD per Adult, 2010		0.003 (0.004)	0.005 (0.004)	0.005 (0.004)	0.005 (0.003)
Average Total Revenue as a Fraction of GDP, 2010-2020		0.012 (0.043)	0.031 (0.040)	0.026 (0.042)	0.021 (0.042)
Regional Dummy for Eastern Europe and Central Asia		0.015 (0.015)	0.011 (0.014)	0.009 (0.015)	0.012 (0.014)
Regional Dummy for Middle East and North Africa		-0.008 (0.018)	-0.019 (0.017)	-0.020 (0.017)	-0.019 (0.017)
Regional Dummy for South and Southeast Asia		0.001 (0.018)	-0.007 (0.017)	-0.008 (0.018)	-0.002 (0.017)
Regional Dummy for East Asia and Oceania		0.001 (0.018)	-0.004 (0.017)	-0.003 (0.018)	-0.003 (0.017)
Regional Dummy for Sub-Saharan Africa		-0.005 (0.022)	-0.008 (0.021)	-0.006 (0.022)	-0.004 (0.021)
Regional Dummy for Latin America and the Caribbean		0.016 (0.022)	0.004 (0.021)	0.012 (0.021)	0.019 (0.021)
Constant	-0.009 (0.008)	-0.072 (0.068)	-0.120+ (0.065)	-0.055 (0.066)	-0.124+ (0.067)
Observations	146	131	131	131	131
Adjusted R ²	0.007	0.075	0.205	0.120	0.145
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

Table 4: Robustness Check 3 – Removal of Two Control Variables

Table produced with the software package Stargazer (Hlavac, 2018)	<i>Dependent variable:</i>			
	Change in Top 10% Wealth Share, 2010-2020			
	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.006 (0.016)	0.055** (0.020)		
Regional Government Index, 2010 (0 to 1)		-0.014*** (0.004)	-0.009* (0.004)	
Social Class Equality in Respect for Civil Liberty, 2010		-0.024** (0.009)		-0.021* (0.009)
Top 10% Wealth Share, 2010	-0.150*** (0.044)	-0.158*** (0.042)	-0.157*** (0.043)	-0.152*** (0.043)
Logarithm of Total Population, 2010	0.003 (0.002)	0.004+ (0.002)	0.001 (0.002)	0.004* (0.002)
Fractional Change in Population, 2010-2020	0.034 (0.029)	0.030 (0.027)	0.021 (0.028)	0.023 (0.027)
Regional Dummy for Eastern Europe and Central Asia	0.003 (0.012)	-0.004 (0.011)	-0.009 (0.011)	-0.005 (0.010)
Regional Dummy for Middle East and North Africa	-0.010 (0.015)	-0.017 (0.015)	-0.025+ (0.014)	-0.022 (0.014)
Regional Dummy for South and Southeast Asia	-0.007 (0.014)	-0.017 (0.013)	-0.023+ (0.013)	-0.015 (0.012)
Regional Dummy for East Asia and Oceania	-0.006 (0.017)	-0.010 (0.016)	-0.013 (0.016)	-0.011 (0.016)
Regional Dummy for Sub-Saharan Africa	-0.014 (0.013)	-0.025+ (0.013)	-0.028* (0.013)	-0.022+ (0.012)
Regional Dummy for Latin America and the Caribbean	0.003 (0.016)	-0.010 (0.016)	-0.007 (0.016)	0.002 (0.016)
Constant	0.050 (0.046)	0.041 (0.046)	0.102* (0.044)	0.043 (0.040)
Observations	145	145	145	145
Adjusted R ²	0.110	0.208	0.146	0.145
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001			

Table 5: Robustness Check 4 – Using 2000 to 2020 Time Range

	<i>Dependent variable:</i>				
	Change in Top 10% Wealth Share, 2000-2020				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2000 (0 to 1)	0.012 (0.022)	-0.038 (0.037)	-0.016 (0.037)		
Regional Government Index, 2000 (0 to 1)			-0.012 (0.011)	-0.018+ (0.010)	
Social Class Equality in Respect for Civil Liberty, 2000			-0.036* (0.015)		-0.041** (0.015)
Top 10% Wealth Share, 2000		-0.385*** (0.083)	-0.427*** (0.081)	-0.407*** (0.083)	-0.414*** (0.080)
Logarithm of Total Population, 2000		0.007+ (0.004)	0.011* (0.004)	0.005 (0.004)	0.013** (0.004)
Fractional Change in Population, 2000-2020		0.048+ (0.026)	0.041 (0.026)	0.043+ (0.025)	0.057* (0.022)
Logarithm of Mean Wealth in USD per Adult, 2000		0.004 (0.007)	0.011 (0.007)	0.007 (0.007)	0.005 (0.006)
Average Total Revenue as a Fraction of GDP, 2000-2020		-0.104 (0.096)	-0.051 (0.093)	-0.083 (0.095)	-0.076 (0.091)
Regional Dummy for Eastern Europe and Central Asia		0.018 (0.023)	0.026 (0.022)	0.016 (0.022)	0.024 (0.021)
Regional Dummy for Middle East and North Africa		-0.037 (0.028)	-0.042 (0.027)	-0.031 (0.027)	-0.044 (0.027)
Regional Dummy for South and Southeast Asia		-0.029 (0.029)	-0.024 (0.028)	-0.033 (0.028)	-0.024 (0.027)
Regional Dummy for East Asia and Oceania		0.001 (0.022)	-0.007 (0.021)	0.001 (0.022)	-0.006 (0.021)
Regional Dummy for Sub-Saharan Africa		0.095+ (0.051)	0.116* (0.050)	0.100+ (0.050)	0.105* (0.049)
Regional Dummy for Latin America and the Caribbean		0.053+ (0.029)	0.056* (0.028)	0.043 (0.027)	0.054* (0.026)
Constant	0.007 (0.016)	0.132 (0.110)	0.031 (0.115)	0.149 (0.107)	0.027 (0.113)
Observations	74	69	69	69	69
Adjusted R ²	-0.010	0.279	0.349	0.306	0.350
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

Table 6: Robustness Check 5 – Using 2000 to 2019 Time Range to Exclude Covid-19

	<i>Dependent variable:</i>				
	Change in Top 10% Wealth Share, 2010-2019				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.020+ (0.012)	0.005 (0.019)	0.048* (0.021)		
Regional Government Index, 2010 (0 to 1)			-0.014*** (0.004)	-0.010** (0.004)	
Social Class Equality in Respect for Civil Liberty, 2010			-0.023* (0.009)		-0.020* (0.009)
Top 10% Wealth Share, 2010		-0.168*** (0.045)	-0.182*** (0.043)	-0.185*** (0.044)	-0.177*** (0.044)
Logarithm of Total Population, 2010		0.004* (0.002)	0.006* (0.002)	0.003 (0.002)	0.006** (0.002)
Fractional Change in Population, 2010-2019		0.064+ (0.034)	0.060+ (0.032)	0.051 (0.033)	0.054+ (0.033)
Logarithm of Mean Wealth in USD per Adult, 2010		0.003 (0.003)	0.004 (0.003)	0.005+ (0.003)	0.005 (0.003)
Average Total Revenue as a Fraction of GDP, 2010-2019		0.006 (0.039)	0.021 (0.037)	0.018 (0.038)	0.012 (0.038)
Regional Dummy for Eastern Europe and Central Asia		0.020 (0.014)	0.015 (0.013)	0.013 (0.013)	0.017 (0.013)
Regional Dummy for Middle East and North Africa		-0.003 (0.016)	-0.012 (0.016)	-0.015 (0.016)	-0.011 (0.015)
Regional Dummy for South and Southeast Asia		0.005 (0.016)	-0.002 (0.015)	-0.003 (0.016)	0.003 (0.016)
Regional Dummy for East Asia and Oceania		-0.002 (0.016)	-0.006 (0.015)	-0.006 (0.016)	-0.005 (0.016)
Regional Dummy for Sub-Saharan Africa		0.002 (0.020)	-0.001 (0.019)	0.001 (0.019)	0.003 (0.020)
Regional Dummy for Latin America and the Caribbean		0.039* (0.019)	0.027 (0.019)	0.035+ (0.019)	0.042* (0.019)
Constant	-0.010 (0.007)	-0.013 (0.061)	-0.039 (0.060)	0.008 (0.059)	-0.045 (0.061)
Observations	146	130	130	130	130
Adjusted R ²	0.013	0.148	0.247	0.196	0.182
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

Table 7: Robustness Check 6 – Average Level of Democracy as Independent Variable

	<i>Dependent variable:</i>	
	Change in Top 10% Wealth Share, 2010-2020	
	(1)	(2)
Electoral Democracy Index, 2010-2020 Average (0 to 1)	0.015 (0.012)	-0.009 (0.020)
Top 10% Wealth Share, 2010		-0.177*** (0.046)
Logarithm of Total Population, 2010		0.004+ (0.002)
Fractional Change in Population, 2010-2020		0.051 (0.032)
Logarithm of Mean Wealth in USD per Adult, 2010		0.004 (0.003)
Average Total Revenue as a Fraction of GDP, 2010-2020		0.004 (0.038)
Regional Dummy for Eastern Europe and Central Asia		0.018 (0.014)
Regional Dummy for Middle East and North Africa		-0.006 (0.016)
Regional Dummy for South and Southeast Asia		0.005 (0.016)
Regional Dummy for East Asia and Oceania		-0.002 (0.016)
Regional Dummy for Sub-Saharan Africa		0.005 (0.020)
Regional Dummy for Latin America and the Caribbean		0.041* (0.019)
Constant	-0.008 (0.007)	-0.003 (0.061)
Observations	146	131
Adjusted R ²	0.004	0.146
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001	

Table 8: Robustness Check 7 – Including All Countries

	<i>Dependent variable:</i>				
	Change in Top 10% Wealth Share, 2010-2020				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.013 (0.011)	0.011 (0.017)	0.048* (0.019)		
Regional Government Index, 2010 (0 to 1)			-0.012** (0.004)	-0.008* (0.004)	
Social Class Equality in Respect for Civil Liberty, 2010			-0.023** (0.009)		-0.020* (0.009)
Top 10% Wealth Share, 2010		-0.163*** (0.044)	-0.174*** (0.042)	-0.174*** (0.043)	-0.172*** (0.043)
Logarithm of Total Population, 2010		0.006** (0.002)	0.008*** (0.002)	0.005* (0.002)	0.008*** (0.002)
Fractional Change in Population, 2010-2020		0.068* (0.030)	0.063* (0.028)	0.058* (0.029)	0.058* (0.029)
Logarithm of Mean Wealth in USD per Adult, 2010		0.004 (0.003)	0.006* (0.003)	0.007* (0.003)	0.006* (0.003)
Average Total Revenue as a Fraction of GDP, 2010-2020		0.018 (0.035)	0.035 (0.033)	0.031 (0.035)	0.023 (0.034)
Regional Dummy for Eastern Europe and Central Asia		0.028* (0.013)	0.025+ (0.013)	0.023+ (0.013)	0.024+ (0.013)
Regional Dummy for Middle East and North Africa		0.002 (0.016)	-0.005 (0.015)	-0.010 (0.015)	-0.009 (0.015)
Regional Dummy for South and Southeast Asia		0.014 (0.016)	0.008 (0.015)	0.006 (0.016)	0.009 (0.015)
Regional Dummy for East Asia and Oceania		0.001 (0.016)	-0.003 (0.015)	-0.004 (0.016)	-0.003 (0.016)
Regional Dummy for Sub-Saharan Africa		0.012 (0.019)	0.011 (0.018)	0.012 (0.019)	0.012 (0.019)
Regional Dummy for Latin America and the Caribbean		0.007 (0.016)	-0.001 (0.016)	0.002 (0.016)	0.010 (0.016)
Constant	-0.011+ (0.007)	-0.068 (0.056)	-0.103+ (0.055)	-0.060 (0.055)	-0.095+ (0.056)
Observations	167	142	142	142	142
Adjusted R ²	0.002	0.159	0.240	0.185	0.189
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

Table 9: Robustness Check 8 – Removing Outliers

Table produced with the software package Stargazer (Hlavac, 2018)	<i>Dependent variable:</i>				
	Change in Top 10% Wealth Share, 2010-2020				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.023* (0.011)	0.010 (0.017)	0.039* (0.019)		
Regional Government Index, 2010 (0 to 1)			-0.009* (0.004)	-0.005 (0.004)	
Social Class Equality in Respect for Civil Liberty, 2010			-0.019* (0.008)		-0.016+ (0.008)
Top 10% Wealth Share, 2010		-0.148*** (0.041)	-0.161*** (0.040)	-0.161*** (0.041)	-0.158*** (0.040)
Logarithm of Total Population, 2010		0.003 (0.002)	0.004* (0.002)	0.002 (0.002)	0.004* (0.002)
Fractional Change in Population, 2010-2020		0.017 (0.030)	0.019 (0.029)	0.011 (0.029)	0.010 (0.029)
Logarithm of Mean Wealth in USD per Adult, 2010		0.0001 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)
Average Total Revenue as a Fraction of GDP, 2010-2020		0.031 (0.037)	0.043 (0.036)	0.041 (0.037)	0.039 (0.037)
Regional Dummy for Eastern Europe and Central Asia		0.013 (0.012)	0.011 (0.012)	0.009 (0.012)	0.010 (0.012)
Regional Dummy for Middle East and North Africa		0.003 (0.015)	-0.004 (0.014)	-0.006 (0.014)	-0.005 (0.014)
Regional Dummy for South and Southeast Asia		0.007 (0.015)	0.002 (0.014)	0.002 (0.015)	0.004 (0.014)
Regional Dummy for East Asia and Oceania		0.003 (0.015)	-0.0005 (0.014)	-0.001 (0.015)	-0.001 (0.014)
Regional Dummy for Sub-Saharan Africa		0.001 (0.018)	0.001 (0.018)	0.002 (0.018)	0.003 (0.018)
Regional Dummy for Latin America and the Caribbean		0.034+ (0.018)	0.028 (0.017)	0.035* (0.017)	0.038* (0.017)
Constant	-0.012+ (0.006)	0.027 (0.055)	-0.007 (0.055)	0.034 (0.055)	0.0001 (0.056)
Observations	144	129	129	129	129
Adjusted R ²	0.025	0.136	0.190	0.149	0.161
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

Table 10: Robustness Check 9 – Square Root Transformation of Dependent Variable

	<i>Dependent variable:</i> Square Root of Change in Top 10% Wealth Share, 2010-2020				
	(1)	(2)	(3)	(4)	(5)
Electoral Democracy Index, 2010 (0 to 1)	0.072 (0.047)	0.028 (0.077)	0.188* (0.086)		
Regional Government Index, 2010 (0 to 1)			-0.054** (0.017)	-0.037* (0.016)	
Social Class Equality in Respect for Civil Liberty, 2010			-0.081* (0.037)		-0.070+ (0.037)
Top 10% Wealth Share, 2010		-0.695*** (0.187)	-0.748*** (0.179)	-0.760*** (0.182)	-0.730*** (0.183)
Logarithm of Total Population, 2010		0.016+ (0.009)	0.022* (0.009)	0.013 (0.009)	0.024* (0.010)
Fractional Change in Population, 2010-2020		0.187 (0.130)	0.176 (0.124)	0.143 (0.124)	0.154 (0.125)
Logarithm of Mean Wealth in USD per Adult, 2010		0.005 (0.014)	0.011 (0.013)	0.015 (0.013)	0.012 (0.013)
Average Total Revenue as a Fraction of GDP, 2010-2020		0.116 (0.159)	0.177 (0.153)	0.172 (0.156)	0.144 (0.156)
Regional Dummy for Eastern Europe and Central Asia		0.079 (0.056)	0.064 (0.054)	0.057 (0.055)	0.070 (0.054)
Regional Dummy for Middle East and North Africa		-0.001 (0.067)	-0.034 (0.065)	-0.046 (0.064)	-0.031 (0.063)
Regional Dummy for South and Southeast Asia		0.029 (0.067)	0.0005 (0.064)	-0.005 (0.066)	0.020 (0.065)
Regional Dummy for East Asia and Oceania		0.027 (0.067)	0.012 (0.064)	0.008 (0.065)	0.015 (0.065)
Regional Dummy for Sub-Saharan Africa		0.019 (0.082)	0.006 (0.078)	0.016 (0.080)	0.023 (0.081)
Regional Dummy for Latin America and the Caribbean		0.155+ (0.080)	0.112 (0.077)	0.146+ (0.077)	0.168* (0.077)
Constant	-0.037 (0.028)	0.014 (0.249)	-0.085 (0.247)	0.080 (0.244)	-0.099 (0.253)
Observations	146	131	131	131	131
Adjusted R ²	0.009	0.131	0.210	0.170	0.155
<i>Note:</i>	+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001				

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