

Democracy, Inequality, and Antitrust

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Abstract

This paper investigates the relationship between democracy, inequality, and antitrust policy. Strong antitrust policies advance the economic and political interests of most citizens, making their adoption more likely in institutional settings that weigh the interests of voters. We examine the empirical relationship between democracy, inequality, and antitrust policies in a broad panel of countries from 1951 to 2010. Using a variety of identification strategies as well as case studies, we find that democracy is predictive of stricter antitrust policies in countries with low but not high levels of inequality. The result accords with the idea that economic inequality can undermine the democratic forces that tend toward stronger antitrust policy. We then investigate a supposed exception to this pattern: progressive era US reforms. Through a mixed-methods analysis, we present evidence that democracy and inequality shaped the politics of antitrust in this era in a way that resonates with our cross-country analysis.

1 Introduction

In 1908, William Allen White published a series of essays for *American Magazine* under the title “The Old Order Changeth” that assessed the relationship between democracy and capitalism in American society. The title comes from Tennyson’s poem “The Passing of Arthur” and White uses it to signal his overarching theme that American democracy would be triumphant and the country was in the midst of a revolution from “the control of capital to the control of men” (White, 1910, p. 234). While White’s essays celebrate progressive era victories in regulating, or as he puts it “socializing,” capitalism, the problem that pervades and animates them is the power of capital to shape and control politics. Late nineteenth century American politics is a place where “Money in politics was there for the purpose of protecting the rights of property under the law, as against the rights of men...The greed of capital was rampant, the force of democracy was dormant” (White, 1910, p. 21). The question at the heart of White’s essays was whether democracy could shape markets so they served the broad interests of society in a context of concentrated economic interests with vast resources to influence politics.

These same questions confront contemporary analyses of antitrust policymaking. Why has the United States not adopted more aggressive antitrust policies and enforcement in an era of increasing economic concentration across the economy, especially in the technology industry? An intensely debated answer to this question involves the political influence of concentrated interests on policymaking. Economic inequality in the United States has increased to levels that rival those of the late nineteenth and early twentieth century period in which White wrote. Does economic inequality afford concentrated interests political power that undermines democratic regulation of market power?

The impact of inequality on antitrust policymaking and the regulation of capitalism generally is ambiguous. Hofstadter in writing about the period of White’s focus implicitly highlights the twofold effect of inequality, “During the 1840s there were not twenty millionaires in the entire country; by 1910 there were probably more than twenty millionaires sitting in the United States Senate” (Hofstadter, 1955, p. 136). Inequality rose substantially during the late 19th century

as the United States industrialized and this increase generated demands to control the economic and political power of large corporations and trusts, especially the railroads. At the same time, these interests controlled the U.S. Senate, political parties, courts, and other state institutions at the center of the decision to adopt and enforce reforms. This ambiguity about the effect of inequality is reflected in today's debate about why the US has not taken a more aggressive position on antitrust in the current era. Perhaps voters, happy with new technologies that have transformed their lives, are not particularly concerned with the economic or political threat that comes with rising inequality. Alternatively, the economic winners in this era of rising inequality may be using their economic and political power to block reform.

To understand more systematically the relationship between democracy, inequality, and antitrust policy, this paper investigates their empirical relationship comparatively and historically. We present three sets of analyses. We first describe the relationship between democracy, inequality, and antitrust policy in a broad panel of countries from 1951 to 2010. Using two-way fixed effects regressions, we offer descriptive evidence supporting the relationship between these variables. We find that democracy is predictive of stricter antitrust policies in countries with low but not high levels of inequality. This result is consistent with the idea that strong antitrust policies are preferred by citizens and that they are more likely to see those preferences reflected in policy when ruled by democratic political institutions. This accords with the idea that economic inequality can undermine the democratic forces that tend toward stronger antitrust policy. The results are also consistent with the notion that autocrats do not prefer antitrust, either because they themselves benefit economically or politically from the economic concentration that antitrust is intended to prevent, or because they prefer to deal with economic concentration via direct executive action rather than through an independent regulator of the sort that would usually be in charge of antitrust action in a democracy.

We next explore these relationships further through quantitative and qualitative analyses of the politics of antitrust during periods of democratic transition. In the quantitative analysis, we examine the effect of democratic transition on the stringency of antitrust laws under conditions of

high and low inequality. We do this by estimating changes in antitrust law in recently democratized countries relative to comparison groups that are matched across covariates and treatment history. This approach is robust to potential sources of bias in the staggered difference-in-differences regressions presented in the prior section attributable to variable treatment timing (Imai, Kim and Wang, forthcoming). Echoing the results of our two way fixed-effects regression analysis, we estimate that countries experiencing low inequality at the time of transition increase the stringency of their antitrust laws, while those that transition under conditions of high inequality do not. We then we explore these dynamics qualitatively through case studies of countries which experienced democratic transitions at either a high (Chile) or low (South Korea) level of income inequality. We document limited antitrust activity despite economic concentration and policy debate under authoritarianism. We also show accelerated policy adoption in low-inequality South Korea after its transition to democracy while more limited reform in high-inequality Chile.

We then investigate whether progressive era antitrust reforms constitute an exception to these global patterns. The adoption of antitrust reforms in the high-inequality context of the late nineteenth and early twentieth century American political economy seems inconsistent with the comparative data that we present as well as the contemporary U.S. experience. We suggest that the progressive era actually fits the larger pattern well. First, we present historical evidence suggesting that the Sherman Act itself was a weak law designed more to signal that politicians were doing something rather than to significantly regulate monopolies. The Sherman Act of 1890 is not really an exception. Later legislative and regulatory activity, like the Clayton Act of 1914, did introduce substantial reform. Even here though, we think the politics is well described by democratic institutions encouraging reform and high inequality making it less likely. We present evidence from Senate voting on the Clayton Act and the later Webb-Pomerene Act, which echo our comparative data in that Senators from states where democracy was impeded by either high inequality or the absence of direct Senatorial elections were less likely to support strong antitrust policies.

The results presented in this paper suggest a skeptical answer to the question of whether democratic political institutions are self-equilibrating in the sense that they tend to deliver policies

that correct the excesses of capitalism and the threats of those excesses to democracy itself. Our evidence indicates that in the area of antitrust, whatever advantage democracies have over authoritarian regimes in responding to increases in market power is context specific. We tend to observe antitrust reforms where economic inequality is low but not where it is high. In other words, we find that antitrust reform is least likely when it is arguably most needed.

2 Democracy and Antitrust

Antitrust law (also, competition law) refers to a diverse body of legislation designed to ensure the competitiveness of markets. While competition policies around the world differ in meaningful ways, they also tend to exhibit certain common features. Some examples of these rules include those barring cartel-like behavior and preventing large firms from abusing their dominance through practices like predatory prices.

Despite the economic character of their language, the goals of antitrust laws have never been purely economic. From the inception of the antitrust legal tradition in the late nineteenth century United States to the present, there has remained a strong undercurrent of legal thought that views antitrust as an essential bulwark against the threat posed by big business and economic concentration to democracy. Robert Pitofsky, a former head of the Federal Trade Commission (one of the US agencies tasked with antitrust enforcement), has referred to these two elements at the core of antitrust as its “economic content” on one hand, and its “political content” on the other (Pitofsky, 1979). To Pitofsky, the political content of antitrust is best summed up by Learned Hand who wrote in his opinion for the Supreme Court in its landmark *Alcoa* decision (1945) that “great industrial consolidations are inherently undesirable” for democratic politics. On the Senate floor in 1890, John Sherman, the architect of the US’s first antitrust law, referred to industrial concentration in explicitly political terms as granting “a kingly prerogative, inconsistent with our form of government.”¹ The extreme levels of concentration witnessed at the time had, in Sherman’s view, “agitated [the popular

¹*Congressional Record* vol. 21, part 3, p. 2457

mind] with problems that may disturb social order, and among them all none is more threatening than the inequality of condition, of wealth, and opportunity that has grown...out of the concentration of capital into vast combinations.”² Antitrust was thus from its inception seen as not only a legal mechanism for fostering competition and alleviating economic inequality, but also as a tool for promoting the political equality that is essential to a burgeoning democracy.

The relative standing of the political and economic motivations for antitrust enforcement has fluctuated over time, however. In the 1960s Richard Hofstadter argued that antitrust had lost touch with its democratic roots: it had become a highly technical and bureaucratic regulatory activity driven by narrow economic goals. Antitrust was a “faded passion of American reform” (Hofstadter, 1965, 188). The extent to which this passion had faded was made manifest as US courts and prosecutors adopted the “Chicago School” model of antitrust which restricted the focus of the antitrust laws to consumer welfare concerns, generally measured through changes in prices or product quality (Hovenkamp and Scott Morton, 2020). This narrowing of antitrust’s ambit led to a significant decrease in enforcement in the United States from the 1970s onward (Scott Morton, 2019). Today, we see what could turn out to be the resurgence of that passion for “political” antitrust under a legal-scholarly movement referred to as the “new Brandeis movement,” in reference to the stridently pro-antitrust lawyer and Supreme Court Justice, Louis Brandeis (Wu, 2018). The movement gained currency within political and legal circles in the US through its attacks on the prominence of the consumer welfare standard in antitrust analysis (e.g Khan, 2017; Srinivasan, 2019). At its core, this movement is consonant with the early antitrust reformers’ democratic motivations: “that concentration of economic power aids the concentration of political power” (Khan, 2018, 13).

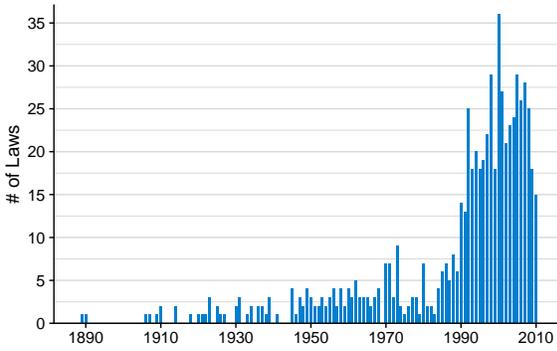
In the early twentieth century, antitrust was largely an American phenomenon. Gradually, the US began to export antitrust policy abroad by framing it in the same economic and political terms we outlined above. In the late 1930s, the United States encouraged its major trading partners to create US-style antitrust legislation. This effort picked up dramatically after World War II

²*Congressional Record* vol. 21, part 3, p. 2460

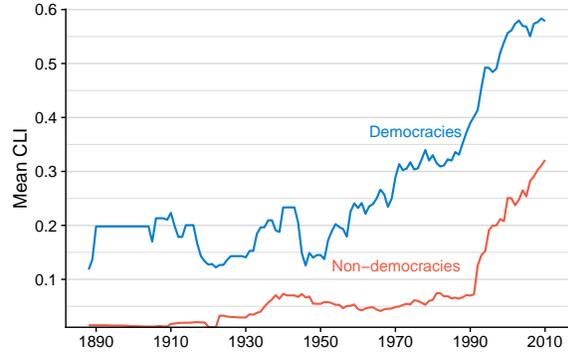
as international economic concentration was increasingly viewed in the United States as both a national security threat (e.g. if key military needs relied on one or two foreign producers) and as an important legal export in its efforts to entrench democracy abroad. Antitrust was thus sold as an important element of democratic reform. This was put into practice through the “decartelization” of post-War Germany and Japan as part of American democratization plans.³ For Western Europe, the United States was an instrumental ally of Jean Monnet as he foisted competition rules on the original European Coal and Steel Community countries whose economies were highly concentrated and cartelized (Gillingham, 1991, Ch. 5). A growing body of reformers in the US and—after the US post-War push—abroad, viewed competition law through the lens of democratic politics animated by the fear that concentration might threaten the vitality and vibrancy of democratic discourse and practice. Indeed, using new data on global competition legislation from the Comparative Competition Law (CCL) database, we can see an increase (see Figure 1a) in the rate of competition-related legislation after 1945 (Bradford and Chilton, 2018). After the War, not only does legislative activity expand but we also see dramatic increases in the strength of antitrust laws globally, particularly in democracies. Figure 1b plots the mean stringency of competition laws as coded by the CCL separated by regime type (higher values indicate more strict competition rules). We see that democracies were especially likely to implement strict competition rules after the War. As can also be seen in the figure, the average strictness of competition law remained very low in non-democracies until the early 1990s. After that point there was a notable increase in the level of strictness in non-democracies, but still lagging what was seen in democracies. These descriptive plots align with the scholarly work identifying a positive relationship between democracy and the time-to-enactment of antitrust laws (Parakkal, 2011; Bütthe and Minhas, 2015; Weymouth, 2016).

As the new Brandeisian approach to antitrust assumes, economic inequality is not only an economic phenomenon, it is also political. Indeed, the “political content” of antitrust is driven by a belief that concentration will exacerbate economic inequality which will in turn influence the

³In the subsequent Cold War context, the United States backtracked somewhat allowing the reestablishment of certain industrial combines in Japan known as the *Zaibatsu*.



(a) Competition Legislation



(b) Strength of Competition Laws

Note: Data on competition legislation and substance are taken from the Comparative Competition Law database. “CLI” is an index running from 0 to 1 incorporating many aspects of a country’s competition regime. Higher values indicate a more strict competition regime. Democracy is defined as a Polity5 score of 6 or greater.

Figure 1: Global Competition Legislation Over Time

distribution of political power. There are large and growing bodies of literature speaking to each of these two steps.

First, some scholars have found that increasing income inequality in the United States may be exacerbated by high levels of concentration (Furman and Orszag, 2018). Others have found that the fall in the labor share of income in the United States is driven in part by economic concentration and the rise of “superstar” firms (Autor et al., 2017, 2020). And beyond inequality, economic concentration has been shown to exhibit a variety of negative macro-economic outcomes to which democratic voters would be sensitive such as inhibiting economic growth by reducing innovation (Baker, 2013; Federico, Scott Morton and Shapiro, 2019; Cunningham, Ederer and Ma, 2021; Callander and Matouschek, Forthcoming) and investment (Gutiérrez and Philippon, 2017). Second, there is also a growing body of research that has highlighted the distorting effect of concentration and inequality on politics. Zingales (2017) argues that there is a risk of “Medici vicious circle” in which a firm’s economic power from whatever source generates political power which in turn confers ever greater economic power for the firm. Callander, Foarta and Sugaya (2021) model the emergence and limits of such a positive feedback loop in an integrated political and economic model of competition policy. Another related literature—based largely on evidence from the United

States—argues that inequality drives polarization and gridlock as elected representatives tend to give greater weight to the preferences of wealthy constituents who are most likely to benefit from weak antitrust enforcement (e.g., [Bartels, 2008](#); [Hacker and Pierson, 2010](#); [Gilens, 2012](#); [Enns et al., 2014](#)).

A look at the two above findings reveals an important tension in the relationship between democracy and antitrust: high inequality may make more people want antitrust reform, but high inequality may also give some individuals—those who derive their fortunes from economic concentration—the ability to block it. First, democracy generates its own impetus for antitrust because it is seen as an important legal tool for leveling democratic politics by preventing excessive economic concentration. By the same token, higher levels of inequality within democracies should increase the demand on the part of many for more stringent antitrust rules. But as democratic polities exhibit increased inequality, it will become harder to implement laws that promote general welfare. That is, inequality will prove an obstacle to antitrust reform. In the following section, we explore this tension further using cross-national data on inequality and competition laws after World War II.

3 Democracy, Inequality, and the Cross-National Predictors of Antitrust Policy, 1951-2010

In the previous section we argued that while there are numerous economic and political reasons to expect democratic societies to establish strong competition regimes, inequality could also present an *obstacle* to competition reform. This raises the question of which of these two effects will dominate and when. The idea that rising inequality would prove to be an obstacle to antitrust cuts against the conventional wisdom contextualizing the origin of US antitrust in Progressive politics of inequality (both political and economic) of the late nineteenth and early twentieth centuries which saw rising inequality as something that spurred reform of competition law. Before we present an analysis of this period of American antitrust within our framework, we first look abroad. In this section we examine the relationship between democracy, inequality and antitrust in a cross-national

context. We focus on the post-War period given the increase in international legislation driven by the growing recognition of the American antitrust policy “script.”

3.1 Data & Methods

We obtained data covering global competition laws from the Comparative Competition Law (CCL) project ([Bradford and Chilton, 2018](#); [Bradford et al., 2019](#)). The product of a large-scale, multi-year data collection effort, the CCL represents a dramatic improvement in the systematic description of antitrust legislation. In contrast to earlier projects that are limited in temporal and geographic scope, the CCL provides detailed data on the competition laws from over 200 countries between 1890 and 2010. This project codes not only the presence of a competition law, but also categorizes and codes common features of competition laws enabling inter-temporal and cross-national comparison of the stringency of competition laws across dozens of such features. Moreover, the project has constructed what its authors call the Competition Law Index (CLI). This index aggregates 3 dozen distinct features of antitrust laws into a uni-dimensional scale (running from 0 to 1) designed to measure the overall strength of a country’s competition law in a given year. It captures a variety of legal features including the presence of various substantive provisions (such as rules governing mergers, price fixing, etc.) as well as the public and private legal authorities that facilitate enforcement (e.g. private rights of action, fines, damages, and so on. See [Bradford and Chilton \(2018\)](#)). This index is designed to allow for an overall cross-national comparison of the strength of competition laws over time. We therefore deploy the CLI as our outcome measure in the analyses below.

The democracy data is taken from the Polity5 dataset. We create a binary variable equal to 1 if a country has a Polity score of 6 or higher in any given year and those with lower scores receive a 0.⁴ We obtain cross-national inequality data from the World Inequality Database (WID). The WID is the premier source for directly comparable income share data. While top incomes tend to

⁴In Appendix C we present results using an alternative dichotomous measure of democracy developed by [Boix, Miller and Rosato \(2013\)](#).

be highly correlated with other measures of inequality such as the Gini coefficient for income, we believe the top 1% income share is the superior measure of inequality for the purpose of this paper. This is due to our interest in variation in the economic and political power of those at the top of the income distribution with the means to influence policy. Due to intermittent missing data for various countries, we linearly interpolate missing observations. Results using observed-only data can be found in Appendix A. Finally, we exclude countries for which we have fewer than 20 observations.

We also include a variety of control variables on factors that have previously been found to correlate with antitrust legislation. These include data on GDP and GDP per capita (from Maddison Historical Statistics, see Bolt and van Zanden, 2020) as well as trade dependence, obtained from the Penn World Tables, because prior work has found trade to be correlated with the stringency of antitrust laws (Büthe, 2015; Bradford and Chilton, 2019). As is apparent in our cases studies below, economic crisis can spur demand for reform of competition rules (Palim, 1998). We therefore control for the incidence of economic crisis by including an indicator variable equal to 1 during the years in which a country experiences GDP growth of less than -3% and 0 otherwise.⁵

We estimate the following equation using OLS:

$$CLI_{it} = \beta_1 Dem_{i,t-1} + \beta_2 Top\ Income_{i,t-1} + \beta_3 Dem_{i,t-1} \times Top\ Income_{i,t-1} + \rho X_{i,t-1} + \gamma_i + \omega_t + \alpha + \varepsilon_{it}$$

ρ is a vector of coefficients and X_{it} is a vector of control variables; γ_i and ω_t are unit- and period-fixed effects, respectively; α is a constant. All explanatory variables are lagged by one time-period. We present results from regressions in which we average all values over three-year periods. This allows us to incorporate a lagged structure without specifying precisely how long it takes for changes in inequality or democracy to influence competition policy. Importantly, our dependent variable, CLI_{it} , is not averaged and is equal to its value in the initial year of a given three-year period. While this specification adjusts for common temporal shocks, invariant unit-characteristics

⁵The results are robust to alternative data on financial crisis. We also use data on financial crisis from the Global Crises Dataset, developed by Carmen Reinhart and maintained by the Behavioral Finance & Financial Instability Center at Harvard University. The results are presented in Table E.1 in the Appendix.

	(1)	(2)	(3)	(4)	(5)
Democracy	0.126*** (0.037)	0.557*** (0.176)	0.570*** (0.177)	0.589*** (0.181)	0.574*** (0.181)
ln Top 1% Income Share		0.113** (0.055)	0.120** (0.058)	0.123** (0.059)	0.122** (0.059)
ln Top 1% Income Share × Democracy		-0.187*** (0.061)	-0.196*** (0.061)	-0.203*** (0.062)	-0.197*** (0.062)
ln GDP			0.032 (0.090)	0.033 (0.090)	0.034 (0.090)
ln GDP per cap.			-0.069 (0.104)	-0.075 (0.106)	-0.076 (0.106)
Trade Openness				0.000 (0.001)	0.000 (0.001)
Economic Crisis					0.050 (0.058)
Period Length	3 years	3 years	3 years	3 years	3 years
Period FE?	Yes	Yes	Yes	Yes	Yes
Country FE?	Yes	Yes	Yes	Yes	Yes
Observations	1591	906	900	886	885
Adjusted R ²	0.414	0.423	0.423	0.418	0.419

Notes: * $p < .1$, ** $p < .05$, *** $p < .01$. Table reports coefficients from OLS regression. Standard errors clustered by country are reported in parentheses. Dependent variable is CLI. All independent variables are lagged by 1 period. Income shares are linearly interpolated. We do not report the constant. See Table A.1 in Appendix for results without interpolated data.

Table 1: Cross-national Results, 1951–2010

and a variety of time-varying controls, there nevertheless may remain unobserved factors correlated with democracy and inequality driving the results. These could involve changes in the salience of fairness concerns or in the value of state intervention in the economy. We therefore believe these results are informative as predictors of antitrust, but one should be cautious about giving them a causal interpretation.

3.2 Results

The results are presented in Table 1. We initially include a regression without controls apart from period- and unit-fixed effects, finding a positive and highly significant association between democracy and the stringency of antitrust laws. After we introduce the interaction between inequality

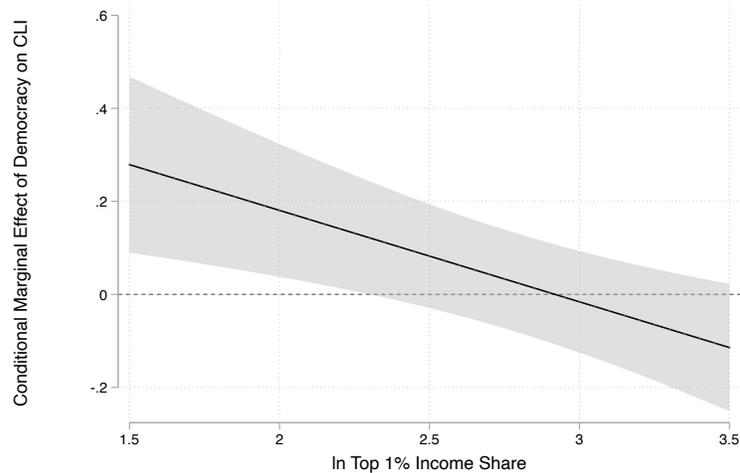


Figure 2: Conditional marginal effect of Democracy on CLI (Model 5)

and democracy, we see the coefficient on democracy increase dramatically, while the coefficient on the interaction term is negative. This suggests that democracy is positively associated with antitrust when inequality is low, but higher levels of inequality are estimated to attenuate the effect of democracy. Interestingly, we also find that inequality has a positive association with competition policy in non-democracies. This fits with recent experience of growth in antitrust in Russia and China. We briefly explore autocratic antitrust in the Chilean case below, which established its antitrust regime in 1959 but implemented significant antitrust reforms after the military takeover in 1973 (Agüero, 2016, 124-7). The coefficients on the variables of interest remain stable as we add economic control variables. Interestingly, we estimate a null relationship between economic crisis and CLI. This finding could be attributable to the difficulty in conceptualizing and measuring the nature of economic crisis as it relates to antitrust policy. To ease interpretation, we plot the estimated marginal effect of democracy conditional on varying levels of inequality in Figure 2 (based on Model 5). The downward slope on this line indicates that the association between democracy and antitrust falls to zero as inequality increases.⁶

While we believe 3-year periods represent an adequate window, we also recognize that our selection of the period length is somewhat arbitrary. We therefore re-run our preferred model using

⁶Following the recommendations of Hainmueller, Mummolo and Xu (2018), we evaluate the linearity assumption in Appendix F.

a variety of other period lengths. Figure B.1 in the Appendix plots the coefficient on the interaction term from Model 5 with 90% and 95% confidence intervals across all alternative specifications. These results show that the main finding presented in Table 1 is robust to alternative period lengths. The estimate retains its negative sign in every period length though it loses statistical significance at conventional levels in the 5+ year periods, except for the 6 year duration.

4 Exploring the Effect of Democratic Transition on Antitrust

In this and the following sections we examine the impact of democratization on antitrust legislation using both quantitative and qualitative analyses. Narrowing our empirical focus to moments of democratization affords us greater empirical leverage over the interaction between democracy, inequality and antitrust legislation. This is due in part to recent scholarship establishing that the standard two-way fixed effects (TWFE) estimator can exhibit bias in empirical settings such as ours with staggered treatment assignment (Borusyak and Jaravel, 2017; Sun and Abraham, 2018; Strezhnev, 2018; de Chaisemartin and D’Haultfoeuille, 2020; Imai and Kim, 2021; Imai, Kim and Wang, forthcoming; Athey and Imbens, forthcoming; Goodman-Bacon, forthcoming; Callaway and Sant’Anna, forthcoming). In light of this property of the TWFE estimator, we begin by augmenting our fixed-effects regression analysis presented above with an analysis more robust to these issues by using a difference-in-differences estimator with weighted matched sets (Persson and Tabellini, 2007; Imai, Kim and Wang, forthcoming). This estimator accommodates treatment effects that are heterogeneous across units or time and prevents mismatched comparisons between already treated and newly treated units. Moreover, the estimation procedure proposed by Imai, Kim and Wang (forthcoming) provides simple diagnostics to assess improvements in covariate balance and pre-treatment trends.

Following Imai, Kim and Wang (forthcoming), we conduct this analysis in two steps. First, for each instance of democratization⁷ we construct a matched control group composed of all non-

⁷As above, we define a democracy as any country with a Polity score greater than or equal to 6.

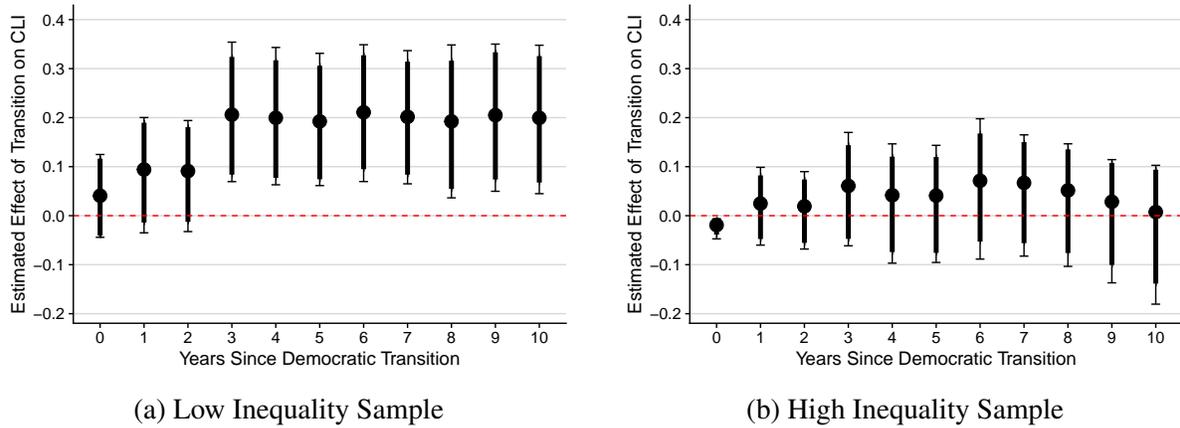
democratic countries over the period of our analysis (i.e. 5 years prior to democratization and 10 years post). By limiting this control group to only the countries that are non-democratic for the period leading up to democratization and remain non-democratic for the duration of our analysis we avoid the mismatched comparisons that bias TWFE. To improve the comparability between each democratizing country and its control group, we weight the units in the control group by the similarity of their estimated propensity to democratize to that of the matched country that did democratize. Weighting the full set of non-democratizing countries versus matching on a fixed subset of those countries reduces the dependence of our results on our specification of the first step equation. For the second step, we subtract the differences between the trajectory of the democratizing countries' antitrust laws from that of their weighted control groups then take the average of those differences for each year under analysis (Imai, Kim and Wang, forthcoming). Given that it can take years for legislation to be prepared and passed, we explore the effect of democratization on the stringency of antitrust legislation for a decade after democratic transition (Kovacic and Lopez-Galdos, 2016). We estimate standard errors via bootstrap.⁸

Put formally, we estimate the average treatment effect on the treated (\widehat{ATT}_F) for F years after each instance of democratic transition contained in the set D_i :

$$\widehat{ATT}_F = \frac{1}{\sum D_i} \times \sum_{i \in D_i} \left((CLI_{i,t_i+F} - CLI_{i,t_i-1}) - \sum_{i' \in \mathcal{M}_i} \omega_i^{i'} (CLI_{i',t_i+F} - CLI_{i',t_i-1}) \right)$$

t_i represents the year of democratic transition. \mathcal{M}_i refers to the matched set for transitioning country i which contains all i' control units that are weighted by $\omega_i^{i'}$. We estimate the weights using covariate balancing propensity scores proposed by Imai and Ratkovic (2014). To do so, we regress an indicator of democratic transition on contemporaneous and 5 yearly lags of logged GDP and per capita GDP, trade openness, the top 1% income share, and our outcome measure, the Competition Law Index (Bradford et al., 2019). To investigate the interaction between democracy and inequality, we estimate and compare the effect of democratization on two subsets of our data: a *low-inequality*

⁸We implement this full procedure using the PanelMatch package for R developed by In Song Kim, Adam Rauh, Erik Wang, and Kosuke Imai.



Note: Plots the estimated average treatment effect on the treated. 90% and 95% confidence intervals estimated via bootstrap with 2,000 iterations. Low and high inequality subgroups are defined as a country with top 1% income shares either at or above, or below the median in the year of democratization. Results using democracy data from [Boix, Miller and Rosato \(2013\)](#) are presented in Figure C.1 in the Appendix.

Figure 3: Democratization, Inequality and Antitrust

sample in which we include only instances of democratization that occur while a country’s top 1% income share is below the median; and a *high-inequality sample* restricted to countries that transition with inequality at or above the median.

While the approach outlined here is robust to various sources of bias in the TWFE estimator, and in particular those due to treatment timing, there nevertheless may remain similar unobserved confounding factors threatening identification. A secondary benefit of this approach, though, is that it provides us simple diagnostics by which we can assess covariate balance both with and without weights as well as pre-treatment trends. In Appendix G, we plot the improvement in covariate balance achieved after we refine each country’s control group for each year prior to democratization. It is important to note the flat trajectory of our outcome variable, CLI, for the half decade prior to democratic transition. This lends credence to our identifying assumption that democratizing countries would not have experienced changes in their antitrust laws had they not in fact democratized.

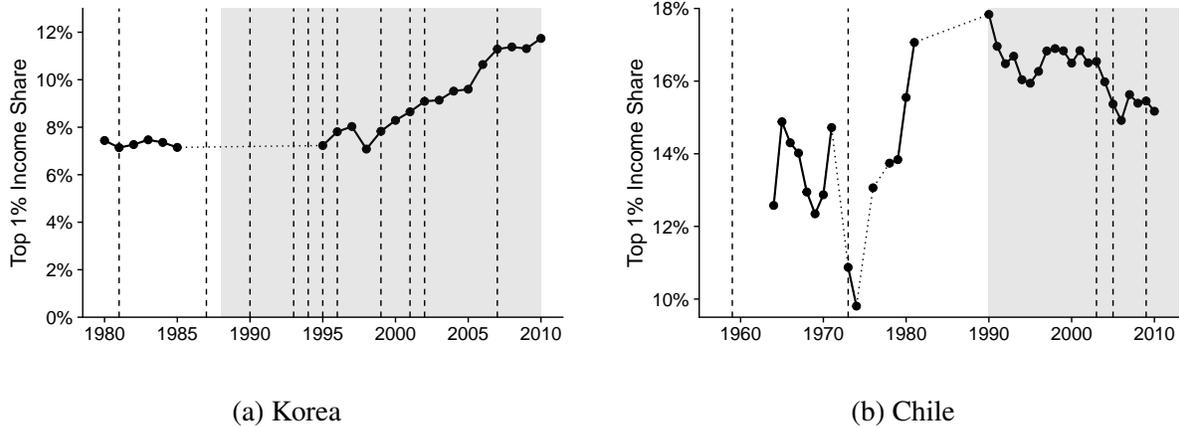
We now turn to the results presented in Figure 3. The results for the low-inequality sample are presented in Figure 3a. The plot demonstrates a gradually increasing effect of democratization on the stringency of antitrust laws. The estimated effect grows from no difference between treated and control units in the first couple of years after democratization to a substantively large and statistically

significant effect (at the 95% level) after year 3. We estimate a roughly .20 point increase after 10 years, which is roughly equal to 80% of a standard deviation. Next, we re-run the analysis except we restrict the sample of treated countries to those experiencing high levels of inequality. The results for this high-inequality sample are plotted in Figure 3b. The estimated effect of democratization is essentially 0 after 10 years and is at no point statistically distinguishable from zero at the 90% level. We now turn to our paired case studies of antitrust reform within countries that transitioned to democracy under conditions of either high or low inequality: Chile and South Korea.

5 Democratization & Antitrust in Korea and Chile

In this section we dive deeper into two opposing cases that are “on the regression line” in order to examine how democratic transition under varying levels of inequality produce divergent competition regimes.⁹ To do so, we examine cases of democratization under high inequality (Chile) and low inequality (South Korea). We find that despite Chile’s relatively long history with antitrust legislation, high levels of inequality prevented the country from implementing a strong antitrust regime for over a decade after the country democratized in 1990. Post-democratization South Korea, by contrast, has successfully developed its competition regime as evidenced by its recent history of active and robust enforcement, even serving as a model for other countries in the region (Cho and Bütte, 2021).

We chose these cases because they represent relatively large economies that are important in regional and global markets. While the levels of overall income inequality in Chile and Korea differ, they share an important similarity: highly concentrated markets. The Korean economy has historically been dominated by a handful of large conglomerates, while many privatized sectors in the Chilean economy have a small number of firms.



Note: Shaded region plots period of democracy. Vertical dashed lines represent years in which a competition law was passed (from CCL). Black line and points plot annual top 1% income share. Dotted lines represent years with missing inequality data. Korean Inequality data from WID and Chilean inequality obtained data from Flores et al. (2020).

Figure 4: Inequality, Partisanship and Antitrust Vote Choice

5.1 Korea

The coexistence of low income inequality with high market concentration in Korea circa 1980 can be traced to three historical factors: first, most large firms were owned by Japanese colonists whose property was nationalized after World War II; second, the destruction of physical capital during the Korean War; and third, land reforms after the War that dramatically evened the distribution of income for that particular asset (Kim and Kim, 2015). While income inequality is relatively low in Korea, many sectors of the economy are dominated by large conglomerates called *chaebol* that exerted a good deal of influence over economic planning within Korea. Korea enacted its first competition law in 1980, the Monopoly and Fair Trade Act of 1980. While the law was strong on paper (CLI = .7), enforcement was weak. Reform was rare. And the body tasked with competition policy, the Korean Fair Trade Commission (KFTC), was a non-independent subsidiary of the Economic Planning Board.

Democratization began in 1988, after the popular election of President Roh Tae-woo. During this period we see a marked increase in the rate of competition-related legislation (see Figure 4a). These laws created new powers for the government to regulate cross-debt guarantees between

⁹In the following section we explore a case “off the regression line,” the early United States in the early 20th century.

chaebol subsidiaries, inside-dealing between subsidiaries (Jung and Chang, 2006, 692) and prohibit “unnecessary” diversification of the largest conglomerates (Lee, 1998, 91). In 1990, as a means of increasing the independence of antitrust enforcement, decision-making authority was transferred from the Economic Planning Board to the chair for the KFTC (OECD, 2000, 6). With its new powers, the KFTC began promoting the value of competition for economic growth (Gerber, 2010, 221). The KFTC became a fully independent agency in 1994, and remains one of “only a few” agencies not attached to a ministry (OECD, 2004b, 4). In order to maintain its independence, the KFTC has typically recruited from within the agency itself or outside government. Despite this institutional, legislative and promotional reform activity, the number of cases brought by the KFTC for violations of competition law was low in the early-90s (Lee, 1998). Simple case counts give the false impression of inactivity, however. The number of cases reviewed by the KFTC increased from 622 in 1992 to 1,328 by 1997. And while these reviews often did not result in sanctions, they successfully prevented chaebol from expanding into new sectors in an anti-competitive fashion (Graham, 2003, 92).

The 1997 Asian financial crisis created political conditions that facilitated deeper competition reforms. The crisis further weakened the political position of the chaebol as many blamed the complex debt linkages between and within the chaebol for exposing Korea to the Asian financial crisis (Kalinowski, 2009). This inspired both popular demand for reform on top of pressure from the United States and the International Monetary Fund (Jung and Chang, 2006). Since the crisis, competition policy enforcement by the KFTC has increased, particularly under the tutelage Professor Kwon Oh-seung (2004-9), one of the original architects of the 1980 Fair Trade Act. Under Kwon, the KFTC head was elevated to the cabinet level (Gerber, 2010, 219-22). Korea has since developed into a significant global actor within international competition policy circles, not simply as an advocate for competition policy, but providing a unique template for export to other jurisdictions (Cho and Büthe, 2021).

5.2 Chile

The Chilean experience with antitrust began two decades before South Korea's. Chile enacted its first competition law in 1959, on the recommendation of an American consulting firm (Agüero, 2016, 124). The law was rarely enforced, however, due to insufficient resources provided to the National Economic Prosecutor's office, and the office's lack of political autonomy (Aydin and Figueroa, 2019, 331-2). The framework for Chile's current competition authority was established in its second major antitrust law in 1973. This law did not amend the substantive provisions of Chilean antitrust law, but it did establish new enforcement agencies and powers (Cruz and Zarate, 2009, 159-60). This law was passed after the military overthrew the Allende government and took power, seeking to undo the economic policies of the prior government. Enforcement of competition rules under the autocratic regime was low and motivated primarily by Pinochet's desire to undercut the opposition's patronage networks and diminish the influence of business interests (Manzetti, 2000, 84-5). While antitrust enforcement climbed somewhat in Chile in the 1980s under Pinochet, enforcement fell upon the transition to democracy in 1990 (Cruz and Zarate, 2009, 165-70).

It took over a decade of high prices, an economic crisis, and series of scandals to get the Chilean government to reform and begin enforcing competition rules despite having competition laws on the books since 1959. Chile successfully reformed its competition laws in 2003, though it took time for the law to be enforced and there are still large areas of under-enforcement even when compared to countries of similar economic size (Aydin and Figueroa, 2019, 335). Moreover, the rules themselves are quite weak, with a CLI score of .54, which is below the mean of countries with a competition law in the 2000s (.64).

The process of democratization began in 1990. Over the course of the 1990s there was growing recognition that the high prices and low quality service found in many privatized public utilities was the product of insufficient competition (Bitran and Serra, 1998; Manzetti, 2000). The weak regulatory environment after democratization enabled the continuation of rent-seeking behavior and of the revolving door between government office and the directorships of firms in recently privatized sectors—further limiting the prospects for reform (Schamis, 1999). Enforcement of

the antitrust laws on the books was low, and there was little effort at reform. There would be no significant reform of the country's competition rules until 2003, but even that was uncertain and depended on the outcome of a tight election in 1999.

Despite the reductions in poverty and strong economic growth of the 1990s, economic inequality was highly salient during the 1999-2000 election. A 1998 Chilean poll found 85% of respondents believed economic development primarily benefited the rich and two thirds responded that the government was overly influenced by big business (Figures cited in [Angell and Pollack, 2000](#)). Economic concentration and lack of competition were brought into the political mainstream by both the economic crisis of 1999 and scandals such as the “sale of the century,” in which the directors of an electrical utility, Enersis, profited enormously from the sale to a Spanish firm ([Angell and Pollack, 2000](#), 362). Years before becoming a candidate for President, the economist Ricardo Lagos had expressed views critical of the role of antitrust in promoting economic inequality arguing that “the great [wealth] concentration...won't be destroyed by small amendments, or ‘antitrust’ laws” (Translated in [Agüero, 2016](#), fn. 11). In the late 1990s, as the *Concertación* Presidential candidate and subject to the voters, he embraced antitrust, adding pro-antitrust reforms into his platform. After Lagos's win, the government introduced proposals for antitrust reform. Though the issue did not gain much traction until it was endorsed by Chile's largest trade association in 2001. The issue gained popular traction after the resignation of a member of Chile's competition authority in protest at governmental interference into a review of a case in the telecommunication sector ([Agüero, 2016](#), 128-9). Enforcement remained weak after the 2003 reforms, though there now existed a more autonomous agency with the power to promote competition policy ([OECD, 2004a](#)). After a series of high-profile enforcement actions antitrust authorities have been able to secure greater resources (Especially the *Pharmacies* case in 2009, see [Agüero, 2016](#), 130). Antitrust enforcement has thus increased unevenly since the 2003 reforms, with persistently weak enforcement in some areas, such as anti-cartel actions ([OECD, 2010](#)).

6 Antitrust in High Inequality United States, 1888–1918

The US origin of antitrust represents an outlier to our analysis above. The late 19th and early 20th century was a period of high inequality in the United States (Lindert and Williamson, 2016) and yet it bred the legislative foundation of the American antitrust tradition: the Sherman Antitrust Act (1890) and the Clayton Act (1914). Moreover, this was also a period of deep anxiety about the state of American democracy and not only due to the sense of unfairness inspired by the increasing concentration of American industry. In this section, we explore the early US case further, demonstrating that the Sherman Act was a weak law even by the standards of the time and that reform of the law through the Clayton Act, though successful, was opposed by Senators representing states beset by high inequality and weaker state-level democratic institutions. Importantly, passage of the Clayton Act was also aided by growth in the cohort of Senators who were popularly elected. Then, within just 4 years of passing the Clayton Act, Congress passed another bill, the Webb-Pomerene Act (1918), which curtailed the reach of the antitrust laws by exempting export cartels from antitrust liability. We first discuss the political context of the early American antitrust laws before presenting a quantitative analysis of vote choice on the Clayton and Webb-Pomerene Acts. We exploit state-level variation in the direct election of senators and state-level income inequality to assess the threat to reform posed by undemocratic institutions. In sum, we find that senators that were directly elected and represented states with lower income inequality were significantly more likely to support pro-antitrust legislation than otherwise.

Many trace the legal origins of antitrust back to the United States' Sherman Antitrust Act of 1890. That bill, however, represents an inauspicious origin for antitrust policy. Even by the standards of the time, the bill fell short of many of its proponents' aims. The impetus for antitrust legislation was that prior state-level efforts at combating the "trusts"—primarily through legal mechanisms found in corporation law or preexisting common law rules barring "restraints on trade"—had proven ineffective. These failures were due in part to jurisdictional issues that came from the fact that trusts often spanned multiple states, but also that the common law turned out to be an ineffective tool. Rather than correct for deficiencies in the common law, the Sherman Act in large

part enshrined these ineffective rules in a Federal statute. As John Sherman, the Senator responsible for shepherding the bill through the Senate and after whom the bill gets its name, said during the Congressional debate, the Antitrust bill “does not announce a new principle of law, but applies old and well-recognized principles of the common law to the complicated jurisdiction of our State and Federal Government” (Quoted in [Letwin, 1956](#), 256).¹⁰ The Democrats, fearing the conservative bent of the legal profession and judiciary that had hampered state-level efforts, sought to add more precise language to the bill in order to, as one House Democrat put it, “not leave it to the construction of the Supreme Court” (Quoted in [Thorelli, 1955](#), 205). These amendments were ultimately voted down in the Senate and narrowly in the House.¹¹ In the end, even Sherman was unconvinced of the law’s utility. In remarks that were stricken from the Congressional Record but later reported by a correspondent of the New York Times, Sherman admitted that the tariff would only bear fruit if domestic manufacturers would “resist the temptation attaching to great agglomerations of capital to combine and advance prices” (Quoted in [DiLorenzo, 1985](#), 83). [DiLorenzo \(1985\)](#) interprets these and other remarks by Sherman as evidence of that the Sherman Act was primarily about providing political cover for protectionist tariffs (which were generally seen at the time as contributing to the “trust problem”) than promoting competition.

Situating the Sherman Act within broader context of popular agitation against big business in the late 19th century we can see why one early historian of the Sherman Act described it as the “safest” option available to Congress ([Letwin, 1956](#), 255). The late-19th century saw a dramatic consolidation of American firms and centralization of firm management ([Chandler, 1977](#)). These changes were driven by the development of new technologies that lowered the cost of long-distance communication and transport. Exposure to these technologies dramatically altered local economies ([Hornbeck and Rotemberg, 2021](#)). Once isolated markets were quickly integrating into an ever-expanding national marketplace. These abrupt changes motivated agrarian backlashes such as the

¹⁰Hammering this message home Sherman later said, “Now, Mr. President, what is this bill? A remedial statute to enforce by civil process in the courts of the United States the common law against monopolies” ([Thorelli, 1955](#), 181)

¹¹After the most serious of such House amendments had been rejected by the Senate, the House voted to re-enter conference with the Senate but abandon the amendment. The vote passed only narrowly, 106 to 98, suggesting strong support for the amendment. ([Thorelli, 1955](#), 209).

Granger Movement that pushed for strict regulation of the railroad rates and large farms (Buck, 1913). These sentiments formed the political foundation that later expanded to encompass broad, popular reactions against the power of big business in the 1880s and into the future. Initially, state authorities sought to check the power of the trusts through common law rules against unreasonable restraints on trade or by revoking corporate charters—but these efforts were largely ineffective. In light of these difficulties at the state-level and inaction at the federal level, over a dozen states enacted their own antitrust legislation prior to the Sherman Act. These laws often went beyond what would eventually become the Sherman Act. To give a few examples: all 13 established criminal sanctions for illegal participation in trusts; many explicitly defined harmful acts such as predatory pricing; prohibited corporations from participating in trusts; and established mechanisms of active information seeking by the state in order to identify firm involvement in trusts (Collins, 2013, 2335-9).

The bipartisan burst of state-level competition legislation reflects the dynamics of inequality and antitrust. While we see antitrust legislation passed in agrarian Midwestern and Southern states like Iowa, Texas, and Alabama, no states in the more industrialized and unequal Northeast (outside of Maine) successfully passed antitrust laws. And this is not because those Eastern states did not try: in 1888 the New York State legislature established a committee to investigate the trusts. The committee was ultimately a failure, however, due to interference from Republican committee members.¹² The geography of enactment suggests inequality may play some role here. Systematic data on income and wealth inequality from this era are hard to come by, though in a recent book Lindert and Williamson (2016, 174-8) estimate that inequality in this period was largely driven by urban growth. Their estimates of regional Gini coefficients from 1870 suggest that New England and the South Atlantic¹³ were the most unequal regions while the central and southern regions were

¹²On March 5, 1888 in an article titled, “THE TRUST INVESTIGATION—Republicans accused of protecting the combinations,” a New York Times reported put it this way:

...and then they [the Republicans] all chorused, ‘We are not the friends of the trusts. We are the champions of the people’s rights.’ Talk is cheap. The actions of the majority show that most of its members are still browsing around in the same old pastures, playing the same old tricks, and actuated by the same old unworthy motives.

¹³Defined by the authors as the coastal states from Delaware and Maryland to Florida. Only one of which (North

more equal. While the New York State Commission demonstrates the national appeal for trust legislation, the geography of reform suggests that states in agrarian regions with lower inequality were most successful at acting on popular demands.

While the letter of the Sherman Act was vague and weak, the Act was further rendered ineffective through a lack of enforcement and—confirming the fears of House Democrats noted above—narrow judicial construction. One case that would eventually become a landmark precedent under the Sherman Act, the *Trans-Missouri Freight Association* case, almost did not occur due to lack of funds. The United States Attorney responsible for the case had to hire an assistant counsel out of his own pocket (Thorelli, 1955, 377-8). Subsequent administrations fared no better. The Attorney General under President Cleveland took a dim view of the law, consistent with the attitudes of big business (prior to being appointed AG, he represented the “Whiskey Trust”). His biographer put it this way, “Olney’s estimate of the meaning of the [Sherman] Act corresponded with the better opinion of the Bar; but not with popular demand” (Thorelli, 1955, 385). In one early loss against the sugar trust, *US v. E.C. Knight Company* (1895), the Supreme Court ruled that the Sherman Act did not apply to manufacturing, despite the Court’s acknowledgement that the trust had won control over 90% of the country’s sugar refinement capacity (Phillips Sawyer, 2019). While the evidence is weak that the *Knight* decision caused the dramatic and sustained increase in mergers in the late 1890s (Lamoreaux, 1985), it is notable how little enforcement was undertaken during this period. The “better opinion of the Bar” (and the bench) thus fed into popular fears of the undemocratic nature of the judiciary that were growing amongst labor advocates and Progressives at the time (Ross, 2014, 27-9). One prominent advocate for increased democratic control over the judiciary, Gilbert Roe, cited the Supreme Court’s Sherman Act rulings as a primary example of the undemocratic means by which the Court opposed popular demands by whittling away regulatory power over big business (Roe, 1912, 74-105). Later antitrust supporters sought to circumvent the courts. President Roosevelt favored a regulatory approach which would allow for consolidation where it economic forces demanded, but enable the government to actively regulate in order to

Carolina) enacted an antitrust law prior to the Sherman Act.

prevent anti-competitive abuses. A bill creating such a Commission was put before Congress in 1908, though it ultimately fizzled (Letwin, 1965, 247-50).

Over a decade of weak enforcement of the Sherman Act along with a sustained period of industrial concentration after the 1893 financial crisis brought antitrust back into the mainstream policy agenda. Another important inflection point occurred with the Supreme Court's ruling in the *Danbury Hatter's* case which applied the Sherman Act to labor organizing. This inspired the Democratic party to add antitrust reforms into its 1908 platform (Kovner, 1947). The Democrat's focus on antitrust and labor resonated with the growing popular agitation against the judiciary as an anti-democratic institution (see esp. Ch. 6 Ross, 2014). In a speech to Congress soon after his election, President Woodrow Wilson outlined a plan for two major reforms to the antitrust laws. He proposed first establishing an agency for administering the antitrust laws (what would become the Federal Trade Commission) and, second, a bill to amend the Sherman Act to specify what conduct would be deemed anticompetitive more precisely, thereby reducing the judiciary's interpretive scope (Letwin, 1965, 271-4). The latter bill would come to be known as the Clayton Act (1914). The Clayton Act debate was deeply partisan, though, as we show below, it was aided by a group of Republicans who went against their party. This kind of defection was becoming more common in this era due to the gradual introduction of direct Senatorial elections (Meinke, 2008). Tariff reductions in 1913 led to increased import competition within the United States. US exports also increased dramatically. Increasing reliance on foreign trade and exposure to the highly concentrated markets abroad increased the demand from domestic industry to alleviate their antitrust burdens. These efforts culminated in the Webb-Pomerene Act of 1918 which established a mechanism by which the exporters could combine in order to better compete in foreign markets. Critics of the measure portrayed the law as an abandonment of antitrust. One Senator said, "this bill authorizes the creation of trusts and combinations to control the foreign market of the United States; and whoever controls that foreign market, to wit, the surplus of the United States, will necessarily dominate and control in the United States" (*Congressional Record* vol.56-1, p. 173). And later the same Senator highlighted the role of the trusts in promoting the bill, "The fact is plain that back of

this bill is not the demand of the small exporter, is not the demand of the small business man, but is the conspiracy of the great trusts and combinations. We are presented with the spectacle of this powerful attack upon our trust legislation” (*Congressional Record* vol. 56-1, p. 178). This bill fits more squarely within our theoretical framework given that it was passed during a period of high inequality and limits the scope of antitrust enforcement. As we show below, though, Senators who had been directly elected or represented low-inequality states tended to oppose the bill. We now turn to our quantitative analysis of the influence of inequality and democratic reform on antitrust voting behavior on the two significant antitrust reforms from this era for which we have voting data: the Clayton Act and Webb-Pomerene Act.

6.1 Data & Methods

In the cross-national analyses above, we demonstrate that the democratic tendency towards increased antitrust is moderated by high levels of income inequality. We attribute this to the disproportionate political power that accrues to those at the very top of the income distribution. In this section, we extend that framework to Senate voting patterns on antitrust legislation in the Progressive era. Replicating our arguments above, we show that income inequality at the state-level is negatively associated with Senatorial support for antitrust legislation. This period in American history also enables us to examine an additional *political* moderator on the level of democratic accountability: the staggered introduction of directly elected Senators. While Senators selected through their state legislatures were subject to indirect mechanisms of accountability, this accountability increased dramatically with the scattered introduction of direct elections in the early 1900s. Like inequality, legislative selection of Senators aligns the preferences of Senators with those of the political and economic elites because Senatorial careers rest on the approval of state legislatures, not voters. We therefore view the introduction of direct elections similarly as we view inequality: as a moderator on the underlying level of democratic accountability across the American states. This comports with scholarly work finding that the introduction of direct elections had a moderating influence on Senators’ ideological positions. This was particularly true for Republicans ([Bernhard and](#)

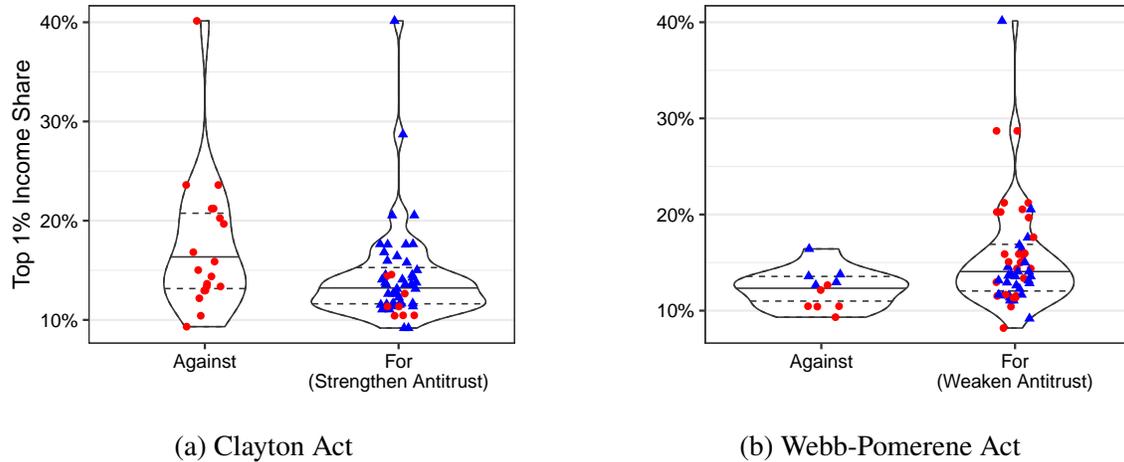
Sala, 2006). We expect therefore that Senators who enter the Senate through direct elections will be more supportive of antitrust legislation than their legislatively-selected counterparts because directly elected Senators are more exposed to the attitudes of consumers and mass publics. In the analysis below, we include a dummy variable indicating whether a given Senator originally entered the Senate through either a direct election or through their state legislature. We derive this measure from Meinke (2008), who shows that Senator's original mode of election is predictive of their legislative behavior and partisan loyalty. Meinke's findings suggest that an incumbent's political coalition remains stable even if the underlying selection mechanisms shifts from legislative to popular election. If a Senator originally entered the Senate by a vote in their state legislature they are coded with a 1; those originally elected by direct election are assigned a 0.

Building off of our arguments in the cross-national analyses above, our second proposed moderator on the quality of state-level democracy is economic inequality. To measure state-level income inequality, we obtained data on the share of total income going to the top 1% of the income distribution from the World Inequality Database. We use state-level inequality data from 1917 for both votes because, unfortunately, that is the earliest year for which we have state-level inequality data. While not ideal, we believe our decision to use 1917 data in our analysis of the Clayton Act vote (which occurred in 1914) is nevertheless a useful proxy.¹⁴ While top 1% income shares do move from year to year, they tend to move quite slowly. Moreover, national level data for 1913-1917 shows that top 1% income shares are essentially flat.¹⁵

To begin, we present these data visually in Figure 5. These plots clearly suggest a relationship between low inequality and support for pro-antitrust legislation. While the vote for the Clayton Act was highly partisan, the only GOP defectors came from states that had low levels of inequality. The prospect of re-election may also have been playing a role. There were 7 Republican Senators facing reelection in 1914 (and thus subject to direct election under the 17th amendment). Three supported the Clayton Act, four opposed. Interestingly the three who supported it were from

¹⁴While the Webb-Pomerene Act ultimately became law in 1918, it was passed in the Senate in December 1917.

¹⁵The national-level top 1% income share was 21.01% in 1914 and 21.39% in 1917.



Note: Violin plots of Top 1% Income Share, subset by vote choice for/against antitrust legislation. Red circles and blue triangles represent Republican or Democratic Senator, respectively. Solid horizontal line represents median; dashed lines represent 25% and 75% quartiles.

Figure 5: Inequality, Partisanship and Antitrust Vote Choice

some of the most equal states in the country,¹⁶ while those who opposed were from states with inequality generally above the national median of 13.6%.¹⁷ Similarly, we see that the only Senators opposed to the Webb-Pomerene Act came from low-inequality states. Across both votes, the 75th percentile (indicated by the dashed horizontal lines) of inequality amongst the pro-antitrust vote (i.e. for Clayton and against Webb-Pomerene) is roughly in line with the median among the group opposed to antitrust. We also only see defections into the pro-antitrust group amongst senators in low-inequality states for both GOP and Democratic Senators.

Because voters from states with higher manufacturing activity might demand increased antitrust enforcement, we include a control variable measuring state-level data on the total value of manufactured products.¹⁸ These data come from the Census of Manufacturers survey, which the Census conducted every 5 years. We linearly interpolate between data observed in 1914 and 1919 to estimate the level of value of manufactured products for 1917. Finally, in order to account for party effects, we also include a dummy variable equal to 1 if a Senator is a Democrat and 0 otherwise.

Panel A: Clayton Act

	(1)	(2)	(3)	(4)	(5)
Selected by leg.	-1.56*** (0.49)		-1.55*** (0.52)	-1.53*** (0.49)	-0.04 (1.02)
In Top 1% Inc. Share ₁₉₁₇		-1.16* (0.59)	-1.16* (0.65)	-1.20 (0.75)	-6.93*** (1.98)
In Manufac. Prod.				0.03 (0.15)	0.67** (0.31)
Observations	71	71	71	71	27
Log-likelihood	-34.04	-38.89	-31.94	-31.92	-9.80

Panel B: Webb-Pomerene Act

	(1)	(2)	(3)	(4)	(5)
Selected by leg.	0.69 (0.43)		0.81* (0.43)	0.82* (0.44)	0.85** (0.43)
In Top 1% Inc. Share ₁₉₁₇		2.14** (0.91)	2.41** (1.07)	2.31* (1.21)	2.13** (1.05)
In Manufac. Prod.				0.03 (0.18)	0.06 (0.18)
Democrat					0.21 (0.38)
Observations	65	65	65	65	65
Log-likelihood	-28.12	-26.68	-25.06	-25.05	-24.94

Note: * $p < .1$, ** $p < .05$, *** $p < .01$. Table reports coefficients from Probit regressions with robust standard errors in parentheses. The drop in observations in Model 5 of Panel A is caused by separation after we include the Democratic indicator variable. This model is therefore estimating GOP votes only.

Table 2: Senate Roll Call Votes on Clayton and Webb-Pomerene Acts

6.2 Results

Panel A of Table 2 presents the results for the Clayton Act vote. We can see that inequality is negative though only weakly associated with a vote for the Clayton Act, while being selected by the legislature (i.e. they were not directly elected) has a sizable, negative and significant association with opposition to the Clayton Act. Controlling for manufacturing levels has little effect on the

¹⁶Idaho, Iowa and Washington with top 1% income shares of 10.4%, 10.5%, and 11.4%, respectively

¹⁷New Hampshire, Ohio, Utah, Vermont with top 1% income shares of 15%, 16.8%, 13%, 15.9%, respectively.

¹⁸These data were obtained from the *Statistical Abstract of the United States* (1921), p. 249-255, Table No. 161

results. In Model 5 we control for partisanship. Because no Democrat voted against the measure, we limit the sample to the GOP only. Here we replicate our interpretation of the data presented in Figure 5: Republicans from more equal states are more likely to vote in favor of the Clayton Act than those who are from high inequality states. We now turn to Panel B, which presents the results for the Webb-Pomerene Act. This bill likely presents a better test of our political and economic moderators because the debate surrounding it was less politically charged than the Clayton Act's. Senators were therefore more free to vote the interests of their constituents. Because the Webb-Pomerene Act *reduced* antitrust enforcement against export-oriented firms, we expect the signs on the coefficients to flip. We again find that members who were selected by their state legislatures are more likely to vote for the Webb-Pomerene Act than those who were directly elected. Senators from high inequality states are similarly more likely support the bill (Models 1-3). These estimates are robust to the inclusion of manufacturing levels and partisanship (Models 4 and 5). In sum, while the politics of high inequality are undeniable in the Progressive era these results suggest that inequality was also a hindrance to antitrust reform. Implementing antitrust reforms beyond the minimal measures in the Sherman Act was put at some risk due to the prevalence of elite influence and unequal access to political resources.

7 Conclusion

When people lament the fact of high and rising inequality in the United States today, they often refer to lessons from the past, and to cases like the Progressive Era where it seems like something was done to contain growing concentration of economic resources. Reforms like antitrust legislation at this time were seen not only as ways of dealing with inequality, but more fundamentally as ways to stabilize democracy itself. This simplified story of the Progressive Era invites us to imagine that democracy may come with a sort of automatic adjustment mechanism; as inequality goes up, there will be increasing demands to do something about it. The problem with this argument is that high inequality may also give some the power to block policy reforms such as anti-trust. Absent more

information, it is unclear which of these two effects will be likely to dominate.

Using both cross-country data and evidence from US states, we find little evidence of any inherent adjustment mechanism whereby democracies adopt antitrust reforms when inequality is high. We do find that democracies, on average, are more likely than autocracies to adopt antitrust. This may suggest that antitrust is more likely to be present in democracies because of popular desires. In non-democracies it may in turn be the case that antitrust is less likely to be present either because autocrats benefit economically or politically from economic concentration, or also because they would rather deal with sectors they see as overly concentrated through direct executive action of the sort that is now happening in China, as opposed to through an independent body of the sort that would typically manage antitrust policy.

While we find that democracy does seem to matter for antitrust policy, it is above all democracies with low inequality—in other words, those where there is less of a pressing need to adopt antitrust reform—that are driving our cross country empirical results. Turning to evidence from US senate votes in the early twentieth century we see a similar pattern. When the workings of democracy are blocked—in this case by high inequality or senators selected by a state legislature—senators are less likely to support strong anti-trust legislation.

Our results suggest a very important implication. Instead of seeing the United States today as an outlier where—unlike in the Progressive Era—rising inequality has failed to lead to antitrust reform, it may actually be much closer to a norm where high inequality democracies get stuck with weak anti-trust legislation and enforcement. This touches on the much broader question of whether modern democracy with a market economy is an institutional arrangement that can sustain itself. Finally, one other lesson from our results is that if one is concerned about inequality, then it is important to adopt anti-trust reform before economic concentration gets too high and itself becomes an obstacle to reform.

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Online Appendix for “Democracy, Inequality, and Antitrust”

A Table 1 without interpolated data

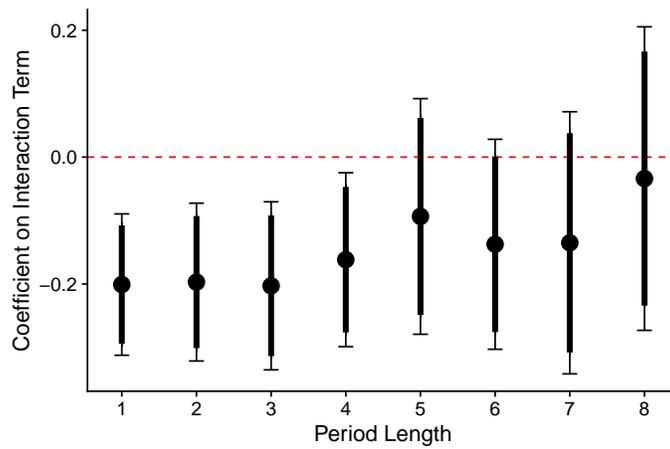
	(1)	(2)	(3)	(4)	(5)
Top 1% Income Share _{Observed}	0.107*	0.115**	0.118**	0.061	0.117**
	(0.055)	(0.058)	(0.059)	(0.084)	(0.059)
Democracy	0.554***	0.568***	0.587***	0.531**	0.573***
	(0.177)	(0.177)	(0.182)	(0.223)	(0.183)
Top 1% Income Share _{Observed} × Democracy	-0.183***	-0.192***	-0.200***	-0.160*	-0.194***
	(0.061)	(0.061)	(0.062)	(0.091)	(0.063)
ln GDP		0.038	0.039	0.144	0.042
		(0.091)	(0.091)	(0.130)	(0.091)
ln GDP per cap.		-0.076	-0.081	-0.225	-0.085
		(0.106)	(0.107)	(0.171)	(0.107)
Trade Openness			0.000	0.002*	0.000
			(0.001)	(0.001)	(0.001)
Crisis _{RR}				0.022	
				(0.028)	
Crisis _{GDP -3%}					0.038
					(0.060)
Period Length	3 years	3 years	3 years	3 years	3 years
Year FE?	Yes	Yes	Yes	Yes	Yes
Country FE?	Yes	Yes	Yes	Yes	Yes
Observations	890	884	871	549	870
Adjusted R ²	0.424	0.424	0.420	0.482	0.420

Standard errors in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$

Table A.1: Re-run of Table 1 with no interpolated inequality data

B Alternative Durations



Note: The graph plots the estimated coefficient on the interaction term from Model 6 of Table 1 after collapsing the data across various period lengths. Thick bars represent 90% confidence intervals, thin bars with whiskers represent 95% confidence intervals.

Figure B.1: Robustness to alternative period lengths

C Boix-Miller-Rosato Democracy Data

The following table and figure replicate the main results presented in the main text using the 2015 update of the Political Regimes Dataset developed by [Boix, Miller and Rosato \(2013\)](#).¹

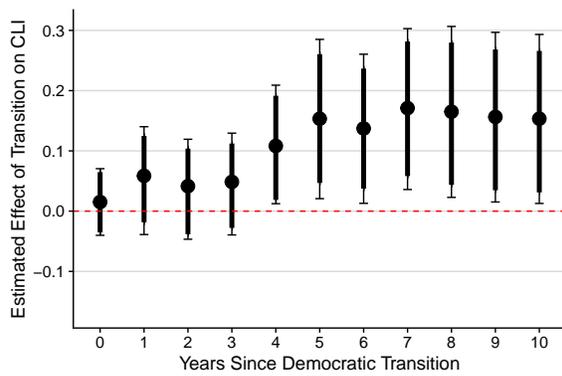
	(1)	(2)	(3)	(4)	(5)
Democracy _{BMR}	0.107*** (0.035)	0.422*** (0.148)	0.444*** (0.147)	0.443*** (0.157)	0.427*** (0.157)
ln Top 1% Income Share _{Interp.}		0.125** (0.058)	0.133** (0.062)	0.123* (0.062)	0.121* (0.062)
ln Top 1% Income Share _{Interp.} × Democracy _{BMR}		-0.144*** (0.054)	-0.155*** (0.055)	-0.158*** (0.059)	-0.152** (0.059)
ln GDP			0.032 (0.103)	0.049 (0.104)	0.051 (0.105)
ln GDP per cap.			-0.083 (0.122)	-0.111 (0.126)	-0.114 (0.127)
Trade Openness				0.001 (0.001)	0.001 (0.001)
Crisis _{GDP -3%}					0.035 (0.057)
Period Length	3 years	3 years	3 years	3 years	3 years
Year FE?	Yes	Yes	Yes	Yes	Yes
Country FE?	Yes	Yes	Yes	Yes	Yes
Observations	1685	945	939	911	910
Adjusted R ²	0.406	0.407	0.409	0.405	0.406

Standard errors in parentheses

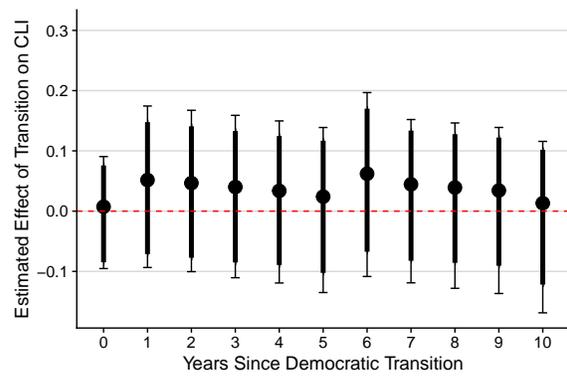
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.1: Robustness to alternative democracy data

¹The updated dataset can be found here: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/FJLMKT>



(a) Low Inequality Sample



(b) High Inequality Sample

Note: Plots the estimated average treatment effect on the treated. 90% and 95% confidence intervals estimated via bootstrap with 2,000 iterations. Low and high inequality subgroups are defined as a country with top 1% income shares either at or above, or below the median in the year of democratization. Democracy data taken from [Boix, Miller and Rosato \(2013\)](#).

Figure C.1: Robustness to alternative democracy data

D Parallel Trends, TWFE model

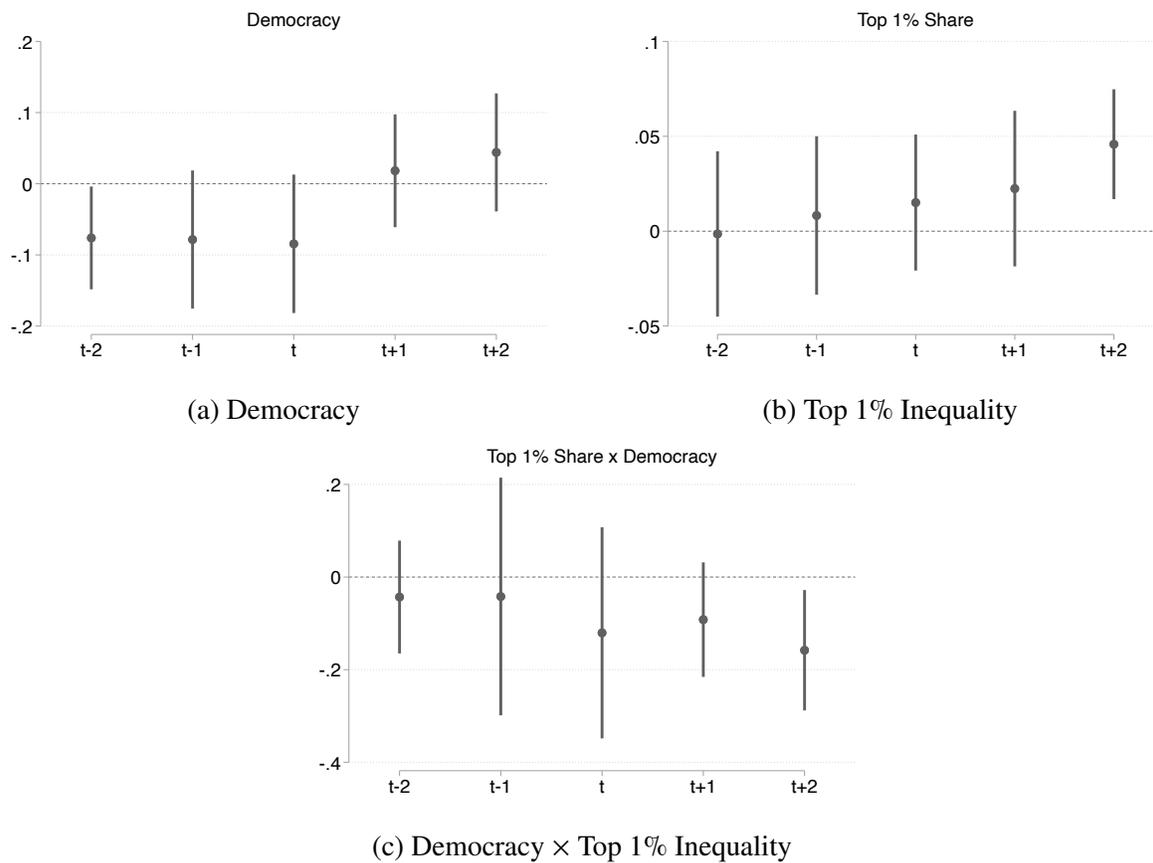


Figure D.1: Cross-national Analysis, Parallel Trends

To assess the parallel trends assumption we constructed dichotomized versions of the main independent variables. Democracy is equal to 1 if in the period a country transitioned from a non-democracy to democracy. For inequality we construct an indicator variable equal to 1 if the average percentage change in inequality in the period is greater than 1 standard deviation ($\approx 4.8\%$). We then included dummy variables for the 2 periods leading up to and lagging behind this indicator. We re-ran the main model (Model 5) with this set of dummy variables and plot the coefficients with 90% confidence intervals in the figure above.

E Alternative Measure of Crisis

	(1)
ln Top 1% Income Share	0.078 (0.084)
Democracy	0.551** (0.222)
ln Top 1% Income Share × Democracy	-0.203*** (0.090)
ln GDP	0.138 (0.129)
ln GDP per cap.	-0.215 (0.167)
Trade Openness	0.002* (0.001)
Crisis _{RR}	0.019 (0.028)
Period Length	3 years
Year FE?	Yes
Country FE?	Yes
Observations	564
Adjusted R ²	0.477

Notes: * $p < .1$, ** $p < .05$, *** $p < .01$. Table reports coefficients from OLS regression. Standard errors clustered by country are reported in parentheses. Dependent variable is CLI. Crisis data aggregates RR's three types of financial crisis (banking, currency or inflation crisis) into a single indicator variable equal to 1 if a country experiences any such crisis and 0 otherwise. All independent variables are lagged by 1 period. Income shares are linearly interpolated. We do not report the constant.

Table E.1: Reinhart and Rogoff Crisis data

F Assessing Linearity of Interaction Effect

In this section we assess the linearity of the interaction between democracy and inequality. Figure F.1 presents the results from the binning estimator proposed by [Hainmueller, Mummolo and Xu \(2018\)](#). This method estimates a slight degree of non-linearity in the top tercile of inequality, though the binned estimates (in red) largely track those of the pooled interaction effect. We further assess this assumption in Figure F.2. This figure plots an estimate of the marginal effect from a semiparametric kernel smoothing estimator with the bandwidth selected by cross-validation. Here the estimated effect appears to exhibit a high degree of linearity. Both of these tests were estimated using the `interflex` package for STATA developed by Yiqing Xu, Jens Hainmueller, Jonathan Mummolo, and Licheng Liu.

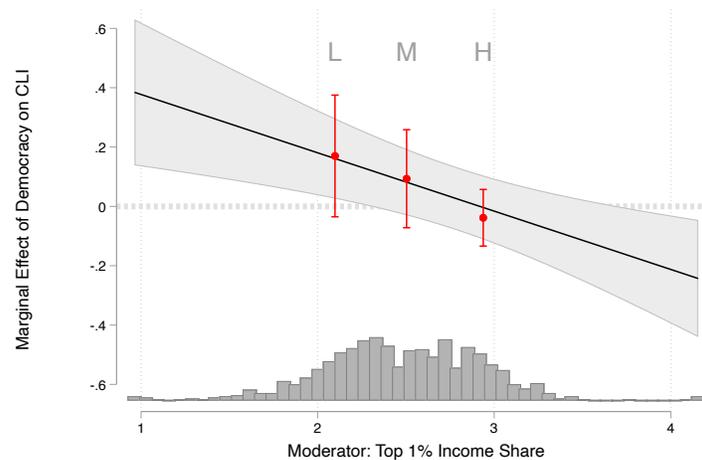


Figure F.1: Binning Estimator

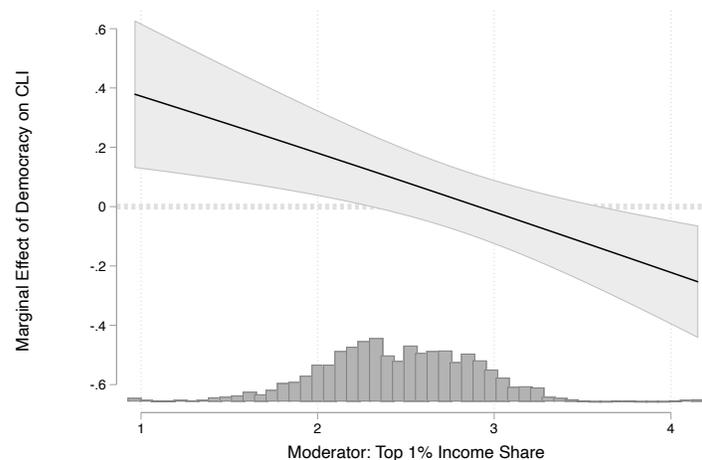


Figure F.2: Kernel Estimator

G Parallel Trends, Democratization Analysis

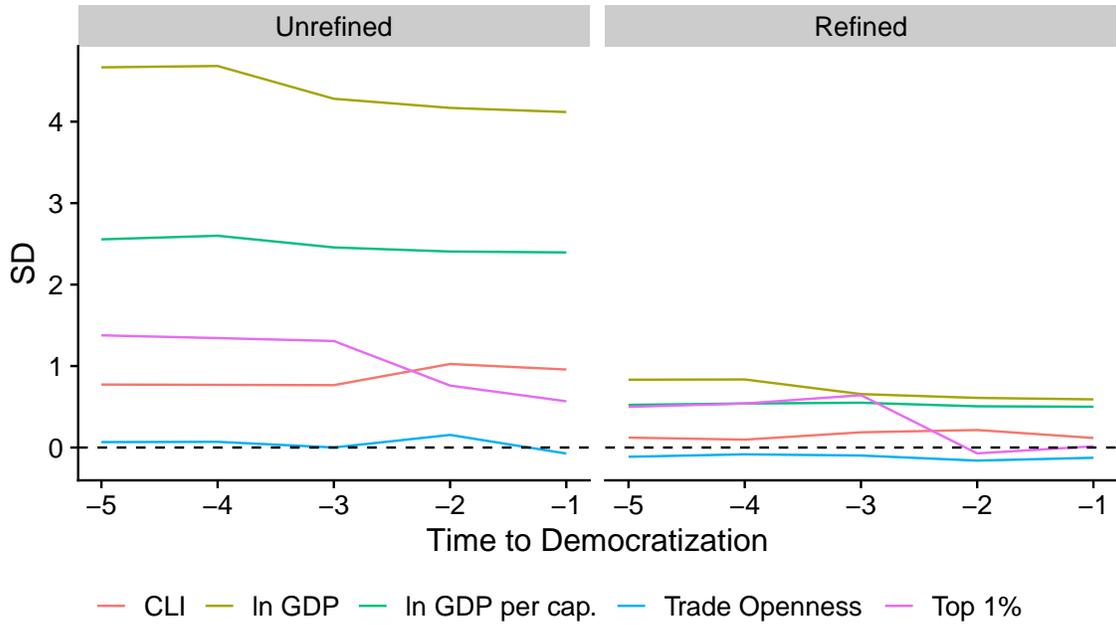


Figure G.1: Low Inequality Sample

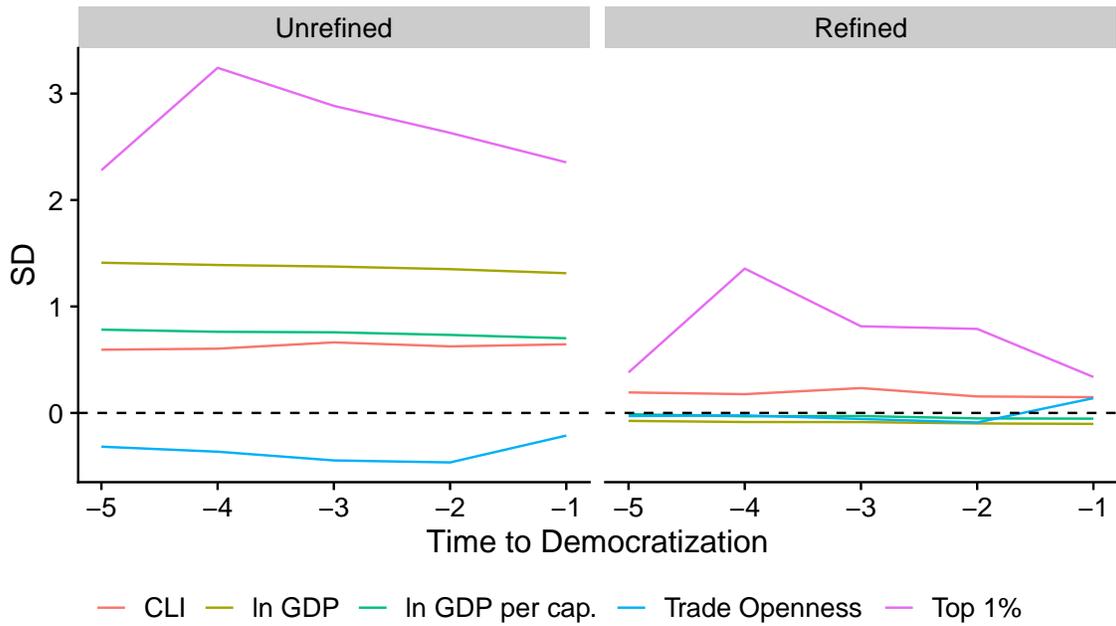


Figure G.2: High Inequality Sample