Who values democracy?*

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Abstract

This paper tests the conventional view that redistribution is central to the democratization process using data from stock markets. Consistent with this view, democratizations have a large, negative impact on asset valuations driven by a rise in redistribution risk. Across 90 countries over 200 years, risk premia are substantially elevated in democratizations, similar in magnitude to financial crises. A shift in Catholic church doctrine in support of democracy provides causal evidence that democratizations increase risk premia. Successful democratizations lead to substantial redistribution: the size of the public sector grows, income inequality falls, and the labor share of income rises. An extended version of the canonical redistribution-based model of democratization that includes asset prices can quantitatively explain these effects. The model also explains the negligible asset pricing response to autocratizations. Neither an increase in macroeconomic risk nor generic political risk can explain the results.

Keywords: Risk Premia, Democratization, Inequality, Redistribution, Catholic Church
JEL codes: G10, G15, G18, N40, P16

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1 Introduction

In the past two centuries, over half of the world's nations have transitioned to democracy. The predominant view in political economy and political science argues these democratizations stem from intrinsic conflicts among different political or social classes and the owners of the means of production (Marx and Engels, 1848, Lipset, 1959, Moore, 1966, Boix, 2003, Acemoglu and Robinson, 2006, Ansell and Samuels, 2010). Consensus on this point, however, remains elusive, stemming in part from two broad empirical challenges. First, there is little evidence on whether, *ex ante*, elites consider redistribution to be the central risk they face in democratization. Second, conditional on redistribution risk being central, there is little understanding of which among the various forms of political and economic redistribution that democracy might entail are most important (Acemoglu et al., 2015).

This paper tests whether redistribution is central to democratizations in a way that addresses both of these issues: examining stock market prices during democratizations. Since asset prices disproportionately reflect the expectations and preferences of mostly wealthy, capital holders—especially in autocratic countries—they are an ideal source for understanding the risk the elites perceive from the democratization process in real time.

How do financial markets respond when democratization becomes more likely? Using a panel of equity data that covers 90 countries over 200 years, I show that stock market valuations fall substantially when transitions to democracy are more likely. In the data, I document that this decline is similar in magnitude to what we observe in financial crises, suggesting that these periods are associated with increased systematic risk to investors.

To understand whether the risk of redistribution drives this result, however, two key empirical challenges must be addressed. First, it is essential to tackle potential endogeneity concerns by ruling out other common factors that could simultaneously affect democratizations and financial markets, and provide evidence that the ancillary effects of democratization—for example, political instability or violence—are not driving the results. Second, it is necessary to show that the primary driver of the asset pricing response is redistribution risk. This requires showing that redistribution indeed follows successful democratizations, and that it is substantial enough to rationalize the observed market responses. The remainder of the paper provides evidence of these two central points.

The first part of the paper uses two main strategies to document that democratizations indeed drive the negative stock market response. First, I directly show that several poten-

tial first-order channels are unlikely to be driving the results. For example, democratizations could coincide with an increase in macroeconomic risk which would tend to drive down stock valuations. However, this is not born out in the data. GDP or aggregate dividend growth do not fall in the 5 years after a democratization starts, nor do the distributions of GDP or aggregate consumption growth change. A rise in generic political risk cannot fully explain the results either. Other periods of high political risk like international political crises, autocratizations—transitions from democracy to autocracy—and other regime changes exhibit substantially smaller stock market responses when compared to democratizations.[1]

Second, I show democratizations increase risk premia using exogenous variation in the probability of a successful democratization emanating from a shift in Catholic church doctrine in favor of democracy from 1959 to 1963. This shift particularly impacted majority Catholic autocracies. Huntington (1991) labels the shift as one of the main reasons the third wave of democratization of the 1970s, 1980s, and early 1990s occurred and why it was concentrated in majority Catholic autocracies. Consistent with this narrative, I show that indices denoting the threat to the governing regime posed by civil society organizations and the size and frequency of democratic protests rose dramatically in majority Catholic autocracies compared to non-Catholic autocracies. This indicates that the doctrinal shift materially changed political realities on the ground in majority Catholic autocracies.

Using a difference-in-differences approach, this quasi-natural experiment is associated with a 6.3 to 11.1 percentage point increase in average excess stock returns for majority Catholic autocracies depending on the specification. The results display no pre-trends and are robust to various sample windows, the exclusion of outliers, and different estimation techniques. They also cement the link between an increase in risk premia and an increase in the probability of a successful democratic transition.

The second part of the paper investigates whether a rise in redistribution risk can explain the negative stock market reaction to democratizations. Comparing successful and failed democratizations, I find that democratization redistributes resources in two ways. First, it increases explicit redistribution by raising the size of the public sector and lowering income inequality. On average, government revenue-GDP ratios rise by 4.8 percentage points, Gini coefficients decline by 2.3 percentage points, and the labor share of GDP rises by 6.7 per-

[1] A lengthy online appendix provides evidence against several other potential explanations, like increased violence, the increased probability of adverse financial or macroeconomic events, increased revolution risk, large capital outflows, and general uncertainty shocks.

centage points in the 20 years after a successful democratization. Second, successful democratizations also increase tacit redistribution. For example, autocracies allocate a greater share of government spending to elites (Tullock, 1986). They also provide more protection to incumbent firms from new entrants (Perotti and Volpin, 2006, Martinez-Bravo and Wantchekon, 2021). I find that, during successful democratizations, bribery and corruption indices fall while pro-competitive regulation and net entry of new firms rise. Since this also redistributes resources away from autocratic elites, it could also play an important role in the asset pricing results.

To understand whether the redistribution in the data is quantitatively large enough to explain the asset pricing results, I calibrate a model of democratic transitions in the style of Acemoglu and Robinson (2006) embedded within a standard asset pricing framework. Like in Acemoglu and Robinson, the economy starts in autocracy where the elites have all the political power, and try to avoid redistributing their income to the more numerous poor citizens. The citizens influence the policies of the elites by threatening to revolt. Revolution is costly: all the elites are killed and a fraction of resources are destroyed, making it undesirable for both sides. This cost the citizens bear from revolution—which determines the revolutionary threat the elites face—varies over time. If the fraction of resources destroyed is low enough, though, the citizens may prefer the revolution to autocracy. When this happens, the elites would like to promise future redistribution. But they cannot credibly commit to future transfers where there is little or no revolutionary threat. Here, only conceding democracy can keep the revolution off the equilibrium path, as democracy acts as a mechanism for the elites to credibly commit to future redistribution. While democracy is a much better state for the elites than the revolution, the redistribution it brings is costly, making it, nonetheless, a deleterious state for them.

To make the model relevant to study asset prices, I add four main ingredients. First, I allow for incomplete financial markets, meaning that the elites can trade with one another in financial markets but not with the citizens. Second, to achieve realistic asset pricing dynamics, I allow for preferences in the style of Epstein and Zin (1989). Third, I allow for multiple potential forms of redistribution that align with what we see in the data, namely, reduced inequality, increased taxes, reduced ability for the elites to skim rents from government spending, and increased economic competition. I also allow for the redistribution elites face in democracy to be uncertain.

Fourth, I modify the cost of revolution process to allow for three states: autocracy,

democratization, and democracy. The new state, democratization, is one where a permanent transition to democracy becomes more likely. Since the elites price assets, uncertainty over whether a democratization will succeed—ushering in democracy and redistribution—or fail—keeping society in autocracy—increases the risk to elite's future consumption, causing risk premia to rise. In this way, the consolidation of democracy and the redistribution of income and political power it brings, acts as a "rare disaster" for the elites, explaining the increased risk premia observed during democratizations in the data (Rietz, 1988, Barro, 2006, Gabaix, 2012, Wachter, 2013). When calibrated to reasonable preference parameters and the redistribution observed in the data, the model explains nearly all the rise in dividend yields observed during democratizations.

The model also allows me to understand which forms of redistribution have the largest effect on asset prices. The predominant effect comes from increased economic competition and displacement risk for incumbent firms post-democratization (Gârleanu, Kogan and Panageas, 2012). This channel drives 41.9% of the rise in dividend yields, providing support to a theoretical literature that argues increased creative destruction and structural transformation are the primary driving forces behind higher growth after successful democratizations (Aghion, Alesina and Trebbi, 2008, Aghion, Akcigit and Howitt, 2014, Acemoglu, Naidu, Restrepo and Robinson, 2015, Martinez-Bravo and Wantchekon, 2021). The remaining 58.1% of the rise in dividend yields comes from the more traditional channels of higher taxes and reduced inequality and corruption.

A redistribution-based framework also explains the negligible stock market effect observed in autocratizations. To do this, I modify the model and allow for democracy to be reversible provided the elites are willing to risk a transition. If they succeed, society becomes an autocracy, but if they fail, they face a permanent loss of a fraction of their consumption. The key insight is that while democratization is a risk imposed on the elites, autocratization is a risk they take. Because who decides to transition differs in each case, there is an asymmetric effect on asset prices.

The elites optimally choose when to attempt autocratization, so it always improves the expected present value of their consumption. However, levered claims to this consumption—for example, the dividend claim—can still be adversely affected. In the model, dividend yields still rise because the increased risk in the event of a failed autocratization matters more than the higher payoff upon success to a risk averse investor. This also leads autocratizations with higher potential payoffs to come with a larger rises in dividend yields, as the elites

accept a higher penalty in the event of failure to achieve autocracy.

Taken together, these results provide powerful support for redistribution-based models of democratization. When modified to incorporate asset prices, the predictions the model generates enjoy resounding support in the data. This helps to clear a significant hurdle in this literature. While most studies have focused on whether more democratic institutions lead to redistribution, few have substantiated whether this redistribution is large enough to constitute a major friction to democratic transitions (Boix, 2003, Hinnerich and Pettersson-Lidbom, 2014, Acemoglu et al., 2015). Better understanding this is important for the many countries still living under autocratic political institutions. It is also relevant for countries with backsliding democratic institutions, the number of which some scholars allege have increased over the last decade (Diamond and Plattner, 2015). Insofar as reductions in democratic norms are accompanied by lower taxes, higher inequality, lower labor bargaining power, and decreased economic competition, this paper provides a model through which future autocratic movements can be interpreted.

Finally, while declining stock valuations following democratization might prompt concerns, it should not be interpreted as a shortcoming of democracy. The analysis above suggests the opposite: the vast majority of citizens experience notable welfare gains from democratic transitions. Instead, it hints that for markets to truly reflect the outlook of the broader macroeconomy, economic representation is paramount. The findings instead speak to a rift between Wall Street and Main Street when the goals of the wealthy and middle class come into conflict.

Related Literature This paper advances both the political economy literature around democratizations and asset pricing literature focused on rare events and political and policy risk.

My primary contributions to the political economy and democratization literature, are twofold. The first is theoretical: By adding asset prices to the seminal model in Acemoglu and Robinson (2006), this paper shows that falling asset valuations are consistent with increases in the redistribution risk faced by autocratic elites during periods of democratization. This provides a testable prediction for redistribution-based models (Boix, 2003, Acemoglu and Robinson, 2006). Moreover, the model can also assess whether the redistribution observed in the data is quantitatively large enough to explain the rise in premia. This helps clear a significant hurdle in this literature: whether the redistribution faced by the wealthy in autocracy is large enough to constitute a substantial friction to democratic transitions.

The second is empirical. The paper provides the first evidence of the effects of democratizations on equity markets. Prior research examining the asset pricing impact of democratizations has focused on the impact on sovereign debt yields in the pre-World War I sample. Consistent with my results, it has found that suffrage extensions increase sovereign loan yields (Dasgupta and Ziblatt, 2021, Tunçer and Weller, 2022). Delis, Hasan and Ongena (2020) also study the response of corporate loan spreads to democratic institutions from 1984–2014 and find that more democratic institutions are accompanied by reduced loan spreads for companies. These positive effects after transitions are not inconsistent with increased risk during the transition period, which this paper documents. Prior work has also examined the returns to politically-connected firms during regime changes. Fisman (2001) finds strong negative returns for politically connected firms in Indonesia as a result of the fall of the Suharto regime. Similarly, Acemoglu, Hassan and Tahoun (2017) find that more intense protests in Egypt after the fall of the Mubarak regime relate to lower stock market valuations for firms connected to the group currently in power. Dube, Kaplan and Naidu (2011) find that US companies that stood to benefit from US-backed coups, see high returns after the coup. My paper builds on this body of research by providing the longest time series and widest panel of equity data used to date to study the stock market impact of democratizations.

In addition to new empirical evidence on asset prices, the paper also provides a novel exercise to quantify the amount of redistribution after successful democratizations by comparing them to failed democratizations. As such, the paper compares two groups of countries that underwent a similar period of political change, but where one group experiences a sustained change and the other does not. These results, therefore, add to those reported in Rodrik (1999), Acemoglu, Naidu, Restrepo and Robinson (2015), and Drautzburg, Fernández-Villaverde and Guerron-Quintana (2022) who measure the impact of democracy on wages, the size of the public sector, and the labor share of income. This also relates to a string of papers that study redistribution, the provision of public goods, and government spending stemming from enfranchisement episodes. These include papers studying the enfranchisement or disenfranchisement of Black Americans (Husted and Kenny, 1997, Naidu, 2012, Cascio and Washington, 2013) and women (Miller, 2008) and various enfranchisement episodes in Western Europe (Aidt and Jensen, 2009, Hinnerich and Pettersson-Lidbom, 2014) and those stemming from more effective voting technology (Fujiwara, 2015).

The primary contribution to the asset pricing literature is showing that large, redistribu-

tive political shocks like democratizations can act similarly to "rare disasters" both empirically and theoretically. In disaster models, investors are exposed to large negative shocks that manifest with some small, usually time-varying, probability (Rietz, 1988, Barro, 2006, Gabaix, 2012, Wachter, 2013). Investors demand compensation for holding assets exposed to these disasters, allowing these models to match key asset pricing moments. My paper adds to this literature by noting that large political risks like democratizations can come with—from the perspective of wealthy market participants—left-skewed distributional shocks which also drive asset prices.

An alternative view is offered by models where aggregate shocks affect investors differently, often through their uninsurable labor income or human capital. (Mankiw, 1986, Constantinides and Duffie, 1996, Constantinides and Ghosh, 2017, Schmidt, 2016, Paron, 2021). This leads these investors to demand compensation for holding stocks allowing these models to match the level, volatility, and cross-section of asset prices. However, to generate quantitatively important asset pricing effects, these shocks need to most strongly affect the wealthy capital holders (Catherine, 2022). This is the case during democratizations, as the shocks to inequality, tax policy, or political connections they bring mainly affect the wealthy.

This paper also builds on a literature examining the role of political and policy risk in asset pricing by noting that democratizations are accompanied by large increases in risk premia. Pástor and Veronesi (2012, 2013) propose a model in which government policy uncertainty drive variation in the risk premium. Pástor and Veronesi (2016) model the effect of redistributive taxation on inequality jointly with the effect on aggregate productivity and asset prices. Pástor and Veronesi (2021) examines how rising consumption inequality can influence to move toward populism even in a strong economy in a model in which agents are inequality averse. Related to these papers, is a literature studying the role of fluctuations in factor prices for equity prices and investment. In this context, Danthine and Donaldson (2002) study find that empirical fluctuations in the labor share combined with operating leverage can explain the unconditional level of the equity premium. Santos and Veronesi (2005) complement this by showing that variation in the labor income to consumption ratio generated substantial time series predictability. My paper builds on these papers by studying redistribution shocks explicitly in the context of democratizations and studying their quantitative impact on asset prices.

Empirical research on policy shocks and uncertainty has focused mostly on quantifying the affects of policy shocks in developed democracies. For example, Baker, Bloom and

Davis (2016) develop an index of economic policy uncertainty and find that increases in this index are associated with greater stock price volatility and reduced investment and employment. Kelly, Pástor and Veronesi (2016) provide empirical support that political uncertainty is priced in the equity options market. Manela and Moreira (2017) show that variation in a text-based measure of macroeconomic and policy uncertainty co-moves with risk premia, lending credence to rare disasters theories. Their measure of policy uncertainty also predicts future tax changes in the United States. My paper differs from these by studying uncertainty over political institutions rather than over particular policy decisions. As such my work complements this body of research, showing that uncertainty over the institutions is also priced in financial markets.

2 Data

The following analyses use data from multiple databases. This section provides information about the data used in this study and explains how the important variables were created.

Asset market data This study uses equity data from four sources: Global Financial Data (GFD), the Jorda-Schularik-Taylor Macrohistory Database (JST) mentioned in Jorda, Knoll, Kuvshinov, Schularick and Taylor (2019), IBES Global, and Factset. GFD offers two main stock return indices for each country. One shows the total return on stock exchanges in the country. The other shows the total return of all companies based in the country but listed on the London Stock Exchange.

The primary variables of interest are both the dividend yield—defined as aggregate dividends over the calendar year divided by the price of the aggregate stock market index—and the annual excess return on the stock market. Excess returns are constructed assuming that investors have access to the same riskfree investment, in particular, U.K. government bonds prior to 1914 and U.S. treasury bills after 1914. This is because the return on government bonds for the countries in my sample are not risk free, and could be exposed to time varying risks that equity assets are not exposed to (Miller, Paron and Wachter, 2020). Using home country government bonds may, therefore, erase part of the risk premium or induce measurement error in dependent variable, reducing the statistical power of the results.

To put the data together, for all equity rate variables, such as rates of return, dividend growth, and changes in dividend yields, I fill in missing observations in the GFD home stock market series using the JST data. Then I fill in missing observations using data from IBES Global, Factset, and the GFD data from the London Stock Exchange. Mixing these data

sources gives an unbalanced panel data set of ex- and cum-dividend returns, dividend yields, and dividend growth over the longest time series possible for each country. For example, the data on dividend yield changes spans 201 years from 1817–2018 across 90 countries, with an average of 65 years of data for each country. However, because each series covers a different range, the number of observations varies throughout the paper. For more on how the asset pricing series are made, see Appendix A.1.

Macroeconomic data Data on real GDP come from Maddison Historical Statistics, who use and expand upon data from Barro and Ursua (2008) and provide the most comprehensive data available on these variables. Data on real consumption and the labor share of income come from the Penn World Tables. These data are available from 1945 to the present. Data on income inequality come from the Standardized World Income Inequality Database (SWIID) who provide data on the Gini coefficient for up to 163 countries from 1960–2018. Finally, data on government revenue-GDP ratios come from GFD and data on tax revenue-GDP ratios come from the Relative Political Capacity Dataset. More information on the macroeconomic data used in the paper is provided in Appendix A.2.

Political institutions data Data on political institutions come from the Varieties of Democracy (V-Dem) database.[2] V-Dem uses a team of over 3,500 country-specific experts to quantify levels of and trends in historical political institutions for most every country over the last two centuries. This allows them to provide the most detailed dataset possible to analyze changes in political institutions. V-Dem provides measures on both the level of electoral democratic institutions and other political outcomes. These other outcomes include the level and frequency of democratic protests, political violence, political polarization, civil society activity, corruption, and bribery. More information on the measures used in the paper are provided in Appendix A.3.1.

I also use measures on institutions from other sources where V-Dem does not provide data. These include the fraction of the population that is Catholic and a pro-competitive regulation index. These two measures come from the World Religion Project and the Fraser Institutes Economic Freedom Index. More detail on these series is provided in Appendix A.3.2.

Events data Data on events are primarily used as controls in the regressions below. Financial crises come from JST and Reinhart and Rogoff (2009) and are combined into a single financial crisis variable. Sovereign defaults also come from Reinhart and Rogoff (2009).

[2]This paper uses version 10.0 of the data.

Recessions are taken from the GFD Dates database. Wars dates and locations come from the Correlates of War (CoW) data. International political crises come from the International Crisis Behavior (ICB) database as used in Berkman, Jacobsen and Lee (2011). Head of government and head of state deaths come from Jones and Olken (2009), V-Dem, and Wikipedia. Data on head of government and head of state attempted assassinations also come from Jones and Olken (2009). Regime changes are constructed using the regime information from V-Dem. More information on the events used in the paper can be found in Appendix A.4.

2.1 Democratizations

Democratization and autocratization periods come from the Episodes of Regime Transformation (ERT) data.[3] There are two main advantages to using the ERT data. The first is that it is the only dataset to my knowledge that provides the start and end years of both democratization and autocratization episodes. Since asset prices are forward looking, this information is particularly important for this analysis. The second is that the ERT data provide detail on whether a democratization is sustained or reverts back to autocracy. For simplicity, I refer to these two potential outcomes as "success" or "failure." By including both these types, I can avoid potential selection issues that come with conditioning on successful democratic transitions.

The ERT achieves this by examining changes in V-Dem's electoral democracy index above a certain threshold. This 0 to 1 index measures countries on the extent they embody the principles of electoral democracy. Countries that score highly generally respect principles of freedom of expression and association, have a high proportion of the population that can vote, and have elections that are competitive, clean, and fair.

Since the asset pricing data are available prior to 1900, I extend the ERT data to back to 1816. To do this, I use the same procedure V-Dem uses to construct the post-1900 sample. This produces 10 additional democratization episodes for which asset pricing data are available. To obtain the latest possible end date for each democratization episode, I use data from Lindberg et al. (2018) to extend democratization episodes to their latest possible year.[4] This gives 851 democratization years across 85 episodes from 1816–2018 where I have dividend yield data.

Appendix A.3.3 provides more information on how the ERT data identifies democrati-

[3] This paper uses version 2.2 of the data.

[4] Lindberg et al. (2018) follows a similar procedure to the ERT data, but with less conservative conditions on what constitutes the end of a democratization episode.

zations and determines if they are successful or failed. Moreover, Appendix F provides two case studies: one of the successful democratization in Sweden from 1917–1924 and the other of the failed democratization in France from 1847–1848. These case studies describe the historical background, asset pricing response, and subsequent redistribution (or lack thereof). An event timeline of all democratizations used for the asset pricing results is provided in Appendix Table G.17.

3 Democratizations and risk premia

This section starts with evidence that the equity risk premium rises substantially during democratizations. It then shows that this is driven by democratization and is not just a symptom of coinciding economic and political risk.

3.1 Valuation ratios during democratizations

I follow Muir (2017) and use the change in the dividend yield to proxy for the change in the equity risk premium. Like all measures of the risk premium, this is an imperfect proxy. From the standpoint of theory, the change in the dividend yield corresponds to both changes in the discount rate (risk premium plus the riskfree rate) and expected cashflow growth (Gordon, 1959, Campbell and Shiller, 1988, Fama and French, 1988). Later in the section, I sort out the role of expected cashflow growth in the results. Using the dividend yield is partially motivated by issues with other potential proxies in this setting—for example, average excess returns. Rising risk premia coincide with negative contemporaneous returns—and oftentimes increased equity volatility—which makes measurement using average excess returns difficult without a long measurement horizon (Merton, 1980).[5]

That said, one potential issue with using dividend yields arises when discount rates and expected cashflow growth move in the same direction. For example, if dividends unexpectedly fall but investors expect them to rebound quickly, then the change in dividend yield would mask an increase in risk premia since cashflow expectations rise. To ensure this is not a concern, I omit democratizations that start in sovereign defaults or in countries engaged in a war on their own continent. Democratizations that begin during nearby wars or sovereign defaults are connected with substantial dividend declines that rapidly recover, similar to the "V-shaped" rare disasters described in Barro, Nakamura, Steinsson and Ursua (2013).

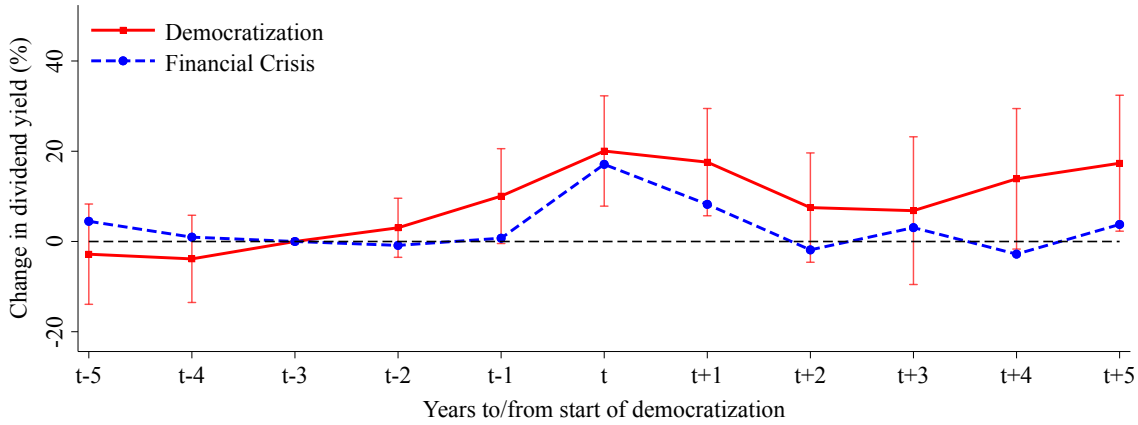
[5]That said, Table B.2 presents the results using average excess returns after the beginning of democratizations and provides evidence that they are indeed elevated. Moreover, the quasi-natural experiment presented in Section 4 has a longer measurement horizon and average excess returns are used there.

Figure 1: Event study of log dividend yields in democratizations

This figure presents an event study of log dividend yields around democratization and financial crisis start years. The equation estimated is

$$dp_{c,t} = \alpha_c + \alpha_t + \sum_{k=-5}^{-4} \beta_k \mathbb{1}\{\text{Democratization}_{k,c,t}\} + \sum_{k=-2}^{5} \beta_k \mathbb{1}\{\text{Democratization}_{k,c,t}\} + \varepsilon_{c,t}$$

where $\mathbb{1}\{\text{Democratization start}_{k,c,t}\}$ is an indicator variable equal to 1 if the observation is k years before or after the democratization begins. Estimates are relative to the value three years prior to the event start. Endpoints (not shown) are binned. The red bars on the democratization line represents a 90% confidence interval of the point estimates with standard errors clustered by country and year.



Appendix B.1 discusses this restriction further and provides evidence that risk premia also increase in these democratizations.

Figure 1 shows the rise in dividend yields in a 5-year window around the start of a democratization in an event study plot. To allow for the possibility that financial markets react to democratizations before political scientists, dividend yields are benchmarked to their value 3 years before the episode begins. This seems to be the case as dividend yields begin to rise a year earlier than the coded start of the democratization. To show the size of the effect, point estimates for an event study around financial crises are also plotted. The headline result is clear. Democratizations come with large and economically significant increases in dividend yields, similar to financial crises. Dividend yields also remain elevated as far as five-years after the democratization begins. Not entirely surprising since the average democratization lasts approximately 8.5 years.

Table 1 breaks the result down further by showing the average change in log dividend

Table 1: Democratizations and changes in log dividend yields

This table presents regressions of the 5-year change in log dividend yields on indicator variables representing the start of a democratization. The specification estimated is

$$dp_{c,t} - dp_{c,t-5} = \alpha + \beta \mathbb{1}_{c,t}\{\text{Democratization Start Year}\} + \epsilon_{c,t}$$

where dp is the log dividend yield and α represents either the coefficient on a vector of ones or the fixed effects denoted at the bottom of the table. Standard errors are clustered by country and year. All coefficients have been multiplied by 100 for presentation, and standard errors are in parentheses. In Columns (4)-(6) some observations are lost due to there only being one observation in a region-year or in a continent-regime-year and from missing control observations. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Five-year change in log dividend yields					
	(1)	(2)	(3)	(4)	(5)	(6)
Democratization start	20.04***	17.73***	19.68***	22.90***	26.12***	23.22***
	(5.83)	(5.79)	(5.70)	(6.67)	(7.56)	(8.07)
Country FE	No	No	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	No	No	No
Region × Year FE	No	No	No	Yes	No	No
Continent × Regime × Year FE	No	No	No	No	Yes	Yes
Event Controls	No	Yes	Yes	Yes	Yes	Yes
Other Controls	No	No	No	No	No	Yes
Episode obs.	64	64	64	63	60	59
R^2	0.00	0.01	0.16	0.37	0.35	0.37
Observations	5,587	5,587	5,587	5,271	5,363	5,028

yields in the 5-years leading up to a democratization. Columns (1) presents the results of a simple linear regression estimated via ordinary least squares with no controls. Compared to other years in the sample, dividend yields rise by 20.0%. This result is statistically significant at the 1% level with standard errors clustered by country and year. This accounts for the correlation in changes in dividend yields both across countries within a year and within a country over time.[6]

Democratizations potentially occur alongside other events that also raise dividend yields. To see whether this drives the results, Column (2) adds a series of event controls for financial crises, recessions, wars, deaths and attempted and successful assassinations of heads of state, sovereign defaults, coups d'etat, and the level of military activation. Adding these controls still results in a 17.7% rise in dividend yields.

Democratizations could occur during periods of high global or regional turmoil. They could also occur in countries that are more unstable on average or with a trend of rising dividend yields. To account for this, Columns (3) through (5) explore different fixed effect

[6]The results are nearly identical if Driscoll-Kraay standard errors with a five-year bandwidth are used.

specifications. Column (3) adds country and year fixed effects which imply a 19.7%. Column (4) introduces greater specificity by adding geopolitical region-year fixed effects.[7] This compares the rise in dividend yields in the democratizing country to their regional neighbors in the same year. Similarly, Column (5) adds lagged regime type-continent-year fixed effects. This compares the rise in dividend yields in democratizing countries to continental neighbors with the same lagged regime type in the same year. I use the previous year regime type because the regime sometimes changes at the start of the democratization. Both specifications yield similar results. Dividend yields rise by 22.9% and 26.1% with both significant at the 1% level. Finally, Column (6) adds controls for local macroeconomic and political conditions. These include the level of and five-year change (from $t-5$ to t) in GDP per capita and V-Dem's Physical Violence Index and inflation. The results remain unchanged.

Effects on cashflows Can declining expected cashflows explain the rise in dividend yields? One way to measure this is to examine a direct proxy for expected cashflows: average realized cashflows. To this end, Table 2 presents the average GDP per capita or dividend growth in the 5 years after a democratization begins.[8] Columns (1) through (3) show that growth in log GDP per capita is flat in the 5 years after the start of a democratization.[9] To compare the economic magnitudes, the same estimates for financial crises are also reported. In general, growth is significantly negative during and after financial crises.

Realized dividend growth in democratizations—shown in Columns (4) through (6)—is similarly unaffected.[10] It is, however, significantly negative during and after financial crises in all specifications.

These results suggest that the change in the log dividend yield reflects changes in the risk premium rather than expected cashflow growth during democratizations. However, there is

[7] The region designation is defined as in Teorell et al. (2022).

[8] Table B.3 shows the results are similar examining cashflows in the 10 years after a democratization begins.

[9] Prior work has noted that democratizations tend to arrive around periods of low growth. Table 2 instead shows growth after democratizations have already begun. Table B.3, Row (1) shows results on growth in the five years before the start of a democratization, which are also not statistically different than zero. They differ from previous studies for two main reasons. First, much of the low growth prior to democratizations comes from countries engaged in a war on their own continent or that have defaulted on their external debt. I exclude these countries here to remain consistent with the results above. Second, Table B.3 only presents results for countries that have financial market data. These countries do not see a statistically significant decline in growth before a democratization.

[10] The number of democratization episodes and observations differ from Table 1. This is because these results are forward looking (from t to $t+5$) while the others are backward looking (from $t-5$ to t). This means that some democratizations enter the sample as data become available. Removing these democratizations does not change the result.

Table 2: Democratizations, growth, and cash flows

This table presents regressions of the five-year change in log GDP per capita and dividend growth on indicator variables denoting if the year is in the first 5 years of a democratization. The regressions estimated take the form

$$\frac{y_{c,t+5} - y_{c,t}}{5} = \alpha + \beta \mathbb{1}\{\text{Democratization Start}_{c,t}\} + \epsilon_{c,t}$$

where α represents either the coefficient on a vector of ones or the fixed effects denoted at the bottom of the table. Standard errors (in parentheses) are clustered by country and year. All coefficients have been multiplied by 100 for presentation. The same results for financial crises are included for purpose of comparison. In Columns (3) and (6) some observations are lost due to there only being one observation in a region-year. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Log GDP per capita			Log dividends		
	(1)	(2)	(3)	(4)	(5)	(6)
Democratization start	0.21	0.09	0.16	-0.90	0.21	1.62
	(0.24)	(0.18)	(0.24)	(1.85)	(1.73)	(1.60)
Financial crisis start	-0.90***	-0.44**	-0.02	-6.70***	-6.36***	-4.99***
	(0.23)	(0.21)	(0.18)	(1.31)	(1.14)	(1.18)
Country FE	No	Yes	Yes	No	Yes	Yes
Year FE	No	Yes	No	No	Yes	No
Region × Year FE	No	No	Yes	No	No	Yes
Event Controls	Yes	Yes	Yes	Yes	Yes	Yes
Episode obs.	219	219	217	68	68	67
R^2	0.01	0.23	0.37	0.01	0.24	0.44
Observations	13,435	13,435	13,152	5,515	5,515	5,113

one important caveat: average realized cashflow growth might not match expected cashflow growth when using country-level data. This is because country-level data mask changes in the cross-section of publicly traded firms. For example, if democratization leads to more competition, it might affect existing firms more than others. This would lead realized cashflow growth to understate the decline in expected cashflow growth. This is not a problem, however, if incumbent firms only face this risk after successful democratizations, which I will provide evidence of below. Since only about half of democratizations in the ERT data succeed, the displacement of incumbent firms presents a risk to investors. It also constitutes a form of redistribution—from incumbents to new entrants—that may contribute to the result (Fisman, 2001, Gârleanu, Kogan and Panageas, 2012). Data limitations make it difficult to directly assess the importance of this channel. That said, the model in Section 6 finds that a reasonable calibration of this cross-sectional displacement can explain approximately 40% of the rise in dividend yields. The remaining 60% is explained by an increase in the risk premium.

Robustness Appendix B provides three different sets of robustness tests on the rise in risk premia in democratizations. Table B.2 presents the results. Panel A shows that dividend yields rise across 6 other measures of democratizations. The first methodology uses the ERT data without any extension to the 1800s. The second and third use the growth rate of and change in the V-Dem electoral democracy index. The fourth uses a binary variable for large democratic jumps—change in the electoral democracy index above the 95th percentile. The fifth uses the Lindberg et al. (2018) measure of democratization. The results are quantitatively similar to the democratization measure above.

The sixth and final measure uses democratic transitions from Papaioannou and Siourounis (2008) and Acemoglu et al. (2019). This measure combines the Polity IV and Freedom House data with other sources to determine democratic transitions. However, these data only cover the period 1960–2010, leaving out approximately 150 years of stock market data. To extend the data, I use consensus regime transitions between Polity and V-Dem from 1816–1959 following the procedure used in Acemoglu et al.. This produces 32 democratization events for which asset pricing data are available.[11] Table B.2 Row (6) shows the results for these democratizations are also quantitatively similar to the results above.

Panel B of Table B.2 shows the results are robust to many different ways of constructing the change in dividend yields. Rows (7) through (10) show the results using the 1- through 4-year changes in log dividend yields. These also point to a large and statistically significant increase in dividend yields. Rows (11) through (13) present results using various to "peak-to-trough" style measures. Peak-to-trough measures are useful because they let dividend yields peak even after democratizations start. All three measures provide a similar conclusion to the results above. Finally, Row (14) shows the level of the dividend yield is significantly elevated relative to all country-year observations in the sample.

Panel C of Table B.2 shows that other proxies for the risk premium also rise. Row (15) presents vector-autoregression decomposed discount rate shocks using methods from Campbell (1991). Discount rate shocks focus around democratization starts, with a cumulative shock of 2.3–4.8 percentage points. There are also no statistically significant cashflow shocks in any specification. Row (17) shows that log price-earnings ratios also decline during democratizations. This shows two things. First, that the effect remains strong using

[11] This method shows fewer democratizations because it only counts shifts from autocracy to democracy as a simple binary variable. One advantage of the ERT measure is that it picks up failed democratizations that do not lead to a change in the binary measure, but nonetheless raise the risk of a democratic transition.

recent data, since most countries have short histories of price-earnings ratios. Second, that changes in payout policies around democratizations are not driving the results. Row (18) shows that equity volatility is also elevated in the first 5 years of democratizations, rising between 3.9-6.3 percentage points. Row (19) finds that corporate bonds yields are also significantly elevated. They rise by 10.9–20.0% in the 11 democratization episodes where those data exist. Row (20) shows that average excess returns are elevated by 1.7 to 6.6 percentage points in the middle of democratizations.[12]

Finally, Figure B.1 presents event study plots for equity prices, dividend growth, and GDP per capita. They show three main results. First, increased dividend yields in democratizations are almost entirely driven by price declines. Second, dividend growth drops somewhat during democratizations, but it is not statistically significant. Third, GDP per capita declines in the five years leading in to a democratization, but the change is also not statistically different than zero.

3.2 Ruling out macroeconomic risk and general political risk

Macroeconomic risk One concern is that higher macroeconomic risk could cause higher dividend yields in democratizations. The small effects on GDP growth reported above provide evidence against this. However, changes in other moments of the GDP growth distribution could also affect stock valuations. To address this concern, Figure 2 shows a histogram of log GDP growth during and outside democratization periods. Log GDP and consumption growth either improve or remain the same, with no clear spikes in volatility or skewness.[13]

Political risk Another concern is that rising regime transition risk or general political risk explains the rise in dividend yields. To address this, I examine the stock market effects of three other episodes: general regime changes, autocratizations, and international political crises from the ICB data.[14] These events have similar political and transition risks to democratizations, but without the same chance of transitioning to democracy. Since the ICB international political crisis data are available from 1918 on, the results below focus on the post-WWI sample. More information on each of these event variables can be found in Ap-

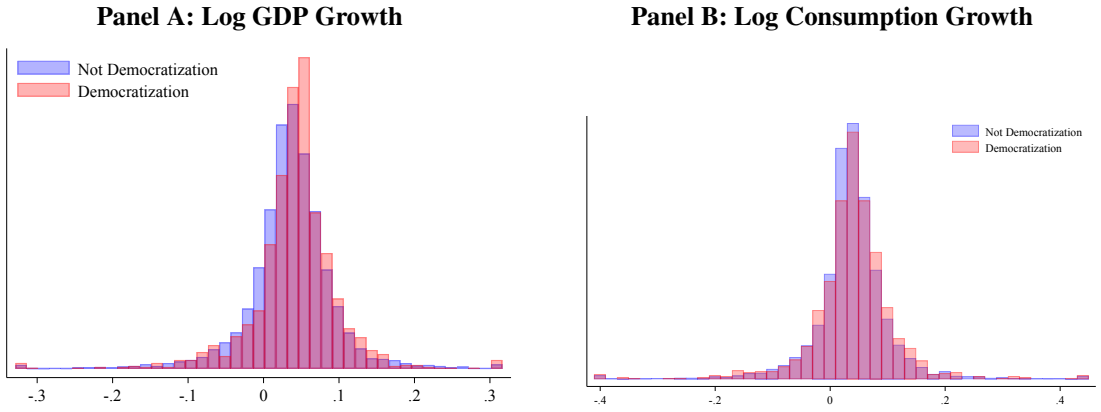
[12]The middle of the democratization removes the first year and last 3 years of the democratization to account for (1) negative returns at the start of the democratization and (2) negative returns at the end conditional on the democratization succeeding. Evidence for low returns at the end of successful democratizations is provided in Appendix D.2.

[13]Formal tests for the equality of variances cannot reject the null that the variance of log GDP and consumption growth are the same.

[14]To maintain consistency with the democratization series, general regime changes, autocratizations, and international political crises that begin in wars and sovereign defaults are also removed.

Figure 2: Distribution of GDP and consumption in democratizations

Log GDP and consumption growth are winsorized at the 0.25% and 99.75% level. GDP data come from the Maddison Historical Statistics database. Consumption data come from the Penn World Tables and represent the period from 1950 to 2018. The democratization histogram reports all observations occurring during a democratization according to the ERT data.



pendix A.4.

Table 3 presents the results for the 5-year change in log dividend yields at the start of each event. In all specifications, dividend yields increase in all three events. But democratizations see a larger effect. To see if the estimates for democratizations are statistically larger, Table 3 gives p-values from three F-tests. These tests assess the null hypothesis that the coefficients for democratizations compared to regime changes, autocratizations, and international political crises are the same. After accounting for regional variation in dividend yields, democratizations show a statistically larger increase than both autocratizations and ICB crises events. For general regime changes, it is not possible to reject the null that they have the same effect as democratizations on stock market valuations. That said, the point estimate is nearly 2-3 times as large across all six specifications.[15] This suggests democratizations have a unique effect beyond just raising political or regime transition risk.

Robustness Appendix B.4 provides various robustness checks for rising macroeconomic and political risk around democratizations. Panel A in Table B.3 shows results for macroeconomic risk in countries with equity data. It suggests GDP growth, dividend growth, and

[15]In Section 5, I distinguish between high and low redistribution risk democratizations. High redistribution risk democratizations do have a statistically larger rise in dividend yields than other regime changes in specifications (5) and (6).

Table 3: General political risk and dividend yields

This table presents regressions of the 5-year change in log dividend yields on indicator variables representing the start of a democratization, regime change, autocratization, and international political crisis. Data are reported from 1918 on. The specification estimated is

$$dp_{c,t} - dp_{c,t-5} = \alpha + \beta \mathbb{1}_{c,t}\{\text{Event Start Year}\} + \epsilon_{c,t}$$

where dp is the log dividend yield and α represents either the coefficient on a vector of ones or the fixed effects denoted at the bottom of the table. Standard errors (in parentheses) are clustered by country and year. All coefficients have been multiplied by 100 for presentation. In Columns (4)–(6) some observations are lost due to there only being one observation in a region-year or in a continent-regime-year. The bottom of table presents the p-value of three F-tests testing the null hypothesis that the change in dividend yields in democratizations is the same as in the other three events. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Five-year change in log dividend yields					
	(1)	(2)	(3)	(4)	(5)	(6)
Democratization start	20.78***	18.24**	23.07***	26.18***	29.51***	30.15***
	(7.83)	(7.95)	(6.85)	(8.40)	(9.31)	(9.62)
Regime change start	8.74	9.73	13.55	14.53	6.82	6.15
	(7.66)	(7.87)	(8.18)	(10.25)	(9.98)	(9.80)
Autocratization start	12.20	9.31	8.23	2.73	3.37	3.63
	(7.77)	(7.63)	(7.37)	(7.65)	(8.04)	(8.41)
International political crisis start	14.05	14.35	11.58	11.47	5.88	10.99
	(8.55)	(9.34)	(9.05)	(7.80)	(6.83)	(7.13)
Country FE	No	No	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	No	No	No
Region × Year FE	No	No	No	Yes	No	No
Continent × Regime × Year FE	No	No	No	No	Yes	Yes
Event Controls	No	Yes	Yes	Yes	Yes	Yes
Episode obs.	48	48	48	47	46	46
Democratization vs Regime change (p-value)	.355	.528	.415	.446	.133	.102
Democratization vs Autocratization (p-value)	.428	.393	.115	.041	.032	.044
Democratization vs International political crisis (p-value)	.499	.729	.254	.172	.021	.079
R^2	0.00	0.02	0.17	0.37	0.35	0.35
Observations	4,120	4,120	4,120	3,964	4,055	3,965

inflation before and after democratizations are similar to other periods. It also presents results for net foreign direct investment (FDI) using data coming from the World Bank from 1970–2018. Net FDI is lower in the five years leading up to a democratization, primarily driven by a reduction in foreign inflows.

A rise in the probability of negative macroeconomic events does not seem to drive the results either. Table B.4 presents the probability that a financial crisis, recession, war, or sovereign default, or loss of stock market data begins during a democratization episode. These events are no more likely to occur in democratizations than in other times. They are, however, more likely to occur in autocratizations.

Table B.3 also shows how several political risk measures change around democratizations. Physical and political violence are flat before democratizations and fall once they are underway. Only the mass mobilizations measures rise significantly leading into a democratization. Though these series change little, Table B.5 shows their levels are high, particularly so for measures of political violence and mass mobilizations and protests. That said, they are also similarly elevated in autocratizations and ICB political crises. In sum, democratizations have similar violence and protest levels as other politically risky events. Yet, they see a far larger asset pricing response.

Differing physical and human capital investments during democratizations provide additional evidence against a rise in uncertainty driving the results. Imagine a world where the wealthy own physical capital, whereas the middle and lower classes own their own human capital. If general uncertainty rises, investment conditions deteriorate for both groups. Both series should fall. However, Figure B.2 shows a divergence in the two series using data from the Penn World Tables from 1950–2018. Human capital investment rises while physical capital investment falls. These differing patterns suggest more uncertainty for one group over another, inconsistent with rising general uncertainty. Instead, democratizations seem to act as bad news for physical capitalists and good news for human capitalists. This is consistent with the redistribution-based theories of democratization that I will introduce below.

These patterns also alleviate concerns around using equity data as the main outcome variables of interest. Many countries that transition to democracy do not have stock markets which limits the events that can be studied. This is particularly true for transitions from left-wing authoritarian states. Since regimes of this style were not fond of capital markets, their data on asset prices do not generally exist. Investment-capital ratio data, however, exist for a broader cross-section of countries.[16] Their decline provides evidence that discount rates are higher in democratizations for broad swath of countries. It also implies that higher discount rates come with real effects.

Another potential concern is that the probability of a communist revolution is elevated during democratizations and is driving increased risk premia. This is difficult to rule out for two reasons. First, communist revolutions rarely coincide with democratizations, limiting the sample to study. Second, Section 6 models democratic transitions as an endogenous response to rising revolution risk. This means we should expect the threat of revolution to rise in democratizations.

[16]There are 212 democratizations for which investment-capital ratio data are present.

The same theory, however, also provides a test to falsify this mechanism. If revolution risk is the primary driver of increased risk premia, than democratizations with greater revolution risk should see a larger effect. Conversely, if democratization risk is the main driver, then measures of risk premia should be flat as revolution risk rises. This is because transitioning to democracy is always an option to diffuse the revolutionary threat.

To proxy for the level of revolutionary threat, I use anti-regime activity coming from leftist and communist groups. Table B.6 shows that democratizations high in this measure change do not see a larger increase in dividend yields. Revolution risk does not seem to drive the results. Democratizations with more active democratic civil society organizations, conversely, do see a more pronounced effect.

Finally, to address potential selection bias in the countries that opt to democratize, Appendix B.5 follows Acemoglu et al. (2019) and presents results using regional waves of democratization as an instrument for changes in democratic institutions. Changes in democratic institutions induced by a country's neighbor have a slightly larger affect on dividend yields than those reported above. This suggests that selection effects, if anything, bias the results downward. It also reiterates that local macroeconomic and political trends are not driving the results.

4 DID Estimates: John XXIII and the Second Vatican Council

The previous section shows that risk premia rise during democratizations. It also suggests that neither an increase in macroeconomic risk nor general political risk can explain the results. Nonetheless, there may still be some outstanding concerns. Democratizations unleash many different forms of uncertainty that are hard to control for. They are also more likely when the costs to the incumbent autocrats are low and the benefits to the would be democrats are high. While this would understate the results above, evidence outside of examining realized democratizations would help clarify the relationship.

The results above also focus on changes in dividend yields instead of average excess returns, a more common proxy for the risk premium in the asset pricing literature. Since democratizations do not last very long, it is hard to get an accurate picture of risk premia using average excess returns. An ideal experiment would increase the probability of a successful democratic transition long enough to accurately measure an effect using this more direct proxy.

This section uses a quasi-natural experiment that addresses these challenges. The shock

comes from a shift in Catholic church doctrine in favor of democracy in the early 1960s, which increased the probability that majority Catholic autocracies democratize. I then study average excess returns before and after the doctrinal shift using a difference-in-differences approach.

4.1 John XXIII and Vatican-II

For much of its history, the Catholic church was widely considered an impediment to democracy.[17] This arrangement changed in October 1958 with the election John XXIII to the papacy. Not much was expected of the old Pope, who was nearing 77 years old when he began his pontificate. He shocked the world, however, when he called for a major review of Catholic church doctrine on January 25th, 1959, less than 90 days into his papacy (Alberigo, 2005). It is hard to understate how shocking a decision this was. Interviews with Cardinals at the time suggest they were unaware Vatican-II would be called (Alberigo, 2005). The Cardinals' surprise also suggests that electing John XXIII was unlikely driven by a desire for liberalization within the College. This review became the Second Vatican Council (Vatican-II), which began in 1962 and lasted into 1965.[18]

After the 1959 announcement, the shift in Church doctrine was underway. Evidence of this comes from Pope John XXIII's writings, which took a notably different character than his predecessors. For example, his 1961 text, *Mater et Magistra*, highlighted economic and political inequality on a number of occasions.[19] By 1963, in *Pacem in Terris*, he became the first pope to explicitly endorse democracy.[20] John XXIII died of stomach cancer shortly after

[17]For example, Hook (1940) writes of the Catholic church, "Catholicism is the oldest and greatest totalitarian movement in history." Similarly, Blanshard (1949) writes "You cannot find in the entire literature of Catholicism a single unequivocal endorsement by any Pope of democracy as a superior form of government."

[18]Vatican-II was a fitting follow-up to the First Vatican Council in which the Catholic church condemned liberal democracy.

[19]In particular "Among citizens of the same political community there is often a marked degree of economic and social inequality. [...] Where this situation obtains, justice and equity demand that public authority try to eliminate or reduce such imbalances. It should ensure that the less developed areas receive such essential public services as their circumstances require, in order to bring the standard of living in these areas into line with the national average. Furthermore, a suitable economic and social policy must be devised which will take into account the supply of labor, the drift of population, wages, taxes, credit, and the investing of money, especially in expanding industries. In short, it should be a policy designed to promote useful employment, enterprising initiative, and the exploitation of local resources."

[20]In particular, *Pacem in Terris* says "[...] the dignity of the human person involves the right to take an active part in public affairs and to contribute one's part to the common good of the citizens. [...] The human person is also entitled to the juridical protection of his rights." This support is followed up with support for democracy explicitly in Point 52: "The fact that authority comes from God does not mean that men have no power to choose those who are to rule the State, or to decide upon the type of government they want, and determine the procedure and limitations of rulers in the exercise of their authority. Hence the above teaching is consonant

this in 1963, but future popes Paul VI and John Paul II continued the process he began.

Effect of Vatican-II political conditions The effects of Vatican-II on political institutions are well known in both political science and theology. Sigmund (1987) marks *Pacem in Terris* as the beginning of the decisive shift in Church policy in support of liberal democracy. Huntington (1991) also cites the publication of *Pacem in Terris*, and Vatican-II which succeeded it, as one of the main reasons the third wave of democracy from the mid-1970s to the early 1990s occurred. Huntington also surmises this is why the third wave began in majority Catholic autocracies. After 1963, the Catholic church played an active role advocating for democracy, opposing authoritarian regimes in Argentina, Brazil, Chile, the Philippines, Poland, Spain, and many Central American countries (Huntington, 1991, Fukuyama, 1992).

Did the doctrinal shift change political institutions in majority Catholic autocracies? Two pieces of evidence suggest it did. First, the majority of countries transitioning to democracy from 1964 to 1983 were majority Catholic. In 1963, 25% of autocracies were majority Catholic, yet they made up 55% of all successful democratizations over the next 20 years.[21]

Second, the doctrinal shift led to more anti-regime activity in majority Catholic autocracies. Figure 3 shows this by comparing two key predictors of future democratizations in majority Catholic and non-Catholic autocracies. Panel A shows that from 1959 to 1963, there was a major increase in the threat to autocratic regimes posed by civil society organizations (CSOs) in majority Catholic countries. This is important since increases in anti-regime CSO activity are a strong predictor of future democratizations, as discussed in Appendix C.1. Panel B shows that small and large scale protests in favor of democracy rose after 1959, becoming more commonplace by 1985. This evidence suggests the shift in Church doctrine loosed the tight grip of autocracy in majority Catholic countries.

Identifying assumptions Political institutions and religion are not randomly assigned; they are the result of myriad historical, economic, social, and cultural processes that mold society over centuries. The identifying assumption underlying this exercise, therefore, does *not* rely on random assignment of religious demographics or political institutions. Instead, it relies on the assumption that absent the doctrinal shift, majority Catholic autocracies and other countries would have experienced similar returns, conditional on the relevant controls

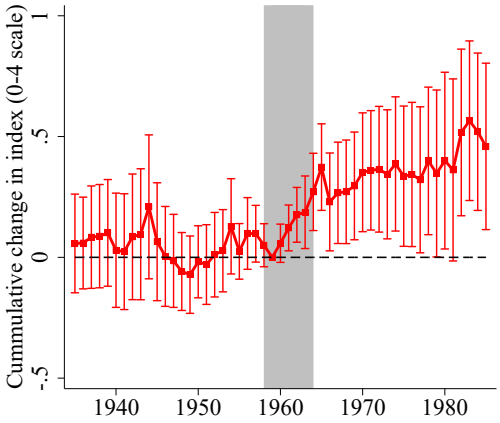
with any genuinely democratic form of government."

[21] A linear probability model suggests that majority Catholic autocracies were 3 to 6 percentage points more likely to successfully democratize annually after the shift in Church doctrine relative to non-Catholic autocracies. These results are presented in Appendix Table C.8.

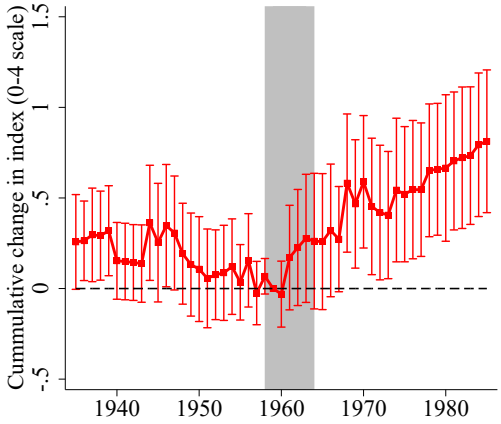
Figure 3: Anti-regime civil society organization activity and democratic mobilizations

This figure presents an event study comparing majority Catholic autocracies to non-Catholic autocracies in their anti-regime civil society organization (CSO) activity and frequency of democratic mobilizations and protests as determined by indices from the V-Dem database. The reference year is set to 1959, the first year of the doctrinal shift. Endpoints are binned and are not shown. The anti-regime CSO activity index ranks the threat posed by anti-regime civil society organizations on a scale of 0 to 4, where 0 is no anti-regime civil society organization activity, and 4 is a major present threat to the governing regime from anti-regime civil society organizations. The democratic mobilization index assesses the number of small- and large-scale demonstrations in favor of democracy in a given year with a maximum value of 4. The autocracy designation is also constructed from V-Dem data, and includes all closed or electoral autocracies from their "regimes of the world" variable. Data on the percentage of the population that is Catholic comes from the World Religion Project. These data are extended backward using the first year of data. The vertical grey bars show the treatment window from 1959–1963. Country and year fixed effects are included. The red bars represent a 90% confidence interval with standard errors clustered by country.

Panel A: Anti-regime CSO activity



Panel B: Democratic mobilizations



and fixed effects. In essence, the parallel trends assumption must hold. Evidence in favor of parallel trends is provided below in the discussion of the results.

One potential concern with this assumption is that majority Catholic countries differ from other countries along some dimensions important for stock returns. Table 4 presents the extent these countries differ on select observable characteristics from 1946–1958. Majority Catholic autocracies tend to be poorer, have higher inflation, higher resource inequality, and lower debt-to-GDP ratios than the average country in the sample. However, they are more closely aligned with non-Catholic autocracies, where the only significant differences lie in GDP per capita and average inflation.

Finally, I also assume that the Church's decision to change its doctrine in favor of democracy was not driven by stock returns or macroeconomic outcomes. This implicitly assumes

Table 4: Balance of characteristics, 1946–1958

This table shows various characteristics of each of the different types countries used in the difference-in-differences framework. In the first 3 columns, the group means are reported. Columns (4) and (5) reports the point estimates on the regression

$$\text{Outcome}_{c,t} = \alpha + \beta \mathbb{1}_{c,t}\{\text{Majority Catholic Autocracy}\} + \epsilon_{c,t}$$

on either all countries or the subsample of autocracies, with standard errors clustered by country in parentheses. The coefficients on rate variables have been multiplied by 100. The risk adjustment procedure for returns uses a two-factor model as described below in Equation (4.2). ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	Maj. Cath. Autocracy	**Non-Cath. Autocracy**	**Democracy**	**All Country Diff**		**Autocracy Diff.**	
	(1)	(2)	(3)	(4)		(5)	
Finance							
Excess returns (%)	10.3	5.7	10.1	2.1	(2.5)	4.5	(3.3)
Risk-adjusted returns (%)	-0.2	1.0	-1.7	0.3	(2.8)	-1.2	(3.4)
Dividend growth (%)	10.7	6.4	8.4	2.8	(5.0)	4.3	(7.5)
Macroeconomy							
GDP per capita ($000)	4.3	2.4	9.4	-2.5**	(1.1)	1.9**	(0.8)
Inflation (%)	18.5	7.1	5.3	12.5**	(5.5)	11.4*	(6.1)
Annual GDP per capita growth (%)	3.6	2.2	3.4	0.6	(0.8)	1.4	(1.0)
Debt/GDP (%)	29.3	35.5	60.0	-22.5*	(12.5)	-6.2	(11.8)
Inequality							
Gini coefficient	47.4	47.6	34.2	10.7**	(5.4)	-0.2	(6.8)
Resource inequality index	74.6	77.8	23.7	27.5***	(7.9)	-3.1	(6.7)

away any reverse causality—in essence, identification by God. While sources in the theology literature do not point to economic reasons as the basis for the decision, they do make clear that John XXIII was aware of the geopolitical environment in which he was operating. In particular, rising tensions emanating from the Cold War were front and center in the Vatican in 1959 (Alberigo, 2005). The timing of the shift, however, does seem random, as was the date which the information became public. So, even if there were an economic basis for the doctrinal shift, it would not affect the validity of the identification strategy.

4.2 Specification

Treatment window Treatment is taken to occur in a five-year window from 1959 to 1963. This covers the unexpected announcement of Vatican-II to the publication of *Pacem in Terris*. There are two main reasons for choosing a range of years in this design. First, as highlighted above, several events signaled the doctrinal shift before the publication *Pacem in Terris*.[22]

[22]For example, a *Harper's* article from June 20th, 1959 suggests the doctrinal shift was expected once Vatican-II was announced. It notes John XXIII's support for party competition in Itay, implying a more tolerant

Since financial markets are forward looking, this information was likely incorporated into asset prices prior to 1963. Under the theory that a higher likelihood of democratization leads to increased discount rates, treatment should come with negative returns. Starting the window too late would, therefore, bias the estimated treatment effects upward. Similarly, starting it too early would bias treatment effects downward. Using a range of years alleviates this potential concern.

Second, the data reveals a marked rise in anti-regime CSO activity and democratic protests starting from 1959 to 1963. A structural break test indicates a change in trend in either 1959 or 1962 in the majority Catholic autocracies.[23] This suggests that the political reality on the ground began to change before 1963.

Estimated specification and samples I employ a difference-in-differences design of the form

$$\text{Excess Returns}_{c,t} = \alpha_c + \alpha_t + \beta \mathbb{1}_{c,t}\{\text{Post} \times \text{Catholic} \times \text{Autocracy}\} + \omega \text{Controls}_{c,t} + \epsilon_{c,t} \tag{4.1}$$

where c represents each country, t each year, and β represents the treatment effect of interest. This specification is estimated on two different samples: all countries or autocracies only. Both samples are informative of the effects of the doctrinal shift. The all countries subsample describes the average treatment effect on majority Catholic autocracies compared to all other countries. Given its larger sample size, this sample should have greater precision in estimation. On the other hand, non-Catholic autocracies are much better matched on observable characteristics. But this limits the number of countries in the sample. For this reason, I provide both sets of results. I also perform the estimation over two symmetric sample windows: one from 1946–1976 and the other from 1939–1983. The first estimation window begins in 1946 so that the Second World War is outside the sample. The second provides a symmetric 20-year window.

attitude toward left-wing parties. It also discusses the immediate change in culture toward one of more free and fair expression (Neville, 1959).

[23] The structural break test is performed on the annual average across majority Catholic autocracies less the annual average across non-Catholic autocracies for both series. Two tests are run on each series from 1940–1989, a supremum Wald test and a supremum likelihood-ratio test. Each test indicates the same break date on each series: 1959 for anti-regime CSO activity and 1962 for democratic mobilizations. The test statistics represent a high degree of statistical significance ($p < 0.001$).

Controls and risk-adjustment Each regression includes several dummy variables for macroeconomic and political events and continuous controls. This allows me to better identify variation in risk premia from average realized returns. Binary event controls include head of government deaths, financial crises, ICB political crises, wars, sovereign defaults, and recessions. Controls for the macroeconomic environment include log-GDP growth and the level of log-GDP per capita.

I also adjust excess returns for time-varying global and region-specific systematic risk. This removes risk unrelated to the increased probability of democratization. In particular, I use a two-factor model, similar to Bekaert, Hodrick and Zhang (2009), by estimating, for each country

$$R^e_{c,t} = \alpha_{c,t} + \beta^{glo}_{c,t} R^{e,glo}_t + \beta^{reg}_{c,t} R^{e,reg}_{j,t} + \varepsilon_{c,t} \tag{4.2}$$

where $R^{e,glo}_t$ denotes the excess return on a GDP-weighted global market portfolio, $R^{e,reg}_t$ denotes the excess return on a GDP-weighted region-specific market portfolio, and c denotes the country, j denotes the region, and t denotes the year.[24] The regional factors are important in this case for a two main reasons. First, the empirical asset pricing literature highlights that half of the global market return variation generally attributed to country-specific effects is actually due to region effects (Brooks and Negro, 2005). Second, global integration over this sample is likely incomplete and increasing (Bekaert and Harvey, 1995, Baele, 2005, Bekaert et al., 2009). To account for this, β's are estimated on a rolling basis over 10-years.[25] The two-factor model accounts for a fair amount of the return variation across countries. The average (median) coefficient of determination, or R^2, is 0.47 (0.47), and unexpected returns for all groups of countries (i.e. non-Catholic autocracy, Catholic democracy, etc.) from 1946–1958 are insignificantly different than zero when standard errors are clustered at the country and year level.[26]

[24]The regions used include: 1) South and Central America, 2) North America plus Europe, 3) Asia and Oceania (less the Middle East), 4) Africa and the Middle East.

[25]I require at least 5-years of data to perform the estimation. The 5-year minimum requirement drops 12 observations.

[26]This two-step procedure is not essential to the results. In Appendix C.8, I run the difference-in-differences specification with just country-specific interactions with the global and continental portfolios that vary in the pre- and post- periods. This single step procedure produces similar results.

Table 5: Difference-in-differences results

This table shows the regression coefficients for the difference-in-differences specification in Equation (4.1) on two sample windows, one from 1946–1976 and the other from 1939–1983, and for two different samples, one for all countries and the other on autocracies only. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors (in parentheses) are clustered by country and year. Included countries must have at least 20 total observations from 1946–1983. All coefficients have been multiplied by 100. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	All Countries		Autocracies Only	
	(1)	(2)	(3)	(4)
Majority Catholic Autocracy × Post	10.45***	6.35***	11.06***	9.89***
	(2.89)	(2.13)	(3.55)	(2.80)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Sample	1946–1976	1939–1983	1946–1976	1939–1983
R^2	0.14	0.09	0.16	0.13
Observations	1,069	1,584	512	736

4.3 Results

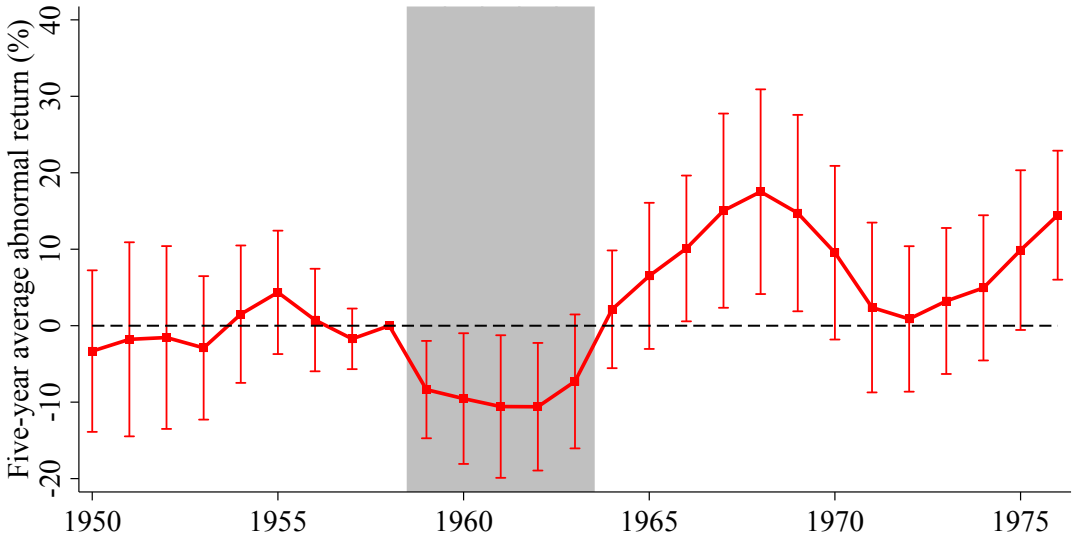
Table 5 shows the results for the difference-in-differences specifications.[27] Columns (1) and (2) show the results using all countries that are not majority Catholic autocracies as the control group. They indicate an increase in average excess returns of 6.3 to 10.5 percentage points with all estimates significant at the 1% level. Columns (3) and (4) provide the estimates using all autocracies as the control group, finding a 9.9 to 11.1 percentage point treatment effect.

To understand how this evolved over the sample, Figure 4 presents an event study on the autocratic subsample of a five-year moving average of global and continental risk-adjusted returns. Before the doctrinal shift, returns in majority Catholic autocracies correspond closely with the returns in other autocracies. From 1959 to 1963, however, majority Catholic autocracies experienced sharply negative returns. These lower returns are consistent with a positive discount rate shock during the treatment period. Moreover, since the negative returns are

[27] As pointed out in Goldsmith-Pinkham, Hull and Kolesár (2022), the recent critiques around negative weights in two-way fixed effects specifications do not apply in difference-in-differences settings where treatment is not staggered. Since treatment occurs for all countries in 1959–1963, the β in Equation (4.1) can be thought of as a convex combination of potentially heterogeneous treatment effects on risk premia for in increase in the probability that a successful democratizations occurs in majority Catholic autocracies.

Figure 4: Event study plot of global and continental risk-adjusted returns

This figure presents an event study plot of a five-year moving average of global and continental risk-adjusted returns estimated from the factor model given by Equation (4.2). The shaded bars represent the treatment period, 1959–1963. The red bars represent a 90% confidence interval with standard errors clustered by country and year.



focused in the treatment years—which are excluded from Table 5—the results are not biased by low realized returns pre- or post-treatment. The rest of the sample reverses this trend. Majority Catholic autocracies earn higher returns than other autocracies after the doctrinal shift.

As pointed out by Merton (1980), one needs a long time horizon to estimate expected returns from realized returns. Estimating over a 20-year sample window mitigates this issue. Two other methodological choices also aid in this. First, there is a large cross-section of 43 countries in the sample, 9 of which are majority Catholic autocracies. Averaging across a large group of countries in this way should lead to a more precise estimate of the increase in the risk premium. Second, the two-factor model I employ removes global and continental risk that make the detection of a country-specific increase in expected returns more difficult. This is because they effectively represent a form of measurement error in the dependent variable. Removing these risk factors thus allows for greater statistical power. These methods, therefore, still pick up differences in risk premia despite the somewhat short time series.

Robustness Appendix C provides various robustness checks. It starts by providing two falsification tests. The first falsification test estimates a difference-in-differences specification using the First Vatican Council (Vatican-I) from 1864–1870 as treatment. Appendix C.2 presents the results. Vatican-I provides an interesting test since it centered around the rejection of liberalism and democratic principals. This means it likely strengthened the power of autocrats in majority Catholic countries. Consistent with the results above, I find 4.9 to 5.5 percentage point lower average excess returns for majority Catholic autocracies in the 15 and 20 years after 1870. The results, however, are statistically insignificant. This is likely due to there being only 19 countries with data available before 1860. The second falsification test, provided in Appendix C.3, shifts the window of treatment forward and backward. It shows that the results only hold in a narrow window around the years of the doctrinal shift.

Another potential concern is that Vatican-II changed many different aspects of Church doctrine, any of which could be driving increased risk premia in majority Catholic autocracies. To address this, Appendix C.4 presents a series of difference-in-differences results for majority Catholic democracies. The control groups are either all countries or other democracies. Across all specifications, the change in average excess returns is not significantly different than 0. This provides evidence that majority Catholic autocracies were the only subgroup treated by the change in Catholic church doctrine in favor of democracy.

Appendix C.5 shows the results using different end years for the estimation window. Including all countries, the results are large and significant for all end years from 1970–1983. In the autocracies subsample, the point estimates are identical across end years, but only become statistically significant in 1976. Before this, there are too few observations to precisely pin down the treatment effect.

Appendix C.6 shows that no particular pair of countries are driving the results. In particular, I estimate the difference-in-differences specification excluding every pair of countries. This is done for both sample groups in the 1946–1976 estimation window. The results are statistically significant excluding any pair of countries.

The results above point to a larger treatment effect than the estimates presented in Section 3. There are two potential explanations for this. First, the treatment effect of democratizations on risk premia is better identified using the shift in Church doctrine. This suggests that the true effect from Section 3 would be larger if it were better identified. Second, the estimates from the difference-in-differences exercise may be less representative than the estimates from Section 3. The smaller time series and cross-section also mean that outliers could

be affecting the results. In this case, the true, externally valid increase in risk premia may be smaller than the point estimates above suggest. To better understand this, Appendix C.7 presents three different strategies for dealing with outliers: (1) winsorizing at the 5% and 10% levels, (2) excluding the high return years from 1967–1969, and (3) using outlier robust regression weights via Li (2006). In each specification the results are statistically significant, and suggest a smaller treatment effect of 4–7 percentage points. This is in line with the results from Section 3.[28]

The factor model used to adjust average excess returns for time-varying global and continental risk could also be absorbing some of the variation driven by the doctrinal shift. To assure this is not an issue, Appendix C.8 presents the results adjusting average excess returns for global risk only. Adjusting for only global risk yields similar results. Appendix C.8 also presents a specification that estimates the treatment effect of the doctrinal shift and the loadings on global and continental risk factors jointly. This allows me to forego the two-step procedure implemented above. This also yields similar results.

Finally, this section uses average excess returns as the main outcome variable, whereas the previous section uses the change in log dividend yields. The reason for this is that—while the time series examined is shorter—the effective measurement period is longer. This is because there are 15–20 years between the change in Catholic church doctrine and when the democratizations begin in earnest in majority Catholic autocracies. That said, one may still be interested in how dividend yields look in this exercise. This evidence is presented in Appendix C.9. We can see that dividend yields begin to rise during the treatment period and remain elevated into the late 1960s before starting to come down.[29] This provides evidence that multiple proxies for the risk premium are elevated as a result of the change in Catholic church doctrine.

5 Democracy and redistribution

This section proposes a plausible mechanism why democratizations increase risk premia: fear over future redistribution. A popular and varied group of political science and political

[28] A 4–7 percentage point treatment effect is also broadly consistent with the negative 30-40% returns observed in the treatment period. For example, a 4 percentage point increase the risk premium would lead to a 40% decline in stock prices if equity duration were approximately 10, not unreasonable for an autocratic country in early 1960s.

[29] The fact that the dividend yield falls after 1967 could suggest that the results are in part driven by an initial discount rate shock that then subsides over time. To understand how important this is to the results, Appendix C.9 presents the average excess returns results controlling for capital gains. The point estimates are reduced by approximately 30% from the baseline specification and remain significant.

economy theories highlight the role that inequality, class struggles, and redistribution play in democratizations. Moreover, these theories enjoy support in the data. The existing literature finds democracies tend to have larger public sectors, be more equal, have lower barriers to entry, and be less corrupt (Fisman, 2001, Boix, 2003, Kolstad and Wiig, 2016, Acemoglu et al., 2015, Rock, 2016). It is also supported by studies that suggest extending the vote to poorer citizens, racial minorities, or women leads to increased redistribution and the more equal provision of public goods (Husted and Kenny, 1997, Miller, 2008, Naidu, 2012, Cascio and Washington, 2013, Fujiwara, 2015). Here, I assess the extent to which these results hold in my setting.

5.1 Redistribution after successful democratizations

I compare successful and failed democratizations in ERT data to understand how much transitions to democracy increase redistribution. This strategy relies on the idea that failed democratizations provide an appropriate counterfactual for successful democratizations after adding the relevant controls and fixed effects. To do this, I estimate the following specification:

$$\begin{aligned} y_{c,t} = \alpha_t + \alpha_c + \beta_1 \text{Democratization}_{c,t} + \\ \beta_2 \text{Successful Democratization}_{c,t} + \beta_3 \text{Post-Democratization}_{c,t} + \\ \beta_4 \text{Post-Successful Democratization}_{c,t} + \omega' \text{Controls}_{c,t} + \varepsilon_{c,t} \end{aligned} \quad (5.1)$$

where $y_{c,t}$ is the outcome of interest. The post-democratization variables are indicator variables equal to 1 if the year is within twenty years of the end of a democratization or successful democratization.

I assess the effect of successful democratizations on both *explicit redistribution*—increases in the size of the public sector, reductions in inequality, and/or increases in the labor share—and *tacit redistribution*—changes in corruption or bribery and increased entrepreneurship, new business formation, and competitiveness. Both forms of redistribution will be used to calibrate the redistribution-based model presented in Section 6.

One important caveat is that these variables do not necessarily cover the same sample of democratizations presented in the asset pricing results above. This is because, when possible, I use all available data to estimate the effect sizes. The primary reason behind this is that data on redistribution cover a shorter time series than the asset pricing data. Including all

countries, therefore, allows for more precision in estimation.

Explicit redistribution The size of the public sector grows after successful democratizations. Table 6 reports that government revenue-GDP ratios and tax revenue-GDP ratios rise by 0.24 and 0.20 percentage points annually in the 20 years after a successful democratization. This points to a cumulative effect of 4.8 and 4 percentage points. These estimates are quite similar to those reported in prior work. For example, Acemoglu et al. (2015) finds that government revenue-GDP ratios rise by 1.9 to 4.8 percentage points and tax revenue-GDP ratios by 2.4 to 4.1 percentage points after countries transition to democracy.[30]

In addition, income inequality falls and the labor share rises after successful democratizations. Table 6 shows that the Gini coefficient falls by 0.11 percentage points annually in the after 20 years after a successful democratization. This points to a cumulative decline of 2.3 percentage points. Similarly, the labor share of income for employees increases by 0.34 percentage points annually, a cumulative increase of 6.7 percentage points. Much of this effect comes from the large decline in the labor share observed after failed democratizations. These estimates are also in-line with prior studies. Acemoglu et al. (2015) finds similar declines in long-run income inequality, albeit without statistical significance. Drautzburg, Fernández-Villaverde and Guerron-Quintana (2022) finds a 2.3 percentage point increase in the labor share in the 3-years after a democratic transition. This is also in line with Rodrik (1999) who suggests that after controlling for macroeconomic factors, more democratic institutions coincide with substantially higher wages.

Tacit redistribution Successful democratizations do not just come with outright redistribution from rich to poor; they also may bring tacit redistribution—the loss of privileges for the autocratic elite (Tullock, 1986). For example, autocratic elites may lose their ability to influence the government via corruption and bribery. Autocracies may also allow for the easy formation monopolistic and oligopolistic industrial organizations (Li and Resnick, 2003, Perotti and Volpin, 2006, Karolyi and Liao, 2017) and increase the importance of political connections for new entrants (Li, Meng, Wang and Zhou, 2008). These arrangements disproportionately benefit elites. After democratic transitions, established industrialists might face not only the loss of these connection but also heightened competition from talented entrepreneurs.

To test these effects, I examine the public sector corruption and bribery indices provided

[30]These numbers are the minimum and maximum long-run effect estimates multiplied by the sample average government revenue-GDP and tax revenue-GDP ratios for autocracies.

Table 6: Successful democratizations and explicit redistribution

This table presents regressions of the year-over-year change in the government revenue-GDP ratio, tax revenue-GDP ratio, Gini coefficient, labor share of income from employee compensation on indicators denoting if a year is between 1 and 20 years after a democratization or successful democratization end. Regressions are specified as in Equation (5.1). The regressions also control for log GDP per capita and the lag of log GDP per capita. Country and year fixed effects are included in all regressions. Standard errors are clustered by country and reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Public Sector Size		Inequality and Labor Power	
	Δ Govt Rev/GDP	Δ Tax Rev/GDP	Δ Gini Coef	Δ Labor Share Emp
	(1)	(2)	(3)	(4)
Post-Successful Democratization (20-years)	0.24**	0.20**	-0.11***	0.34**
	(0.10)	(0.09)	(0.03)	(0.17)
Post-Democratization (20-years)	-0.11	-0.15	0.02	-0.31*
	(0.09)	(0.10)	(0.02)	(0.16)
Successful Democratization	0.08	-0.04	-0.02	0.41
	(0.16)	(0.12)	(0.04)	(0.29)
Democratization	0.13	0.07	0.02	-0.17
	(0.15)	(0.10)	(0.02)	(0.27)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Episode obs.	106	238	141	101
R^2	0.10	0.03	0.29	0.08
Observations	5,521	8,296	4,987	3,899

by V-Dem. These indices measure the level of corruption and bribery within the federal government. Table 7 reports the results. Both series fall substantially during successful democratizations relative to failed ones. Given both series are transformed to take values from 0-100 and that a democratization lasts on average 8.5 years, this represents a 5.8 percentage point reduction in corruption indices and a 5.4 percentage point reduction in bribery indices. The ability to seek rents seems to be reduced after successful democratic transitions.

Competitive pressure also increases during successful democratizations. Regulation favoring competition—as measured by the Economic Freedom Index from the Fraser Institute—rises by approximately 10 percentage points. The net entry of new public firms also increases by approximately 32%. The evidence suggests incumbent firms face pressure from new entrants during successful transitions to democracy.

5.2 Asset prices and redistribution risk

High redistribution-risk democratizations Democratizations with the largest redistribution risk also have the largest rise in dividend yields. To show this, I use data from V-Dem

Table 7: Successful democratizations and tacit redistribution

This table presents regressions of the year-over-year change in the V-Dem corruption index, V-Dem bribery index, the Fraser Institute's Pro-Competitive Regulation Score, and the net entry of public firms on indicators denoting if a year is in a democratization or successful democratization. Regressions are specified as in Equation (5.1). Country and year fixed effects are included in all regressions. Standard errors are clustered by country and reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Rent Extraction		Competition and New Entry	
	Δ Corruption	Δ Bribery	Δ Pro-Comp. Regulation	Δ log(Firms)
	(1)	(2)	(3)	(4)
Successful Democratization	-0.68***	-0.63***	1.17**	3.98*
	(0.24)	(0.20)	(0.54)	(2.11)
Democratization	-0.07	-0.04	-0.65	-1.76
	(0.19)	(0.17)	(0.54)	(1.43)
Post-Successful Democratization (10-years)	0.14	0.19	-0.06	0.76
	(0.14)	(0.13)	(0.37)	(1.87)
Post-Democratization (10-years)	0.04	0.08	-0.15	-1.13
	(0.11)	(0.10)	(0.35)	(1.66)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Episode obs.	383	384	91	92
R^2	0.02	0.02	0.26	0.11
Observations	24,150	24,142	2,948	3,679

that denotes the most important support group in every country in each year. I then group all democratizations into whether the most important support group at the start or year prior are the elites or some other group.[31] The idea is that redistribution risk is highest in democratizations where the elites have the most to lose.

Table 8 presents the results. Elite democratizations see a 2-3 times larger rise in dividend yields than non-elite democratizations across specifications.[32] This is consistent with redistribution risk driving the results.

Cost of democratization over time Evidence in favor of the redistribution-based theories also comes from the stability of the rise in risk premia in democratizations over time. The idea is that the rise in risk premia can be thought of as a proxy for cost of democratization born by investors. This is because, as we will see, it reflects the potential loss of consumption

[31] I combine the aristocracy, business elites, political elites, and local elites into one group called "the elites." The remaining groups—the middle class, lower class, military, ethnic or racial groups, and foreign powers—are the "non-elites." The most common non-elite important support group is the military (9 cases), followed by the urban middle classes (7 cases) and an ethnic or racial group (4 cases).

[32] In Columns (5) and (6) elite democratizations see a statistically larger rise according to an F-test.

Table 8: Elite democratizations and changes in log dividend yields

This table presents regressions of the 5-year change in log dividend yields on indicator variables representing the start of an elite democratization or non-elite democratization. An elite democratization is a democratization in which the aristocracy, business elites, political elites, or local elites were the most important regime support group in the year of the democratization or year prior according to the V-Dem regime data. The specification estimated is

$$dp_{c,t} - dp_{c,t-5} = \alpha + \beta_1 \mathbb{1}_{c,t}\{\text{Elite Democratization Start}\} + \beta_2 \mathbb{1}_{c,t}\{\text{Non-Elite Democratization Start}\} + \epsilon_{c,t}$$

where dp is the log dividend yield and α represents either the coefficient on a vector of ones or the fixed effects denoted at the bottom of the table. Standard errors (in parentheses) are clustered by country and year. All coefficients have been multiplied by 100 for presentation. In Columns (4)-(6) some observations are lost due to there only being one observation in a region-year or in a continent-regime-year and from missing control observations. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Five-year change in log dividend yields					
	(1)	(2)	(3)	(4)	(5)	(6)
Elite Democratization	27.26***	24.78**	24.97**	28.82***	36.38***	32.60***
	(9.88)	(9.95)	(10.34)	(10.26)	(11.07)	(11.65)
Non-Elite Democratization	11.72	9.58	13.76	15.49*	12.63	10.31
	(9.83)	(9.48)	(9.05)	(9.05)	(10.12)	(11.04)
Country FE	No	No	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	No	No	No
Region × Year FE	No	No	No	Yes	No	No
Continent × Regime × Year FE	No	No	No	No	Yes	Yes
Event Controls	No	Yes	Yes	Yes	Yes	Yes
Other Controls	No	No	No	No	No	Yes
Episode obs.	40	40	40	39	38	37
R^2	0.00	0.02	0.15	0.37	0.35	0.37
Observations	5,587	5,587	5,587	5,271	5,363	5,028

for the capital-owning elite.

Figure 5 shows estimates of this cost over time. It does this by plotting the coefficient of a regression of the 5-year change in log dividend yields on an indicator variable denoting a democratization start in rolling 60-year windows. This is the same specification shown in Table 1, plotted over time.

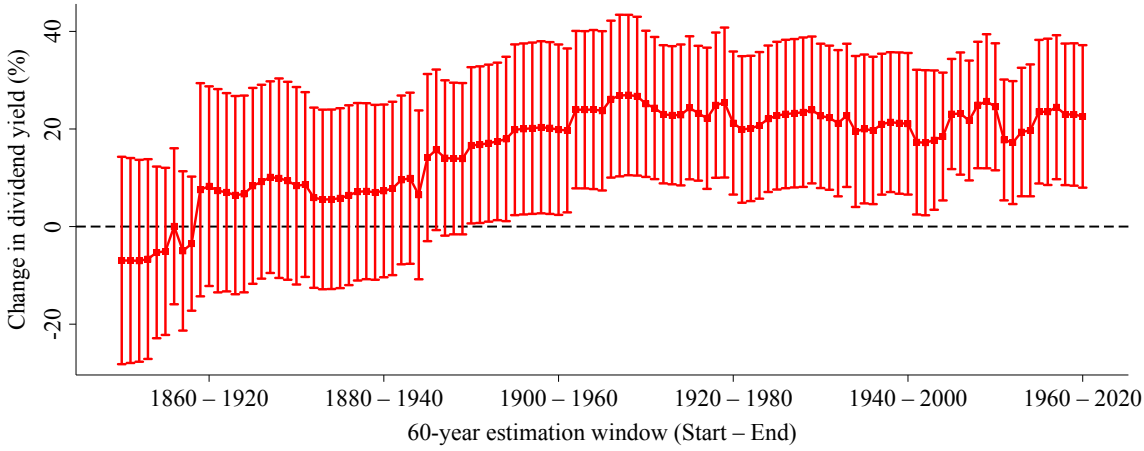
The estimates rise until the 1890-1950 window and then plateau at approximately 20%. Interestingly, they jump dramatically in 1919, the beginning of the First Wave of Democratization. This is in line the with the narrative of Luebbert (1991). Before World War I, democratizations were mainly agreements between the aristocracy and the middle class, shutting out the then nascent labor movements. After the war, democratizations became more labor driven, focusing on increasing labor bargaining power and reducing inequalities. Transitioning to democracy thus became more costly for the capital-owning elites, bringing

Figure 5: Rise in dividend yields around democratization starts, Rolling estimation

This figure presents coefficient estimates on 5-year change in log-dividend yields estimated on rolling 60-year windows. Horizontal axis represents the estimation window. The specification estimated is

$$dp_{c,t} - dp_{c,t-5} = \alpha_c + \alpha_t + \beta \mathbb{1}_{c,t}\{\text{Democratization Start Year}\} + \epsilon_{c,t}$$

where dp is the log dividend yield. Standard errors are clustered by country and year.



higher risk premia in the transition period.

The stability of this cost challenges one of the main predictions of modernization theory: economic development reduces the "cost" of democracy. These theories—originally due to Lipset (1959) in the sociological tradition of Weber (1946)—highlight that as the world becomes richer, the cost of democratization should fall. This would explain why democracies have become more prevalent over the last century. Figure 5 shows, however, that there is little evidence this cost has declined over the last 150 years.

Robustness and additional results Appendix D presents robustness checks on these results. Appendix D.1 presents event study plots for changes in the government revenue-GDP ratio and Gini coefficient. It shows that these series change right after the end of successful democratizations.

Appendix D.2 presents additional evidence that investors view successful democratizations negatively. Prices decline upon the realization of a successful democratization, as shown in Figure D.11. Prices also rise if the democratization is reversed or co-opted. This suggests permanent, successful transitions to democracy present a risk to investors.

Finally, Appendix D.3 presents additional evidence that links the rise in risk premia to

redistribution risk. It does this by showing that democratizations with larger price declines also see larger declines in inequality 5 and 10 years later.

6 Model

Can the redistribution following successful democratizations explain the rise in risk premia? Because asset prices and redistribution might not have a straightforward link, this task requires a model.

This section presents a consumption-based asset pricing model with democratic transitions. Democratizations are modeled similarly to Acemoglu and Robinson (2006). A consortium of political elites in an autocracy attempt to maintain control of the state from a larger group of citizens. When democracy comes, the citizens redistribute the elites' rents toward themselves. This increased redistribution leads to a large reduction in elite consumption. During democratizations, the probability this will happen rises, leading to an increase in the risk premium.

Macroeconomic environment A mass of $\delta < \frac{1}{2}$ identical Elites and $1-\delta$ identical Citizens live in a closed economy. Time is discrete and infinite. Output (Y) is produced by a Lucas tree with an exogenous growth rate following the process

$$\log \frac{Y_t}{Y_{t-1}} = \bar{y} + \sigma_y \varepsilon_t. \tag{6.1}$$

where $\bar{y}$ is the average growth rate, σ_y is the standard deviation, and $\varepsilon \sim \mathcal{N}(0,1)$ is an independent and identically distributed, lognormal shock. The Elites receive a proportion $\theta^{\mathcal{I}} > \delta$ of the endowment, so per capita income (scaled by aggregate income) is given by

$$\bar{y}_t^r(\theta^{\mathcal{I}}) \equiv \frac{\bar{Y}_t^r(\theta^{\mathcal{I}})}{Y_t} = \left(\frac{\theta^{\mathcal{I}}}{\delta}\right) \tag{6.2}$$

$$\bar{y}_t^p(\theta^{\mathcal{I}}) \equiv \frac{\bar{Y}_t^p(\theta^{\mathcal{I}})}{Y_t} = \left(\frac{1-\theta^{\mathcal{I}}}{1-\delta}\right). \tag{6.3}$$

Throughout the section, lowercase values represent quantities scaled by aggregate income. The superscript r denotes the (rich) Elites and p the (poor) Citizens. The parameter θ gives the level of pretax income inequality in the economy: The higher is θ, the more unequal is the economy. The superscript $\mathcal{I} \in \{A, D\}$ denotes the political regime that the economy operates in, either autocracy or democracy. This allows for the possibility that democracy

reduces inequality.

The endowment can be used to purchase a single consumption good which agents have Epstein and Zin (1989) preferences over. Markets are incomplete in that the Citizens and Elites cannot trade with one another. Since only the Elites can access financial markets, they are the marginal investors in this economy.

Taxes and transfers The government decides policy over a single fiscal instrument: a linear tax on individual income paid back as a transfer to all agents. The average post-tax income for each group, scaled by aggregate income, is given by

$$\hat{y}_t^r(\tau_t, \theta^{\mathcal{I}}, \nu^{\mathcal{I}}) = (1-\tau_t)\bar{y}_t^r(\theta^{\mathcal{I}}) + \left(\left(\frac{\nu^{\mathcal{I}}}{\delta}\right)\tau_t - \frac{1}{2}\omega\tau_t^2\right) \tag{6.4}$$

$$\hat{y}_t^p(\tau_t, \theta^{\mathcal{I}}, \nu^{\mathcal{I}}) = (1-\tau_t)\bar{y}_t^p(\theta^{\mathcal{I}}) + \left(\left(\frac{1-\nu^{\mathcal{I}}}{1-\delta}\right)\tau_t - \frac{1}{2}\omega\tau_t^2\right) \tag{6.5}$$

where $\frac{1}{2}\omega\tau_t^2$ is the cost of taxation and $\nu^{\mathcal{I}} < \theta^{\mathcal{I}}$ is the degree of inequality in government spending. The cost, ω, is a reduced form way of introducing a Laffer curve into the economy. Similarly, inequality in government spending is a reduced form way of modeling corruption. When corruption is high, the Elites can divert government spending for their own consumption.

The optimal tax rate for the Elites is $\tau^{r*} = 0$ since the transfer is less than their pre-tax income, $\bar{Y}^r > Y$. Since transfers are greater than their pre-tax income, the optimal tax rate for the Citizens is the revenue maximizing tax rate

$$\tau_{\mathcal{I}}^{p*} = \frac{\theta^{\mathcal{I}} - \nu^{\mathcal{I}}}{\omega(1-\delta)}. \tag{6.6}$$

Autocracy, revolution, and democracy Tax policy maximizes the post-tax and transfer income of the group holding political power. Who holds political power depends on the set of institutions in place. There are three types of political institutions: autocracy, revolution and democracy.

The model starts in autocracy, where only the Elites can vote. The government then holds elections and enacts whatever policy the Elites choose. Absent any counteracting force the Elites would set taxes to zero in each period.

However, the Citizens have *de facto* political power through their ability to revolt. If the Citizens revolt, they are successful by assumption and kill all the Elites. They then they take

control of the economy for the rest of history. But, this victory comes at a cost; a fraction μ of the Lucas tree is permanently destroyed. The expected present value of their utility after the revolution, scaled by the average income at time t, is

$$v^p(R, \mu_t) = \left(\frac{1-\beta}{1-\beta^\star}\right)^{\frac{1}{1-1/\psi}} \left(\frac{1-\mu_t}{1-\delta}\right) \tag{6.7}$$

where $\beta^\star \equiv \beta e^{(1-1/\psi)\bar{y}+\frac{1}{2}(1-\gamma)(1-1/\psi)\sigma_y^2}$, β the rate of time discounting common across agents, γ the coefficient of relative risk aversion, and ψ the elasticity of intertemporal substitution (EIS). This expression for the value function is derived in Appendix E.1.

Variation in μ ultimately drives the dynamics in the model.[33] When μ is high, the Citizens cannot credibly threaten revolution, as the destruction wrought makes them better off under autocracy. When μ is low, conversely, the Citizens can credibly threaten revolution, constraining the Elites from setting their preferred tax policy. Instead, the Elites must move toward the preferred policy of the Citizens.

The Elites die if a revolution occurs, so they are always willing to make transfers to avoid it. This imposes a *revolution constraint* in the autocracy state. The tax rate the Elites choose must make autocracy more attractive to the Citizens than revolution. Formally, this implies[34]

$$v^p(A, \mu_t) \geq v^p(R, \mu_t). \tag{6.8}$$

For all values of μ such that $v^p(R, \mu_t) \in [0, v^p(A, \tau^{p*})]$ the revolution can be prevented with one-period taxes and transfers.

When μ is sufficiently low, however, temporary transfers cannot prevent a revolution. The Elites would like to offer the Citizens future taxes and transfers in this situation, but these promises are not credible.[35] If μ returns to a high value, the Elites would no longer find it optimal to follow through on their promises in a Markovian equilibrium.[36] In this

[33] Variation in the cost of revolution μ is a reduced form way of modeling a complex collective action problem that the Citizens must solve to mount a successful revolution. A revolution cannot be successful if just one Citizen wakes up one morning and decides to revolt. She needs others to pose a true threat. Variation in μ, therefore, represents that solving this problem is "hit-or-miss." Explicitly modeling the collective action problem that the Citizens face is beyond the scope of this paper.

[34] I am suppressing the dependence of v^p on τ_t, $\theta^{\mathcal{I}}$, and $\nu^{\mathcal{I}}$.

[35] How credible these promises are depends on the persistence of μ. Only permanent jumps in μ, however, allow for fully credible promises of redistribution.

[36] Path dependent equilibria do exist and could make future promises of redistribution credible for lower values of μ. I do not examine them in this paper. Acemoglu and Robinson (2006) analyze these equilibria and

case, the Elites' only option is to extend voting rights to the Citizens, ushering in democracy. Democracy acts as a commitment device. It makes promises of future redistribution credible by making the more numerous Citizens the median voter. This effectively grants them power over all future tax policy decisions, since once the economy becomes a democracy it remains that way forever. As such, the present value of the Citizens' utility (once again, scaled by the average income at time t) is[37]

$$v^p(D) = \left(\frac{1-\beta}{1-\beta^\star}\right)^{\frac{1}{1-1/\psi}} \hat{y}^p(\tau^{p*}, \theta^D, \nu^D) \tag{6.9}$$

which is the expected present value of receiving the maximum transfer income in each period under Epstein and Zin utility. The ability to concede democracy prevents the revolution for all values of μ such that $v^p(R, \mu_t) \in (v^p(A, \tau^{p*}), v^p(D)]$. The lowest value of μ where the revolution can be prevented by conceding democracy is

$$\mu^D = 1 - (1-\delta)\hat{y}^p(\tau^{p*}, \theta^D, \nu^D). \tag{6.10}$$

Finally, if $v^p(R, \mu_t) > v^p(D)$, the Elites can do nothing to prevent a revolution, because the Citizens are better off revolting than accepting democracy. In the special case of this economy I solve, however, I only examine cases where $\mu \in [\mu^D, 1]$. The action regions and their associated thresholds are shown in Appendix Figure E.12.

Political environment as a game The political environment can be modeled formally as a game. The order of the decisions is as follows (with mathematical notation in parentheses):

1. Nature reveals the cost of revolution (μ_t) to both the Elites and the Citizens.
2. The Elites choose to either concede democracy ($\phi_t = 1$) or keep autocracy ($\phi_t = 0$).
3. Both the Elites and Citizens choose the tax rate (τ_t^i) they want to implement. If the society is an autocracy, then the tax rate chosen by the Elites is implemented. If the society is a democracy then the tax rate chosen by the Citizens is implemented.
4. The Citizens, after observing the tax rate, choose to revolt ($\rho_t = 1$) or not revolt ($\rho_t = 0$).

find that they do not change the overall conclusions of the model.

[37] By assumption, $v^p(D)$ does not depend on μ_t. This is akin to saying that democratization prevents all future revolutions.

The choice set of the Elites in time t is given by $\{\tau_t^r(\mu_t), \phi_t(\mu_t)\}$ where their chosen tax rate and the choice of whether to concede democracy are functions of the cost of a revolution. Further, if $\phi_t = 1$ then $\phi_{t+s} = 1$ for $s > 0$, meaning that once democracy is conceded, it is conceded forever.

The choice set of the Citizens in time t is given by $\{\tau_t(\phi_t), \rho_t(\mu_t, \phi_t)\}$ where their chosen tax rate and the choice to revolt are functions of the political institutions in place and the cost of a revolution. Further, if $\rho_t = 1$ then $\rho_{t+s} = 1$ for $s > 0$, meaning if the revolution occurs, its effects are permanent.

Stochastic process for μ The cost of revolution μ evolves according to a three-state, Markov process with the transition matrix

$$\mathbf{P} = \begin{pmatrix} p_{11} & p_{12} & p_{13} \\ p_{21} & p_{22} & p_{23} \\ p_{31} & p_{32} & p_{33} \end{pmatrix} = \begin{pmatrix} 0.99 & 0.01 & 0.00 \\ 0.06 & 0.88 & 0.06 \\ 0.00 & 0.00 & 1.00 \end{pmatrix}, \tag{6.11}$$

where $\mu^1 = \mu^2 = \mu^A$ and $\mu^3 = \mu^D$. The calibrated probabilities of transition are shown after the second equality. These probabilities are calibrated to match (1) the probability of starting a democratization in any given year of 1%, (2) a 50% success rate of democratizations, and (3) an average democratization length of 8.5 years.

In the first state, the *autocracy state*, the Elites do not face an immediate revolutionary threat. This is because there is no chance of moving to the third state when in the first state.

In the second state, the *democratization state*, the Elites could now face a major revolutionary threat in the next period, with μ having a 6% chance of being equal to μ^D in $t + 1$. If this comes to pass, then all the Elites can do to prevent a revolution is to concede democracy. That said, there is also an equal probability that the democratization will fail, returning the economy to autocracy. This is the key reason why democratizations affect the risk premia: it is uncertain whether they will succeed or fail.

This uncertainty over the success or failure is present in the data. Just over 52% of democratizations fail, meaning society does not become a democracy after the initial rise in democratic institutions.

In the third state, the revolutionary threat realizes and the Elites concede democracy. Note, that while there is no chance of returning back to the democratization state, this proba-

bility is immaterial.[38] When democracy is conceded, it is an absorbing state, so the state variable μ becomes irrelevant. The model is parameterized to produce a democratic transition in the final state, but more general calibrations which lead to either an autocratic equilibrium or revolution are possible. These generalizations are discussed in Appendix E.2.

Equilibrium I consider Markov perfect equilibria, meaning that all strategies must be a best response and can only depend on the current state, not the history of past states. A Markov perfect equilibrium consists of a choice set for the Elites and the Citizens for each combination of state variables (namely, the current value of μ and political institutions from the previous period). But, all of the consequential choices take place in autocracy. If the revolution occurs, taxes are always zero, since everyone is equal and taxation is costly. In democracy, the Citizens preferred tax rate is always chosen. Based on the assumed process for μ, the only equilibrium to the political game is for the economy to be an autocracy in states 1 and 2 and transition to democracy in state 3. In the case, taxes will be equal to $\tau_t \in [0, \tau^{p*}]$ in the first two states and equal to τ^{p*} in the last state. A revolution never occurs in equilibrium under this calibration.

6.1 Asset pricing implications

Since the Elites are worse off in democracy, an increase in its likelihood increases the risk premium. The rise in the risk premium relates to three things, conditional upon a success: (1) the fall in Elite consumption, (2) the drop in the cashflow of the dividend claim, and (3) how much uncertainty there is about these two quantities.

Elite consumption process The transition from autocracy to democracy acts like a "rare disaster" for the Elite investors. This can be seen by examining the consumption process for the Elites:

$$\left(\frac{C^r_{t+1}}{C^r_t}\right) = \left(\frac{Y_{t+1}}{Y_t}\right)\chi_{t+1} \tag{6.12}$$

[38] While this probability is not material because transitions are permanent, setting it to 1 does help in some ways. Below, I add uncertainty over the level of redistribution. If this probability were not equal to 1, then the Citizen may prefer the option of waiting for the "high redistribution" state. That said, there are values of p_{33} lower than 1 that prevent this. In particular, this is the case if the Citizens have a positive discount rate and the low redistribution state offers more redistribution than autocracy, both of which are true in my calibration.

Also, it is important to note that having $p_{33} = 1$ does not imply the Citizens are indifferent between autocracy and democracy. This is because of the other forms of redistribution that democracy brings.

where

$$\chi_{t+1} \equiv \begin{cases} \frac{\hat{y}_t^r(\tau^{p*}(\theta^D))}{\hat{y}_t^r(\tau_t)} < 1 & \text{if } \phi_t = 1; \phi_{t-1} = 0 \\ 1 & \text{otherwise} \end{cases}. \tag{6.13}$$

Movement along the Markov chain for μ mimics variation in the disaster probability, similar to Gabaix (2012) and Wachter (2013). This means that as a permanent transition to democracy becomes more likely, risk premia and dividend yields rise. Qualitatively, this allows the model to match the increase in dividend yields observed in the data.

The dividend claim I model the dividend claim as the set of incumbent firms in autocracy. These firms receive all profits in the autocratic economy. When democracy comes, barriers to entry fall and these firms lose a fraction ξ of their profits to new entrants. The growth rate of dividends is given by,

$$\frac{D_{t+1}}{D_t} \equiv \left(\frac{Y_{t+1}}{Y_t}\right)^{\Upsilon} \chi_{t+1}^D \tag{6.14}$$

with χ_{t+1}^D representing the "disaster term" for the dividend claim

$$\chi_{t+1}^D \equiv \begin{cases} \left(\frac{1-\tau_{Div}^D}{1-\tau_{Div}^A}\right)\xi < 1 & \text{if } \phi_t = 1; \phi_{t-1} = 0 \\ 1 & \text{otherwise} \end{cases} \tag{6.15}$$

where $\tau_{Div}^{\mathcal{I}}$ is the exogenously determined dividend tax rate in either autocracy or democracy.

There are two benefits to modeling the dividend claim in this way. First, it enjoys support in the data. Section 5 provides evidence that economic competition increases during successful democratizations. Pro-competitive regulation rises as does net entry of publicly-traded firms.

Second, the data do not suggest there is a large decline in aggregate dividends after successful democratizations. Since dividends are merely redistributed to new entrants and not destroyed, the aggregate level of dividends need not decline. In essence, this is a reduced form way of modeling the displacement risk described in Gârleanu, Kogan and Panageas (2012).

Uncertain redistribution The amount of redistribution that occurs post-democratization is also uncertain. Some democratizations are captured by elites while others cater more to the general citizenry. This is sometimes true within a democratization, as pointed out by Hinnerich and Pettersson-Lidbom (2014) in the case of Sweden. To model this, I allow for

each component of redistribution to have a "high" and "low" state. This is represented by two sets of parameters $\{\mu^{DH}, \theta^{DH}, \nu^{DH}, \xi^{H}, \omega^{H}\}$ and $\{\mu^{DH}, \theta^{DL}, \nu^{DL}, \xi^{L}, \omega^{L}\}$ that realize with probability q and $1-q$.[39]

The two sets of parameters are constructed by taking a mean preserving spread over the average change in each parameter going from autocracy to democracy. For example, for the inequality parameter θ, this implies that

$$\theta^{DH} = \theta^{A} - \left(\frac{\aleph}{q}\right)(\theta^{A} - \theta^{D})$$
$$\theta^{DL} = \theta^{A} - \left(\frac{1-\aleph}{1-q}\right)(\theta^{A} - \theta^{D})$$

where $\theta^{D} \equiv q\theta^{DH} + (1-q)\theta^{DL}$ is the average change in inequality when moving from autocracy to democracy and $\aleph$ is the fraction of the effect attributed to the high redistribution state. If $\aleph > q$, then there is uncertainty in the amount of redistribution.

For the two values of μ, however, this rule does not apply. These are given by equating Equations (6.7) and (6.9) under both sets of parameters.

6.2 Calibration

I calibrate the model using a combination of data moments from various data sources, the reduced form estimates from above, and prior work in asset pricing and political economy. The parameter values and their sources are outlined in Table 9.

The growth and volatility of income are set to match the growth process for GDP per capita in autocracies. The autocracy designation comes from V-Dem.

Inequality in autocracy θ^{A} matches the average pretax Gini coefficient at the start of a successful democratization. When there are two income groups, the pretax Gini coefficient is equal to $\theta^{A} - \delta$ or the income share less the number of agents in that group. To calibrate this, I assume that the elites constitute 7% of the population. This matches, for example, estimates of the portion of Chinese citizens that are members of the Chinese Communist Party (Tian, 2021). Inequality in democracy θ^{D} is set to match the estimates from Section 5. However, both the decline in the Gini coefficient and the rise in the labor share map to the reduction in θ. This is because θ would also be equal to the capital share in an economy with Cobb-Douglass production. Therefore, θ^{D} is calibrated to match the average of the change in these two series.

[39] Changes in ω allow the tax rate to vary without having to model the potential for Elite capture in democracy.

Table 9: Model calibration

This table shows the calibration of the parameters in the model. A description of the moment matched and the source of the data or parameter value are provided alongside the calibrated value.

Parameter	Value	Description	Source
Lucas Tree:			
$\bar{y}$	0.014	Income growth	Maddison Historical Statistics
σ_y	0.073	Income standard deviation	Maddison Historical Statistics
Inequality parameters:			
θ^A	0.526	Inequality in autocracy	SWIID
θ^D	0.481	Avg. Inequality in democracy	Author estimation
ν^A	0.354	Rent diversion in autocracy	V-Dem
ν^D	0.296	Avg. rent diversion in democracy	Author estimation
δ	0.07	Fraction of elites	Tian (2021)
τ^A	0.175	Tax rate in autocracy	Autocracy Gov. Rev.-GDP ratio
ω	2.05	Avg. democracy taxation cost	Democracy Gov. Rev.-GDP ratio
Dividend claim:			
Υ	2.60	Leverage of dividend claim	Wachter (2013)
τ^D_{Div}	0.30	Dividend tax in democracy	Genschel et al. (2016)
ξ	0.23	Incumbent disadvantage	Fisman (2001)
Uncertainty parameters:			
q	0.44	Likelihood of high redistribution	Author estimation
$\aleph$	0.82	Redistribution in high state	Author estimation
Preference parameters:			
β	0.9675	Subjective discount rate	Match PD ratio in autocracy
γ	6	Relative risk aversion	Catherine (2022)
ψ	1.5	IES	Bansal et al. (2010)

The rent diversion parameter in autocracy ν^A matches the average V-Dem corruption index for countries that start a successful democratization which is quoted on a scale of 0 to 1.[40] Rent diversion in democracy matches the reduction in the corruption index from Section 5. The tax rate in autocracy is equivalent to the tax revenue-GDP ratio for countries that start a successful democratization, equal to 17.5%. This is achieved by setting the parameter μ^A. The cost of raising tax revenue ω matches the average 4.8 percentage point increase in government revenue-GDP ratios from Section 5.

The leverage of the dividend claim Υ is from Wachter (2013). The increase in dividend taxes is set to the difference in corporate taxes between autocracies and large democracies reported in Genschel, Lierse and Seelkopf (2016), approximately 10%. The loss of market share for incumbent firms ξ matches evidence from Fisman (2001), who find a 24% reduction

[40]This is done in lieu of estimates of the portion of government spending that goes to the elites, a reliable source for which does not exist to my knowledge.

in connected firm value after the fall of the Suharto regime in Indonesia.

The uncertainty parameters match the results from Appendix D.2. This section reports that realized transitions into liberal democracies have a nearly 6 times larger decline in prices than other successful transitions. The $\aleph$ parameter is set such that the capital losses from entering the high and low redistribution state match this. The q parameter is set to 44%, the portion of liberal democratizations in total successful democratizations.

Finally, relative risk aversion and the EIS and taken from Catherine (2022) and Bansal, Kiku and Yaron (2010). The subjective rate of discount β matches the average dividend yield in autocracies, 0.05.

6.3 Model results

Table 10 presents the results of the model and calibration exercise. Panel A shows that the Elites face an 11.6% decline in consumption as a result of democratization. This is mainly driven by an increase in inequality, since this is a pure reduction in Elite consumption. The other two hits to Elite consumption are the increase in taxes and the reduction in the Elites' ability to skim additional income from the government.

Panel B shows that after accounting for all of these channels—and combining the with reduced cashflows coming from increased competition and higher dividend taxes—the democratization state generates a 19.1% increase in dividend yields. This is slightly smaller than the data results with country and year fixed effects. This means that risk over future redistribution can explain nearly all of the rise in dividend yields seen in democratizations.

Panel C breaks down the relative importance of rising risk premia and declining expected cashflows and riskfree rates for the results. To do this, I take the log change in each component from the autocracy state to the democratization state and divide it by the sum of the log changes. The model suggests that rising risk premia drive the bulk of the rise in dividend yields. Relative to changing expected cashflows, rising risk premia explains just over 60% of the change in dividend yields.[41] That said, the cashflow affects are large, highlighting an important and under-explored channel in democratizations: reductions in barriers to entry.[42]

Finally, Panel D depicts the relative impact of the various redistribution mechanisms in the model. This is done by sequentially incorporating each source of redistribution, be-

[41] Computed as $\frac{82.3}{82.3+51.2} = 61.6\%$.

[42] Note also that riskfree rates fall which *ceteris paribus* lowers the dividend yield. This is mostly driven by the expected reduction in elite consumption coming from reduced inequality, rising taxes, and reduced corruption.

Table 10: Model results

This table shows the the different forms of redistribution, results for the change in the log dividend yield in the model and data, the relative importance of risk premium, cashflow, and riskfree rate effects for rising dividend yields, and the importance of different channels of redistribution for the asset pricing results. The relative importance of the risk premium, expected cashflow growth, and riskfree rates (Panel C) is computed as the log change in each component from State 1 to State 2 divided by the sum of the log changes in all components. The relative importance of each redistribution channel (Panel D) is computed by solving the model adding each form of redistribution sequentially. The change in the dividend yield from adding the component is its percent contribution. I start by adding increased competition, followed by increased taxes and dividend taxes, decreased inequality, and decreased corruption. Uncertain redistribution (i.e. $\aleph > q$) is present in each model solution.

Panel A: Elites cost of democracy		
Inequality reduction $\theta^A - \theta^D$		0.045
Tax increase $\tau^D - \tau^A$		0.048
Corruption reduction $\nu^D - \nu^A$		0.058
Average reduction in Elite consumption (%)		11.6
Panel B: Baseline Model	Model	Data
Dividend yield autocracy	0.05	0.05
Dividend yield democratization	0.06	0.06
Change in dividend yield (%)	19.1	19.8
Panel C: Contribution of different components (%)	Model	
Risk premium	82.3	
Cashflow growth	51.2	
Riskfree rate	-33.5	
Panel D: Contribution of different channels (%)	Model	
Increased competition	41.9	
Increased taxes	24.1	
Decreased inequality	22.5	
Decreased corruption	11.5	

ginning with intensified competition and concluding with reduced corruption. It is crucial, however, that the relationship among these channels is complex. They interact non-linearly, making it challenging to isolate the exact effect of each type of redistribution.

The predominant channel is increased economic competition, accounting for 41.9% of the rise in dividend yields and the majority of the decline in expected cashflow growth. This finding is significant, as increased creative destruction and structural transformation

may elucidate why macroeconomic growth is on average higher following democratizations (Aghion, Alesina and Trebbi, 2008, Aghion, Akcigit and Howitt, 2014, Acemoglu, Naidu, Restrepo and Robinson, 2015, Martinez-Bravo and Wantchekon, 2021). The model demonstrates that greater economic competition is an essential quantitative element in explaining the rise in dividend yields, while maintaining stable aggregate dividend growth.

The remaining 58.1% of the rise in dividend yields is driven by the other standard channels of redistribution: increased taxes, lower inequality, and reduced corruption. Increased taxes come with both a discount rate and cashflow effects, because they effect both Elites income and dividend claim. Lower inequality and reduced corruption, conversely, solely affect dividend yields through discount rates. This is also true of increased uncertainty.

Limitations It is important to note that there are many potential channels that are missing from this analysis that could either enhance or mitigate the results. For example, greater macroeconomic stability and better institutions may tend to raise growth and lower consumption volatility. This would, *ceteris paribus*, lower dividend yields. However, if higher growth is generated by new entrants rather than incumbent firms, this would not affect the results.

Other missing channels, like increased economic and social mobility, would instead enhance the results. Indeed this would be the case for two main reasons. First, as Acemoglu et al. (2015) points out, increased mobility makes it difficult to measure the true decline in Elite consumption, since wealthy Elites are replaced by wealthy Citizens in democracy. This means that the aggregate decline in Elite consumption is actually larger than what the Gini coefficient would indicate. Second, increased social mobility comes with a cross-sectional component in that different Elites may be affected differently. I have ruled out this possibility here, as markets are complete among the Elites. But allowing for some degree of market incompleteness would allow these type of cross-sectional shocks to play a role.

6.4 Autocratic reversals

Section 3 notes a puzzling finding: dividend yields stay constant during autocratizations. Given our theoretical scaffold, one might wonder why they do not decline. This subsection aims to shed light on that.

Consider the idea that democracy is reversible. Should it be worthwhile, the Elites may attempt to overthrow the government and return to autocracy. If they initiate an autocratization, in each period they are successful with probability q, fail with probability q, and the

autocratization continues with probability $1-2q$.

But such a move is fraught with risk. If they fail, they lose a portion of their consumption Z and society remains a democracy forever. The cost Z is known to them at the time of initiating the autocratization. If they succeed, they can undo the redistribution brought on by democracy and society becomes an autocracy forever. This departs from the model above where democratization was a risk *imposed* on the Elites by a revolutionary citizenry. Here, autocratization is a risk *taken* by the Elites to increase future consumption.

The value function of the Elites from undertaking an autocratization is given by (T represents the uncertain "autocratic transition" state)

$$v^r(T,Z_t)^{1-\frac{1}{\psi}} = (1-\beta)(\hat{y}_t(D))^{1-\frac{1}{\psi}} + \beta^\star \mathbb{E}_t\Bigg[q\Big(v^r(D)(1-Z_t)\Big)^{1-\gamma} + (1-2q)v^r(T,Z_t)^{1-\gamma} + qv^r(A,\mu^A)^{1-\gamma}\Bigg]^{\frac{1-\frac{1}{\psi}}{1-\gamma}}. \quad (6.16)$$

The indifference point for the Elites, Z^*, is the point at which Equation (6.9) is equal to Equation (6.16). For autocratizations that occur near this indifference point, there is little effect on the consumption-wealth ratio, as the potential for growth is offset by the increase in risk.

The relationship between the Elite's potential consumption growth and Z^* is plotted in Figure 6. Predictably, the risk they are endogenously willing to take grows with the benefits they receive if they succeed.

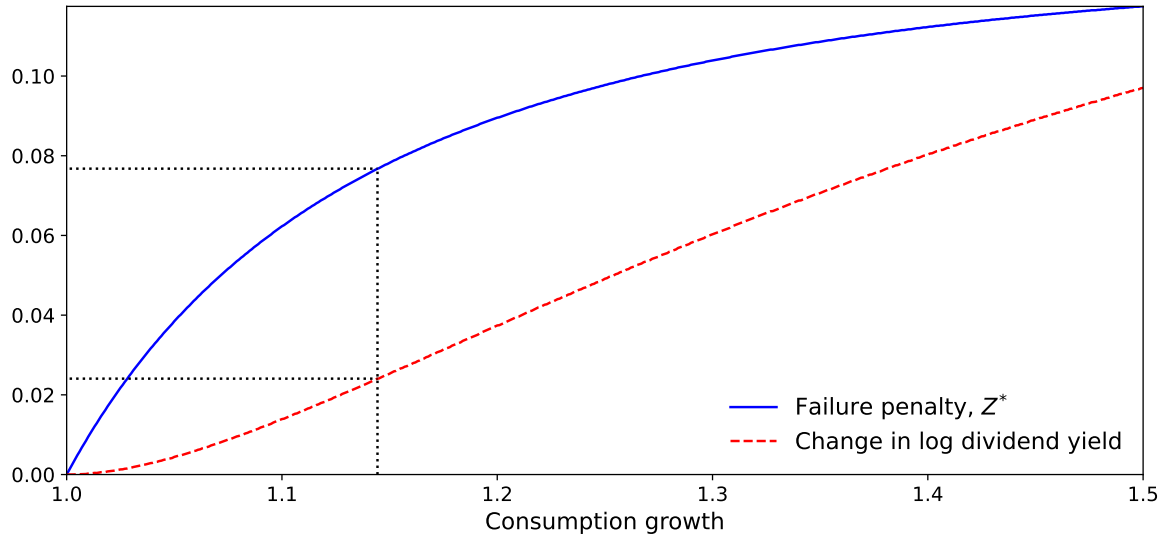
How do dividend yields respond? Figure 6 also plots the change in dividend yields for an autocratization taken at the indifference point. Because the dividend claim is a levered claim to consumption, the increase in risk dominates the higher cashflow growth.[43] This leads to a small increase in dividend yields, approximately 2.4%. This is because increased risk has a larger effect than higher growth on the levered dividend claim. The rise in dividend yields produced in autocratizations is also quite similar to the data. As such, the redistributive model matches both directions of political transitions well.

The model also provides another counter-intuitive result: the larger the benefits to instituting autocracy, the larger the increase in dividend yields for autocratizations attempted near the threshold. This is because of the endogenous response of the Elites to take greater risk in

[43] Here, the dividend yield is modeled purely as a levered claim to consumption. I do not attempt to calibrate the potential anti-competitive effects of a transition to autocracy.

Figure 6: Failure penalty and dividend yields in autocratization

This figure presents the threshold penalty that makes elites indifferent between attempting an autocratization and accepting democracy as a function of the potential consumption growth they can achieve. Also plotted is the change in the dividend yield moving from democracy to autocratization. The results for the parameters implied by the calibration in Table 9 are shown with the dotted line. Consumption growth at this point is approximately 14.4% for the Elites.



autocratizations. As Figure 6 shows, the larger the potential gain, the larger the increase in dividend yields.

7 Conclusion

Evidence from equity markets provides resounding support for redistribution-based models of democratization. Democratizations lower stock valuations and raise risk premia substantially across several proxies in data covering 90 countries over 200 years. These results cannot be explained by increased macroeconomic risk nor do other periods of high political or regime transition risk have the same effect. Exogenous variation coming from a change in Catholic church doctrine confirms that risk premia rise with the probability of a successful democratization.

Redistribution risk can explain these results. In the data, redistribution follows successful democratizations: the size of the public sector and measures of economic competition rise, and income inequality and measures of corruption fall. Moreover, democratizations with higher redistribution risk see a substantially larger rise in risk premia than other democratizations. A redistribution-based model of democratic transitions with asset prices and

incomplete markets can fully explain the results. It can also explain the lack of an asset pricing effect observed in autocratizations.

The analysis highlights several potential channels of redistribution that generate the asset pricing results. That said, in standard macroeconomic models, more redistribution would generally lower growth. This is at odds with empirical evidence that suggests democracy causes higher growth (Acemoglu et al., 2019). Reconciling this disparity would be a natural path for future research. This could help the field to better understand not just periods of democratization, but how policy and political risk affect individual, firm, and government decision making more broadly. It would also illuminate how reduction in barriers to entry relate to economic growth.

Finally, this paper shows that any financial history of the last 200 years that excludes democratizations is incomplete. In doing this, it provides new avenues of study in consumption-based models by focusing on political institutions and how they interact with the distribution of resources. In a model with incomplete markets, redistribution shocks can have large consequences on asset prices. This means that neither an increase in the probability of a large drop in aggregate consumption nor an increase in the volatility of aggregate consumption is necessary for an increase in risk premia. The consumption risk faced by relatively wealthy investors need only be affected. This paves the road for the risk of redistribution to be a primary historical driver of asset prices.

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INTERNET APPENDIX

A Data appendix

A.1 Financial market data

Financial market data come from five main sources: the Global Financial Data (GFD) Main Dataset, the Jorda-Schularik-Taylor Macrohistory Database (JST), the GFD London Stock Exchange (GFD-LSE) Dataset, IBES Global, and Factset International Annual Fiscal data. These data are then combined to construct the longest possible series of valuation ratios, returns, and dividend growth.

Dividend yields Data on dividend yields are available from each of the five sources above. They are directly available in the GFD, JST, and GFD-LSE data. One caveat to this is that the GFD main data sometimes have multiple series for the same country. When this is the case, I always take the series with the longest time series.

To obtain dividend yields from IBES Global, I use the Actuals file. This contains the dividend yield for several country-specific stock indices from 1985 to the present. Here, I also use the index with the longest possible time series in each country. All series with a dividend yield equal to 0 or above 0.50 are dropped.

To obtain dividend yields from the Factset Annual Fiscal file, I obtain a market capitalization weighted average of dividends per share and the price per share for each country-year. I then divide them to obtain the dividend yield. Dividend yields are winsorized at the 1% level. Country-year observations with capital gains in excess of 400% or less than -90% are dropped.

I then construct the longest series possible for *changes* in dividend yields. Take the 5-year change in log dividend yields as an example:

1. I start with changes in dividend yields from GFD's Main Dataset. This provides 4,623 observations.

2. Missing observations are then filled with the JST data. The JST data only covers 17 countries compared to the 73 countries the main GFD dataset covers. This adds 438 additional observations.

3. Other missing observations are then filled in using changes in dividend yields from IBES, then Factset. This yields an additional 307 observations.

4. Finally, I fill in any remaining missing observations with changes in dividend yields from the GFD-LSE data, which adds 435 observations.

The total 5-year change in log dividend yields data have 5,803. This is higher than the number of observations presented in Table 1 because in 216 observations V-Dem does not have electoral democracy index data available when dividend yield data are available. Overall, the data cover 90 countries over 201 years.

This procedure is not used to combine levels of the dividend yield since they vary somewhat across data sources. This means combining them would lead to arbitrary jumps in the series. In plots or tables where the level is presented, I use the main GFD data only.

Equity returns Both the GFD and GFD-LSE data make a total returns and price index series available. From this, total returns (i.e. inclusive of dividends) are given by

$$R_{c,t}^{tot} = \frac{\text{Total Return Index}_{c,t}}{\text{Total Return Index}_{c,t-1}}$$

and capital gains (i.e. excluding dividends) by

$$R_{c,t}^{cap.\ gains} = \frac{\text{Price Index}_{c,t}}{\text{Price Index}_{c,t-1}}.$$

The GFD return series are in downloaded in U.S. dollars and then adjusted for expected U.S. inflation, which is calculated by fitting an AR(1) process to realized inflation, to put them in real terms. Both total returns and capital gains are available in the JST data. These, however, must be converted to U.S. dollars—done using the `xusd` variable—and then adjusted expected U.S. inflation. Total returns from IBES and Factset are obtained by adding the capital gains to the dividend yield.

The combined total returns series is then constructed in a similar way to the dividend yields series. The main difference is that I also fill in missing observations with capital gains data from the main GFD data added to the dividend yield from either the main GFD data or the GFD-LSE data. This is done after adding the JST data and before adding IBES and Factset.

Dividend growth Dividend growth is constructed using the dividend yield and capital gains series,[44] and given by

$$\frac{D_{c,t}}{D_{c,t-1}} = \frac{\text{Dividend Yield}_{c,t}}{\text{Dividend Yield}_{c,t-1}}(R_{c,t}^{cap.\ gains})^{-1}.$$

This gives the exact dividend growth when the price and dividend yield series are aligned. However, in the GFD data, it is not always possible to exactly match the dividend yield and price series to one another. Therefore, the dividend growth series is measured with some noise when using the GFD data. The combined dividend growth series is then obtained using the same procedure used for dividend yields.

Number of publicly traded firms Data on the number of publicly traded firms comes from GFD. There are a total of 3,679 observations of the log change number of publicly traded firms, which is used in Section 5. These data cover a broad cross-section of 107 countries.

Vector autoregression decomposed shocks In Appendix B.2, I present results from a structural approach that uncovers discount rate and cashflow shocks (Campbell, 1991). Assume that discount rates and cash flows follow a vector autoregression (VAR). Realized returns can be decomposed into expected returns and innovations to future expected cash flows and discount rates using the decomposition:

$$r_{t+1} = \mathbb{E}_t r_{t+1} + v_{t+1}^r \tag{A.1}$$

$$v_{t+1}^r = \eta_{t+1}^d - \eta_{t+1}^r \tag{A.2}$$

where

$$\eta_{t+1}^r \equiv (\mathbb{E}_{t+1} - \mathbb{E}_t)\sum_{j=1}^{\infty}\rho^j r_{t+1+j} \tag{A.3}$$

are discount rate shocks,

$$\eta_{t+1}^d \equiv (\mathbb{E}_{t+1} - \mathbb{E}_t)\sum_{j=1}^{\infty}\rho^{j-1}\Delta d_{t+j} \tag{A.4}$$

are cash flow shocks and $\rho \equiv \frac{\overline{pd}}{1+\exp\{\overline{pd}\}}$ as in Campbell and Shiller (1988) where $\overline{pd}$ is the average log price-dividend ratio. The discount rate and cash flow shocks given in Equations

[44] The exception to this is the IBES global data, where dividend growth can be computed directly.

(A.3) and (A.4) can be estimated directly by assuming a process for discount rates and cashflows. To do this, I assume a first-order VAR structure for log cum-dividend returns, dividend growth, consumption growth, government bond yields, and capital gains given by

$$\tilde{\mathbf{X}}_{t+1} = \mathbf{\Phi}\tilde{\mathbf{X}}_t + \mathbf{w}_{t+1} \tag{A.5}$$

where $\tilde{\mathbf{X}}_t = \mathbf{X}_t - \bar{\mathbf{X}}$ and $\mathbf{X}_t$ is the data vector with cum-dividend returns, r_t, in the first position.[45] Now, define $\mathbf{e}_1$ as an elementary column vector with a 1 in the first position and 0s elsewhere, meaning that Equation (A.2) can be written as $v^r_{t+1} = \mathbf{e}_1'\mathbf{w}_{t+1}$. Under the assumed VAR structure, Equation (A.3) becomes

$$\eta^r_{t+1} = \lambda'\mathbf{w}_{t+1}. \tag{A.6}$$

where $\lambda' \equiv \mathbf{e}_1'\rho\mathbf{\Phi}(\mathbf{I} - \rho\mathbf{\Phi})^{-1}$. Combining Equations (A.2) and (A.6) gives the cashflow shock as

$$\eta^d_{t+1} = (\mathbf{e}_1' + \lambda')\mathbf{w}_{t+1}. \tag{A.7}$$

The cashflow and discount rate shocks are, therefore, immediately given after estimating the VAR coefficients and residuals.

Price-earnings ratios Data on price-earnings ratios are also available from GFD for 74 countries over the last 84 years. Results using these data are presented in Appendix B.2.

Fixed income Data on corporate bond yields are also used and come from one data source, the GFD main dataset. This series covers 21 countries over 164 years. These results are also reported in Appendix B.2.

A.2 Macroeconomic data

Growth Data on GDP per capita come from Maddison Historical Statistics. These data provide both GDP per capita and population for 163 countries with data that extends back to the Roman Empire. This paper uses the 2020 updated version of the data which are available up to 2018. This version of the data differ slightly from the methodology used from the Penn World Tables. However, results using both datasets are broadly similar. Data on consumption come from the Penn World Tables. These data cover 164 countries since

[45] To estimate the vector autoregression, I use the combination of control variables that give the largest sample. For example, if I have 100 cum-dividend returns observations, 100 dividend growth observations, and 80 riskfree rate observations, I will estimate the VAR using only cum-dividend returns and dividend growth.

1950. Real consumption at constant 2017 national prices are used.

Inflation Inflation data come from the GFD main dataset, the JST data, and the Varieties of Democracy (V-Dem) database. The aggregate series is created by taking an equal weighted average over all these series. These data are used as controls in some specifications.

Government revenue Government spending-GDP ratios come from GFD. These data cover 56 countries over 200 years. Coverage for most countries begins in 1950. Tax revenue-GDP ratios come from the Relative Political Capacity Dataset. These data cover 171 countries from 1960 on. These data use a combination of methods to estimate tax revenue to GDP ratios, relying on data on exports, agricultural revenue, mining revenue, the level of economic development, and GDP per capita.

Inequality and factor shares Data on Gini coefficients come from Solt (2020), who produces the Standardized World Income Inequality Database (SWIID). These data maximize the comparability of income inequality measures while still maintaining good coverage in the cross-section. The SWIID data cover 163 countries from 1960 to 2018. Labor share data comes from the Penn World Tables (PWT). This paper uses the labor share from labor compensation of employees (*comp_sh*).

Net foreign direct investment Data on net foreign direct investment (FDI) scaled by GDP come from the World Bank's World Development Indicators. Net FDI is given by

$$\text{Net FDI}_{c,t} = \text{Foreign Capital Inflows}_{c,t} - \text{Foreign Capital Outflows}_{c,t}. \tag{A.8}$$

These data cover most countries after 1977.

Investment and capital stock Data on investment and the capital stock come from the Penn World Tables (PWT). This paper constructs investment and the capital stock at current national prices using the "Capital detail" file. Investment is given by

$$\text{Ic}_{ct} = \text{Ic\_Struc}_{ct} + \text{Ic\_Mach}_{ct} + \text{Ic\_TraEq}_{ct} + \text{Ic\_Other}_{ct} \tag{A.9}$$

and the capital stock by

$$\text{Nc}_{ct} = \text{Nc\_Struc}_{ct} + \text{Nc\_Mach}_{ct} + \text{Nc\_TraEq}_{ct} + \text{Nc\_Other}_{ct}. \tag{A.10}$$

Investment capital ratios are computed by dividing the two series. These are used in Appendix Figure B.2.

Human capital Data on human capital come from the PWT Human Capital Index. These data use information on years of schooling the return to education from the prior literature. These results are also presented in Appendix Figure B.2.

A.3 Political institutions data

A.3.1 V-Dem indices

This section provides information on each of the different series used in the paper from the V-Dem database. That said, the construction of these series is quite complex. Interested readers should see Coppedge et al. (2020) for a more detailed explanation.

1. Electoral democracy index (*v2x_polyarchy*): measures the extent to which electoral democracy is achieved. It is formed by taking a combination of indices measuring freedom of association, how clean elections are, freedom of expression, the extent to which officials are elected, and the fraction of individuals that can vote.

2. Regimes of the world (*v2x_regime*): groups regimes into one of four categories—(0) closed autocracy, (1) electoral autocracy, (2) electoral democracy, and (3) liberal democracy. In Section 4, autocracies are countries denoted as either a closed autocracy or electoral autocracy.

3. Regime information (*v2reginfo*): name of the regime currently in power. This can be used to determine when the regime changes.

4. Physical violence index (*v2x_clphy*): how free are people from political killings and torture by the government? This measure is transformed in the paper by multiplying by negative 1 and then adding 1.

5. Political violence (*v2caviol*): how often have non-state actors used political violence against persons this year? This is rated on a scale of 0 to 4. This measure is transformed in the paper such that it is between 0 and 1.

6. Mass mobilizations (*v2cagenmob*): in this year, how frequent and large have events of mass mobilization been? This is rated on a scale of 0 to 4.

7. Mass mobilizations for democracy (*v2cademmob*): in this year, how frequent and large have events of mass mobilization for pro-democratic aims been? This is rated on a scale of 0 to 4.

8. Civil society organization anti-system movements (*v2csantimv*): among civil society organizations, are there anti-system opposition movements? This is rated on a scale of 0 to 4.

9. Civil society organization anti-system movement character—Leftist, socialist, communist (*v2csanmvch_4*): Would you characterize the anti-system movement(s) identified in the previous question as democratic? Answer is 0 or 1.

10. Civil society organization anti-system movement character—Leftist, socialist, communist (v2csanmvch_6): Would you characterize the anti-system movement(s) identified in the previous question as leftist, socialist, or communist? Answer is 0 or 1.

11. Equal distribution of resources index (*v2xeg_eqdr*): how equal is the distribution of resources? This measure is transformed in the paper by multiplying by negative 1 and then adding 1.

12. Public sector corruption index (*v2x_pubcorr*): To what extent do public sector employees grant favors in exchange for bribes, kickbacks, or other material inducements, and how often do they steal, embezzle, or misappropriate public funds or other state resources for personal or family use?

13. Executive bribery and corrupt exchanges (*v2exbribe*): How routinely do members of the executive (the head of state, the head of government, and cabinet ministers), or their agents, grant favors in exchange for bribes, kickbacks, or other material inducements? This measure is transformed in the paper such that it is between 0 and 1.

A.3.2 Other data on political institutions

Catholic population Data on the portion of the population that is Catholic come from the World Religion Project (WRP) produced by Maoz and Henderson (2013). These data are available every five years. I linearly interpolate to fill between years. Data for Hong Kong is not available, so these observations are filled in with the data from China. For all countries, I backfill the earliest observation back to 1939. This is not much of a stretch. Since the

portion of the population that is Catholic is stable, later observations are fine for determining whether a country is majority Catholic.

Other democratization measures In addition to the ERT data, I also extend the measure of democratic transitions from Acemoglu et al. (2019). For the years from 1960–2010, I use data directly from Acemoglu et al.. These data are constructed using consensus transitions from Polity IV and Freedom House regime type datasets. Prior to 1972, when the Freedom House data end, these authors rely on other regime type measures and independent historical research. For episodes prior to 1960, I fill in these data using a similar methodology. Since both Polity and V-Dem provide data back to the 1800s, I extend the Acemoglu dataset using consensus transition years in both dataset. This procedure provides 32 total transition years for which asset pricing data are available.

Economic Freedom Index Data on the extent government regulation contributes to a competitive business sector comes from the Fraser Institute. In particular, I use measure 5C of their Economic Freedom Index. This is a composite measure that combines several measures related to the level of government regulation and its impact on private business, the degree to which the government exercises favoritism, and the level of tax complexity.

A.3.3 Episodes of Regime Transformation data

The main source used to locate democratization episodes are the Episodes of Regime Transformation (ERT) data. These data use changes in the electoral democracy index (EDI) from the Varieties of Democracy (V-Dem) project to determine the start and end years of democratizations. V-Dem creates the EDI by surveying over 3,500 country-level experts and asking "to what extent is the ideal of electoral democracy in its fullest sense achieved." This is done in practice by combining information on the level of freedom of association, to what extend elections are free and fair, the level of freedom of expression, to what extent government officials are elected, and by examining the proportion of individuals in the country with voting rights. V-Dem then combines these 5 index categories both additively and using a five-way multiplicative interaction to produce a continuous index from 0 to 1.

The ERT data locate democratization episodes using the EDI according to two main criteria. First, a democratization episode must begin with at least a 0.01 increase in the EDI. Second, the episode must have at least a 0.10 increase in the EDI before experiencing (1) an annual drop in the EDI of 0.03, (2) a cumulative drop in the EDI of 0.10, or a stasis period of 5-years or longer. A stasis period is defined as a period where no years see at least a 0.01

increase in the EDI. The end year of a democratization is determined as the final year prior to when the annual or cumulative decline threshold or the stasis period condition is met. V-Dem produces these data from 1900– 2018. To extend the data to cover my full sample, I use an identical procedure on the subset of countries V-Dem provides the EDI prior to 1900. This yields 10 additional democratization episodes. In addition to providing democratization dates, the ERT data also provide information on autocratization episodes too. This is done by using an identical procedure to create the democratization indicators, but using 1 minus the EDI.

Successful and failed democratizations are determined using the aggregate democratization outcome (dem_ep_outcome_agg) variable. This measure yields four potential outcomes: (1) democratic transition, (2) no democratic transition, (3) deepened democracy, or (4) outcome censored. A democratization is coded as a democratic transition if "the episode resulted in a change from autocracy to democracy on the [regimes of the world] measure followed by a democratic founding election." A democratization is coded with no democratic transition if "the episode did not result in a change from autocracy to democracy on the [regimes of the world] measure; or it did result in a change between democracy and autocracy on the [regimes of the world] measure, but the political unit did not hold a democratic founding election before reverting to autocracy." A democratization is coded as a democratic deepening if "the episode resulted in further liberalization or democratization of a political unit that was already classified as democracy in the pre-episode year." A democratization is coded as censored if the episode is ongoing in the final year of the data. Both democratic transition and democratic deepening episodes are coded as successful democratizations whereas episodes without a democratic transition are coded as failed.

A list of the democratization episodes used for the asset pricing results is presented in Table G.17. Alongside this table is a discussion of 2 case studies of the democratization process, subsequent redistribution, and stock market impact of the democratization events. These case studies focus on the democratic transition in Sweden from 1917–1924 (Appendix F.1) and the failed democratization in France from 1847–1852 (Appendix F.2).

A.4 Events data

Data on adverse events that affect asset prices come from a variety of sources. These are used mainly as controls in the regressions in the main paper as well as in the robustness checks in the appendix sections below.

Financial Crises Data on financial crises come from from two sources. The first is the Jorda-Schularik-Taylor macrohistory database. These data cover 17 developed countries from 1870 to the present. The second source comes from Reinhart and Rogoff (2009). Dates of various crisis has been pulled from Carmen Reinhart's website, which is primarily using the methodology of Reinhart-Rogoff financial crises. Financial crisis data are available for 70 countries and is provided annually from 1800 to 2010.

Wars War data come from the Correlates of War (COW) Project. The COW project provides data on the start and end years of wars for 218 countries from 1816–2007 (the post-Napoleonic period). The COW Project defines war as being "sustained combat, involving organized armed forces, resulting in a minimum of 1,000 battle related fatalities." I use data on three types of wars: inter-state wars, extra-state wars, and intra-state wars. When controlling for wars in regressions, each of these war types are combined into a single binary variable.

The COW Project also provides data on militarized interstate disputes (MIDs) for 199 countries from 1816–2014. The COW Project defines militarized interstate disputes as "united historical cases of conflict in which the threat, display or use of military force short of war by one member state is explicitly directed towards the government, official representatives, official forces, property, or territory of another state." The data categorize the disputes by the highest action taken. The action range on a scale from 0 to 21. Some examples of the categories include: no militarized action (0); threat to declare war (4); mobilization (10); seizure (15); declaration of war (18); and join interstate war (21). A full list of the categories can be found in Palmer et al. (2020). This variable is included as a control in regressions.

Sovereign defaults Reinhart and Rogoff (2009) collect data on external sovereign defaults from 1800–2008. They provide both the start year and the duration of the default. These data cover 125 countries.

Recessions Data on recessions come from GFD. These data cover 39 countries since 1816. Because the coverage for this series is low, GDP growth is also included as a control in specification (6) of all regressions with dividend yields.

Head of government deaths Head of government deaths come from three sources. The first are from Jones and Olken (2009) who provide data on attempted and successful assassinations. These data cover 90 countries from 1875–2003. These data are supplemented with data from V-Dem, who take head of government and head of state deaths from WorldStates-

men.org. I additionally supplement these data with deaths from Wikipedia. Putting the data together gives 300 deaths across 105 countries what extend back to 1827 with the death of Prime Minister George Canning.

Coups Data on coups come from Przeworski (2013). These data cover the period 1816 to 2008. 103 countries in the sample experience a *coup d'etat*.

Regime changes Data on regime changes are constructed using the V-Dem regime information and the coups information described in the preceding paragraph. Whenever a regime changes or a coup occurs, the regime change variable is assigned 1 in the start year of the new regime. For the results in Section 3.2, all regime changes that occur during an ICB crisis, autocratization or democratization are excluded. Also excluded are regime changes that occur during wars and sovereign defaults, to maintain consistency with the democratization variable.

ICB crises Data on international political crises come from the International Crisis Behavior (ICB) Project. This paper uses Version 12. The data includes information relating to all crises occurring from 1918 to 2013. The data includes the trigger date and termination dates of the conflicts. The trigger data is used at the start date. ICB crises are assigned to countries based on their involvement. Further information can be found in Brecher et al. (2017).

ICB crises are varied and represent most local political crises that spillover into the international community. Examples of prominent crises in the data are the Russian Civil War, the 1917 Costa Rican coup, the start of the Israel-Palestine conflict, the Chinese Civil War, the Cuban Missile Crisis, and many others. All parties involved in the conflict are assigned a value of 1 in the results above. Similar to regime changes, for the results in Section 3.2, all international political crises that occur during an autocratization or democratization are excluded. Also excluded are international political crises that occur during wars and sovereign defaults, to maintain consistency with the democratization variable.

B Stylized facts appendix

This section presents additional evidence that risk premia are elevated during periods of democratization and robustness results on the stylized facts included in the paper.

B.1 Democratizations during defaults and wars

As discussed in Section 3 the change in the dividend yield will be a downward biased proxy for the change in the risk premium if there are temporary shocks to the level of divi-

Table B.1: Dividend growth in adverse democratizations

This table presents regressions for the cumulative 3 year change in log dividends and log prices around adverse democratizations, defined as democratizations that begin in a country fighting in a war on their own continent or are engaged in a sovereign default. Results are shown in a three-year window around the adverse democratization start and then reported for the remainder of the democratization after the start in the final column. Standard errors are clustered by country and year and are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Three-year change in log dividends		Three-year change in log prices	
	(1)	(2)	(3)	(4)
Adverse Democratization Start, Year Prior	-50.55**	-42.74**	-28.71**	-29.31***
	(22.66)	(19.61)	(14.34)	(10.73)
Adverse Democratization Start	-52.49***	-39.11**	-14.12	-8.51
	(18.09)	(16.05)	(17.07)	(12.57)
Adverse Democratization Start, Year After	-33.31*	-23.46	-5.10	5.39
	(18.70)	(19.81)	(19.35)	(15.53)
Adverse Democratization After Start	15.94**	16.28**	9.31	5.53
	(6.29)	(7.46)	(7.66)	(6.76)
Country FE	No	Yes	No	Yes
Year FE	No	Yes	No	Yes
R^2	0.01	0.21	0.00	0.40
Observations	5,464	5,464	5,464	5,464

dends that quickly rebound. Table B.1 shows that this condition holds for the subset of democratizations that occur when an interstate war is happening within that country or during a sovereign default episode.[46] Dividends drop by nearly 50% at the start of these "adverse" democratizations. However, this drop is reversed over the remainder of the democratization, which sees 5.3% higher average dividend growth annually.[47] This means that the change in dividend yields during these episodes reflects both the change in the risk premium and the speed with which investors expect cashflows to rebound.

Some "back-of-the-envelope math" suggests that discount rates rise during these episodes. According to Gonçalves (2022), approximately 50% of the variation in the aggregate price-dividend ratio in the United States from 1953–2019 comes from cashflows in the first 20 years. Over that time, the United States had an average dividend yield of approximately

[46]The observation numbers differ from the main text because it is not always possible to locate consistent price data from GFD when dividend yield data are available. This leads some observations to be lost.

[47]It is also worth noting that wars inside of a country and sovereign default episodes display a similar pattern both inside and outside democratizations, albeit with a smaller decline and subsequent rebound than those that co-occur with democratizations.

3%, considerably smaller than the dividend yield of 4.8% for the average country three years prior to a democratization. Adjusting his numbers would imply that approximately 40% of the price-dividend ratio comes from the first 10 years of cashflows in countries undergoing an adverse democratization. This implies that the expected growth rate at the start of an adverse democratization is approximately $0.40 \times 5.3\% = 2.1\%$ higher than it is in normal times. Given an average dividend yield of 5% prior to a democratization, this implies that, in the absence of a change in discount rates, that the log dividend yield should have fallen by 0.55, much larger than the 0.25 decline observed in the data over 5 years. This difference leaves room for an increase in discount rates of 1-1.5 percentage points, similar in magnitude to the other democratizations reported in the main text.

B.2 Robustness on the rise in risk premia during democratizations

This section presents various robustness checks for the results presented in Section 3.1. There are three categories of robustness checks: (1) using different measures of democratizations, (2) using different transformations of the dividend yield, and (3) using different proxies for the change in the risk premium.

Other measures of democratization Panel A of Table B.2 presents the results for 6 different methods of determining democratizations.[48] Row (1) presents the results for the ERT data without an extension to the 19th century. Without the 19th century data, dividend yields rise between 20.5–27.7%.

To address potential concerns over the somewhat small sample size of democratizations from the ERT data, Rows (2) presents the results using the growth rate in the V-Dem electoral democracy index—the continuous 0 to 1 index used to construct the ERT data. The index has substantial variation over time. For example, there are 845 years in the sample where the electoral democracy index rises in excess of 0.01, the threshold value for the beginning of an ERT democratization. Row (2) presents the results regressing the five-year change in log dividend yields on the growth rate in V-Dem's electoral democracy index.[49] To compare the magnitudes across measures, the growth rate is divided by the average growth rate in the V-Dem index during democratizations (approximately 160%). The results are similar to those in the main text with a 21.1–34.4% increase in dividend yields.

[48] Note, for consistency with results in the main text and for the reasons discussed in Section 3 and Appendix B.1 democratizations that occur when a war is happening within that country or during a sovereign default episode are excluded from these tests as well.

[49] The growth rate puts greater emphasis on democratizations occurring in less democratic countries.

Table B.2: Robustness on risk premium results

This table presents 20 robustness checks on the results from Section 3.1. Panel A reports regressions of the 5-year change in log dividend yields on indicator variables representing the start of a democratization for 6 different potential measures of democratization. Panel B presents results for different representations of the change in log dividend yields. Panel C reports results for different proxies for the change in the risk premium. The specification estimated is

$$\text{Outcome}_t = \alpha + \beta \mathbb{1}_{c,t}\{\text{Democratization Start Year}\} + \epsilon_{c,t}$$

where α represents either the coefficient on a vector of ones or various fixed effects. The exception is row (20) in Panel C, where the independent variable represents the middle of the democratization. Standard errors are clustered by country and year. The resulting t-statistics are reported in the parentheses. All coefficients have been multiplied by 100 for presentation. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	(1)		(2)		(3)		(4)		(5)		(6)	
A. Other democratization measures												
(1) ERT only	22.89***	(3.87)	20.52***	(3.42)	22.29***	(3.74)	27.24***	(4.09)	27.70***	(3.23)	26.59***	(3.11)
(2) Index growth rate	22.87***	(2.60)	21.61**	(2.34)	21.14**	(2.13)	29.77**	(2.41)	31.57***	(2.68)	34.40**	(2.17)
(3) Index difference	20.65**	(2.25)	20.28**	(2.09)	16.90	(1.56)	25.37**	(2.41)	26.66**	(2.31)	27.42**	(2.05)
(4) Large democratic jump	11.60**	(2.10)	10.09*	(1.81)	7.49	(1.24)	11.77*	(1.77)	12.12*	(1.86)	12.36*	(1.93)
(5) Lindberg et. al (2018)	29.77***	(2.71)	28.59***	(2.61)	27.73***	(2.85)	38.91***	(2.66)	37.46***	(2.95)	40.45***	(3.04)
(6) Acemoglu et. al (2019)	21.49**	(2.30)	19.86**	(2.07)	22.54**	(2.45)	24.62***	(3.00)	28.52**	(2.48)	25.84**	(2.09)
B. Alternate dividend yield transformations												
(7) 4-year change	20.47**	(2.42)	18.62**	(2.20)	15.81**	(2.13)	16.17**	(2.18)	18.09**	(2.07)	15.29*	(1.79)
(8) 3-year change	18.80***	(3.26)	17.35***	(2.99)	14.80***	(2.68)	17.37***	(2.75)	21.84***	(3.27)	18.59***	(2.81)
(9) 2-year change	13.60**	(2.37)	12.39**	(2.14)	11.50**	(2.23)	12.73***	(2.81)	15.24***	(3.80)	12.84***	(2.85)
(10) 1-year change	10.06**	(2.35)	9.26**	(2.21)	6.85*	(1.78)	8.88**	(2.12)	10.83***	(2.70)	9.06**	(2.08)
(11) Peak-to-trough	14.49*	(1.84)	17.15**	(2.21)	14.32**	(2.45)	18.52***	(2.76)	12.60*	(1.83)	11.51	(1.63)
(12) Peak-to-peak	13.77**	(2.57)	13.96**	(2.55)	10.88**	(2.21)	16.16***	(2.89)	12.70**	(2.12)	12.47**	(2.00)
(13) Maxmimum 5-year change	16.76**	(2.05)	16.18**	(1.98)	18.86***	(2.63)	22.99***	(2.96)	25.45***	(3.26)	26.14***	(3.33)
(14) Level of dividend yield	22.81**	(2.44)	21.36**	(2.29)	13.42**	(1.98)	14.89**	(2.05)	12.72**	(2.14)	13.26**	(2.39)
C. Alternate risk premium measures												
(15) VAR discount rate shocks	4.32**	(2.24)	4.21**	(2.27)	3.59**	(1.96)	4.78**	(2.03)	2.91	(0.95)	2.31	(0.77)
(16) VAR cash flow shocks	-10.27	(-1.01)	-9.02	(-0.90)	-0.48	(-0.06)	-2.81	(-0.39)	0.79	(0.09)	-1.28	(-0.16)
(17) 5-year log P/E ratio change	-18.70	(-1.61)	-18.29*	(-1.68)	-21.13	(-1.38)	-25.56**	(-1.98)	-22.87*	(-1.95)	-20.42*	(-1.73)
(18) Change in equity volatility	6.26**	(2.56)	6.14**	(2.55)	4.64**	(2.16)	3.91*	(1.73)	4.30*	(1.74)	5.17**	(2.06)
(19) log Corporate bond yields	12.69	(1.46)	12.99*	(1.84)	10.91***	(3.28)	14.08**	(2.16)	20.00*	(1.79)	18.06	(1.54)
(20) Average excess returns after start	6.57**	(2.02)	6.22*	(1.91)	4.70*	(1.66)	2.98	(1.15)	1.85	(1.00)	1.73	(0.94)
Country FE	No		No		Yes		Yes		Yes		Yes	
Year FE	No		No		Yes		No		No		No	
Region × Year FE	No		No		No		Yes		No		No	
Continent × Regime × Year FE	No		No		No		No		Yes		Yes	
Event Controls	No		Yes		Yes		Yes		Yes		Yes	
Other Controls	No		No		No		No		No		Yes	

Row (3) presents a similar exercise using the raw change in V-Dem's electoral democracy index. Again, to make the results comparable, the change in the index is divided by 0.326, the average change in the index during a democratization. These results are smaller than the results from using growth rates and point to a 16.9-27.4% change in the dividend yield over 5-years. The smaller magnitudes here make sense since using the raw difference weighs democratizations within existing democracies more heavily.

Row (4) presents the results using an indicator variable equal to one for changes in the raw V-Dem index above the 90th percentile, which see a large increase in dividend yields, between 7.5–12.4%. Row (5) presents the results for the democratization start year in the Lindberg et al. (2018) data, which display the largest point estimates of any of the measures shown, indicating a 27.7–40.5% rise in the dividend yield.

Finally, Row (6) presents the results for democratizations from Acemoglu et al. (2019) with my extension, described in Appendix A.3.2. The change in dividend yields around these transitions is quantitatively similar to the results in the main text, pointing to a 19.9–28.5% rise in dividend yields.

Alternate transformations of dividend yields One potential concern comes from using the 5-year difference in log dividend yields as the main measure for the change in valuation ratios. While this methodological choice is mainly made to stay in line with the prior literature, Panel B of Table B.2 presents results for differences in dividend yields from 1 to 4 years in Rows (7) through (10). Across all specifications, these differences provide very similar results. In particular, the 3- and 4-year changes in log dividend yields provides nearly identical quantitative results to the 5-year change, while the 1- and 2- year changes provide results that are smaller in magnitude. This potentially indicates that financial markets begin to react to democratization risk earlier than the political scientists labeling these episodes.

Additionally, as shown in some of the case studies below in Appendices F.1 and F.2, the dividend yield in democratizations is not always highest at the start of the episode. To account for this, Table B.2 also provides three additional measures for the change in log dividend yields in Rows (11) through (13). The first takes, for any given t, the maximum dividend yield from $t-2$ to $t+5$ and subtracts it from the minimum dividend yield from $t-5$ to $t-3$. This is, in essence capturing the peak-to-trough variation in the dividend yield of all the years shown in the event study plot in Figure 1. The reason $t-2$ is chosen is because this is when dividend yields begin to rise in the event study plot, but results are similar using other windows. Also reported are the same regressions on the peak-to-peak difference over

the same years and the maximum 5-year change in log dividend yields observed in from $t-1$ to $t+1$ for any given t. Each of these measures point to a large and statistically significant rise in dividend yields around democratizations start years. Finally, the level of dividend yields are also elevated at the start of democratizations even relative to their country-specific long-run mean and the average dividend yield in a given year, region-year, or continent-regime-year as shown in Row (14) of Table B.2.

Alternate proxies for changes in risk premia Finally, Panel C of Table B.2 presents the results for several other proxies for the change in the risk premium. Rows (15) and (16) present the results for VAR decomposed discount rate and cashflow shocks using the methodology suggested by (Campbell, 1991). This assumes that discount rates and cash flows follow a vector autoregression (VAR) and decompose shocks to each under this assumption. Row (15) shows that the combined discount rate shock in the 1-year before, year of, and 3-year after a democratization start is between 2.3 and 4.8 percentage points, in line with the findings in the main text. Supporting the view that changes in discount rates drive the changes in prices that occur during democratizations, Row (16) of Table B.2 also shows the results for the VAR decomposed cash flow shocks. The cashflow shocks decomposed from the VAR are more volatile than the discount rate shocks, and therefore are accompanied by less precise estimates. None of the columns indicate a statistically significant change in expected cashflows.

To assure that the results are not driven by changes in payout policies around democratizations, Row (17) presents the results for the 5-year change in the log price-earnings ratio. These results are quantitatively similar to those presented in the Section 3.1, but less precisely estimated since there are fewer observations. Nonetheless, they still point to a large and statistically significant decrease in valuations around democratizations.

Row (18) shows that another proxy for equity market risk, equity volatility, is also elevated during democratizations. Equity volatility here is taken as the 10-year moving standard deviation of realized equity returns at the annual frequency. Row (18) reports the 5-year future change in equity volatility, meaning the equity volatility increase from t to $t+5$. This is because equity volatility needs to be calculated using a longer rolling window, meaning it is not possible to pick up increases until later in the democratization.

Row (19) of Table B.2 presents results for the change in corporate bond yields, which is also used by Muir (2017). The five-year change in log corporate bond yields is also large, statistically significant, and similar in magnitude to the estimates from Section 3. These

results should be interpreted carefully, however, as they come from only 11 democratization episodes.

Finally, Row (20) presents the results using average excess returns, a direct proxy for the rise in the risk premium. There are two substantial issues with using average excess returns in this setting. First, democratizations begin with large discount rate shocks which push down realized returns. This means that realized returns and the risk premium are negatively correlated in the short run. Second, as the model makes clear, democratizations come with negative realized returns conditional upon success, empirical evidence for which is presented in Appendix D.2. Both of these issues bias the measurement of changes in the risk premium using average excess returns downward. To partially circumvent these issues, the results here are presented using an indicator equal to 1 if an observation is in the middle of democratizations, where the middle of the democratization removes the first 1 year and last 3 years of the democratization. This, in part, removes years that are most likely to come with large negative realized returns. The results in this setting point to a large rise in average excess returns, between 1.7–6.6 percentage points.

B.3 Additional event study plots

Finally, the increase in dividend yields in democratizations is almost entirely driven by price declines, as shown in Figure B.1, which shows the combined log capital losses around democratizations and financial crises. Prices decline substantially in both events, corresponding to a 23.0% decline over 5 years around democratizations and a 32.4% decline around financial crises at the trough of each episode.

Figure B.1 also presents an event study plot of a three-year moving average of log dividend growth and log GDP per capita around democratization starts. Log dividend growth displays negative point estimates after the start of a democratization, but none are statistically different than zero. This stands in contrast to large declines in dividend growth during financial crises with point estimates indicating average dividend growth of -12% in the three years after the episode start.[50]

GDP per capita also declines slightly prior to the beginning of democratizations, but all of the effects are offset 5-years into the episode and the decline is not statistically different than zero. This stands in contrast to financial crises, which see lower GDP per capita for at

[50]Note, these values are benchmarked to the average growth 3 years prior to the episode start, which is 2.8% for democratizations and 3.2% for financial crises. Both these numbers are slightly above average log dividend growth in the data.

least 5-years after the episode start.

B.4 Additional evidence on macroeconomic and political risk and uncertainty

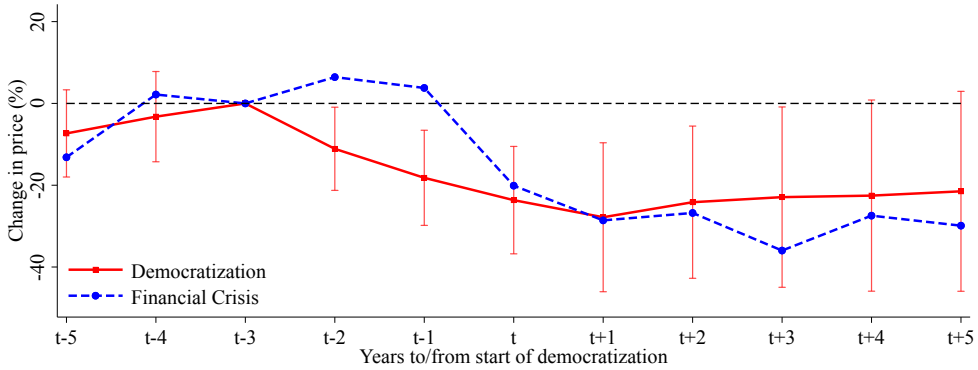
Macroeconomic risk Table B.3 starts by presenting evidence on GDP per capita, dividend growth,[51] and inflation for countries with data on dividend yields from Section 3. The results suggests that GDP per capita, dividend growth, and inflation before and after democratizations are very similar to other times.

[51] These numbers will differ slightly from those in Table 2 because of the additional restriction that the five-year change in log-dividend yields needs to be non-missing.

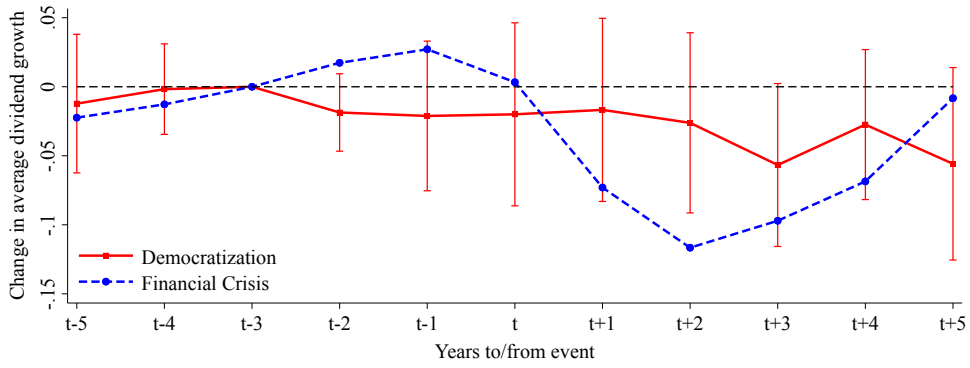
Figure B.1: Change in log prices in democratizations

This figure presents an event study of log prices, dividend growth, and GDP per capita around the start of a democratization and a financial crisis. Estimates are relative to the value three years prior to the event start to allow for the possibility that financial markets incorporate information about the events earlier than the start. Endpoints (not shown) are binned. To be sure the series is consistent across observations, only prices and dividend growth from GFD's main data series are plotted. The red bars on the democratization line represents a 90% confidence interval of the point estimates with standard errors clustered by country and year.

A. Price changes



B. Dividend growth



C. GDP per capita

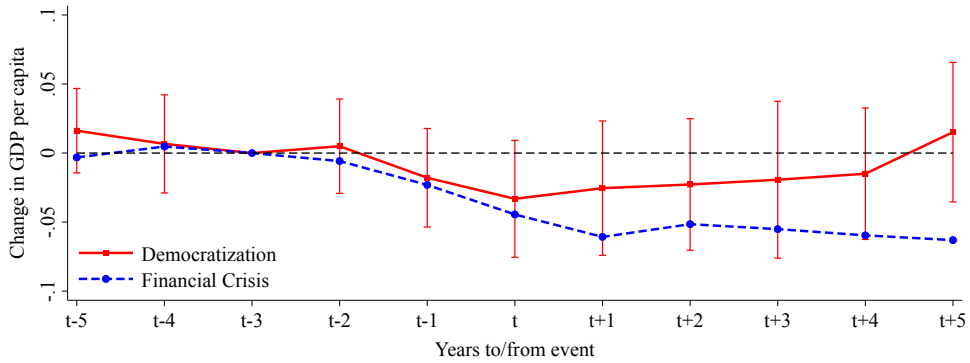


Table B.3: Other macroeconomic and political risk measures

This table presents the results for several variable associated with macroeconomic risk (Panel A) and general political risk (Panel B) before and after the beginning of democratizations for countries with dividend yield data. Results are annualized and are presented for the 5-years before and 5-years and 10-years after the start of a democratization. All index variables have been standardized such that they are between 0 and 1. Standard errors are clustered by country. All coefficients have been multiplied by 100 for presentation, and standard errors are in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

		(1)		(2)		(3)		(4)		(5)		(6)	
A. Macroeconomic risk measures													
log GDP per capita growth	t-5 → t	-0.24	(-0.52)	-0.34	(-0.75)	-0.20	(-0.69)	-0.26	(-1.05)	0.05	(0.15)	0.04	(0.12)
	t → t+5	0.76*	(1.89)	0.76*	(1.91)	0.15	(0.43)	-0.03	(-0.09)	-0.22	(-0.72)	-0.27	(-0.87)
	t → t+10	0.67**	(2.09)	0.67**	(2.13)	0.03	(0.15)	-0.04	(-0.19)	-0.27	(-1.28)	-0.28	(-1.33)
log Divdend growth	t-5 → t	-0.49	(-0.22)	-0.99	(-0.46)	0.03	(0.02)	-0.54	(-0.32)	-0.79	(-0.44)	-0.59	(-0.36)
	t → t+5	-1.28	(-0.65)	-0.92	(-0.47)	0.18	(0.10)	1.61	(0.95)	0.54	(0.28)	0.55	(0.28)
	t → t+10	0.09	(0.07)	0.40	(0.31)	-0.71	(-0.60)	0.35	(0.35)	0.10	(0.10)	0.07	(0.07)
log Inflation	t-5 → t	-0.33	(-0.25)	1.26	(1.11)	0.45	(0.40)	0.01	(0.01)	-0.77	(-0.52)	-1.33	(-0.85)
	t → t+5	0.57	(0.34)	2.36	(1.39)	0.50	(0.27)	0.14	(0.06)	-3.47	(-0.81)	-3.70	(-0.85)
	t → t+10	-0.67	(-0.45)	0.92	(0.64)	-0.18	(-0.11)	-1.06	(-0.45)	-3.13	(-0.91)	-3.20	(-0.93)
Net FDI/GDP	t-5 → t	-0.15*	(-1.65)	-0.16*	(-1.66)	-0.19**	(-2.04)	-0.19	(-1.59)	-0.15	(-1.00)	-0.13	(-0.91)
	t → t+5	-0.11	(-1.10)	-0.10	(-0.99)	-0.10	(-0.87)	-0.09	(-0.97)	-0.19	(-1.28)	-0.20	(-1.33)
	t → t+10	0.02	(0.62)	0.04	(1.10)	-0.00	(-0.01)	0.01	(0.11)	-0.08	(-1.46)	-0.10*	(-1.82)
B. Political risk measures													
Physical violence index	t-5 → t	0.12	(0.53)	0.13	(0.59)	0.26	(1.17)	0.13	(0.64)	0.16	(0.77)	0.30	(1.38)
	t → t+5	-1.83***	(-3.65)	-1.84***	(-3.66)	-1.42***	(-2.91)	-1.23**	(-2.48)	-1.10**	(-2.24)	-1.15**	(-2.46)
	t → t+10	-0.80***	(-2.86)	-0.84***	(-2.91)	-0.64**	(-2.39)	-0.58**	(-2.04)	-0.41	(-1.55)	-0.43*	(-1.76)
Political violence index	t-5 → t	0.13	(0.37)	0.14	(0.40)	0.15	(0.46)	-0.06	(-0.14)	-0.04	(-0.12)	0.08	(0.24)
	t → t+5	-0.63	(-1.48)	-0.73*	(-1.65)	-0.45	(-1.25)	-0.49	(-1.30)	-0.39	(-1.22)	-0.44	(-1.43)
	t → t+10	-0.51***	(-2.82)	-0.60***	(-3.02)	-0.36**	(-2.01)	-0.39*	(-1.71)	-0.37*	(-1.67)	-0.40*	(-1.82)
Mass mobilizations index	t-5 → t	0.91	(1.64)	0.96*	(1.72)	1.03*	(1.80)	1.06*	(1.78)	0.58	(1.12)	0.64	(1.31)
	t → t+5	-0.03	(-0.06)	-0.20	(-0.38)	-0.03	(-0.05)	0.19	(0.32)	0.15	(0.33)	0.10	(0.23)
	t → t+10	-0.51***	(-2.59)	-0.62***	(-3.05)	-0.55**	(-2.03)	-0.59**	(-2.00)	-0.72**	(-2.32)	-0.73**	(-2.34)
Country FE		No		No		Yes		Yes		Yes		Yes	
Year FE		No		No		Yes		No		No		No	
Region × Year FE		No		No		No		Yes		No		No	
Continent × Regime × Year FE		No		No		No		No		Yes		Yes	
Event Controls		No		Yes		Yes		Yes		Yes		Yes	
Other Controls		No		No		No		No		No		Yes	

Table B.4: Democratizations and probability of adverse events

This table presents regressions of the form

$$\mathbb{1}_{c,t}\{\text{Event Start}\} = \alpha + \beta_1 \mathbb{1}_{c,t}\{\text{Democratization}\} + \beta_2 \mathbb{1}_{c,t}\{\text{Autocratization}\} + \epsilon_{c,t}.$$

Regime-type fixed effects are added. Data are presented from 1900 on since the V-Dem constructed autocratization variable is only available over that sample. Standard errors are clustered by country.***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Adverse Event	Default	War	Financial Crisis	Recession	Market Loss
	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	0.60	0.37	0.04	0.45	-0.04	0.51
	(0.51)	(0.30)	(0.43)	(0.31)	(0.33)	(0.31)
Autocratization	2.27**	1.70***	1.69**	0.34	0.40	1.33
	(0.95)	(0.62)	(0.78)	(0.48)	(0.55)	(0.89)
Democratization obs.	375	375	375	375	375	93
R^2	0.02	0.00	0.00	0.00	0.05	0.00
Observations	18,482	18,482	18,482	18,482	18,482	5,415

Table B.3 also presents results on net foreign direct investment (FDI) divided by GDP before and after democratization. Net FDI lower prior to democratizations starting, mostly driven by a reduction in foreign inflows rather than outflows. This contributes to falling investment-capital ratios around democratizations and is consistent with an increase in risk premia. This also provides evidence that the equity market results are not driven by extreme outflows of capital.

An increase in the likelihood of adverse macroeconomic events also does not seem to explain increased risk premia during democratizations. Table B.4 presents the coefficient estimates from a linear probability model assessing the likelihood that adverse events, defined as sovereign defaults, wars, financial crises, and recessions, start in democratizations relative to autocratizations and normal times. No single adverse macroeconomic event is more likely to start once a democratization is underway.[52] This stands in contrast to autocratizations, which have a higher likelihood of experiencing a sovereign default or war after they begin.

Additionally, in the panel dataset employed in this paper, data on equity prices is sometimes lost. It is possible that this missing data could bias the results if it represents a market shutdown and these shutdowns are more likely in democratizations and/or autocratizations. Column (6) shows that this also does not seem to be a concern, as missing data are no more

[52]This is not true the other way around. In particular, democratizations are more likely to start when a country is already in a sovereign default or have recently completed a war on their own continent. These democratizations are not driving the asset pricing results, however, as they are excluded in the main analysis.

Table B.5: Levels of political risk measures around democratizations

This table presents regressions of the level of V-Dem Physical Violence Index, Political Violence Index, and Mass Mobilizations Index at democratization, regime change, autocratization, and international political crisis starts. Data are presented from 1918 on since the ICB crisis variable is only available over that sample. Standard errors are clustered by country.***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Physical Violence Index		Political Violence Index		Mass Mobilizations	
	(1)	(2)	(3)	(4)	(5)	(6)
Democratization start	-2.33	-0.43	5.16***	3.63***	6.82***	5.02***
	(1.52)	(1.07)	(1.29)	(0.94)	(1.35)	(1.04)
Regime change start	15.02***	2.71***	6.13***	2.39**	3.95***	5.63***
	(1.37)	(0.90)	(1.33)	(0.99)	(1.21)	(0.95)
Autocratization start	-2.82	-1.53	8.26***	6.77***	7.81***	4.94***
	(1.80)	(1.21)	(1.50)	(1.23)	(1.63)	(1.40)
International political crisis start	7.95**	1.58	3.94*	2.95**	1.55	0.82
	(3.98)	(1.17)	(2.22)	(1.31)	(2.46)	(1.11)
Country FE	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes
Democratization Years	357	357	244	244	232	232
R^2	0.01	0.72	0.01	0.57	0.01	0.53
Observations	16,212	16,212	11,211	11,210	10,722	10,722

likely to occur in either episode.

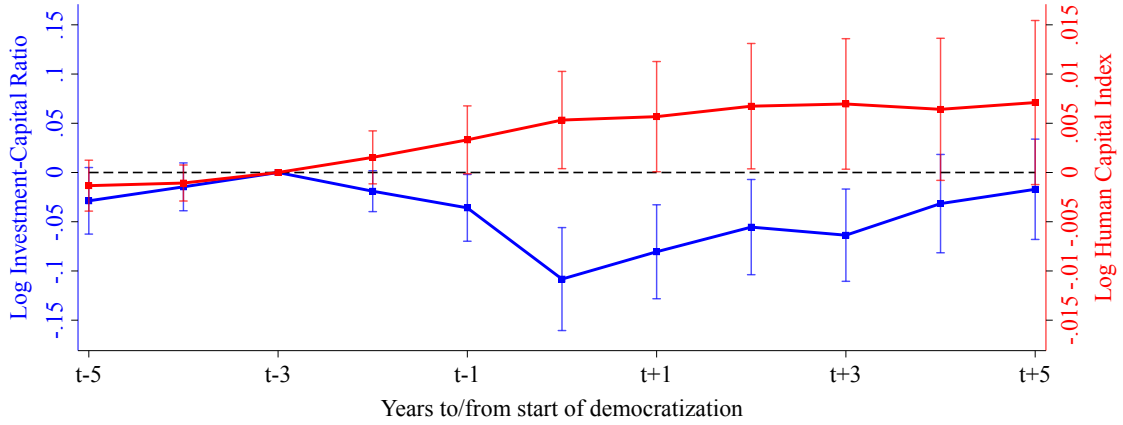
Political risk Table B.3 also presents evidence on the changes in several political risk measures like physical and political violence indices and measures of mass mobilizations and protests. Most violence measures tend to fall as the democratization process goes on, but levels of political violence do slightly increase prior to the democratization starts. Unsurprisingly, the mass mobilization measure rises prior to democratizations too, and then gradually falls over time.

It is worth noting that the results from above represent *changes* in these indices and not levels in the sample of countries that have assets market data. To understand how the levels of these variables look in the average democratization, Table B.5 presents the levels of physical violence, political violence, and mass mobilizations and protests across all democratizations, regime changes, autocratizations, and international political crises since 1918. The overall takeaway is that democratizations see similar levels of violence and protest as other transition events and periods of heightened political risk. However, they see a far larger asset pricing response.

General uncertainty shocks Evidence that a generic increase in uncertainty cannot explain increased in risk premia is presented in Figure B.2 which shows the evolution of

Figure B.2: Physical and human capital in democratizations

This figure shows an event study plot of investment-capital ratios and the human capital index around democratization starts. Estimates are relative to the value three years prior to the democratization start. Endpoints (not shown) are binned. The red bars on the democratization line represents a 90% confidence interval of the point estimates with standard errors clustered by country and year.



investment-capital ratios and the human capital index from the Penn World Tables around democratization starts. Consistent with an increase in discount rates for investors, investment-capital ratios decline at the start of democratizations and then slowly rebound. Conversely, human capital, which is the primary asset of the lower and middle classes, rises as the prospect of democracy becomes more likely. The potential for democracy represents a positive shock to the value of human capital for these groups, not a period of uncertainty, leading to an increase in their investment in skills. This decline in investment is also the primary cause of the small dip in GDP per capita observed at the start of the democratization. However, this is offset to some degree by the rise in human capital. The shearing apart of these two series provide evidence that democratizations are risky for capitalists, but not human capitalists.

Revolution risk As mentioned in the main text, one concern is that an increased probability of revolution is driving the increase in dividend yields. This is hard to rule out because the model presented in Section 6 predicts that democratic transitions are an endogenous response to rising revolution risk. The same theory however, also allows us to falsify this potential mechanism. If revolution risk were driving the results, than democratizations with greater

Table B.6: Democratizations and revolutionary risk

This table presents regressions of the 5-year change in log dividend yields on indicator variables representing the start of a democratization interacted with an index denoting the level of left wing or democratic civil society organization activity. The main effects for the level of left wing or democratic civil society organization activity are included in the regression, but are not displayed. Standard errors (in parentheses) are clustered by country and year. All coefficients have been multiplied by 100 for presentation. In Columns (4)-(6) some observations are lost due to there only being one observation in a region-year or in a continent-regime-year and from missing control observations. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Five-year change in log dividend yields					
	(1)	(2)	(3)	(4)	(5)	(6)
Democratization start	14.72**	13.37*	17.29**	22.53**	23.08**	23.08**
	(7.19)	(7.17)	(7.80)	(10.20)	(10.93)	(10.93)
Democratization start × Revolution CSO activity	-6.34	-9.42	-6.82	-15.23*	-1.32	-1.32
	(9.47)	(9.36)	(8.75)	(8.54)	(10.27)	(10.27)
Democratization start × Democratic CSO activity	19.74*	22.10**	15.17	23.45**	8.11	8.11
	(10.81)	(11.08)	(10.57)	(10.49)	(10.26)	(10.26)
Country FE	No	No	Yes	Yes	Yes	Yes
Year FE	No	No	Yes	No	No	No
Region × Year FE	No	No	No	Yes	No	No
Continent × Regime × Year FE	No	No	No	No	Yes	Yes
Event Controls	No	Yes	Yes	Yes	Yes	Yes
Other Controls	No	No	No	No	No	No
Episode obs.	61	61	61	60	58	58
R^2	0.00	0.02	0.16	0.37	0.35	0.35
Observations	5,361	5,361	5,361	5,091	5,158	5,158

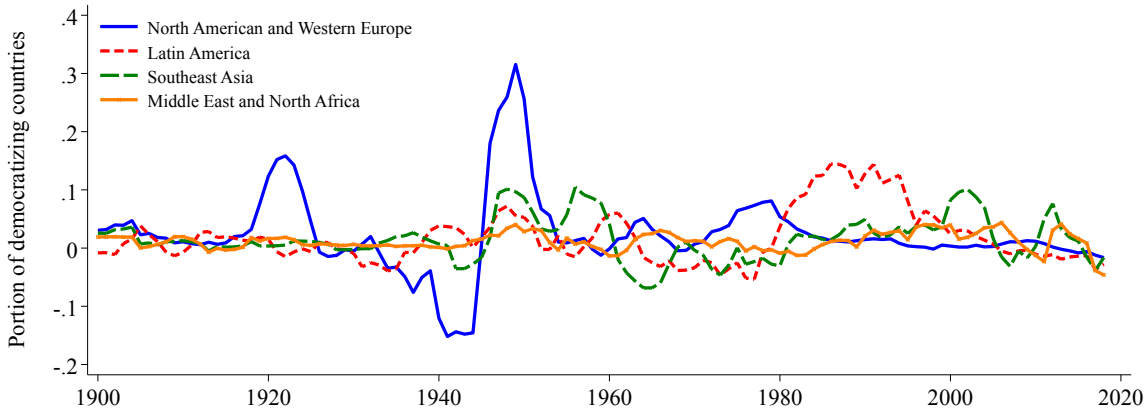
revolution risk should see a larger rise in risk premia. Conversely, if democratization risk is driving the results, then the dividend yield should be flat with respect to an increase in revolution risk. The reason is that greater revolution risk, in the model, does not lead to an increase in risk premia because the worst case scenario is still democratization.

As proxy for revolutionary risk, I use anti-system activity coming from far-left civil society organization (CSO) groups. This is constructed by multiplying the ordinal anti-system CSO activity index (`v2csantimv_ord`) by the left-wing anti-regime CSO character variable (`v2csanmvch_6`) both from V-Dem. For comparison, I construct a similar measure for democratic CSO activity using the variable `v2csanmvch_4`.

Table B.6 shows that democratizations with high revolutionary risk do not display a different asset pricing effect. Conversely, democratizations with an active democratic CSO groups see a significantly larger effect in most specifications. This provides evidence that revolution risk is not driving the results.

Figure B.3: Regional waves of democratization

This figure shows the proportion of countries undergoing a democratization in 4 regions according to the Episodes of Regime Transformation data.



B.5 Regional waves of democratizations

This section follows Acemoglu et al. (2019) and uses regional waves of democratization as an instrument for local democratic progress. As pointed out by Huntington (1991), movements towards democracy often occur in regional waves. These waves are largely driven by external factors, making them exogenous to long-run country-specific macroeconomic, political, and cultural conditions. As such, they constitute an exogenous shock to local political institutions.

The instrument used in Acemoglu et al. (2019) is, however, not entirely well suited for this task. This is because Acemoglu et al. was seeking a valid instrument for the level of political institutions. Instead, I require an instrument for *changes* in democratic institutions. To accomplish this, I create a regional democracy measure for each country c in region j in year t as the average V-Dem Electoral Democracy Index excluding c, given by

$$\text{Regional Democracy Index}^{j}_{c,t} = \frac{1}{N_j - 1} \sum_{c' \neq\, c \in j} \text{Country Democracy Index}_{c',t}. \tag{B.1}$$

I then use changes in this measure from $t-5$ to t as an instrument for changes in the country-specific electoral democracy index over the same period. Figure B.3 presents the annual regional average of this series across select regions.

Using the V-Dem Electoral Democracy Index instead of the ERT indicator is a departure

from the main analysis. The reason for this choice is simple: predicting the start of ERT democratizations using regional waves is challenging. This is particularly true in countries with financial markets where the first stage is especially weak. Regional movements toward democracy, however, do generate small scale movements toward democracy. These smaller democratic shocks are still valid to test the response of asset markets to democratization.

Table B.7 presents the results. Columns (1) and (2) display the direct relationship between regional waves and dividend yields. Without instrumenting, regional moves towards democracy increase dividend yields in the focal country. Columns (3) and (4) show the results for a two-stage least squares approach. The first stage F-statistic is above 20 in both specifications, suggesting that shifts in the V-Dem Electoral Democracy Index closely relate to changes in the Regional Democracy Index. The democratic progress caused by these regional waves also raises dividend yields substantially. For context, the median democratization results in an index rise of 0.23. This would relate to a 27.7% to 50.6% rise in the dividend yield in this case.[53] These findings provide evidence that rising dividend yields are not driven by local economic or political conditions or by selection effects.[54] They also suggest that selection bias, if anything, reduces the affect of democratizations on dividend yields.

C Quasi-natural experiment appendix

C.1 Likelihood of democratizations after Vatican-II

Table C.8 presents a linear probability model describing the change in the likelihood that a majority Catholic autocracy has a democratization after Vatican-II relative to a non-Catholic autocracy. It shows that majority Catholic autocracies were substantial more likely to undergo democratizations after Vatican-II. Those democratizations were also very likely to be successful. Among all autocracies, majority Catholic countries were 3.7 percentage points more likely to democratize annually. They were also 2.1 percentage points more likely to undergo a successful democratization annually. The results are more stark in the countries

[53] This should be interpreted with caution, however, as the largest first-stage fitted value in the specification with country and year fixed effects is 0.20.

[54] This may seem at odds with the sections above showing that regional shocks do not drive elevated risk premia in democratizations. There are three explanations for the disconnect. First, most of the change in the Regional Democracy Index comes from countries without asset markets. These countries are not reflected in the fixed effects specifications above. Second, democratic progress within regional waves often spans several years. Region-time fixed effects would not pick this type of variation. Third, there is not a particularly strong relationship between ERT democratizations and regional waves. This may mean that the democratizations reported in the ERT are kicking off the regional waves.

Table B.7: Regional waves of democratizations and dividend yields

This table presents a reduced form regression of the the five-year change in log dividend yields on the five-year change in the Regional Democracy Index from Equation (B.1). It then presents the results of a two-stage least squares procedure instrumenting the 5-year change in the V-Dem Electoral Democracy Index using the five-year change in the Regional Democracy Index. To account for overlapping variables in both the first and second stage, Driscoll-Kraay standard errors with a five-year bandwidth and clustered at the year are applied and presented in the parentheses. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	OLS		Two-stage least squares	
	(1)	(2)	(3)	(4)
5-year regional democracy index change	0.87**	0.87*	1.20**	2.20*
	(0.44)	(0.51)	(0.57)	(1.19)
Country FE	No	Yes	No	Yes
Year FE	No	Yes	No	Yes
Event Controls	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes
F-statistic			69.66	23.57
Observations	5,553	5,553	5,553	5,553

Table C.8: Democratization likelihood after Vatican-II

This table presents a linear probability model of the likelihood of democratizations before and after Vatican-II in majority Catholic autocracies relative to non-Catholic autocracies. The sample period is from 1946–1989. Standard errors (in parentheses are clustered by country and by year. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	All autocracies		Asset pricing sample	
	(1)	(2)	(3)	(4)
Majority Catholic Autocracy $\times$ Post	3.66***	2.07***	4.87*	6.21**
	(0.91)	(0.59)	(2.34)	(2.27)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Democratization type	All	Successful	All	Successful
R^2	0.05	0.07	0.09	0.11
Observations	4,824	4,824	696	696

where stock market data are available, with a rise in the annual likelihood of democratization of nearly 5 percentage points.

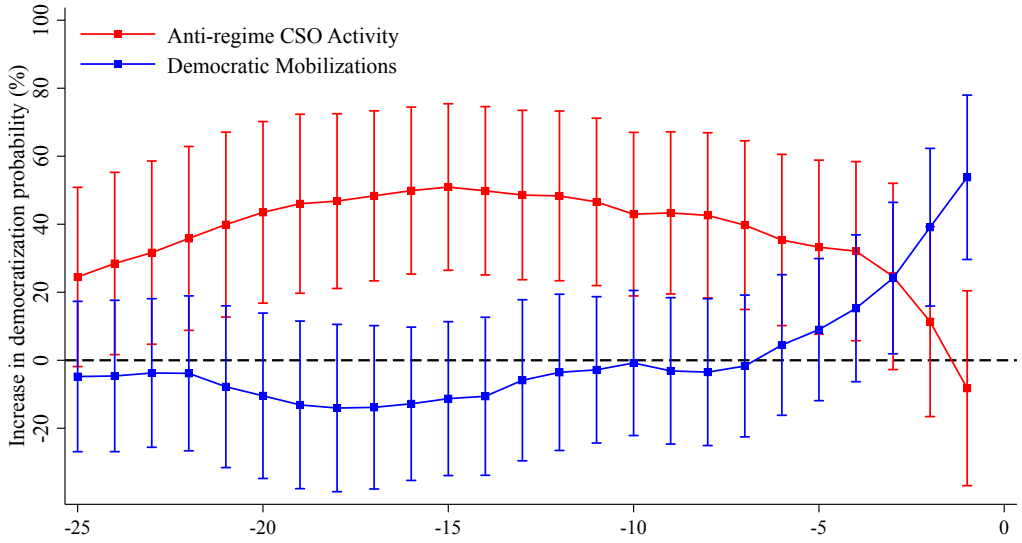
These results are consistent with the rise in anti-regime civil society organization activity. Figure C.4 shows that anti-regime civil society organization (CSO) activity is a key predictor of future democratizations. In particular, this figure estimates a linear probability model including both lagged anti-regime CSO activity and democratic mobilizations where the dependent variable is equal to 1 if it is a democratization year for a given country. The

Figure C.4: Predicting democratizations with anti-regime CSO activity vs. democratic mobilizations

This figure presents the the coefficients from a linear probability model of the form

$$\mathbb{1}\{\text{Democratization}\}_{c,t} = \gamma_t + \eta_c + \beta_1 \text{Anti-regime CSO}_{c,t-h} + \beta_2 \text{Democratic Mobilization}_{c,t-h} + \varepsilon_{c,t} \quad \text{(C.1)}$$

estimated on the post-1960 sample. Each coefficient is scaled by the unconditional probability of being in a democratization year. Standard errors are clustered by country and year.



number of lags is shown on the x-axis. Here, we see that anti-regime CSO activity is (1) a significant predictor of future democratizations and (2) outperforms democratic protests substantially at longer horizons between 5 to 20 years. This is important as anti-regime CSO activity spikes during the treatment period in majority Catholic autocracies from 1959–1963.

C.2 The First Vatican Council

One potential concern is that the results are driven by the change in Catholic church doctrine, and have nothing to do with an increased probability of democratization. To assess the validity of this challenge, I estimate the difference-in-differences specifications on another major change in Catholic church doctrine: the First Vatican Council of 1868–1870 (Vatican-I). Vatican-I is distinct from Vatican-II in that it reaffirmed the Church's rejection of liberalism and democratic principles. As such, it serves as an excellent test of whether changes in religious doctrine, in general, lead to high risk premia. For the estimation window, I use all years from 1864–1870, as Vatican-I was announced in 1864. Moreover, the

Table C.9: Difference-in-Differences — First Vatican Council

This table shows the regression coefficients of a difference-in-differences regression given by Equation (4.1). In each regression, 1864–1870 are the years of treatment and are excluded. Standard errors (in parentheses) are clustered by country and year. Included countries must have at least 20 observations from 1844–1890. All coefficients have been multiplied by 100.

	All Countries	
	(1)	(2)
Majority Catholic Autocracy × Post	-4.89	-5.49
	(4.50)	(3.70)
Country FE	Yes	Yes
Year FE	Yes	Yes
Controls	Yes	Yes
Sample	1849–1885	1844–1890
R^2	0.15	0.12
Observations	499	644

affirmation of the Church's stance against liberalism began with the Syllabus of Errors in 1864, which Luebbert (1991) calls a "declaration of war on liberalism."

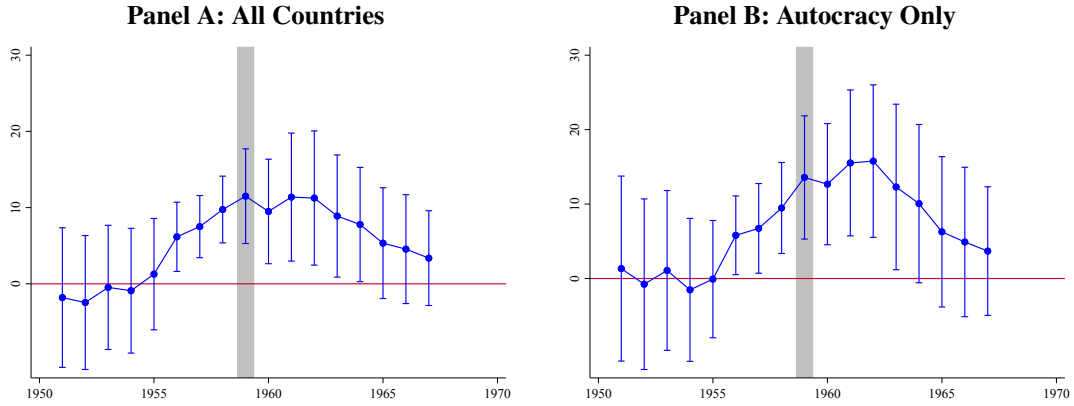
Once again, two sample windows are estimated: one 15 year symmetric window from 1849–1885, as to place the Revolutions of 1848 outside the sample, and one symmetric 20 year window from 1844–1890. All countries that are not majority Catholic autocracies are used as the control group. The results, reported in Table C.9, display negative, insignificant point estimates in both specifications. This is consistent with the theory underlying the shock: The Vatican-I likely reduced the probability of democratization, thereby reducing risk premia. It also supports that changes in Catholic doctrine do not generally raise risk premia.

C.3 Shifting the treatment window

This section presents an additional falsification test coming from shifting the treatment window. Figure C.5 presents the results. This falsification test indicates that estimating the difference-in-differences specifications would only have yielded significant results in a narrow range of years. Moreover, the results shifting forward by 1 to 4 years are made stronger by the realized negative returns entering the pre-period estimation, as shown in Figure 4. Without this, shifting the treatment window forward would have yielded insignificant results more quickly.

Figure C.5: Dropping every country pair, 1946–1976

This figure estimates the specification from Equations (4.1) on different treatment windows. The x-axis represents the treatment start year. The treatment years contain the start year plus the four proceeding years. The shaded gray bar represents treatment occurring from 1959–1963. Treatment years are excluded from each regression. The sample period is a symmetric 13-year window around the treatment years and estimates for two different samples, one for all countries (Panel A) and the other on autocracies only (Panel B), are reported. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100. The controls used are a series of binary event controls and the level of and growth in log GDP per capita.



C.4 Majority Catholic democracies

This section presents the results from a single difference-in-differences specification for majority Catholic democracies. The goal is to understand whether Vatican-II drove up average excess returns in both Catholic democracies and autocracies. Table C.10 presents the difference-in-differences results for the 4 majority Catholic democracies for which returns data are available. We can see that across specifications, majority Catholic democracies do not have significantly different returns when compared to either all other countries are majority Catholic democracies. This provides evidence that the changes introduced by Vatican-II primarily affected majority Catholic autocracies.

C.5 Estimation end date

The end year of the estimation window in Section 4 is chosen such that the sample is symmetric about the treatment window. However, other choices for end years may be reasonable. To show that the results for each specification are robust to different choices, I provide the point estimate and 95% confidence interval for each specification with the estimation window ending in each year from 1970–1983, shown in Figure C.6. For the specification where all countries are included, all of the point estimates are significant at the 95% level, and

Table C.10: Difference-in-differences, Democracies

This table shows the regression coefficients for the difference-in-differences specification on two sample windows, one from 1946–1976 and the other from 1939–1983, and for two different samples, one for all countries and the other on democracies only. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors (in parentheses) are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	All Countries		Democracies Only	
	(1)	(2)	(3)	(4)
Majority Catholic Democracy × Post	-0.37	-0.35	6.72	1.83
	(5.67)	(5.02)	(5.70)	(5.56)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Sample	1946–1976	1939–1983	1946–1976	1939–1983
R^2	0.13	0.08	0.23	0.15
Observations	1,069	1,584	557	848

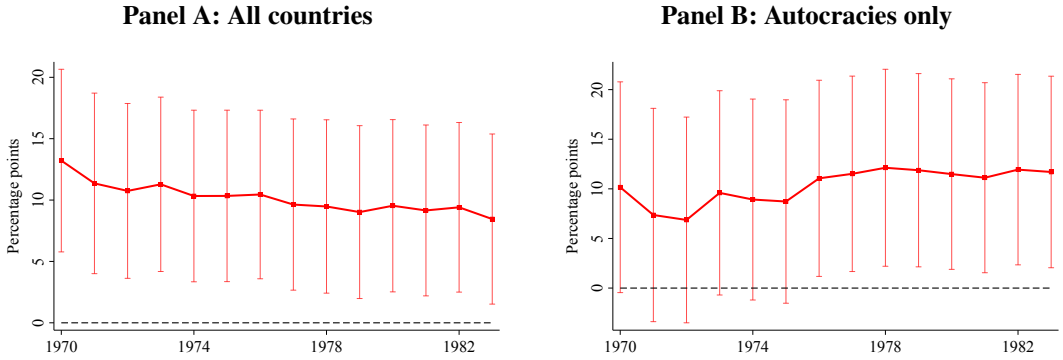
decline as the post-treatment window moves further in the future, suggesting a gradual resolution of the increased risk premia over time. In the autocracies only sample, the results become significant in 1976 as more observations enter the sample and the post-treatment effects become more precisely estimated. Moreover, the treatment effect seems to be stable as more years are included.

C.6 Dropping every country pair

To assure the results are not driven by any one or two countries, I estimate all specifications excluding every possible combination of countries. This means that each regression is estimated on 41 countries from 1946–1976. Figure C.7 shows that no pairs of countries drive the results. For the all countries specification, the point estimates range from 6 to 12 percentage points with t-stats between 2 and 4. Similar results hold for the autocracies only specifications with estimates between 7 to 15 percentage points and t-stats between 2.5 and 5. Figure C.8 provides similar results for the same exercise, but for the 1939–1983 sample.

Figure C.6: Different estimation window end dates

This figure estimates the specification from Equations (4.1) on different window end dates and reports the point estimates and 95% confidence interval for the treatment effect. The sample period starts in 1946 and the x-axis denotes the end year. Two samples, one for all countries (Panel A) and the other on autocracies only (Panel B), are reported. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita.



C.7 Extreme values driving the results

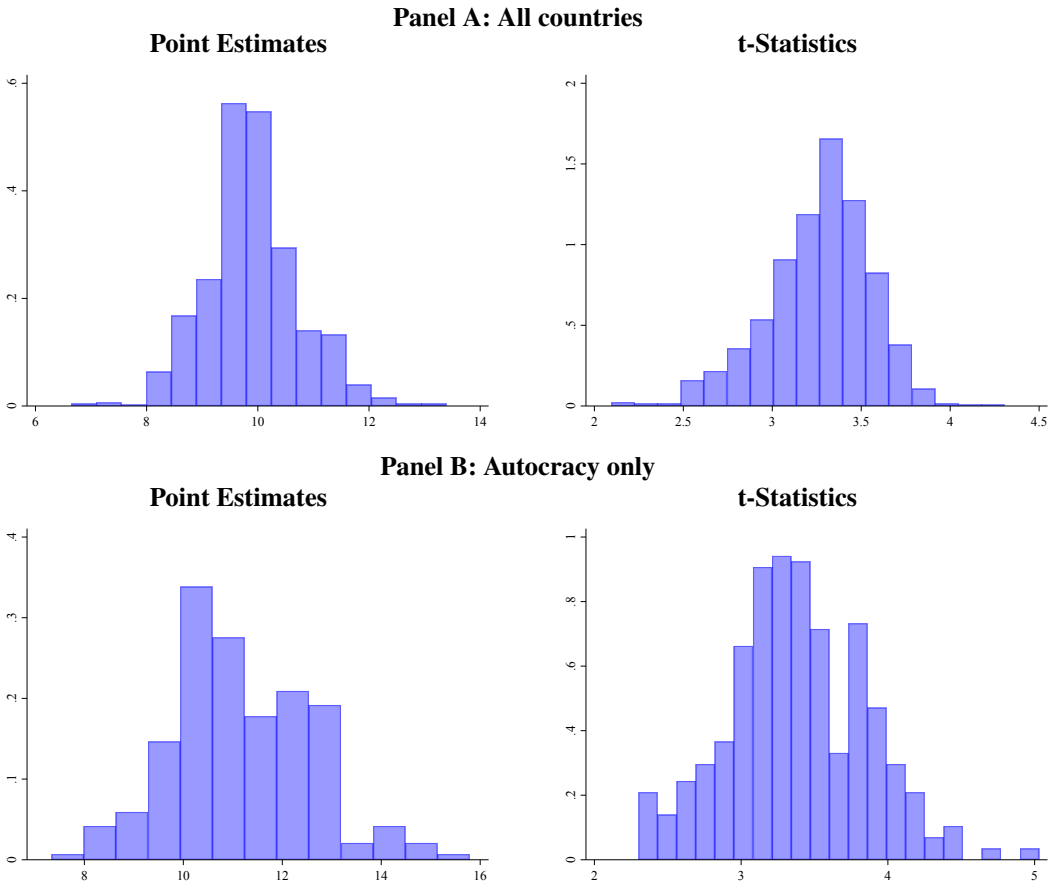
The results reported in Section 4 are somewhat large when compared to the results found in the panel regressions. Some of this could be due to anomalously high returns in the post period, in particular in the years 1967–1969. To show how removing these outliers affects the results, I use three different methods: (1) winsorizing at the 5% and 10% levels, (2) removing the three highest return years from 1967–1969, and (3) using outlier robust regression via Li (2006).

In the winsorized results, the global and continental risk-adjusted returns are truncated at the 5th and 95th percentiles and the 10th and 90th percentiles. The results are shown in Table C.11. The point estimates are lower and suggest a 4 to 7.5 percentage point treatment effect. This indicates that approximately one-third of the treatment effect reported in the main text is coming from anomalously large observations. Table C.11 also shows the results from excluding the high return years. These three years do not seem to be driving the results and, when removed, the estimated treatment effect is between 4 and 10 percentage points.

Table C.12 uses outlier robust regression weights via Li (2006) and finds a treatment effect of 6–7.5 percentage points. These results indicate that approximately one-third of the results above can be ascribed to outliers.

Figure C.7: Dropping every country pair, 1946–1976

This figure estimates the specification from Equations (4.1) excluding each possible country pair. The sample period is from 1946–1976 and estimates for two different samples, one for all countries (Panel A) and the other on autocracies only (Panel B), are reported. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita.

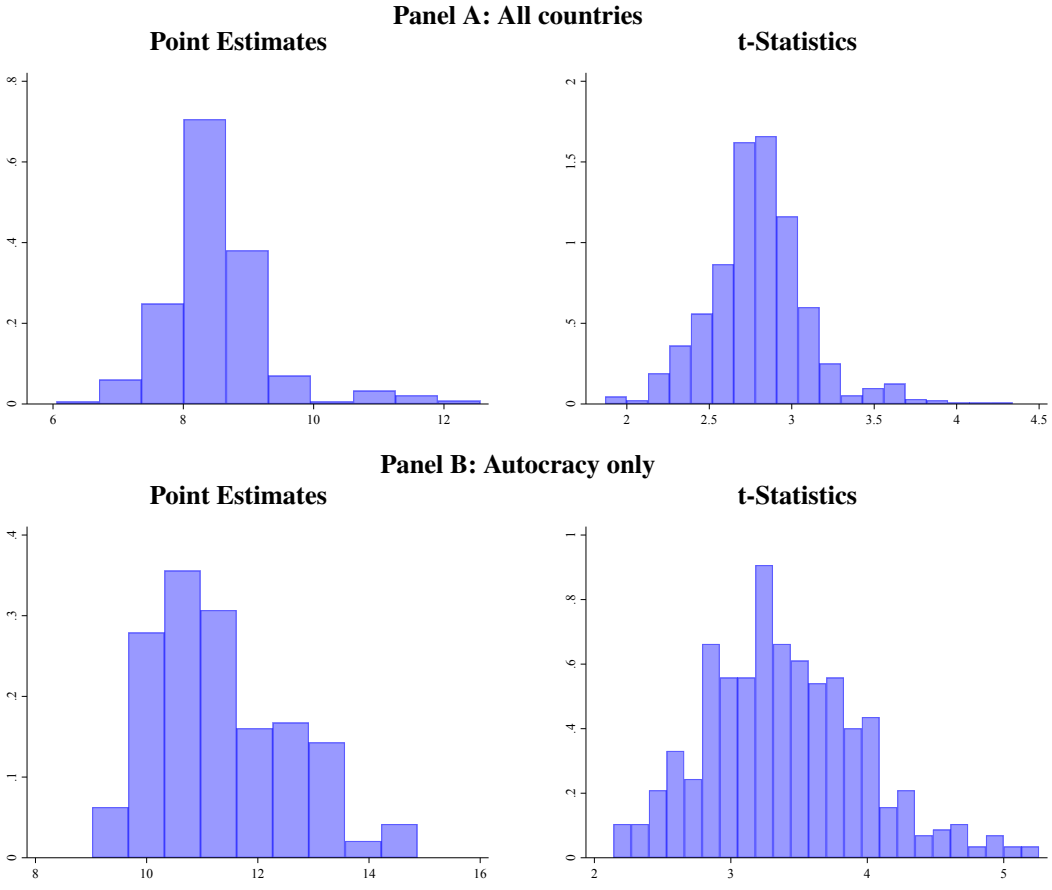


C.8 Other methods of adjusting for orthogonal sources of risk

Another potential concern is that factor model used to adjust average excess returns for time-varying global and continental risk could be absorbing some of the treatment variation, especially for the majority Catholic autocracies in Latin America. To assure this is not driving the results, this subsection presents the results adjusting average excess returns for global

Figure C.8: Dropping every country pair, 1939–1983

This figure estimates the specification from Equations (4.1) excluding each possible country pair. The sample period is from 1939–1983 and estimates for two different samples, one for all countries (Panel A) and the other on autocracies only (Panel B), are reported. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita.



risk only, estimating a one factor model of the form

$$R^e_{c,t} = \alpha_{c,t} + \beta^{glo}_{c,t} R^{e,glo}_t + \varepsilon_{c,t} \tag{C.2}$$

where $R^{e,global}_t$ denotes the total return in excess of the return on U.S. treasury bills on a GDP-weighted global market portfolio, c denotes the country, and t denotes the year. Once

Table C.11: Difference-in-differences — Removing outliers

This table shows the regression coefficients for the difference-in-differences specification in Equation (4.1) on two sample windows, one from 1946–1976 and the other from 1939–1983, and for two different samples, one for all countries and the other on autocracies only. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100, and standard errors are in parentheses. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita. The first two columns present results winsorized at the 5% threshold. Columns (3) and (4) present results winsorized at the 10% threshold, and Columns (5) and (6) present results with 1967–1969 excluded. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	Winsorized at 5% and 95%		Winsorized at 10% and 90%		Excluding 1967–1969	
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Catholic × Post	7.47***	6.01**	6.55***	5.35**	8.84***	10.15**
	(2.50)	(2.39)	(2.02)	(2.05)	(3.13)	(3.59)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Sample	1946–1976	1946–1976	1946–1976	1946–1976	1946–1976	1946–1976
R^2	0.13	0.15	0.13	0.15	0.14	0.18
Observations	1,069	557	1,069	557	940	449

	Winsorized at 5% and 95%		Winsorized at 10% and 90%		Excluding 1967–1969	
	(1)	(2)	(3)	(4)	(5)	(6)
Majority Catholic × Post	4.24**	6.61***	4.06**	5.75***	4.24*	7.95**
	(1.84)	(1.94)	(1.62)	(1.72)	(2.50)	(2.88)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Sample	1939–1983	1939–1983	1939–1983	1939–1983	1939–1983	1939–1983
R^2	0.09	0.14	0.09	0.14	0.09	0.15
Observations	1,592	736	1,592	736	1,463	673

again, the β's are estimated on a rolling basis over 10-years, and require a minimum of 5-years to be estimated. This risk model also has good explanatory power for returns in the cross-section of countries, with an average (median) coefficient of determination, or R^2, of 0.39 (0.37). The results remain large and statistically significant, albeit with larger standard errors, potentially coming from measurement error in the dependent variable when using only a one factor model to account for orthogonal sources of risk.

Table C.12: Difference-in-differences — Outlier robust weights

This table shows the regression coefficients for the difference-in-differences specification in Equation (4.1) on two sample windows, one from 1946–1976 and the other from 1939–1983, and for two different samples, one for all countries and the other on autocracies only. Robust regression weights are constructed as suggested in Li (2006) using a biweight tuning constant equal to 7, meaning observations in excess of seven times the median absolute deviation from the median residual are down-weighted. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100, and standard errors are in parentheses. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	All countries		Autocracies only	
	(1)	(2)	(3)	(4)
Majority Catholic × Post	6.40**	6.03***	6.73**	7.43***
	(2.42)	(2.02)	(3.17)	(2.09)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Sample	1946–1976	1939–1983	1946–1976	1939–1983
R^2	0.21	0.18	0.26	0.24
Observations	1,062	1,293	503	594

There could also be concerns about the two-step procedure whereby risk-adjusted returns are estimated prior to the central difference-in-differences regression. To address this, I estimate the following specification:

$$R^e_{c,t} = \alpha_c + \alpha_t + \beta \mathbb{1}_{c,t}\{\text{Post} \times \text{Catholic} \times \text{Autocracy}\} + \beta^{glo}_c R^{e,glo}_t + \beta^{reg}_c R^{e,reg}_{j,t} + \beta^{glo}_{\text{Post},c} \mathbb{1}_{c,t}\{\text{Post}\} \times R^{e,glo}_t + \beta^{reg}_{\text{Post},c} \mathbb{1}_{c,t}\{\text{Post}\} \times R^{e,reg}_{j,t} + \omega \text{Controls}_{c,t} + \epsilon_{c,t} \quad \text{(C.3)}$$

This adjusts for country-specific global and continental risk exposures separately in the pre- and post-periods in a single regression. Table C.14 presents the results, which are similar to those in the main text, with larger magnitudes in some specifications.

Table C.13: Difference-in-differences, Global CAPM

This table shows the regression coefficients for the difference-in-differences specification in Equation (4.1) on two sample windows, one from 1946–1976 and the other from 1939–1983, and for two different samples, one for all countries and the other on autocracies only. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted only for global risk using a one-factor risk model from Equation (C.2). Standard errors (in parentheses) are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	All Countries		Autocracies Only	
	(1)	(2)	(3)	(4)
Majority Catholic Autocracy × Post	13.61***	12.35***	4.45	7.09**
	(3.52)	(2.03)	(5.84)	(3.35)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Sample	1946–1976	1946–1983	1946–1976	1946–1983
R^2	0.14	0.11	0.19	0.16
Observations	1,069	1,309	512	608

C.9 Results with dividend yields

Figure C.9 presents the difference-in-differences event study plot with a three-year moving average of dividend yields instead of average excess returns.[55] The dividend yield rises substantially during the treatment period and remains elevated until 1967 before beginning to fall. We can see here that there is also no evidence of pretrends in the pre-treatment period.

The fact that the dividend yield falls after 1967 could suggest that the results are in part driven by an initial discount rate shock that then subsides over time. To understand how important this is, I add capital gains as a control in the analysis below. Table C.15 presents the results. This reduces the magnitudes by approximately 20%, but leaves the headline results unchanged.

[55] To obtain dividend yields observations for all countries in the sample, I create dividend yields for countries where they are missing by subtracting the cum-dividend and ex-dividend return. I then multiply this by the inverse of the ex-dividend return. This dividend yield series is then standardized and then multiplied by the standard deviation of the GFD main dividend yield series. The average dividend yield from the GFD main dividend yield series is then added. This gives this series the same mean and standard deviation as the GFD main series. These dividend yields are somewhat noisy, which is why the three-year moving average is presented.

Table C.14: Difference-in-differences, No rolling β estimation

This table shows the regression coefficients for the difference-in-differences specification in Equation (C.3) on two sample windows, one from 1946–1976 and the other from 1939–1983, and for two different samples, one for all countries and the other on autocracies only. In each regression, 1959 to 1963 are the years of treatment and are excluded. Standard errors (in parentheses) are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100. The controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	All Countries		Democracies Only	
	(1)	(2)	(3)	(4)
Majority Catholic Autocracy × Post	14.13**	9.43**	15.79**	9.92**
	(6.20)	(4.18)	(7.05)	(4.55)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Sample	1946–1976	1939–1983	1946–1976	1939–1983
R^2	0.55	0.43	0.56	0.46
Observations	1,069	1,584	512	736

D Mechanism appendix

D.1 Event study plots

Figure D.10 presents an event study comparing successful democratizations to failed democratizations for a 5-year moving average of the change in government revenue-GDP ratios and the Gini coefficient. The results indicate that government revenue-GDP ratios begin increasing and inequality begins declining quickly after a successful democratization ends.

D.2 Prices at democratization ends

The results above contend that successful democratizations are a risk to investors. As such, we should see evidence in the data that investors view the realization of a successful democratization as negative in the data. Consistent with this idea, Figure D.11 shows a 5-year moving average of log capital gains around successful and failed democratization end years. Prices fall significantly around the end of successful democratizations with an F-test indicating that the coefficients are statistically different at the 5% level from what is seen in failed democratizations. To put this in perspective, investors in the market of a country

undergoing a successful democratization see the price of their investment fall by 16.1% (after subtracting the intercept) over 5-years.

Further, as shown in Panel B, there is substantial heterogeneity in the effect. Countries experiencing deeper democratizations have average price declines of 36.1% over 5 years. These results are consistent with the Elite disaster interpretation of successful democratizations presented in the model in Section 6. Moreover, democratizations that are reversed or co-opted in the 5-years after the democratization ends see high realized capital gains, as evidenced by the reversed democratization line in Panel B.

D.3 Asset prices and redistribution

Table D.16 shows that democratizations with deeper price declines see larger future declines in inequality. In particular, this table estimates a regression of the change in the Gini coefficient five or ten years in the future (e.g. $t+1$ to $t+5$) on the prior three years price decline (e.g. $t-3$ to t) interacted with whether a country is in a democratization. The positive coefficients indicate that the two series move in the same direction. This means that deeper price declines during democratizations are associated with significantly lower Gini

Figure C.9: Event study plot of the dividend yield

This figure presents an event study plot of a three-year moving average log dividend yields for the autocracies only subsample. The shaded bars represent the treatment period, 1959–1963. The red bars represent a 90% confidence interval with standard errors clustered by country.

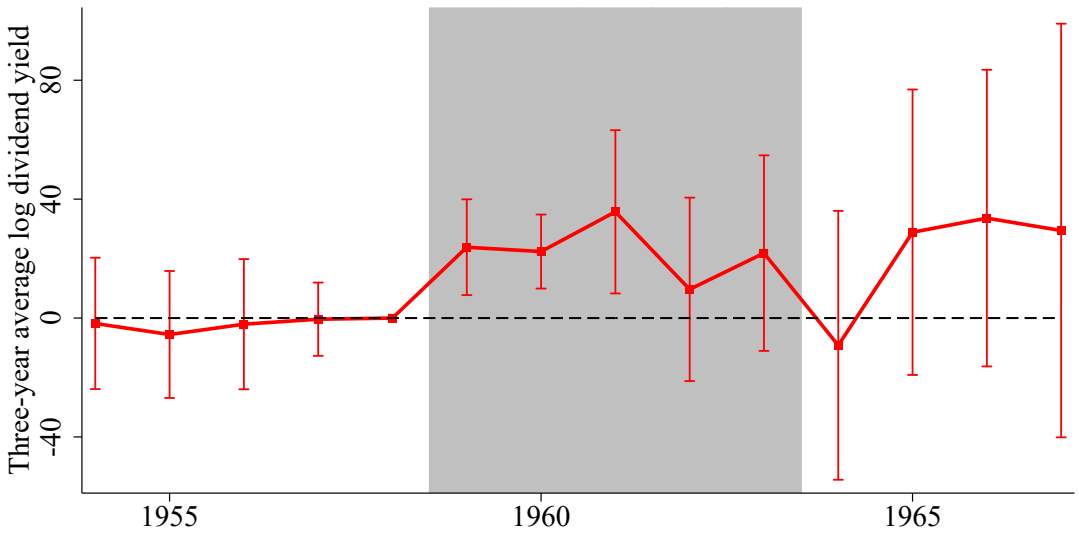


Table C.15: Difference-in-differences — Controlling for capital gains

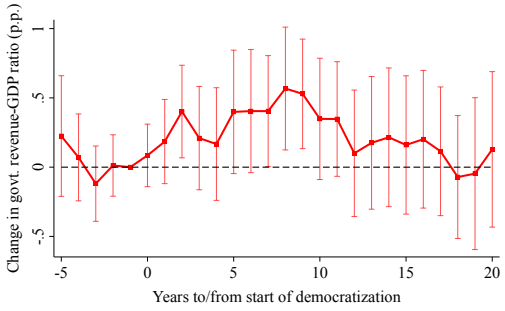
This table shows the regression coefficients for the difference-in-differences specification in Equation (4.1) on two sample windows, one from 1946–1976 and the other from 1939–1983, and for two different samples, one for all countries and the other on autocracies only controlling for capital gains. In each regression, 1959 to 1963 are the years of treatment and are excluded. Excess returns are adjusted for global and continental risk using the two-factor risk model described by Equation (4.2). Standard errors (in parentheses) are clustered by country and year. Included countries must have at least 20 observations from 1946–1983. All coefficients have been multiplied by 100. In addition to capital gains, the controls used are a series of "event controls" meaning indicator variables for whether the country is experiencing a head of government death, financial crisis, international political crisis, war, first five years of a sovereign default, or recession. In addition to the event controls, I also control for the level of and growth in log GDP per capita. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

	All Countries		Autocracies Only	
	(1)	(2)	(3)	(4)
Majority Catholic × Post	7.92**	4.93	9.55**	9.86**
	(3.66)	(3.67)	(4.15)	(4.21)
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Sample	1946–1976	1939–1983	1946–1976	1939–1983
R^2	0.41	0.42	0.47	0.45
Observations	1,069	1,592	512	736

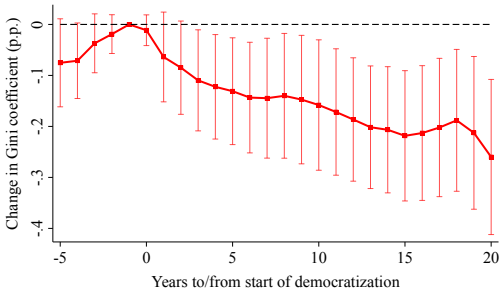
Figure D.10: Explicit redistribution event study

This figure shows an event study plot of a 5-year rolling average of the change in government revenue-GDP growth and the Gini coefficient around successful democratization ends compared to failed democratization ends. Country and year fixed effects are included. A 90% confidence interval with standard errors clustered by country and year is reported.

Panel A: Government Revenue-GDP Ratios



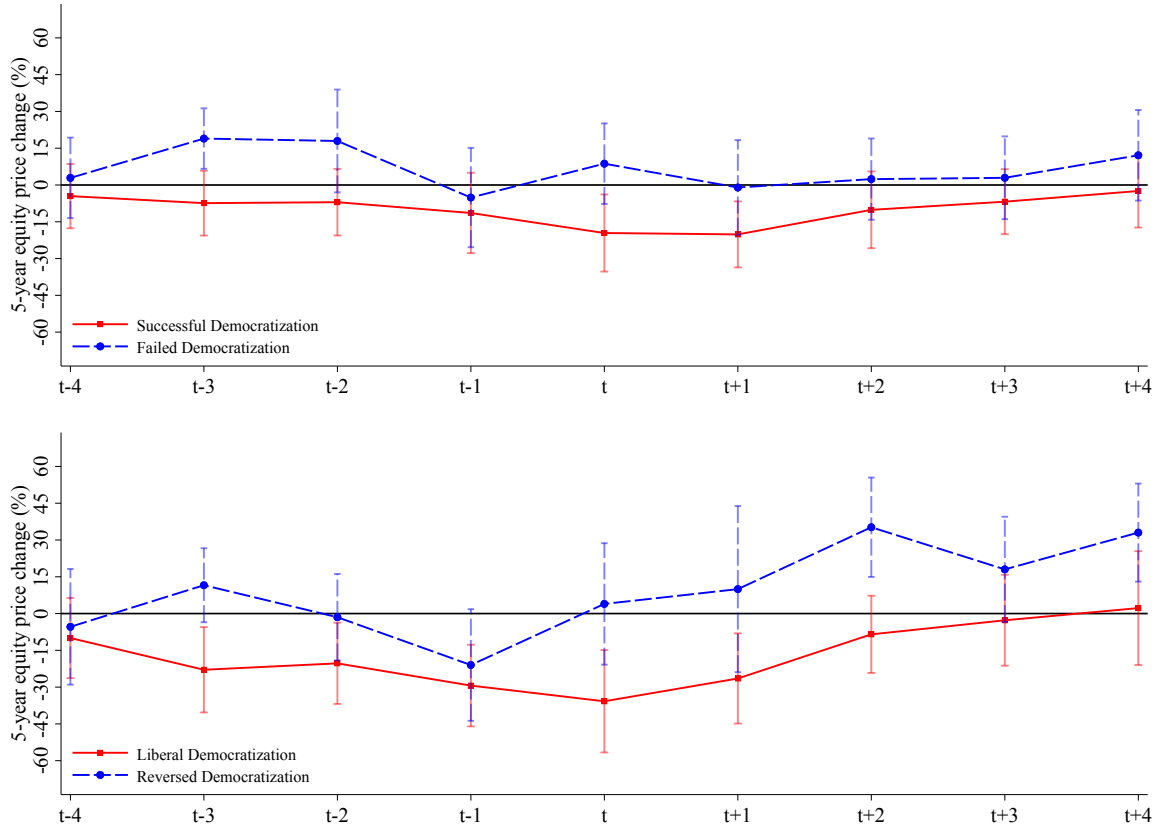
Panel B: Gini Coefficient



coefficients 5 or 10 years in the future. This is not entirely surprising: it is, in essence a combination of the results from Section 5 and Appendix Section D.2. However, the provides additional evidence that the two series are indeed connected.

Figure D.11: Price response to successful vs. failed democratizations

This figure presents the coefficients of the 5-year change in log prices on indicator variables for the on each year in a 9-year window around the end of "successful" and "failed" democratizations (Panel A) and "liberal" or "reversed" democratizations (Panel B). Successful and failed democratizations are determined using the designation in the ERT data. Namely, successful democratizations are ones in which there is a democratic transition or deepened democracy. Failed democratizations are ones in which there is no democratic transition. Liberal democratizations are ones in which the ending regime is a "liberal democracy" as determined by the V-Dem regime type variable. A reversed democratization is one in which the country reverts to a closed autocracy or the business or political elites become the most powerful group in the regime, also determined by the V-Dem regime indices, in the 5 years after the end of the democratization. The bars represent a 90% confidence interval of the point estimates with standard errors clustered by country and year.



E Model calculations and proofs

E.1 Value functions of the Citizens and the Elites

Both the Elites and the Citizens have Epstein and Zin utility over output. For the Citizens, in autocracy, their only decision is over whether to revolt; in democracy their only decision is the tax rate to implement. To understand the former, we need to understand the solution to the Citizens' value function. We can solve this in three case: (1) by solving for their

Table D.16: Future inequality and price declines

This table presents the relationship between price declines in democratizations and future declines in inequality. The specification estimated is

$$\text{Gini}_{c,t+h} - \text{Gini}_{c,t+1} = \alpha + \beta_1 \mathbb{1}_{c,t}\{\text{Democratization}\} + \beta_2(p_{c,t} - p_{c,t-3}) + \beta_3 \mathbb{1}_{c,t}\{\text{Democratization}\} \times (p_{c,t} - p_{c,t-3}) + \epsilon_{c,t}$$

where h is either 5 or 10, p is the log price of the aggregate stock market index, and α represents either the coefficient on a vector of ones or the fixed effects denoted at the bottom of the table. Standard errors (in parentheses) are clustered by country and year. All coefficients have been multiplied by 100 for presentation. ***, **, * denote significance at the 1%, 5%, and 10% level, respectively.

Dependent variable:	Five-year change in Gini coef.		Ten-year change in Gini coef.	
	(1)	(2)	(3)	(4)
Democratization × 3-year Price Change	0.24**	0.23**	0.54**	0.37*
	(0.10)	(0.11)	(0.24)	(0.20)
Democratization	-0.17	-0.01	-0.68**	-0.13
	(0.12)	(0.13)	(0.26)	(0.30)
3-year Price Change	-0.07	-0.14**	-0.22	-0.09
	(0.08)	(0.05)	(0.24)	(0.10)
Country FE	No	Yes	No	Yes
Year FE	No	Yes	No	Yes
Region × Year FE	No	No	No	No
Continent × Regime × Year FE	No	No	No	No
Controls	No	No	No	No
Episode obs.	330	330	306	304
R^2	0.01	0.40	0.02	0.49
Observations	1,807	1,804	1,491	1,487

value function in the revolution, (2) by solving for their value function in democracy, and (3) by solving for their value function in autocracy as a function of the cost of revolution μ. For the Elites, they must decide the tax rate to set in autocracy, and make no decisions of consequence for the political environment in democracy. In all periods, they must choose their portfolio in financial markets.

Value functions in the revolution If the Citizens decide to revolt, their value function can be written as

$$V^p(R, \mu_t)^{1-1/\psi} = (1-\beta)(Y_t^R)^{1-1/\psi} + \beta \left(\mathbb{E}_t \left[V^p(R, \mu_t)^{1-\gamma}\right]\right)^{\frac{1-1/\psi}{1-\gamma}}$$

where $Y^R \equiv \left(\frac{1-\mu}{1-\delta}\right)Y$ and the expectation is taken over the next period value of Y. Because Y is independent and identically distributed and the value function is homogeneous, we can scale the value function by Y, which yields $v^p(R,\mu_t)Y_t \equiv V^p(R,\mu_t)$. The scaled value function is then equal to:

$$v^p(R,\mu_t)^{1-1/\psi} = (1-\beta)\left(\frac{1-\mu_t}{1-\delta}\right)^{1-1/\psi} + \beta^\star \left(v^p(R,\mu_t)^{1-\gamma}\right)^{\frac{1-1/\psi}{1-\gamma}}$$

where $\beta^\star = \beta e^{(1-1/\psi)\bar{y}+\frac{1}{2}(1-\gamma)(1-1/\psi)\sigma_y^2}$. Solving for the value function yields the solution,

$$v^p(R,\mu_t) = \left(\frac{1-\beta}{1-\beta^\star}\right)^{\frac{1}{1-1/\psi}} \left(\frac{1-\mu_t}{1-\delta}\right).$$

The Elites conversely are assumed to have a large negative payoff in the revolution state $v^r(R)$ such that they would always rather concede democracy.

Value functions in democracy The value function of the Citizens in democracy can be solved for using an identical logic to the solution in the revolution. Since the economy remains a democracy forever after a successful democratization, the value function can be written as

$$v^p(D)^{1-1/\psi} = (1-\beta)\hat{y}^p(\tau^{p*},\theta^D,\nu^D)^{1-1/\psi} + \beta^\star \left(v^p(D)^{1-\gamma}\right)^{\frac{1-1/\psi}{1-\gamma}}.$$

Solving yields

$$v^p(D) = \left(\frac{1-\beta}{1-\beta^\star}\right)^{\frac{1}{1-1/\psi}} \hat{y}^p(\tau^{p*},\theta^D,\nu^D).$$

In equilibrium, the value function of the Elites in democracy can be solved for in the same way and is given by

$$v^r(D) = \left(\frac{1-\beta}{1-\beta^\star}\right)^{\frac{1}{1-1/\psi}} \hat{y}^r(\tau^{p*},\theta^D,\nu^D).$$

Value to the Citizens in autocracy In autocracy, there will be a solution to the value function for each value μ takes. This means we can write the value function of the Citizens in autocracy as

$$v^p(A,\mu_t)^{1-1/\psi} = (1-\beta)\hat{y}_t^p(\tau_t,\theta^A,\nu^A)^{1-1/\psi} + \beta^\star \left(\mathbb{E}_t\left[v^p(\mu_{t+1})^{1-\gamma}\right]\right)^{\frac{1-1/\psi}{1-\gamma}} \tag{E.1}$$

where the continuation value is given by

$$v^p(\mu_{t+1}) = \begin{cases} v^p(D)^{1-\gamma} & \text{if } \phi_{t+1} = 1 \\ v^p(A, \mu_{t+1})^{1-\gamma} & \text{if } \phi_{t+1} = 0 \\ v^p(R, \mu_{t+1})^{1-\gamma} & \text{if } \rho_{t+1} = 1 \end{cases}.$$

Value function of the Elites in autocracy The Elites have Epstein and Zin utility and trade in the consumption claim and a zero-net supply riskfree bond. The recursive formulation of their utility in autocracy can be written similar to the Citizens' utility and is given by

$$v^r(A, \mu_t)^{1-1/\psi} = (1-\beta)(\hat{y}^r(\tau_t, \theta^A, \nu^A))^{1-1/\psi} + \beta^\star \left(\mathbb{E}_t \left[v^r(\mu_{t+1})^{1-\gamma}\right]\right)^{\frac{1-1/\psi}{1-\gamma}} \tag{E.2}$$

where

$$v^r(\mu_{t+1}) = \begin{cases} v^r(D)^{1-\gamma} & \text{if } \phi_{t+1} = 1 \\ v^r(A, \mu_{t+1}) & \text{if } \phi_{t+1} = 0 \\ v^r(R) & \text{if } \rho_{t+1} = 1 \end{cases}$$

with $v^r(R)$ representing the utility of the Elites in the revolution which does not depend on μ. The budget constraint is the standard relation

$$W_{t+1} = (W_t - C_t^r) R_{W,t+1} \tag{E.3}$$

and market clearing requires that Elite income equals Elite consumption in the aggregate and that the aggregate Elite portfolio place a weight of 1 on the consumption claim (following from the riskfree asset being in zero-net supply). This is because there is no trading between the Elites and the Citizens in autocracy. The pricing kernel revolves around the growth rate of the consumption of the Elites. This can be decomposed as

$$\log\left(\frac{C_{t+1}^r}{C_t^r}\right) \equiv \log\left(\frac{Y_{t+1}}{Y_t}\right) - \log\left(\frac{c_{t+1}^r}{c_t^r}\right) \tag{E.4}$$

where c^r is Elite consumption relative to aggregate income. The growth rate of this is given by

$$\chi_{t+1} \equiv \log \frac{c_{t+1}^r}{c_t^r} = \begin{cases} \log Z & \text{if } \phi_t = 1; \phi_{t-1} = 0 \\ 0 & \text{otherwise} \end{cases} \tag{E.5}$$

where $Z < 1$ represents the penalty the Elites face to their consumption upon a successful transition to democracy, given by

$$Z = \frac{\hat{y}^r(\tau^{p*}, \theta^D, \nu^D)}{\hat{y}^r(\tau_t, \theta^A, \nu^A)}. \tag{E.6}$$

E.2 Solution to more general cases of the model

In the main text, the model is calibrated such that upon reaching the third state, society transitions to democracy. In general though, for higher values of μ in the third state, the outcomes will be different. This section solves for the cutoff values of μ that achieve the different equilibrium outcomes in the third state, in particular, the three thresholds, $\underline{\mu}$, μ^*, and μ^D. In this example, for simplicity I take the case where $\mu^1 = \mu^2 = 1$ and $\mu^3 = \mu$, and I will characterize the solution for the threshold points in the third state. Further, also assume $\omega = 1$ and $\nu = \delta$ to simplify the math. The transition matrix is given by

$$\mathbf{P} = \begin{pmatrix} p_{11} & p_{12} & p_{13} \\ p_{21} & p_{22} & p_{23} \\ p_{31} & p_{32} & p_{33} \end{pmatrix}$$

where all of the rows must sum to 1. The optimized value function (scaled by Y) of the citizens can be expressed compactly as

$$\mathbf{V}^p = \mathbf{Y} + \beta^\star \mathbf{P}\mathbf{V}^p$$

and implies the solution

$$\mathbf{V}^p = (\mathbf{I} - \beta^\star \mathbf{P})^{-1}\mathbf{Y} \tag{E.7}$$

where $\mathbf{I}$ is the identity matrix. The solutions in this case are pinned down by the cashflows in the final state and the transition probabilities.

To obtain the first threshold, $\underline{\mu}$, notice that the present value of consumption when the Citizens receive no transfers in any period is

$$V^p(A, \mu_t; \tau_t = 0 \ \forall t) = \frac{1 - \theta^A}{(1 - \delta)(1 - \beta^\star)}. \tag{E.8}$$

Equating Equation (6.7) with Equation (E.8) shows that

$$\underline{\mu} = \theta^A. \tag{E.9}$$

The second threshold, μ^*, is given by

$$\mu^* = \theta^A - \frac{\varpi(\theta^A - \delta)^2}{2(1-\delta)}, \tag{E.10}$$

where

$$\varpi = \mathbf{e}_3'(\mathbf{I} - \beta^\star \mathbf{P})^{-1}\mathbf{e}_3(1-\beta^\star)$$

where $\mathbf{e}_3$ is a column vector with a 1 in the third position and zeros elsewhere, $\mathbf{I}$ is a 3×3 identity matrix. In addition, when μ is in the range $\mu \in [\mu^*, \underline{\mu})$, the minimum tax the Elites can offer to avoid revolution is given by

$$\hat{\tau}(\mu) = \frac{\theta^A - \delta}{1-\delta} - \frac{\sqrt{(\theta^A - \delta)^2 - 2\left(\frac{\theta^A - \mu}{\varpi}\right)(1-\delta)}}{1-\delta}. \tag{E.11}$$

The final threshold, μ^D is described above in Equation (6.10).

Proposition 1. *If the transition matrix for μ follows Equation (6.11) and $\mu^1 = \mu^2 = 1$ and $\mu^3 = \mu$, and the regularity conditions $\beta^\star < 1$ and $\theta > \delta$ hold, then:*

- *For $\mu \in [\underline{\mu}, 1]$, the economy is an autocracy and taxes are set to 0 in all periods;*
- *For $\mu \in [\mu^*, \underline{\mu})$, the economy is an autocracy in all periods and taxes are set to 0 in the autocracy state and the democratization state, and to $\hat{\tau}(\mu)$, as specified in Equation (E.11), in the third state;*
- *For $\mu \in [\mu^D, \mu^*)$, the economy is an autocracy and taxes are set to 0 in the autocracy state and the democratization state, and the economy becomes a democracy in the third state and taxes are set to τ^{p*}. Once the third state is reached, the economy remains a democracy forever;*
- *For $\mu \in [0, \mu^D)$, the economy is an autocracy and taxes are set to 0 in the autocracy state and the democratization state, and the Citizens revolt in the third state;*

is a Markov perfect equilibrium with the threshold points $\underline{\mu}$, μ^*, and μ^D described by Equations (E.9), (E.10), and (6.10). The associated thresholds and the states the correspond to are shown in Figure E.12.

E.3 Asset pricing algebra

The solution for the pricing kernel revolves around the growth rate of the consumption of the Elites. This can be decomposed as

$$\frac{C^r_{t+1}}{C^r_t} \equiv \left(\frac{Y_{t+1}}{Y_t}\right)\left(\frac{c^r_{t+1}}{c^r_t}\right) \tag{E.12}$$

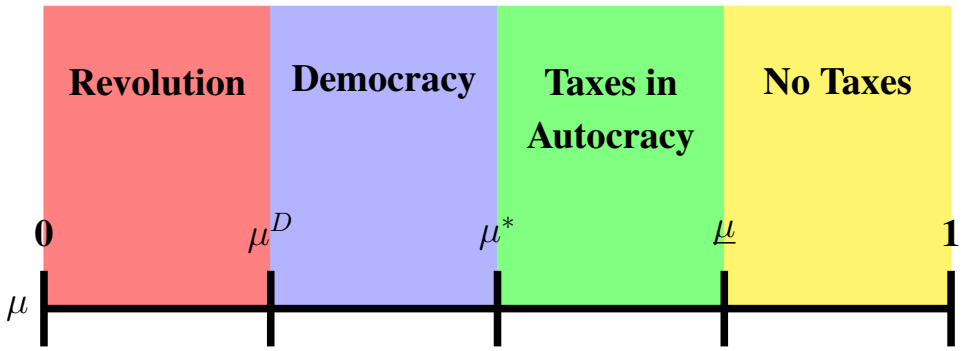
where c_{t+1} is consumption scaled by aggregate income. The growth rate of scaled consumption is given by

$$\frac{c^r_{t+1}}{c^r_t} \equiv \begin{cases} Z & \text{if } \phi_t = 1; \phi_{t-1} = 0 \\ 1 & \text{otherwise} \end{cases} \tag{E.13}$$

where $Z < 1$ represents the penalty the Elites face to their consumption upon a successful transition to democracy. This can take on two values, given by

$$Z \equiv \begin{cases} Z_H = \frac{\hat{y}^r(\tau^{pH*}, \theta^{DH}, \nu^{DH})}{\hat{y}^r(\tau_t, \theta^A, \nu^A)}. & \text{with probability } q \\ Z_L = \frac{\hat{y}^r(\tau^{pL*}, \theta^{DL}, \nu^{DL})}{\hat{y}^r(\tau_t, \theta^A, \nu^A)}. & \text{with probability } 1-q \end{cases} \tag{E.14}$$

Figure E.12: Equilibrium Outcome for Regions of μ



Under Epstein-Zin utility, the stochastic discount factor of the Elites is

$$M_{t+1} = \beta^{\alpha}\left(\frac{C^r_{t+1}}{C^r_t}\right)^{-\frac{\alpha}{\psi}} R^{(\alpha-1)}_{W,t+1}$$

where $\alpha \equiv \frac{1-\gamma}{1-\frac{1}{\psi}}$. The return on wealth can be written as

$$R_{W,t+1} = \left(\frac{\kappa_{t+1}}{\kappa_t - 1}\right)\left(\frac{C^r_{t+1}}{C^r_t}\right) \tag{E.15}$$

where $\kappa \equiv W/C$ is the cum-dividend wealth-consumption ratio. Conjecture that κ is constant in each state of μ. This means that the solution is given by the solution to the system of equations

$$\kappa(\mu^j) = 1 + \beta e^{(1-\frac{1}{\psi})\bar{y} + \frac{1}{2}(1-\gamma)(1-\frac{1}{\psi})\sigma_y^2}\left[\mathbf{e}_j'\mathbf{P}\boldsymbol{\kappa}^{\alpha}\right]^{\frac{1}{\alpha}} \tag{E.16}$$

in states 1 and 2, where

$$\boldsymbol{\kappa}^{\alpha} \equiv \begin{pmatrix} \kappa(\mu^1)^{\alpha} \\ \kappa(\mu^2)^{\alpha} \\ \kappa(\mu^3)^{\alpha}(qZ_H^{1-\gamma} + (1-q)Z_L^{1-\gamma}) \end{pmatrix}. \tag{E.17}$$

In state 3, the wealth-consumption ratio is

$$\kappa(\mu^3) = \frac{1}{1 - \beta e^{(1-\frac{1}{\psi})\bar{y} + \frac{1}{2}(1-\gamma)(1-\frac{1}{\psi})\sigma_y^2}}.$$

This system of equations can be solved numerically.

The riskfree rate, similar to the wealth-consumption ratio, varies only with the state of μ and is given by

$$R_f(\mu_t) = \mathbb{E}\left[\beta^{\alpha}\left(\frac{C^r_{t+1}}{C^r_t}\right)^{-\gamma}\left(\frac{\kappa(\mu_{t+1})}{\kappa(\mu_t)-1}\right)^{\alpha-1}\right]^{-1}.$$

This once again yields a system of 3 equations for the riskfree rate, which are characterized by

$$R_f(\mu^j) = \beta^{-\alpha} e^{\gamma\bar{y} - \frac{1}{2}\gamma^2\sigma_y^2}\left(\kappa(\mu^j) - 1\right)^{\alpha-1}\left[\mathbf{e}_j'\mathbf{P}\boldsymbol{\kappa}^{\alpha-1}\right]^{-1} \tag{E.18}$$

in states 1 and 2, where

$$\boldsymbol{\kappa}^{\alpha-1} \equiv \begin{pmatrix} \kappa(\mu^1)^{\alpha-1} \\ \kappa(\mu^2)^{\alpha-1} \\ \kappa(\mu^3)^{\alpha-1}(qZ_H^{-\gamma} + (1-q)Z_L^{-\gamma}) \end{pmatrix}. \tag{E.19}$$

This riskfree rate in the 3rd state is given by

$$R_f(\mu^3) = \beta^{-1} e^{\frac{1}{\psi}\bar{y} - \frac{1}{2}(\gamma - \frac{1}{\psi}(1-\gamma))\sigma_y^2}.$$

Recall that the dividend claim follows:

$$\frac{D_{t+1}}{D_t} \equiv \left(\frac{Y_{t+1}}{Y_t}\right)^{\Upsilon} \chi_{t+1}^D.$$

This implies that the price-dividend ratio can be expressed as

$$1 = \mathbb{E}_t\left[\beta^\alpha \left(\frac{C_{t+1}}{C_t}\right)^{\Upsilon-\gamma} \left(\frac{\kappa_{t+1}}{\kappa_t - 1}\right)^{(\alpha-1)} \chi_{t+1}^{-\gamma} \chi_{t+1}^D \left(\frac{pd_{t+1}+1}{pd_t}\right)\right] \tag{E.20}$$

where pd is the ex-dividend price-dividend ratio. In democracy, the price-dividend ratio is given by

$$pd(D) = \beta e^{(\Upsilon - \frac{1}{\psi})\bar{y} + \frac{1}{2}((\Upsilon-\gamma)^2 + (1-\gamma)(\gamma - \frac{1}{\psi}))\sigma_y^2} \left(pd_{t+1} + 1\right) \tag{E.21}$$

which implies that

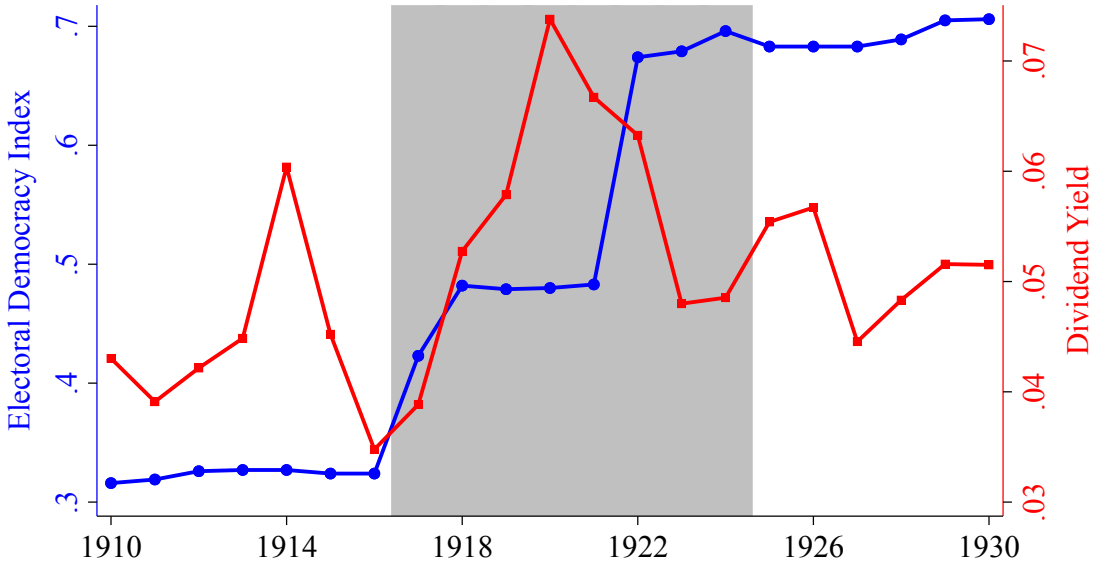
$$pd(D) = \frac{\beta e^{(\Upsilon - \frac{1}{\psi})\bar{y} + \frac{1}{2}((\Upsilon-\gamma)^2 + (1-\gamma)(\gamma - \frac{1}{\psi}))\sigma_y^2}}{1 - \beta e^{(\Upsilon - \frac{1}{\psi})\bar{y} + \frac{1}{2}((\Upsilon-\gamma)^2 + (1-\gamma)(\gamma - \frac{1}{\psi}))\sigma_y^2}}. \tag{E.22}$$

F Case studies of democratization

F.1 Sweden, 1917–1924

The fall of the monarchy in Sweden offers an excellent example of a democratizations associated with a large stock market response combined with subsequent redistribution. Relative to its Scandinavian neighbors, Sweden was slow to democratize. This changed in 1917. The year began with a conservative government in power. By autumn, however, this government had been forced from office due to "food riots and the unreliability of the army"

Figure F.13: Electoral Democracy Index and dividend yield, Sweden 1917–1924



(Luebbert, 1991). Worker and soldier unrest continued into 1918 and by October the decisive democratic breakthrough had occurred. This victory brought with it a coalition Liberal-Social Democrat government from 1918–1920 which instituted several pro-labor policies through strengthening the already strong trade unions and instituting the 8 hour work day (Bengtsson, 2014). Universal suffrage was also established during this time, with the first elections under universal suffrage taking place between September 10th and 26th in 1921. V-Dem's Electoral Democracy Index tracks this progress well, as shown in Figure F.13, showing an initial increase in 1918 and final increase in 1922 as the newly elected government takes power.

While these policy changes did not immediately bring forth the famed Swedish welfare state—that would come about during and after the Great Depression—they did alter the bargaining power between labor and capital tremendously. For example, Bengtsson (2014) finds a structural break in the capital share of income in 1920, with the capital share going from a high of 40% in 1916 down to 20% just after 1920. Moreover, this effect seemed to permanent; from 1920–2000, it would not reach above 30% again.

Additional support for a nearly immediate reduction in inequality comes from examining top income shares. While exact numbers on how much inequality declined after the democratization are somewhat contested, recent research by Bengtsson, Molinder and Prado (2021)

on a random sample of tax returns in Stockholm indicate that the Gini coefficient fell by at much as 20 percentage points and the top 10% share of income by 15 percentage points from 1920 to 1940. For comparison, the World Inequality Database (WID) reports that the top 10% share in the United Kingdom and United States remained flat over this period, and in France only declined by 5 percentage points. Similarly, the WID reports that the top 1% income share in Sweden fell by 8 percentage points, compared to 5 percentage points in the UK and France from 1919–1941. It remained flat in the U.S. over this period. Bengtsson (2019) also notes the discontinuity in Swedish income inequality post-democratization.

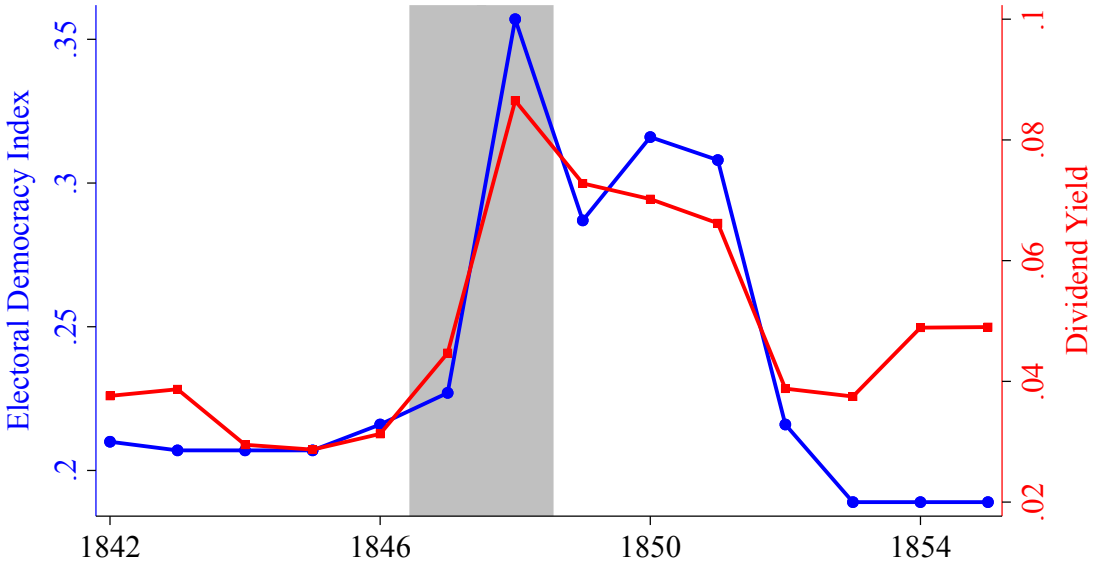
Finally, the Swedish democratization brought with it large increases in the dividend yield as shown in Figure F.13. The dividend yield began to rise in 1917 with the labor unrest and calls for increased political rights. In the year of the democratic breakthrough, the dividend yield rose further with the onset of the democratic breakthrough. From 1917–1920, the outcome of the democratization remained highly uncertain. However, as 1920 came to an end, the shift of power toward the left became complete, and brought with it large declines to inequality. With this uncertainty resolved, the dividend yield began to fall to it's pre-democratization levels.

F.2 France, 1847–1848

The establishing of the Second French Republic in the wake of the revolution of 1848 presents an excellent example of a failed democratization. The movement toward 1848 began in 1847 with the beginning of the Reformist "banquets" at which toasts were drunk to the *République française* (Marx, 1850). This *Campagne des banquets* was constructed to circumvent the restriction on political gatherings levied by the monarchy. While mostly liberal in nature, these banquets were also attended by reformists of all kinds; for example, a young Friedrich Engels attended some of these banquets starting in October 1847. King Louis Philippe allowed for these Reformist meetings to continue, resulting in an increase in free expression in the Electoral Democracy Index, as shown in Figure F.14.

As the banquets became more revolutionary in nature, however, the Prime Minister of France, François Guizot, outlawed them in January, 1848. Despite this ban, the gatherings continued. Things came to a head on February 22nd, when the French government banned the banquets for the second time, leading the organizing committee to cancel the events. Workers and students, however, had been mobilizing prior to the ban, and they did not plan to cancel their demonstration. It was with these demonstrations that a second "Three Glorious

Figure F.14: Electoral Democracy Index and dividend yield, France 1847–1848



Days" began, leading to the ousting of King Louis Philippe on February 24th.

Shortly after the abdication of King Louis Philippe, the Second French Republic was declared. However, the democratic progress was short lived. Infighting in the proto-socialist groups made them politically ineffectual and ultimately led to the election of Louis Napoleon Bonaparte in the election of 1848. Bonaparte, a man viewed as the arch-ally to the *bourgeoisie* by Marx, ultimately fully reversed the democratic progress in his famed 1851 *coup d'état*, which established the Second French Empire.

Also shown in Table F.14 is the movement in the dividend yield across the failed democratization. Dividend yields spike in 1848 with the initial unrest and fall of the monarch. They then drop after the election of Louis Napoleon, but remain elevated until 1851, and the establishment of the Second Empire. In 1851 and 1852, stock prices rose 27% and 53%, respectively, signaling both the end of the episode, and investors' satisfaction with the 1851 coup.

G List of democratizations

Table G.17 shows the list of democratizations used in the asset pricing results.

Table G.17: List of ERT democratizations used in dividend yield results

Country	Democratizations	Major Events
Argentina	1916–1926	1916: First Presidential Election with universal male sufferage
		1921: Passage of Labor Codes
		1922: Successful transition of power to Alvear Administration
Argentina	1932–1940	1932: Removal of Jose Felix Uriburu after turn toward fascism
		1932: (Fraudulent) election after coup
		1933: Survival of attempted coups
		1937: General strike in support of construction workers
		1938: Ortiz administration attempts to curtail electoral fraud
Argentina	1946–1948	1946: Presidential election which Peron won in a landslide
		1947: Suffrage extended to women
		1948: Successful legislative election
Argentina	1972–1974	1972: Peronists begin general strikes and protests
		1972: Return of Juan Peron from exile
		1973: First elections in 10 years
		1973: Juan Peron second presidency
		1974: Death of Juan Peron
		1974: Beginning of Isabel Peron administration
Australia	1843–1844	1843: First parlimentary election
Australia	1856–1858	1856: Beginning of Responsible Government
		1856: Eight hour workday introduced
		1856: Manhood suffrage introduced
		1856: South Australian Constitution
		1858: Secret Ballot introduced
		1858: Women granted right to divorce
Australia	1901–1904	1901: Formation of the Australian federation
		1901: Commonwealth of Australia proclaimed
		1901: Australian Labor Party becomes official federal party
		1901: First federal election
		1902: Women receive right to vote
		1903: High Court of Australia established
		1903: Women vote in first election
		1904: First Labor government

(Continued on next page)

Country	Democratizations	Major Events
Australia	1918–1923	1918: Beginning of industrial unrest
		1918: End of WWI bring end to conscription of troops
		1919: Preferential voting introduced
		1921: First Woman elected to parliament
		1922: Queensland abolishes upper house
Belgium	1894–1900	1893: General strike for suffrage
		1894: First election under universal manhood sufferage
		1894: Beginning of welfare net
		1896: Beginning Liberal-Labor alliance
		1900: Election of 1900
Belgium	1919–1922	1919: End of German occupation
		1919: Beginning of Labor-Catholic Party coalition
		1919: Introduction of graduated income tax
		1919: First election with universal single-vote suffrage
		1921: General election
Belgium	1944–1950	1944: End of German occupation
		1944: Social Pact between labor party and trade unions
		1945: Return of government in exile
		1946: General election
		1949: Introduction of women's sufferage
		1950: General strike and abdication of King Leopold
Belgium	1961–1965	1961: "Strike of the Century"
		1961: Linking of Walloon nationalism with syndicalism
		1961: Decolonization of Congo
		1965: End of Congo Crisis
Bahrain	2000–2003	1999: Death of Shaikh Isa bin Salman Al Khalifa
		2000: Creation of Supreme Judicial Council
		2001: National Action Charter
		2002: New constitution
		2002: Legislative Election
		2002: Women's right to vote
Brazil	1945–1950	1945: End of the Estado Novo
		1945: Beginning of Social Democratic Party dominance
		1946: Fifth constitution of Brazil
		1947: Legislative election
		1950:: General election

(Continued on next page)

Country	Democratizations	Major Events
Canada	1867	1867: Creation of the Dominion of Canada
Canada	1920–1938	1920: Dominion Elections Act 1920: Formation of Progressive Party of Canada 1921: Election of first woman to House of Commons 1922: Full suffrage to black and white women in most provinces 1925: Extension of suffrage in Newfoundland and Labrador 1925: Election with continued Progressive Party success 1926: King-Byng affair
Canada	1942–1954	1942: A national plebiscite is held on the issue of conscription 1942: Income War Tax Act brings increased labor mobilization 1949: End of Judicial Committee of the Privy Council appeals in Canada
Switzerland	1970–1972	1971: First National Election with Women Voting
Ivory Coast	2001–2002	2001: Ivorian Popular Front (FPI) win majority
Colombia	1990–1995	1990: Colombian Constitutional Assembly election 1991: Enacting of the Constitution of Human Rights 1993: Death of Pablo Escobar 1995: Downfall of Cali Cartel
Denmark	1901–1902	1901: Introduction of parlimentary sovereignty 1901: Folketing election 1902: Landsting election
Denmark	1916–1920	1915: Women granted right to vote 1916: Beginning of the Danish welfare state 1918: First elections under women's suffrage 1920: Easter Crisis
Denmark	1945–1948	1945: End of German Occupation 1945: Folketing and Landsting elections 1945: Beginning of Social Democrat dominance 1946: October Note 1948: Faroe Island given "home rule"
Spain	1931–1934	1931: Deposition of King Alfonso XIII 1931: Beginning of Second Spanish Republic 1931: New constitution 1933: General election

(Continued on next page)

Country	Democratizations	Major Events
Spain	1976–1980	1975: Death of Francisco Franco
		1977: First parliamentary election since 1936
		1978: Approval of 1978 Constitution
		1979: First general election under new constitution
		1981: Survival of attempted coup
Finland	1917–1921	1917: Independence from Russia
		1918: End of Finnish Civil War
		1919: New Constitution enacted
		1919: Parliamentary election
		1919: Social Democrat victory
		1921: Official completion of Finnish Independence
Finland	1945–1946	1945: End of alliance with Nazi Germany
		1945: Parliamentary election
		1946: Beginning of Mauno Pekkala administration
Finland	1948–1950	1948: Parliamentary elections
		1948: End of Pekkala administration
		1949: Kemi strike; rejection of Communism
		1950: Labor unrest and threat of general strike
		1950: Start of a social reform era and welfare state
France	1847–1848	1847: Beginning of the Reform Movement and the banquets
		1848: July Monarchy Ends
		1848: Founding of Second French Republic
		1848: Election of President Louis-Napoleon Bonaparte
France	1966	1966: Founding of Democratic Centre party
		1966: Beginning of student movement toward May 68
Hong Kong	1989–1992	1989: Tienanmen Square Protests
		1989: Founding of Hong Kong Alliance in Support of Patriotic Democratic Movements of China
		1990: Beijing ratifies Hong Kong's Basic Law
		1991: Introduction of directly elected seats in legislature
		1992: Governor Chris Patten announces reform package

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Country	Democratizations	Major Events
Indonesia	1945–1957	1945: Beginning of Indonesian National Revolution
		1946: Beginning of Republican government in Jakarta
		1949: Independence
		1950: Provisional Constitution of 1950
		1951: Founding of Indonesian Communist Party
		1955: First parlimentary elections
		1957: System of Guided Democracy
Indonesia	1997–2004	1997: Indonesian legislative election
		1998: Student demonstrations begin
		1998: Collapse of Suharto regime
		1999: First democratic elections
		2000: Process of Constitutional reform
		2004: Presidential election
India	1950–1957	1950: Adoption of Constitution of India
		1950: First Republic Day
		1951: General election
		1952: Completion of General election
		1957: General election
India	1977–1979	1977: End of emergency powers
		1977: Founding of Congress for Democracy
		1977: General Elections; first loss for the Congress
		1978: Appointment of Backward Classes Commission
		1979: Fall of Janata Party
Kenya	1990–2003	1990: Increased congressional pressure for reform
		1991: Founding of Forum for the Restoration of Democracy (FORD-Kenya)
		1991: Repeal of one party amendment
		1992: General election
		1993: Successful transition to multiparty rule
		2003: FORD-Kenya election victory

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Country	Democratizations	Major Events
South Korea	1981–2000	1980: Gwangju Uprising 1981: Founding of Fifth Republic of Korea 1987: June Democracy Movement 1987: First democratic elections 1988: Founding of Sixth Republic of Korea 1988: New Constitution 1993: Reforms clamping down on corruption 1998: Inauguration of Kim Dae-jung 1998: First peaceful tranfer of power between parties
South Korea	2017–2018	2017: Park Geun-hye's removal from office 2017: President Moon Jae-in elected 2018: Park sentenced to 25 years in prison for bribery, coercion, and abuse of power
Sri Lanka	1947–1949	1947: First elected parliamentary government 1947: New republican constitution replaced the Soulbury Constitution 1948: Discriminatory legislation passed 1949: Tamil congress splits; Federal Party is formed
Sri Lanka	2015–2017	2015: Presidential elections 2015: Vote for Mahinda Rajapaksa; does not belong to established political party 2015: Agenda to reverse near autocratic actions of last decade 2016: New president lifts ban on Tamil
Malaysia	2018	2018: Election of the Pakatan Harapan 2018: End of 60 year political reign by United Malays National Organisation 2018: Malay rights groups lead anti-ICERD rally reversing Mahathir's decision to ratify ICERD 2019: Partnership between UNMO and PAS is formalized
Namibia	2013–2016	2013: Push for gender equality 2014: Election with peaceful transfer of power 2014: Surveys indicate more citizens support democracy 2015: Local and regional elections held with electronic voting 2016: SWAPO power checked by High Court

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Country	Democratizations	Major Events
Nigeria	1976–1980	1976: Commander in Chief Muhammed killed in abortive coup
		1976: General Olusegun Obasanjo, takes over
		1976: Minorities vote for new president, Alhaji Shehu Shagari
		1978: Obasanjo lifts ban on political parties
Nigeria	2010–2016	2010: Death of President Umaru Yar'Adua
		2011: Election of 2011 (most transparent since 1999)
		2015: Even more transparent general election
		2015: Successful transition of power to Muhammadu Buhari
Netherlands	1917–1923	1917: Universal manhood suffrage implemented
		1917: Women allowed to be elected, but not vote
		1918: Unsuccessful socialist revolution in November
		1919: Full suffrage granted to women
		1920: Netherlands joins League of Nations
Netherlands	1945–1980	1945: End of German occupation
		1946: Liberal State Party becomes Freedom Party
		1946: Freeminded Democratic League joins Labor Party
		1948: People's Party for Freedom and Democracy formed
		1966: Democrats 66 formed
Norway	1906–1910	1906: First parliamentary elections since the end of Union with Sweden
		1907: Legislature allows women limited suffrage and ability to hold office
		1909: Sorting passes Concessions Laws following much debate and split in Venstre
Norway	1914	1913: Universal suffrage established
		1914: First elections with universal suffrage
Norway	1945–1998	1945: End of German Occupation
		1945: Parliamentary election
		1945: Labor wins for first time since 1915
		1948: Break between Labor and Communist parties
New Zealand	1889–1897	1889: Abolition of plural votes for men of property
		1890: First political party, Liberal Party, formed
		1893: Universal suffrage granted
		1894: Act of 1894 gave state power to repurchase land

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Country	Democratizations	Major Events
Pakistan	2002–2017	2002: Referendum and General Election
		2002: Beginning of multi-party politics after 1999 coup
		2003: National assembly
		2008: General election; end of Musharraf administration
		2008: Official end of military rule
		2013: General election
		2017: Disqualification of Prime Minister Sharif by Supreme Court
Peru	2001–2004	2001: Elections after fall of Fujimori
		2001: Numerous reforms
		2002: Regionalization Law
		2002: National Accord
		2004: Expansion of social safety net
Philippines	2010–2011	2010: Presidential election
		2010: Introduction of electronic vote counting
		2010: Aquino administration; politically stable and relatively clean
Portugal	1970–1984	1969: Transition to Caetono Regime
		1969: Legislative election
		1974: Carnation Revolution
		1975: Elections for constitutional assembly
		1975: Communist coup replaced by moderate coup
		1976: Adoption of new constitution
		1977: Beginning of European integration process
		1979: First woman prime minister Maria de Lourdes Pintasilgo
		1980: Legislative election
		1983: Legislative election; Socialist party victory
Sweden	1917–1924	1917: Fall of conservative government
		1918: Introduction of universal sufferage
		1918: First Left-Social Democrat coalition government
		1921: First election under universal suffrage
		1922: Successful transition of power
Sweden	1971–1974	1971: Abolished upper house of the Riksdag
		1974: New constitution; principles of parliamentarianism incorporated
		1974: End of compulsory sterilization program
Thailand	1992–1993	1992: Black May Protests
		1992: General Elections after Coup

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Country	Democratizations	Major Events
Thailand	1997–2001	1997: Enactment of the "People's Consitution"
		1997: Chuan Leekpai becomes prime minister
		1998: Extension of public programs
Thailand	2008–2012	2008: Elections held after 2006 military coup
		2011: General election; Pheu Thai Party wins in landslide
Tunisia	2011–2016	2011: Jasmine Revolution ousts Zine El Abidine Ben Ali
		2011: Beginning of Arab Spring
		2014: Constitution of 2014
		2014: Parliamentary elections
U.S.A.	1893–1903	1892: Founding of the Populist Party
		1893: Start of the Progressive Era
		1893: Beginning of the Anti-Saloon League
		1897: Organized labor gains steam with Mother Jones at helm
		1903: March on Theodore Roosevelt home by Mother Jones
U.S.A.	1920–1932	1920: Presidential elections; first where women vote
		1921: Washington Naval Conference
		1922: First woman senator Rebecca Felton
		1927: Reduction in Second Ku Klux Klan popularity
		1930: Start of social safety net
		1932: Election of President Roosevelt and New Deal
U.S.A.	1970–1977	1970: Post-civil rights era reforms
		1971: Voting age moved to 18
		1974: Watergate and resignation of Nixon
		1977: Transition to Carter administration
South Africa	1994–2010	1994: End of South African Apartheid
		1994: Election of Nelson Mandela to presidency
		1995: Enactment of new constitution
		1999: General election
		1999: Beginning of Mbeki presidency
		2004: General Election
		2005: National Party merges with ANC