Democratization, Inequality, and Risk Premia

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Abstract

Periods of democratization exhibit economically large spikes in risk premia. Using a panel data set covering 57 countries over 200 years, I show that during periods of democratization, the equity premium and corporate credit spreads are significantly elevated, despite little to no effect on aggregate consumption and dividends. Further, I use a quasi-natural experiment coming from a shift in Catholic church attitudes toward democracy and show that this change was associated with a large increase in average excess returns for majority Catholic and autocratic countries. Finally, I show that these results can be rationalized through a standard political economy model in which the wealthiest segments of society are negatively impacted by the consolidation of democracy. These results are key to understanding how political institutions and the distribution of wealth and political power influence asset returns.

Keywords: Democracy, Risk Premia, Equity Premium, Credit Spreads, Democratization, Inequality, Political Institutions, Catholic Church.
JEL codes: B17, B27, F30, F65, G00, G10, G12, G15, P16, P26

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1 Introduction

Since the industrial revolution, more than half of the countries on Earth have experienced democratizations. These democratizations, broadly defined as extensions of political rights to groups of people previously excluded from political processes, were fraught with inter-socioeconomic class tension, causing uncertainty for the politically powerful and economically wealthy. The finance literature has mostly focused on political uncertainty within a given political system, or risk brought about by changes to the "rules of the game," while uncertainty over "the game" itself has been largely ignored. Democratizations are steeped in political uncertainty and act as an ideal laboratory to study its effects. Studying asset markets gives insight into the preferences and expectations of the wealthiest members of these societies and how they react to democratizations in real time, making them an invaluable source for understanding these episodes. Despite such potential benefits, there has been no comprehensive study of the reaction of asset markets to episodes of democratization.

This study fills this gap by documenting three main results. First, using a panel consisting of 57 countries and spanning 200 years, I find highly elevated equity risk premia and corporate credit spreads during periods of democratization, indicating that they are periods of increased systematic risk for investors. These increases are large and economically meaningful, roughly the magnitude of the increases in risk premia observed during financial crises, as shown in Figure 1. Simultaneously, periods of democratization have little to no effect on macroeconomic aggregates, such as consumption growth, consumption volatility, or dividend growth, presenting a seeming challenge for consumption-based asset pricing theories.[1]

Second, I solve this challenge using a simple model with elites and citizens in the style of Acemoglu and Robinson (2006) embedded into a standard representative agent asset pricing model, matching the patterns observed in the data. In the model, equity owning elites with *de jure* political power try to avoid redistributing their income and wealth to poor, hand-to-mouth citizens

[1]For early consumption-based models, see Lucas (1978), Breeden (1979), and Mehra and Prescott (1985). The more recent literature has focus around the habit model of Campbell and Cochrane (1999), the long-run risks model of Bansal and Yaron (2004), and the disaster models of Rietz (1988), Barro (2006), Gabaix (2012), and Wachter (2013)

with *de facto* political power in that they outnumber the elites and can revolt. The primary friction is the commitment problem faced by the elites; they are not able to commit to future payoffs when there is no revolutionary threat. Democracy acts as a mechanism for the elites to commit to future redistribution and prevent a contemporaneous revolution. But, redistribution comes at a significant cost, making it a highly undesirable state for the elites agents. Uncertainty around whether redistribution will occur causes premia to spike, much like in the rare events models of Rietz (1988), Barro (2006), Gabaix (2012), and Wachter (2013). In the model, the wealthy are the ones who price assets[2], leading the resulting uncertainty over future cash flows to cause discount rates and credit spreads to rise and, therefore, asset prices to fall. In this way, democratizations that are accompanied by a redistribution of wealth, income, and political power act as rare and disastrous outcomes for the politically elite.

Third, to support the model and the casual[3] relationship between democratizations and asset prices, I leverage exogenous movement in the probability and cost of democratization coming from the Second Vatican Council (Vatican II), under Pope John XXIII. In April of 1963, the Catholic church made explicit a surprising attitude shift toward democratic forms of governance, a shift that Huntington (1991) labels as one of the five reasons the third wave of democratization of the 1970s, 1980s, and early 1990s occurred. Using a triple difference-in-differences strategy, I show that this quasi-natural experiment was associated with large increases in expected excess returns for treated majority Catholic and autocratic countries. To my knowledge, this is the first time this instrument has been used in the academic finance literature. These results show the importance of not just political uncertainty for asset returns, but also that inter-socioeconomic conflicts stemming from wealth and income inequality have a major role in asset pricing.

This project contributes to our understanding of what drives risk premia. My results provide a new mechanism of how risk premia vary over time: increased uncertainty for the wealthy coming

[2]This view has support in the literature. See, for example, Gollier (2001), Vissing-Jørgensen (2002), and Piketty (2013).

[3]This is only the case under the identifying assumptions I lay out in Section 5. In particular, the identifying assumption underlying this analysis is not random assignment, so this is not a pure natural experiment. The primary identifying assumption is that absent the Catholic church's attitude change the outcomes for both the treatment and control groups would have trended as they did in the pre-period. See Figure 6 for the path of returns in the pre-period for each group. This figure shows that there are no significant pre-trends.

from changes in political institutions. In normal times, this may not cause any problems in understanding variation in premia, as the incentives of the the rich and the poor may be sufficiently aligned. However, during periods of inter-socioeconomic class conflict, risk premia will not be egalitarian measures of macroeconomic distress. Rather, they will unveil the preferences of the few opposed to those of the many. This is particularly true in developing and autocratic societies where economic and political inequalities are far greater.

The paper is organized as follows: Section 2 gives an overview of the data sources used; Section 3 presents some stylized facts of the effects of periods of democratization on asset prices; Section 4 presents a model of democratization with asset pricing implications; Section 5 provides evidence for the model and the causal nature of the relationship between democratizations and asset prices through a quasi-natural experiment; Section 6 concludes.

Related Literature This paper builds on a budding literature looking at political shocks and uncertainty within rare events models.[4] Berkman et al. (2011) use the ICB data on political crises and show that global equity premia rise during times of political uncertainty and that industries that are more exposed to this uncertainty earn a higher premium. Manela and Moreira (2017) show that variation a text-based measure of uncertainty co-moves with risk premia, lending credence to rare disasters theories. Muir (2017) shows, using a similar data set, that equity risk premia spike during financial crises when consumption declines little, but are modest during wars and deep recessions where consumption declines are steep.

This project also fits into the macroeconomic and finance literatures looking at the affects of policy and political uncertainty. Bloom (2009) provides a structural framework to analyze the impact of these uncertainty shocks. Baker et al. (2016) develop an index of economic policy uncertainty and finds that increases in this index are associated with greater stock price volatility and reduced investment and employment. Baker et al. (2019) build on this by creating a newspaper based policy uncertainty index, which allows them to decompose the relative importance of policy shocks in different policy areas. My paper differs from these by studying uncertainty over political institutions rather than over particular policy decisions. As such this work is complementary to this body of research, showing that uncertainty over the institutions as well as policy are priced

[4] For a review of the recent theory literature on rare events models, see Tsai and Wachter (2015).

in stock and corporate bond markets.

This paper also contributes to the political economy literature. The model put forth in this paper builds on the seminal work by Acemoglu and Robinson (2006) by adding asset prices. This paper also adds to the evidence in Acemoglu et al. (2015), which shows that after periods of democratization government revenues rise and the effect on inequality is dubious, by providing evidence using asset prices that periods of democratization are times of great uncertainty for the political elites. This uncertainty provides evidence in favor of this class of models, as asset prices indicate that there is likely an increase in the volatility and/or a decrease in the expectation of cash flows to the wealthy. In this case, asset prices succeed where direct data on political elite income is incomplete. This paper also relates to Acemoglu et al. (2019) which shows that democracy causes growth in the long-run.

Further, this paper builds on a smaller literature looking at the impact politics on asset prices. Pastor and Veronesi (2019) shows that the "presidential puzzle" can be solved in a model where agents have time varying risk aversion and vote for Democrats in times where risk aversion is high. Grotteria (2019) shows that firms with greater lobbying expenditures have higher excess returns and rationalizes this result in a model of incumbents and entrepreneurs where lobbying acts a device to slow the progress of new entrants.

Most similar to my paper is Delis et al. (2019) who find, seemingly counter to the results I have described, that corporate credit spreads fall during periods of democratization from 1984 to 2014. However, I also find that after 1984, corporate credit spreads fall during periods of democratization. This differential effect pre- and post-1984 is a fruitful area for future research. One potential explanation is that markets have become more globalized over time, allowing the wealthy in autocratic countries to diversify much of their country specific risk. When such risk is perfectly diversified, investors would no longer price it meaning that only the positive macroeconomic effects of democratization would be priced. I discuss this at greater length in the Appendix.

2 Data

The empirical analyses performed below rely on several existing databases. As such understanding their content and limitations is of vital importance. I will first describe the data employed in this project and the construction of all the variables of interest, and then move on to a discussion of the empirical facts.

Equity Data Equity data come from Global Financial Data (GFD) and the Jorda-Schularik-Taylor (JST) Macrohistory Database (Jorda et al., 2020). These data are used in many papers in the economics and finance literatures.[5] GFD's equity data spans 200 years across 57 countries, allowing me to obtain a longer time series and larger panel than any other equity data source. To assess the robustness of the results, I perform the same analysis on data from the Jorda-Schularik-Taylor (JST) Macrohistory Database and find similar results. Moreover, I use the JST data when GFD reports a missing observation. In addition, to give the longest time series and largest panel possible, I fill in missing d/p observations using GFD data from the London Stock Exchange and data from the JST Macrohistory Database. The results are robust to (and in some cases stronger than) just using GFD's standard data set. In all, each country enters my data set for an average of 92 years per country.

I also use this data and data on prices to construct a dividend growth series. Dividend growth is constructed as the one-year change in d/p minus the returns from capital gains[6]. All the data are converted into US dollars and then divided by expected growth in the US Consumer Price Index (CPI; henceforth inflation) to create real price and dividend series. Expected inflation is estimated by fitting a first order autoregressive process to the time series. I also calculate total returns on equity using GFD's Total Returns series. I also supplement this series with the JST and London Stock Exchange data and use *ex-dividend* returns where dividend data are not available.

Fixed Income Data From GFD, I also obtain data on government bond yields and returns, government bill returns, corporate bond yields, and inflation. As with the equity data, all of the series are in US dollars except for inflation, which is reported in the home currency units. To calculate yield spreads, I subtract the yield on 10-year British Treasury bonds if the year is before 1914 and 10-year US Treasury bonds if the year is after 1914. Further, real rates of return are calculated by adjusting US Dollar Treasury bill returns for US inflation. This is by no means

[5] For a list of papers using the GFD data go to http://www.globalfinancialdata.com/publications-featuring-gfd-data/

[6] Mathematically, this is obtained through the equality $\Delta d_t = \log(\frac{D_t}{P_t}) - \log(\frac{D_{t-1}}{P_{t-1}}) + \log(\frac{P_t}{P_{t-1}})$

a perfect measure, as changes in default risk likely helps drives bill returns, but it is at least a reasonable proxy. The corporate bond series covers a significantly smaller panel than does the d/p data, featuring an unbalanced panel of 20 countries over 164 years.

Macroeconomic and Inequality Data Data on consumption and real GDP come from Maddison Historical Statistics who use expanded data from Barro and Ursua (2008). These data are the standard when examining historical GDP and consumption growth. Data on inequality data come from a variety of sources: the World Inequality Database (WID), the World Income Income Inequality Database (WIID), the Standardized World Income Inequality Database (SWIID), and V-Dem. Using these data, I create the longest time series and largest panel possible for the Gini coefficient by taking an equal weighted average among the different datasets for each country-year observation of the Gini coefficient.

Events Data This paper uses data on many events from various databases. These events are generally used as controls in regressions to be sure that the results for democratizations are not being driven by adverse macroeconomic, political, or financial events. Data on financial crises come from the JST Macrohistory Database and Reinhart and Rogoff (2009). For the empirical exercise in Section 3.2, I combine these data into a single financial crisis variable, although the results are robust to including each one separately. These dataset use a narrative approach in constructing historical crises, often looking at large scale bank or asset market failures. These data are used extensively used by other scholars and are widely accepted as a representative database of financial crises among developed and developing countries. I also obtain data from Reinhart and Rogoff (2009) on sovereign defaults.

Recessions data come from the GFD Dates database, which compiles events throughout history on various topics. Data on wars come from the Correlates of War (CoW) data from the University of Michigan and Pennsylvania State University. This database contains data on interstate, intrastate, and extra-state wars as well as all non-war military conflicts from 1816-2007. It also provides demographic data on religion, data on military strength, expenditures, and capability, and bilateral export and import data.

Data on political crises come from the International Crisis Behavior database used in Berkman et al. (2011). Data on head of government (HoG) and head of state (HoS) deaths come from the V-Dem database and are supplemented with data from Wikipedia. Data on HoG and HoS attempted and successful assassination attempts come from Jones and Olken (2009).

Political Institutions Data Political institutions data come from the Varieties of Democracy (V-Dem) database. V-Dem aggregates all of the leading democratic institutions data from different sources – their data include the Freedom House and Polity data used extensively in the political economy literature. V-Dem constructs indices ranking the democratic institutions in every country on five overarching principles of democracy: electoral, deliberative, liberal, participatory, and egalitarian. For more information on the construction of these measures see Coppedge et al. (2018).

2.1 Defining Democratizations

I define periods of democratization as periods where the growth rate in the electoral democracy index is in the top fifth percentile of growth rates. I use growth rates rather than a simple difference to place greater weight on democratizations that occur at lower values of the index. This puts greater weight on democratic jumps that occur in more autocratic societies. However, the empirical results are robust to using a simple difference, as well.

Further, to account for other types of democratization not included in the electoral category, I take a equally weighted average of the other four democracy indices and define years in the top fifth percentile of growth rates of this index as periods of democratization, as well. I then fill in years between two democratization years. For example, if 1910 and 1912 are defined as periods of democratization for country i, I define 1911 as a period of democratization, as well.

I then remove all democratizations associated financial crises, wars, recessions, or sovereign default episodes to cleanly measure the effects of democratizations without picking up the effects of adverse macroeconomic events.

This methodology is designed to capture all large scale democratic changes in political institutions and the results are robust to different methodological choices. For example, the results hold if I use only the electoral index, the weighted average of all the indices, or the weighted average of all the indices excluding the electoral index.

I also collect data on successful and failed democratizations from Lindberg et al. (2018), which cover all democratizations from 1900-2016. I use this data to show differences in outcomes for countries that successfully democratize versus those that do not. However, I do not use this data for the empirical analysis, as this data focuses on long periods of democratization[7] rather than the specific episodes. The measure I described above instead looks a short periods of time where political institutions change abruptly. Tables D.14 and D.15, shows that my asset market results hold in this sample, as well.

Finally, I construct a similar measure for jumps from democracy to autocracy, which I call "autocratizations." These episodes are defined as growth rates in excess of the 95th percentile in one minus the electoral index and the equal weighted average indices. In this way, greater weight is assigned to transitions from democracies to autocracies. These events are included in each of the regressions in Section 3 to compare to the democratization results.

3 Stylized Facts

3.1 Proxies for Risk Premia

To assess the effects of democratizations on risk premia, I employ several proxies: (1) the change in the log dividend yield, (2) the cyclically adjusted price-to-earnings ratio, (3) VAR decomposed discount rate shocks, (4) average excess returns, and (5) credit spreads.

Following Muir (2017), I use the 5-year change[8] in the log dividend yield as a proxy for the equity premium. It is useful to use the difference in the dividend yield as opposed to the level to get around a persistent regressor problem as discussed in Lettau et al. (2008). However, I show in the appendix that the results are robust using the level of the log dividend yield as well. Further, the large number of country clusters[9] should dispel some of the concerns with using an autocorrelated regressor. For a discussion of this, see Angrist and Pischke (2009).

[7]For example, according to this data the Netherlands was in a period of democratization for 34 consecutive years, from 1946 to 1980.

[8]The results are robust to using a shorter differences such as 3-years or 1 year.

[9]57 in the full sample, certainly greater than the "rule of 42" proposed in Angrist and Pischke (2009)

The change in the dividend yield is a reasonable proxy for the equity premium as long as the effect of future expected cash flows is not too strong. For instance, if dividends are expected to be low after periods democratization, then the change in d/p will be an upwardly biased estimator of the expected returns. However, this does not seem to be the case. Table 4 shows that both nominal and real dividends are not statistically different in the 5-years after a democratization period, though the point estimates indicate that dividend growth is somewhat low after democratizations. In addition, Table 3 shows the results using a first-order vector autoregression to decompose cash flow and discount rate shocks in the log price-to-dividend ratio. These results indicate that discount rate shocks cause most of the variation in d/p while cash flow shock play an economically small and statistically insignificant role.

To ascertain the robustness of the results obtained using the d/p ratio, I also collect data on the five year Cyclically Adjusted Price-to-Earnings (CAPE) ratio, p/e, from GFD. These data cover 39 countries over 79 years. The earnings data from GFD use a 5-year average of aggregate earnings over the current price. If discount rates rise, then p/e should fall. However, this is exposed to the same critique as d/p, since when expected future earnings are low, p/e could be low as well independent of discount rates.

In addition to this, to decompose movements in d/p coming from innovations to discount rates, as opposed to cash flows, I fit data on d/p and Δd_{t+1} in a country-by-country, first-order vector autoregression[10] (henceforth; VAR(1)) and decompose the innovations into discount rate and cash flow news using the decomposition from Campbell and Shiller (1988). These will allow me to credibly assign the the variation in d/p to discount rates.

Finally, I also examine average excess returns on year after the start of a democratization until one-year after it ends. Average excess returns are the most popular estimator of the equity premium, and are credible as long as large discount rate shocks or cash flow shocks do not occur. Below, I will shock that discount rate shocks seem to appear in the start of the democratization and cash flow shocks do not reliably manifest, so these conditions seems to be met.

Each regression presented in this section includes country and date fixed effects to issolate the

[10] I also include data on the risk free rate of return where it is available for at least 75% of the observations. In these cases, I discard the >25% of the sample that does not contain risk free rate data. I use the return on local treasury bills less expected inflation, estimated using an AR(1), as my proxy for the risk free rate.

analysis to be *within* a country and *within* a time period. Also, several event controls are added to control for various political, financial, and macroeconomic occurrences that may contribute to the results. Finally, non-event controls such as inflation, consumption growth, level of military conflict, and so on, are included as well[11]. I also run regressions on each variable of interest gradually in the Appendix.

3.2 Results

Table 2 shows the results for three proxies for risk premia, the five-year difference in the d/p ratio, the p/e ratio corporate credit spreads, and average excess returns one-year after the start of a democratization, and the real rate implied by government bills. Column (1) shows that the difference in the dividend yields over five-years moves roughly twice as much as they do during financial crises, which are a good baseline as Muir (2017) finds that risk premia move most in financial crises compared to any other adverse macroeconomic event.

Also, note that I include episodes of "autocratization" in the regressions and that point estimates on the coefficients are insignificant and negative, indicating that there is no clear effect on equity premia for autocratic shift in political institutions. This indicates that the large equity premia observed in periods of democratization are not only from large scale movements in political institutions. Further, ICB political crises do not see the same level of increase as democratizations, indicating that this result is not only do to increases in political uncertainty. Column (2) shows that the price-to-earnings ratio is significantly lower during periods democratization, meaning that prices are low relative to earnings, so this is in the same direction as the previous results. This can similarly come about through a cash flow channel or a discount rate channel.

Fixed income aggregate risk indicators also peak during periods of democratization. Column (3) shows that corporate bond spreads are elevated by approximately 240 basis points at the beginning of periods of democratization. However, as shown in Table 2, this results holds only for the pre-1984 sample, consistent with Delis et al. (2019). Corporate credit spreads peak either because discount rates increase, or because credit risk is high. These combined results in corporate

[11] The controls I use differ by the variable due to the unbalanced nature of the panel. I only use variable controls when I do not lose too many observations including them

bond markets and equity markets show that risk premia are high during periods of democratization. Column (4) shows that the real rate is significantly lower than in normal times, consistent with a rare event risk story. However, the significance does not survive adding controls, despite the point estimates remaining negative. The negative sign on real rates lends support to increased risk story, as greater volatility and lower growth increase the investor demand for savings, driving up the price of safe assets and, therefore, driving down their return. Finally, Column (5) shows that average excess returns are 5 percentage points higher one-year after the democratization begins until one-year after it ends. This is a well founded proxy as average excess returns are the most commonly used estimator for equity premia in finance.

Table 3 shows that the proxies I employ are significantly elevated from the beginning of democratizations and that most of the movement is focused around the start. Column (1) shows that the decomposed discount rate shocks from the VAR peak in the first year of the democratization, which is a good indicator that risk spikes during these periods. Further, Column (2) shows that there are no significant negative cash flow shocks, which provides evidence in favor of using the dividend yield and PE ratio as proxies for risk premia. The path of these shocks can be seen graphically in Figure 2 which also shows the impulse responses for the dividend yield and GDP in a five-year window around the start of a democratization. Column (3) shows that credit spreads rise immediately before and at the start of episodes of democratization. Finally, Column (4) shows that the bulk of the reduction in risk free rates is focused in the start of the democratization.

Table 4 shows that dividends, default probabilities, and consumption are not largely affected by periods of democratization. Columns (1) and (2) show that while cash flows are negatively impacted by democratizations, the effect is not significant. This can be clearly seen in Column (2), where the point estimates are much smaller. In addition, the probability of default does not seem to rise much, as the number of companies does not change significantly during democratizations.

Further, the observed rises in premia do not seem to be consistent with standard, consumption-based approaches. Columns (4) shows that consumption growth is not statistically different during or after periods of democratization compared to normal times, showing that it takes a few years for the positive consumption benefits from democratization to materialize. Similarly, Column (5) shows that consumption volatility is not statistically different during democratization episodes and is only slightly elevated after democratizations. Taken together, in a standard consumption-based asset pricing model, these results would not be enough to account for the large variation in equity premia and corporate credit spreads observed in Table 2. Further compounding this is that the entire distribution of consumption looks no different than in normal times, as shown in Figure 3. This indicates that the results do not seem to be explained by an increased mass in the tail of the consumption distribution or greater negative skewness.

In the following section, I will present a model where the consumption of the wealthy, and not aggregate consumption, prices assets. Important for this model, will be that the wealthy are exposed to a large and uncertain drop in consumption after a successful democratization. In support of this, Table 5 shows that inequality falls and government revenues rise after successful democratizations, as defined by Lindberg et al. (2018) et al. (2018). The same does not hold after failed democratizations, where the effects on inequality significantly positive and there are insignificant drops in government revenues.

The political economy literature is mixed on whether redistribution occurs after democratizations. A comprehensive review of this literature comes from Acemoglu et al. (2015), where the authors offer reasons why inequality may not fall after democratizations, but financial risk for the elites may still be high. For example, if the political elites lose political power, markets may democratize leading to opportunities for entrepreneurs that were previously shut out of markets. These entrepreneurs may become wealthy at the expense of the elites, which will lead to a reduction in aggregate elite wealth, but no change in standard inequality measure. Here, the *ex ante* political elites are not the same *ex post*. For this reason, it is very difficult to identify how successful democracy is to fostering economic equality.

Interpretation Taken together, these results imply that perceived risk within financial markets are high during periods of democratization. Does this mean that democratizations are adverse events, in general? This does not seem to be the case. There is little evidence that macroeconomic aggregates, like consumption or dividends, are significantly affected. However, there is some evidence the inequality falls after a successful democratization, indicating that during periods of democratization risk may be high only for wealthy equity and bond market participants, but not for the economy as a whole. The data indicate that financial markets view democratizations adversely, but this does not mean that they are bad for the macroeconomy as a whole. In the following section, I will detail a model in which the entire macroeconomy is mostly unaffected by periods of democratization, while equity market participants are. This will produce outcomes in equity premia and price-to-dividend ratios that are consistent with the results above. Overall, this highlights that there are frictions that prevent democracy from consolidating, namely that those who are adversely impacted by its manifestation are exactly those with political power and economic wealth. This means that democracy will not consolidate unless these agents are sufficiently motivated. Such a motivation flows naturally from the model.

4 A Model of Democratization with Asset Prices

In this section, I will propose a model to explain the stylized facts laid out in Section 3 and to motivate the empirical methodology I will carry out in the next section. This model is somehow both an extension and simplification of the basic model of democratization in Acemoglu and Robinson (2006). The economy is populated by a unit mass of agents, comprised of two types: the Elites and the Citizens. In the model, political Elites with *de jure* political power make occasional transfers to Citizens with *de facto* political power to prevent a revolution from occurring. In the model, a rare events framework as in Rietz (1988) will emerge endogenously, allowing me to obtain larger risk premia than in the standard model.

4.1 Set-Up

There are a unit mass of two types of agents in this model, the Elites and the Citizens, that unequally share output from a Lucas tree and make transfers to between the groups. There are δ Elites and $(1-\delta)$ Citizens. Transfers come in the form of redistributive taxes at a constant rate, τ, which come with with some administrative cost, $C(\tau)$, which is increasing in τ and convex. The decision for the tax rate rests with the Elite, and the tax rate is determined before the Citizens decide whether they will revolt. Pre-tax, income grows at a stochastic rate and follows an independent and identically distributed Gaussian process given by,

$$Y_t = Y_{t-1} e^{\bar{y} + \sigma_y \varepsilon_t^y} \tag{4.1}$$

which means that

$$\Delta y_t = \bar{y} + \sigma_y \varepsilon_t^y.$$

Average income for the Elites and Citizens are given by

$$\bar{Y}_t^r = \frac{\theta Y_t}{\delta} \tag{4.2}$$

$$\bar{Y}_t^p = \frac{(1-\theta)Y_t}{(1-\delta)}, \tag{4.3}$$

respectively. To make it such that the Elites receive a greater average income than the Citizens[12], I impose that $\theta > \delta$. Here, the parameter θ dictates the level of income inequality in the economy; a higher θ means that the economy has a greater degree of inequality. After-tax income for each group is given by

$$\hat{Y}_t^i = (1-\tau_t)\bar{Y}_t^i + (\tau_t - C(\tau_t))Y_t \tag{4.4}$$

where $i \in \{r, p\}$. Due to the convexity of the administrative cost, there is an optimal, time invariant tax rate for the Citizens given by

$$\tau^{p*} = (C')^{-1}\left(\frac{\theta - \delta}{1-\delta}\right). \tag{4.5}$$

This tax rate acts as the maximum tax rate that the Elite can set in order to avoid a revolution. Further, note that the optimal tax rate for the Elites is $\tau^{r*} = 0$, which comes from the fact that $\tau_t \geq 0$, $\forall t$ and that $\theta > \delta$. This means that the Elites do not benefit from this type of redistribution, as they pay more in taxes than the Citizens under the fixed rate but receive the same amount. Note, that the preferred tax rate for the Citizens is increasing in θ, as redistribution is more valuable as more income goes to the Elites.

4.2 The Citizens

The Citizens make up a portion $(1-\delta)$ of the population and consume any income they receive, income which comes from two sources: a fraction of the stochastic income from a Lucas tree, y_t^p,

[12] Meaning that $\bar{Y}_t^r > \bar{Y}_t^p$.

and tax transfers from the elites, τ_t. The Citizens have access to a "revolution technology" which comes from their *de facto* political power (in that they make up the majority of the population). If the Citizens revolt, they trade their stochastic labor income for control of a fraction $1 - \mu$ of the Lucas tree, with the other fraction μ having been destroyed in the revolution. Time t utility for the Citizens is given by

$$V^p(\sigma_t, \mu_t) = \max_{\sigma_t \in \{N,R\}} (1 - \tau_t)\bar{Y}_t^p + \big(\tau_t - C(\tau_t)\big)Y_t + \beta^p \mathbb{E}_t[V^p(\sigma_{t+1}, \mu_{t+1})]$$

where $\sigma_t \in \{N, R\}$. If the Citizens revolt, the rich leave the model and the Citizens receive a fraction of the Lucas tree, which they own and consume forever, yielding

$$V(R, \mu_t) = \frac{(1 - \mu_t)Y_t}{(1 - \delta)(1 - \beta^p e^{\bar{y} + \frac{1}{2}\sigma_y^2})} \tag{4.6}$$

under the condition $\beta^p e^{\bar{y} + \frac{1}{2}\sigma_y^2} < 1$. Note that this is continuous and strictly monotonically decreasing in μ. If the Citizens decide not to revolt they receive

$$V(N, \mu_t) = (1 - \tau_t)\bar{Y}_t^p + \big(\tau_t - C(\tau_t)\big)Y_t + \beta^p \mathbb{E}_t[V^p(\sigma_{t+1}, \mu_{t+1})]. \tag{4.7}$$

Since the Elite receive nothing in the state where a revolution occurs, they will always be willing to make transfers to the Citizens to avoid a revolution. Therefore, the Citizens in essence impose a revolution constraint on the Elites, given by

$$V(\sigma_t \in \{N, D\}, \mu_t) \geq V(R, \mu_t) = \frac{(1 - \mu_t)Y_t}{(1 - \delta)(1 - \beta^p e^{\bar{y} + \frac{1}{2}\sigma_y^2})}.$$

First, note that their exists a range of $\mu \in [1, \underline{\mu}]$, such that the Elites set their preferred tax rate $\tau^r = 0$ and the commons do not revolt. Define $\underline{\mu}$ such that

$$V^p(N, \underline{\mu}; \tau_t = \tau^r) = V^p(R, \underline{\mu}).$$

This allows me to define explicitly $\underline{\mu} = \theta$ [13], which means that as long as $\mu > \theta$, the Elites can only avoid a revolution by setting $\tau \in (0, \tau^p]$. Now, define μ^* such that

$$V^p(N, \mu^*; \tau_t = \tau^p) = V^p(R, \mu^*)$$

[13] Shown in the Appendix.

which is the largest μ such that a revolution can be avoided by a single period payoff. In this example, where μ is not stochastic, this will be equal to the range of values that consolidate democracy. However, when μ is allows to vary over time stochastically, the Elites will face a commitment problem, as they are not able to commit to future one period payoffs. In such an example, democracy acts as a commitment device; the Elites can extend franchise to the Citizens in order to avoid a revolution. If $\mu > \mu^*$, the Elites can avoid a revolution by setting $\tau_t = \hat{\tau} \in (0, \tau^p]$ each period until the state returns to state A. However, if $\mu_t < \mu^*$ the Elites cannot avoid a revolution using one period tax transfers.

When the Elites choose to create democracy, by the median voter theorem, the Citizens will control the political process[14]. The expected value for the Citizens in this case is the continuation value of income in all future periods with a tax rate τ^p,

$$V^p(D) = \frac{\left[(1-\tau^p)\frac{(1-\theta)}{(1-\delta)} + (\tau^p - C(\tau^p))\right]Y_t}{(1-\beta^p e^{\bar{y}+\frac{1}{2}\sigma_y^2})}.$$

Note that the value from democracy is always greater than the value from non-democracy, as the Citizens can set their preferred tax rate in each period. This means that there is now a second threshold, $\mu^{**} < \mu^*$ such that

$$V^p(D, \mu^{**}) = V^p(R, \mu^{**}).$$

Note, since I know the payoffs in these two cases, I can solve for this boundary explicitly

$$\mu^{**} = 1 - (1-\tau^p)(1-\theta) - (\tau^p - C(\tau^p))(1-\delta). \tag{4.8}$$

Therefore, if $\mu^{**} < \mu < \mu^*$ the Elites will democratize in order to avoid a revolution.

4.2.1 Stochastic Recovery in Revolution

In this version of the model, I examine Markov perfect equilibria, meaning that all strategies must be a best response and can only depend on the current state and not the history of past states. A Markovian equilibrium consists of a strategy $\sigma_t(\tau(\rho);\mu) \in \{R, N\}$ and $\tau(\rho) \in [0,1]$ for the

[14]This comes from the fact that $(1-\delta) > \frac{1}{2}$. Namely, the median voter theorem states that policy will reflect the preferences of the median voter. For a more detailed discussion of why, see Acemoglu and Robinson (2006), Chapter 4.

commons and a pair of decisions $\rho(\mu) \in \{0,1\}$ and $\tau(\rho) \in [0,1]$ for the Elites, where if $\rho = 0$, the Elite's decision for the tax rate prevails and if $\rho = 1$ the Citizens' decision for the tax rate prevails.

In this form of the model, μ is stochastic and will be used a a reduced for way to model the collective action problem the Citizens must solve in order to revolt and the commitment problem Elites face in making transfers. For the sake of simplicity, μ will follow a three-state, Markov process with states, $s = \{A, D, C\}$, standing for "autocracy," "democratization," and "consolidation." The transition matrix is as follows

$$P(\mu) = \begin{pmatrix} (1-q) & q & 0 \\ p & 1-2p & p \\ 0 & q & (1-q) \end{pmatrix}. \tag{4.9}$$

The values of μ in these states are such that $1 = \mu^A \leq \mu^D < \mu^C$. Therefore, it is never profitable for the Citizens to use the revolution technology in the autocracy state, as $V^p(R) = 0$. Further, in such a model, $\mu^{**} < \mu^*$ meaning that there will be some region in which a one period transfer cannot prevent a revolution, but consolidating democracy can. To illustrate this, suppose that $\mu^C = \mu^*$ and $\mu^A = \mu^D = 1$, which means that $V^p(N, \mu^C; \tau_t = \tau^p) = V^p(R, \mu^C)$. In such a model, the Elites will never consolidate democracy, as making one period transfers are enough to avoid a revolution. This gives a system of three equations for the citizens,

$$\begin{aligned}
V(N, \mu^A) =& \bar{Y}_t^p + \beta^p \mathbb{E}_t[qV(N, \mu^A) + (1-q)V(N, \mu^D)] \\
V(N, \mu^D) =& \bar{Y}_t^p + \beta^p \mathbb{E}_t[pV(N, \mu^A) + (1-2p)V(N, \mu^D) + pV(N, \mu^C)] \\
V(N, \mu^C) =& \hat{Y}_t^p(\tau^p) + \beta^p \mathbb{E}_t[qV(N, \mu^D) + (1-q)V(N, \mu^C)]
\end{aligned}$$

which gives three equations in three unknowns.

For example, consider the case where $\mu^A = \mu^D = 1$ and $\mu^C = \mu^{**}$. In the autocracy and democratization states, the Elites offer $\tau = 0$, and in the consolidation state, the Elites choose democracy. However, imagine instead that the Elites were to choose the maximum one period transfer and then democratize in the next period in the consolidation state. The value function for the Citizens is then given by

$$V^p(N, \mu^C) = \hat{Y}_t^p(\tau^p) + \beta^p \mathbb{E}_t\Big[(1-q)V^p(D) + qV^p(N, \mu^D; \tau_{t+1} = 0)\Big].$$

Since there is a chance of reverting back to the democratization state tomorrow, the commitment problem for the Elites is still present. Therefore, they cannot commit to keeping the preferred tax rate of the Citizens, meaning $V^p(N, \mu^C) < V^p(D) = V^p(R, \mu^{**})$. The Citizens, knowing this, will revolt instead. Further, since $V^p(N, \mu^C; \tau^p) < V^p(R, \mu^{**})$, and since $V^p(R, \mu^{**})$ is monotonically decreasing and continuous in μ, it must be that $\mu^* > \mu^{**}$ exists[15]. The different equilibrium outcomes over different values of μ are shown in Figure 4. This leads us to the equilibrium I consider in this model.

Proposition 1. *In the case where $\mu^A = \mu^D = 1$ and $\mu^C = \mu^{**}$, the transition matrix follows (9), and the regularity conditions $\beta^p e^{\bar{y}+\sigma_y \varepsilon_t^y} < 1$ and $\theta > \delta$ hold, the strategy choices $\sigma(\tau(\rho); \mu^A) = \sigma(\tau(\rho), \tau; \mu^D) = \{N\}\ \forall \tau(\rho)$, $\sigma(\tau^p(1); \mu^C) = \{N\}$, $\sigma(\tau(0); \mu^C) = \{R\}\ \forall \tau(0)$, $\tau(0, \mu) = 0$, $\tau(1, \mu) = \tau^p$, $\rho(\mu^A) = \rho(\mu^D) = 0$, and $\rho(\mu^C) = 1$ constitutes a Markov perfect equilibrium.*

Indeed, for the remainder of the section, I will consider the case where $\mu^A = \mu^D = 1$ and $\mu^C = \mu^{**}$. In this case, the log growth rate of the endowment of the Elites is state dependent and follows

$$\Delta y_t^r(N, \mu^A) = \bar{y} + \sigma_y \varepsilon_t^y \tag{4.10}$$

$$\Delta y_t^r(N, \mu^D) = \bar{y} + \sigma_y \varepsilon_t^y \tag{4.11}$$

$$\Delta y_t^r(D, \mu^C | \mu_{t-1} = \mu^C) = \bar{y} + \sigma_y \varepsilon_t^y \tag{4.12}$$

$$\Delta y_t^r(D, \mu^C | \mu_{t-1} = \mu^D) = \bar{y} + \sigma_y \varepsilon_t^y + \log\big(b\big) \tag{4.13}$$

where $b = 1 - (1 - \frac{\delta}{\theta})\tau^p - \frac{\delta}{\theta} C(\tau^p) < 1$. Note, that the size of the b[16] is monotonically *increasing* in the level of inequality. For example, in the equal world, when $\theta = \delta$, there is no redistribution required, as $\log(b) = 0$. The presence of inequality is the condition under which the asset pricing implications follow.

[15] There is a slightly more careful treatment of this in the Appendix, where a proof by contradiction is given.

[16] This is the term which governs the size of the redistribution required to prevent a revolution. In a typical rare event model, this would be the "disaster" term. This is essentially the set-up of Barro (2006) who borrows his set-up from Rietz (1988).

4.3 The Elites

The elites make up a portion δ of population and unequally share a Lucas tree with the Citizens which gives income Y in each period. The Elites then trade shares in their post-tax income from the Lucas tree to maximize utility given by a strictly increasing and strictly concave utility function, $U(C) = \sum_{t=0}^{\infty} \beta^r u(C_t)$. The Elites have the ability to make transfers to the Citizens via taxes or to democratize, both of which they can do to avert a revolution. The Elites make choices over consumption, investment in a risk free asset, and investment in a consumption claim. The Bellman equation is given by

$$V^r(N, \mu_t, \phi_t, \rho_t) = \max_{\{c_t, \tau_t, \phi_{t+1}, B_{t+1}, S_{t+1}\}} u(C_t) + \beta^r \mathbb{E}_t[V^r(\sigma_{t+1}, \mu_{t+1}, \phi_{t+1}, \rho_{t+1})]$$

subject to

$$B_t + S_t(P_t + D_{t+1}) = C_t + B_{t+1}Q_t + P_t S_{t+1},$$

and a market clearing condition $Y_t^r = C_t$. The decision $\phi_{t+1} \in \{0, 1\}$ denotes whether the Elites will create a democracy or not, which they do to avoid a revolution. The Elites must do this in the state where the citizens have a low μ. This yields the standard Euler equation

$$\mathbb{E}_t[M_{t+1} x_{t+1}] = P_t^x. \tag{4.14}$$

where M_{t+1} is the stochastic discount factor.

4.4 Asset Pricing Implications

In this section, I discuss the asset pricing implications of the model. To get specific asset pricing implications, I must specify a utility function for the Elites. To get quantitatively accurate implications, I assume that the Elites have Epstein-Zin (EZ) preferences[17]. However, I also solve a simpler version of the model where the Elite agents have preferences that exhibit constant relative risk aversion (CRRA). This more simple version of the model has the advantage of a closed form solution[18], whereas the model with EZ utility relies on a numerical solution.

[17] This assumption is made in order to achieve the correct movement in the price-to-dividend (P/D) ratio. In the model with CRRA utility, the P/D ratio rises in the democratization period, as the risk free rate effect dominates the discount rate and expected cash flow effects.

[18] This can be found in the appendix.

4.4.1 The Risk Free Asset

Under Epstein-Zin utility, the Elites have a stochastic discount factor given by

$$M_{t+1} = (\beta^r)^\Theta \left(\frac{C_{t+1}}{C_t}\right)^{-\frac{\Theta}{\psi}} R_{w,t+1}^{(\Theta-1)}$$

where $\Theta = \frac{1-\gamma}{1-\frac{1}{\psi}}$ (a change of the standard notation) and $R_{w,t+1} = \frac{P_{t+1}^w + C_{t+1}}{P_t^w}$ is the consumption claim. Solving for the consumption claim first yields

$$1 = \mathbb{E}_t\left[(\beta^r)^\Theta \left(\frac{C_{t+1}}{C_t}\right)^{\Theta(1-\frac{1}{\psi})} \left(\frac{\frac{P_{t+1}^w}{C_{t+1}} + 1}{\frac{P_t^w}{C_t}}\right)^\Theta\right].$$

I conjecture that the price-to-consumption ratio is constant in each state, which I define as $\frac{P_{t+1}^w(\mu^i)}{C_{t+1}(\mu^i)} \equiv \kappa(\mu^i) \equiv \kappa^i$ where $i \in \{A, D, C\}$. In state C, this gives the standard Consumption Capital Asset Pricing Model (C-CAPM) results with Epstein-Zin utility,

$$\kappa^C = \frac{K}{1-K}$$

where $K = \exp\{\log(\beta^r) + (1-\frac{1}{\psi})\bar{y} + \frac{1}{2}(1-\gamma)(1-\frac{1}{\psi})\sigma_y^2\}$.

In states A and D, this gives two equations in two unknowns

$$\begin{aligned}
(\kappa^A)^\Theta =& K^\Theta\Big((1-q)(\kappa^A+1)^\Theta + q(\kappa^D+1)^\Theta\Big) \\
(\kappa^D)^\Theta =& K^\Theta\left(p(\kappa^A+1)^\Theta + (1-2p)(\kappa^D+1)^\Theta + pb^{1-\gamma}\left(\frac{1}{1-K}\right)^\Theta\right)
\end{aligned}$$

which can be easily solved numerically. Once the values of the price-to-dividend ratios are solved for, the risk free rate and risk premia are known. The risk free rate of return is constant in each state, $R_f(\mu^i) = R_f^i$, and is given by

$$\begin{aligned}
R_f^A =& \frac{\kappa^A}{B}\left[(1-q)(\kappa^A+1)^{\Theta+1} + q(\kappa^D+1)^{\Theta+1}\right]^{-1} \\
R_f^D =& \frac{\kappa^D}{B}\left[p(\kappa^A+1)^{\Theta+1} + (1-2p)(\kappa^D+1)^{\Theta+1} + pb^{-\gamma}\left(\frac{1}{1-K}\right)^{\Theta+1}\right] \\
R_f^C =& \frac{K}{B}
\end{aligned}$$

where $B = \exp\{\Theta\log(\beta^r) - \gamma\bar{y} + \frac{1}{2}\gamma^2\sigma_y^2\}$. Then, risk premia are given by

$$\mathbb{E}_t[r_{t+1}|\mu_t] = \log\big(\mathbb{E}_t[(\kappa(\mu_{t+1})+1)\exp\{\Delta c_{t+1}(\mu_{t+1})\}]\big) - \log(\kappa(\mu_t)) - r_f(\mu_t).$$

The comparative statics of these variables with respect to changes in the inequality parameter, θ, are shown in Figure 5 for a reasonable parameter calibration[19]. Predictably, equity premia rise and risk free rates fall when there is a possibility that democracy consolidates. The increased consumption risk faced by the Elites causes them to rush to the risk free asset, pushing down the risk free rate. Likewise, the equity premium must be high to incentivize the Elite investors to hold it in the risky state. Finally, the dividend yield increases in this model because the equity premium and consumption growth effects dominate the risk free rate effect. This does not happen in the special case of CRRA preferences[20], but those preferences have the benefit of a closed form solution for the price-to-dividend ratios, which is available in the Appendix.

4.5 Interpretation

Some readers might find that there is a slight disconnect between the timing of the consolidation of democracy in the model[21] and the timing in the data. In the data, democratizations are measured by the growth rates in democratic institutions whereas in the model, there are no changes in the democratization state other than in the probability with which the consolidation of democracy occurs. Such a framework does not allow for changes in institutions without subsequent redistribution, meaning that the formation of democratic institutions is tantamount to redistribution of political and economic power within the model.

The intuition I wish to convey is that the democratization state in the model is what corresponds to the democratizations in the data, despite the absence of changes in political institutions.

[19]The parameter calibration I use is $\gamma = 3,\ \psi = 2,\ \beta = .95,\ \bar{y} = .02,\ \sigma_y = .06,\ q = .03,\ p = .1,\ \delta = .05$. However, these broad results can be achieved using a number of configurations.

[20]With CRRA preferences, the risk free rate effect dominates and the price-to-dividend ratio *rises* in the face of increased risk, which is counter to what is observed in the data. This would also happen in a model with Epstein-Zin preferences if $\frac{1}{\psi} < 1$.

[21]Further, the mechanism laid out above is just one among many potential mechanisms. Increased taxes bring about the desired result, but this is merely a reduced form intuition that the results discussed in Section 3 are possible under myriad forms of redistribution. For example, it may be possible to achieve those results through a different model where the Elites control monopolies that are challenged after democracy consolidates. If risks to these monopolies are priced, the same results may follow. My goal is to provide a simple intuition and not to quantitatively assess the exact mechanism through which the empirical results occur.

As is often the case when taking models to the data, there is some generalization that needs to occur. In the data, changes in political institutions signal the possibility of changes in tax progressively, loss of state sanctioned monopolies, etc., but the outcome is uncertain. The democratization state in the model captures this uncertainty and shows that it will be priced in equilibrium. In this way, it may be more apt to think of the "consolidation of democracy" state in the model as the "redistribution" state instead.

Finally, the model shows that the distributional assumptions made in most rare events models[22] are not as extreme as they may seem. Rare events models require large drops in *aggregate* consumption in order to provide a solution to the equity premium puzzle of Mehra and Prescott (1985). However, the lack of disasters in the post-WWII period in the United States and other developed countries has been interpreted by some as a potential rejection of these types of models. The model laid out above shows that an aggregate consumption disaster need not occur to achieve large equity premia, and that large scale transfers from equity market participants to non-participants can serve this role. This opens a complementary line of alternative study for rare events style models. Though the model above does not have a high unconditional premium, a simple tweak to μ^D would provide this[23]. Further, while this model was written with the behavior of transitions from autocracy in mind, it has implications for a more broad set of political institutions.

5 The Second Vatican Council of 1962-1965

> *"You cannot find in the entire literature of Catholicism a single unequivocal endorsement by any Pope of democracy as a superior form of government."*
>
> — Paul Blanshard, *American Freedom and Catholic Power, 1953*

In this section, I use a quasi-natural experiment in which the cost and likelihood of a democratization changes for some countries, but not others, to identify variation in expected returns. On April 11th, 1963, Pope John XXIII made official the Catholic church's shift in its stance with regard to autocracy with his publication *Pacem in Terris*. This text made explicitly stated this change:

[22] For a review of this literature, see Tsai and Wachter (2015).

[23] In particular, changing $\mu^D < \theta$ would allow for a premium in the A state.

> 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 with any genuinely democratic form of government.[24]

Sigmund (1987) marks this statement as a decisive shift of Catholic church policy in support of liberal democracy[25], and, according to Huntington (1991), this announcement and the events that preceded it are one of five main reasons the third wave of democratization that took place from the mid-1970s into the 1990s occurred. This attitude shift was not foreseen by investors and therefore constitutes a plausibly exogenous shock to test the effect of an increase in the probability of democratization. Since this announcement is most likely to treat majority Catholic, autocracies, I perform a triple differences-in-differences regression, on expected returns to assess the treatment effect of the change in the Church's attitude. This model takes the form of a regression with country, year, and region times year fixed effects given by

$$\begin{aligned} R^e_{i,t} = & \delta_i + \gamma_t + \eta_{t,r} + \beta_1 D_{autocracy} + \beta_2 D_{autocracy} \times D_{catholic} \\ & + \beta_3 D_{post-SVC} \times D_{catholic} + \beta_4 D_{post-SVC} \times D_{autocracy} \\ & + \beta_5 D_{post-SVC} \times D_{catholic} \times D_{autocracy} + \varepsilon_{i,t} \end{aligned}$$

where the coefficient of interest is β_5, the treatment effect on majority catholic, autocratic countries after the Vatican II announcement. Note, that the majority catholic and pre-Vatican II announcement indicator variables are excluded, as they are collinear with the country and year fixed effects, respectively.

In addition, I examine CAPM α's from the regression procedure proposed by Fama and MacBeth (1973)[26], using the World Return on stocks on the London Stock Exchange from GFD as the

[24]Point number 52 in the *Pacem in Terris.* This was the last published text of John XXIII, who would die only two months later.

[25]Indeed, Sigmund (1987) begins with the quotes I start this section with.

[26]These are given by estimating $R^e_{i,t} = \beta_i \lambda^{mkt}_t + \alpha_{i,t}$ where, since the excess return on the market is an excess return, $\lambda^{mkt}_t = R^{mkt}_t$.

market portfolio. This allows me to examine abnormal returns after controlling for market risk. I also include Region×Year fixed effects[27] in an alternative specification, in order to control for region specific effects that may influence returns[28]. The regression coefficients in this specification should be interpreted as being at the *within region* level at each point in time.

5.1 Identifying Assumptions

The primary identifying assumption underlying this exercise does *not* rely on random assignment. It does rely on the assumption that absent the the change in Catholic church attitudes both the treatment and control would have trended similarly. This comes with two primary implications. First, that majority catholic countries in the 1950's and 1960's are more responsive to the announcements of the Pope than other countries. Second, that autocratic countries are more influenced by an increase in the probability of democratization than democratic ones. Further, I assume that there is no reverse causality here, which is akin to assuming that Pope John XXIII did not consider the stock markets of majority Catholic autocracies in his decision making process. This seems like a reasonable assumption to make as religious figures do not generally seem to respond to stock market movements[29].

The final decision is using 1963 as the year of treatment. Nailing down the precise treatment year is difficult, as there are many potential discount rate shocks coming from the Catholic church that happen prior to the announcement in 1963. Pope John XXIII was unexpectedly elected Pope in October of 1958. His stance toward democracy was well known, and investors could have foreseen his policies would help bring about a wave of Catholic country democratizations early in his tenure. However, many at the time of his election expected the relatively old Pope to enjoy a quiet term. This view was reversed in January 1959 when Pope John XXIII unexpectedly called Vatican II

[27] The regions are split by roughly by continent. The regions are as follows: 1) USA and Canada, 2) Central and South America, 3) the Middle East, 4) Europe, 5) Asia, 6) Oceania.

[28] Note that when Region×Year fixed effects are included in the regression, Egypt falls out of the sample as it is the only Middle Eastern country for which I have returns during this period.

[29] This is meant as something of a joke, but the reverse causality argument actually does have some teeth. I am instead assuming the announcement by Pope John XXIII did not correspond to differentially poor macroeconomic performance for majority Catholic and autocratic countries, relative to the control groups. This is akin to saying that I assume that the Pope made his decision as a matter of religion.

to update Church doctrine. Vatican II convened from late 1962-1965, but the announcements regarding democracy were focused toward the beginning of the Council, and much of the attitude change could have been inferred from Pope John XXIII's publication *Mater et Magistra*, in which he singles out economic and political inequalities on a number of occasions[30]. In short, 1963 is the earliest year where I can be sure investors were aware of the attitude shift, but there are other possible candidates. Therefore, I also estimate perform an alternative specification using a more conservative window in which I take 1959-1963 as the years of treatment and perform additional falsification tests in the Appendix. Even under these alternative specifications, the results still hold.

It is also possible that other events, such as the assassination of JFK or general anxiety during the Cold War could be relevant, but would also require some explanation as to why majority Catholic autocracies are differentially effected by these events. This is the advantage of using the triple difference-in-differences structure as any potential other stories must point to the differential impact on the treated group which is outlined in the results below.

5.2 Results

The results for the triple differences-in-differences regression are shown in Table 6. Column (1) shows the results for the triple differences-in-differences specification shown above. The treatment of the Vatican II announcement on majority catholic, autocracies is significant at the 5% level, and survives controlling for general violence and political uncertainty, indicating that the results are not driven by risk compensation from these sources. Further controls for inflation and GDP are added. Additionally, there does not seem to be any significant pre-trend evidenced by the

[30] 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."

insignificant β_1 and β_2 estimates. This can be seen graphically in Figure 6 which plots the net treatment effect on excess returns in two year bins for the treatment and control countries[31]. However, this is not the case in the alternative specification[32] with Region×Year fixed effects. In this case, there is a significant pre-trend for both the treated and control groups, going in the opposite direction. This seems to be due to some discount rate innovations, potentially brought about by the events I discussed above which occurred in the window. This hypothesis is supported by the fact that when I run the alternative specification on a more conservative window[33], the significance on other coefficients disappear while the results for the treated group still hold[34]. Further, Table 7 and Table 8 indicate that results are mainly coming from the differences in returns between Catholic and non-Catholic autocracies.

These results can be tied into the model from Section 4 quite intuitively. The change in Catholic church attitudes toward democracy following Vatican II could make the collective action problem the citizens face easier to solve, which is linked to the reduced form parameter μ. If μ_i^D fell such that $\mu_i^D < \theta_i$, then there would be an increased risk premium in the autocracy state, as the Elites would be forced to set unfavorable policies for themselves (i.e. $\hat{\tau} \in (0, \tau^p])$. This would lead to a rise in premia and, therefore, a rise in average realized returns in the post period.

6 Conclusion

This paper provides strong evidence that the equity premium and overall discount rates are high during periods of democratization. This evidence can be found across multiple asset classes and is economically large. Further, I find that combining two canonical models, Acemoglu and Robinson

[31] This figure also shows that all democratic countries had a significantly negative treatment in the four years after Vatican II. There does not seem to be any movement in non-majority Catholic autocracies throughout the period. Indeed, in the Appendix, I show that both differences between non-Catholic autocracies and democracies contribute to these results.

[32] Note that in this specification Egypt is excluded from the analysis as it is the only country during the period in the Middle East for which I have equity market returns. This means that the observation counts will differ in the two specifications. For more information about the data used in this section, the the Data section in the Appendix.

[33] In the more conservative window, I exclude the years between the announcement of Vatican II (January, 1959) and the publication of *Pacem in Terris*(April, 1963), which is essentially the entire tenure of John XXIII.

[34] This can be found in the Appendix Table D.16.

(2006) and Rietz (1988), from two different fields can rationalize this result. Finally, I show in the data that exogenous variation in the key parameter of the model is associated with marked increases in expected returns for treated countries using a triple differences-in-differences specification. These results are novel and highlight the roles that political uncertainty coming from inter-socioeconomic class conflict and changes in political institutions play in asset prices.

While the results in this paper go a long way to describing how increased uncertainty over political institutions affect asset markets, the exact mechanism through which this occurs is still left somewhat ambiguous. Future research into the exact mechanisms through which this uncertainty acts would be helpful to understanding not just democratizations, but how policy and political uncertainty affect individual, firm, and government decision making in general. Further, understanding the differential effects over time and how the globalization of asset markets affect this would be very fruitful.

Finally, this paper provides new avenues of study in rare events models, particularly focused on the political institutions and how they interact with the distribution of wealth. In particular, I show that a large aggregate drop in consumption is not necessary to achieve high equity premia, but rather that the drop in consumption may only be experienced by equity market participants.

References

Acemoglu, Daron and James A. Robinson, *Economic Origins of Dictatorship and Democracy*, Cambridge University Press, 2006.

_ , Suresh Naidu, Pascual Restrepo, and James A. Robinson, *Democracy, redistribution, and inequality*, 1 ed., Vol. 2, Elsevier B.V., 2015.

_ , _ , _ , and James A Robinson, "Democracy Does Cause Growth," *Journal of Political Economy*, 2019, *127* (1), 47–100.

Angrist, Joshua and Jörn-Steffen Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, 2009.

Baker, Scott R, Nicholas Bloom, and Steven J Davis, "Measuring Economic Policy Uncertainty," *The Quarterly Journal of Economics*, 2016, *131* (4), 1593–1636.

_ , _ , _ , **and Kyle J Kost**, "Policy News and Stock Market Volatility," 2019.

Bansal, Ravi and Amir Yaron, "Risks for the long run: A potential resolution of asset pricing puzzles," *Journal of Finance*, 2004, *59* (4), 1481–1509.

Barro, Robert J., "Democracy and Growth," *Journal of Economic Growth*, 1996, *1*, 1–27.

_ , *Determinants of Economic Growth: A Cross-Country Empirical Study*, MIT Press, 1997.

_ , "Rare disasters and asset markets in the twentieth century," *Quarterly Journal of Economics*, 2006, *121* (3), 823–866.

Barro, Robert J and Jose F Ursua, "Macroeconomic Crises since 1870," *Brookings Papers on Economic Activity*, 2008, (Spring), 255–350.

Berkman, Henk, Ben Jacobsen, and John B. Lee, "Time-varying rare disaster risk and stock returns," *Journal of Financial Economics*, 2011, *101* (2), 313–332.

Bloom, Nicholas, "The Impact of Uncertainty Shocks," *Econometrica*, 2009, *77* (3), 623–685.

Breeden, Douglas T., "An intertemporal asset pricing model with stochastic consumption and investment opportunities," *Journal of Financial Economics*, 1979, *7*, 265–296.

Campbell, John Y and John H Cochrane, "By Force of Habit : A Consumption Based Explanation of Aggregate Stock Market Behavior Published by : The University of Chicago Press Stable URL : http://www.jstor.org/stable/10.1086/250059 By Force of Habit : A Consumption-Based Explanation of Aggregat," *Journal of Political Economy*, 1999, *107* (2), 205–251.

Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I Lind-berg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, Agnes Cornell, M Steven Fish, Haakon Gjerløw, Adam Glynn, Allen Hicken, Joshua Krusell, Anna Lührmann, Kyle L Mar-quardt, Kelly McMann, Valeriya Mechkova, Moa Olin, Pamela Paxton, Daniel Pemstein, Brigitte Seim, Rachel Sigman, Jeffrey Staton,

Aksel Sundström, Eitan Tzelgov, Luca Uberti, Yi ting Wang, Frida Andersson, Vlad Ciobanu, Lee Cojocaru, Selemon Negash, Laura Saxer, Tove Ahlbom, Pelle Ahlin, Eric Bader, Julia Bianco, Adam Bilinski, Solveig Bjørkholt, Sophie Cassell, Felix Dwinger, Kristian Frederiksen, Ionut Gusoi, Sune Hellegaard, Bernardo Isola, Talib Jabbar, Haakon Jernsletten, Eva Karlsdottir, Berker Kava-soglu, Thomas Krauchi, Ole Martin Laegreid, Frederik Lasserre, Vilde Lunnan Djuve, Claudia Maier, Swaantje Marten, Mark Patteson, Livia Radaeski, Hayley Rassuchine, Janina Schlect, Tove Selnes, Katharina Sibbers, Konstantinos Skenteris, Andrew Slivka, Tolga Tan, Marcus Tannen-berg, and Philipp Tönjes, "Varieties of Democracy Codebook," 2018.

Delis, Manthos D., Iftekhar Hasan, and Steven Ongena, "Democracy and credit," *Journal of Financial Economics*, 2019, *Forthcomin*, 1–26.

Fama, Eugene and James MacBeth, "Risk, Return, and Equilibrium: Empirical Tests," *Journal of Political Economy*, 1973, *81* (3), 607–636.

Gabaix, Xavier, "Variable rare disasters: An exactly solved framework for ten puzzles in macro-finance," *Quarterly Journal of Economics*, 2012, *127* (2), 645–700.

Gollier, C., "Wealth inequality and asset pricing," *Review of Economic Studies*, 2001, *68* (1), 181–203.

Grotteria, Marco, "Follow the Money," 2019.

Huntington, Samuel P, "Democracy's Third Wave," *Journal of Democracy*, 1991, *2* (2), 12–34.

Jones, Benjamin F. and Benjamin A. Olken, "Hit or miss? The effect of assassinations on institutions and war," *American Economic Journal: Macroeconomics*, 2009, *1* (2), 29–54.

Jorda, Oscar, Katharina Knoll, Dmitry Kuvshinov, Moritz Schularick, and Alan M. Taylor, "The Rate of Return on Everything, 18702015," *Quarterly Journal of Economics*, 2020, *Forthcomin.*

— , **Moritz Schularick, and Alan M. Taylor**, *Macrofinancial History and the New Business Cycle Facts*, University of Chicago Press, 2017.

Lettau, Martin, Sydney C. Ludvigson, and Jessica A. Wachter, "The declining equity premium: What role does macroeconomic risk play?," *Review of Financial Studies*, 2008, *21* (4), 1653–1687.

Lindberg, Staffan I. I., Patrik Lindenfors, Anna Lührmann, Laura Maxwell, Juraj Medzihorsky, Richard Morgan, and Matthew Charles Wilson, "Successful and Failed Episodes of Democratization: Conceptualization, Identification, and Description," 2018.

Lucas, Robert E, "Inflation and Asset Prices in an Exchange Economy," *Econometrica*, 1978, *46* (6), 1429–1445.

Manela, Asaf and Alan Moreira, "News implied volatility and disaster concerns," *Journal of Financial Economics*, 2017, *123* (1), 137–162.

Mehra, Rajnish and Edward C. Prescott, "The equity premium: A puzzle," *Journal of Monetary Economics*, 1985, *15* (2), 145–161.

Muir, Tyler, "Financial crises and risk premia," *Quarterly Journal of Economics*, 2017, *132* (2), 765–809.

Pastor, Lubos and Pietro Veronesi, "Political Cycles and Stock Returns," 2019.

Piketty, Thomas, *Capital in the Twenty-First Century*, Harvard University Press, 2013.

Reinhart, Carmen and Kenneth Rogoff, *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press, 2009.

Rietz, Thomas A., "The equity risk premium a solution," *Journal of Monetary Economics*, 1988, *22* (1), 117–131.

Sigmund, Paul E., "The Catholic Tradition and Modern Democracy," *The Review of Politics*, 1987, *49* (4), 530–548.

Tsai, Jerry and Jessica A. Wachter, "Disaster Risk and Its Implications for Asset Pricing," *Annual Review of Financial Economics*, 2015, *7* (1), 219–252.

Vissing-Jørgensen, Annette, "Limited asset market participation and the elasticity of intertemporal substitution," *Journal of Political Economy*, 2002, *110* (4), 825–853.

Wachter, Jessica A., "Can Time-Varying Risk of Rare Disasters Explain Aggregate Stock Market Volatility?," *Journal of Finance*, 2013, *68* (3), 987–1035.

7 Tables and Figures

Table 1: Descriptive Statistics

This table shows the means for various asset market and economic variables. All values are in %. Credit spreads are calculated as the yield spread on 10-year government bonds and British 10-year treasury bonds before 1913 and 10-year US treasury bonds from 1914 to the present. The real rate is calculated as the return on 10-year government bonds less expected inflation, which is calculated by fitting an AR(1) to CPI growth. Real dividends are also adjusted using the same measure of expected inflation.

	Normal	Democratization	Financial Crisis
D/P Ratio	4.74	5.7	5
E/P Ratio	6.82	10.58	9.45
Corp Credit Spreads	1.36	3.07	3.08
Real Rate (Bills)	2.36	-1.79	2.56
Consumption Growth	2.39	2.45	-.75
Consumption SD	5.72	5.97	5.63
Log Real Div Growth	.73	1.21	-12.61

Table 2: Periods of Democratization and Risk

This table shows a series of regressions of a dummy for periods of democratization on a variety of equity and bond market indicators of risk. All regressions take the form $y_{i,t} = \eta_i + \delta_t + \beta D_{i,t}\{\text{democratization}\} + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}$ where $y_{i,t}$ is the outcome variable of interest and $\mathbf{X}$ is a matrix of controls. Column (1) shows a regression on the five-year change in the dividend yield. Column (2) shows a regression on the price-to-earnings ratio. Column (3) shows a regression on the democratization start on corporate credit spreads. Column (4) shows a regression on government bill returns. Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)
	$\Delta d/p$	p/e	CCS	r^f	R^e
Democratization	0.339**	-0.116**	0.0221***	-0.0589	
	(2.33)	(-2.08)	(3.14)	(-1.24)	
L.Democratization					0.0542*
					(1.72)
Democratization, Post-1984			-0.0322***		
			(-4.03)		
Autocratization	-0.0548	0.0231	0.00451	-0.0131	0.00676
	(-0.98)	(0.55)	(0.89)	(-1.03)	(0.37)
War	-0.0178	0.000753	-0.00342	-0.0243	-0.0211
	(-0.39)	(0.01)	(-1.26)	(-1.11)	(-1.06)
Post-War	-0.0475	0.0876*	0.00119	-0.0406**	-0.0465**
	(-1.44)	(1.99)	(0.34)	(-2.61)	(-2.43)
Sovereign Default	-0.298***	-0.277	0.0316**	-0.0491**	0.0204
	(-3.21)	(-1.46)	(2.10)	(-2.13)	(0.58)
Recession	-0.0101	-0.0179	0.00117	0.00879	-0.0287*
	(-0.32)	(-0.48)	(1.20)	(0.55)	(-1.87)
Financial Crisis	0.167***	-0.142**	0.0123**	0.00595	-0.159***
	(2.85)	(-2.35)	(2.79)	(0.21)	(-4.28)
ICB Political Crisis	0.0925	-0.119***	0.00531*	0.00243	-0.0496
	(1.15)	(-2.92)	(1.83)	(0.10)	(-1.47)
HoG/HoS Death	-0.125*	0.0251	-0.00408	-0.0134	0.0172
	(-1.79)	(0.37)	(-0.89)	(-0.35)	(0.45)
HoG/HoS Assas. Success	0.0636	0.218	0.0344	-0.0244	0.0742
	(0.38)	(1.17)	(1.20)	(-0.35)	(0.55)
HoG/HoS Assas. Attempt	0.0669	-0.311**	0.000902	0.0234	0.0593
	(0.88)	(-2.49)	(0.27)	(1.23)	(1.02)
Observations	4133	1506	1362	4218	4661
R^2	0.196	0.566	0.507	0.276	0.274

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Democratization Starts and Risk

This table shows a series of regressions of a dummy for the start of a democratization and the period preceding it on a variety of equity market indicators of risk. All regressions take the form $y_{i,t} = \eta_i + \delta_t + \beta D_{i,t}\{\text{democratization start}\} + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}$ where $y_{i,t}$ is the outcome variable of interest and $\mathbf{X}$ is a matrix of controls. Column (1) shows a regression on the five-year ahead average returns. Column (2) shows a regression on discount rate shocks from a VAR decomposition of dividend yield growth and dividend growth. Column (3) shows a regression on cash flow shocks from the same VAR decomposition. Column (4) shows a regression on government bill returns. Standard errors are heteroskedasticity robust and clustered by country.

	(1) ϵ^{DR}	(2) ϵ^{CF}	(3) CCS	(4) r^f
Democratization Start	0.0351**	-0.0629	0.0169**	-0.0503
	(2.05)	(-1.30)	(2.51)	(-1.23)
Autocratization	-0.0134	-0.00894	0.00465	-0.0125
	(-0.84)	(-0.33)	(0.92)	(-0.95)
War	-0.0188	-0.0370*	-0.00331	-0.0237
	(-0.81)	(-1.85)	(-1.20)	(-1.07)
Post-War	-0.0217	-0.00970	0.00128	-0.0411**
	(-1.09)	(-0.50)	(0.36)	(-2.27)
Sovereign Default	-0.0334*	-0.0437	0.0313*	-0.0482*
	(-1.75)	(-0.84)	(2.04)	(-1.84)
Recession	-0.0364	-0.00437	0.00121	0.00950
	(-1.09)	(-0.24)	(1.24)	(0.58)
Financial Crisis	0.0264	-0.0759**	0.0124**	0.00692
	(0.90)	(-2.13)	(2.77)	(0.22)
ICB Political Crisis	0.0251	-0.00239	0.00518*	0.00222
	(1.09)	(-0.08)	(1.79)	(0.09)
HoG/HoS Death	-0.0703	-0.0379	-0.00468	-0.0129
	(-1.09)	(-0.64)	(-1.01)	(-0.33)
HoG/HoS Assas. Success	0.111	0.0812	0.0351	-0.0235
	(1.30)	(0.92)	(1.21)	(-0.33)
HoG/HoS Assas. Attempt	0.00354	-0.00346	0.00104	0.0233
	(0.31)	(-0.08)	(0.32)	(1.21)
Observations	4066	4066	1362	4218
R^2	0.058	0.150	0.506	0.276

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Post Democratization and Cash Flows

This table shows a series of regressions of a dummy for democratization period and the five-year period that succeeds it on a variety of equity market indicators of risk. All regressions take the form $y_{i,t} = \eta_i + \delta_t + \beta D_{i,t}\{\text{democratization start}\} + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}$ where $y_{i,t}$ is the outcome variable of interest and $\mathbf{X}$ is a matrix of controls. Column (1) shows a regression on real dividend growth. Column (2) shows a regression on cash flow shocks from a VAR decomposition of dividend yield growth and dividend growth. Column (3) shows a regression on the log number of public companies. Column (4) shows a regression on consumption growth, and Column (5) shows a regression on consumption standard deviation estimated from a ten-year forward window. Standard errors are heteroskedasticity robust and clustered by country.

	(1) Δd	(2) ϵ^{CF}	(3) $\log(N)$	(4) Δc	(5) σ^c
Democratization	-0.00648	0.00337	-0.0800	0.00665	-0.000795
	(-0.15)	(0.07)	(-0.49)	(0.91)	(-0.23)
Post Democratization	-0.0417	-0.0251	0.0281	0.00244	-0.00434
	(-1.67)	(-1.07)	(0.22)	(0.56)	(-1.43)
Autocratization	-0.0268	-0.00791	-0.0613	-0.00779***	0.00522*
	(-1.23)	(-0.31)	(-0.84)	(-3.15)	(1.86)
War	-0.0170	-0.0356*	0.0119	-0.00753*	0.00601
	(-0.64)	(-1.83)	(0.09)	(-1.85)	(1.51)
Post-War	0.00129	-0.00943	-0.138	-0.00365	-0.00198
	(0.06)	(-0.48)	(-0.85)	(-1.24)	(-0.75)
Sovereign Default	-0.0543	-0.0409	0.139	-0.00942	0.00968
	(-1.16)	(-0.81)	(1.41)	(-1.50)	(1.13)
Recession	0.0000539	-0.00466	-0.0687	-0.0269***	0.00455***
	(0.00)	(-0.25)	(-0.75)	(-8.55)	(2.67)
Financial Crisis	-0.0549	-0.0817**	-0.0179	-0.0123***	0.00125
	(-1.67)	(-2.30)	(-0.25)	(-3.17)	(0.60)
Post Financial Crisis	-0.0399**	-0.0394*	-0.0379	-0.0115***	0.000754
	(-2.41)	(-2.01)	(-0.51)	(-4.67)	(0.32)
ICB Political Crisis	0.00398	-0.00364	0.276**	-0.0183**	0.00131
	(0.10)	(-0.13)	(2.12)	(-2.36)	(0.17)
HoG/HoS Death	-0.0556	-0.0389	0.0510	-0.00387	0.0000968
	(-0.83)	(-0.65)	(0.42)	(-0.68)	(0.04)
HoG/HoS Assas. Success	0.0264	0.0773	-0.597**	0.0218	-0.0112
	(0.28)	(0.88)	(-2.47)	(1.25)	(-1.52)
HoG/HoS Assas. Attempt	0.0108	-0.0000827	0.0290	-0.00419	0.00706
	(0.25)	(-0.00)	(0.26)	(-0.46)	(1.37)
Observations	4261	4066	2867	4377	4444
R^2	0.151	0.152	0.798	0.252	0.420

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Successful and Failed Democratizations, Inequality, and Government Revenue

This table shows a series of regressions of a dummy variable for periods five years after a successful or failed democratization as defined by Lindberg et al. (2018). All regressions take the form $y_{i,t} = \eta_i + \delta_t + \beta D_{i,t}\{\text{democratization start}\} + \gamma \mathbf{X}_{i,t} + \varepsilon_{i,t}$ where $y_{i,t}$ is the outcome variable of interest and $\mathbf{X}$ is a matrix of controls. Columns (1) and (2) show regressions on the first difference of the Gini coefficient. Columns (3) and (4) show regressions on log government revenue growth. Standard errors are heteroskedasticity robust and clustered by country in Columns (1) and (2) and are clusted by country and date in Columns (3) and (4).

	(1) $\Delta Gini$	(2) $\Delta Gini$	(3) ΔGR	(4) ΔGR
Post Successful Democratization	-0.252***		0.0393**	
	(-2.82)		(2.00)	
Post Failed Democratization		0.255**		-0.00457
		(2.58)		(-0.31)
Autocratization	0.229**	0.183*	0.0124	0.0152
	(2.38)	(1.89)	(1.10)	(1.37)
War	0.0110	0.00685	0.0437***	0.0436***
	(0.10)	(0.06)	(2.96)	(2.88)
Post-War	0.0392	0.0385	0.0524***	0.0514***
	(0.43)	(0.42)	(2.88)	(2.83)
Sovereign Default	-0.106	-0.100	0.0776***	0.0775***
	(-1.31)	(-1.22)	(3.92)	(3.89)
Recession	-0.0814	-0.0957	-0.0136	-0.0136
	(-0.88)	(-1.05)	(-1.31)	(-1.29)
Financial Crisis	0.219	0.223	-0.0322*	-0.0322*
	(1.34)	(1.36)	(-1.97)	(-1.98)
ICB Political Crisis	0.0902	0.0951	-0.00892	-0.00973
	(0.86)	(0.90)	(-0.35)	(-0.38)
HoG/HoS Death	0.0114	0.0127	-0.0228	-0.0229
	(0.03)	(0.03)	(-1.19)	(-1.19)
HoG/HoS Assas. Success	0.786	0.801	0.0423	0.0430
	(1.39)	(1.43)	(0.92)	(0.94)
HoG/HoS Assas. Attempt	-0.592**	-0.606**	-0.0360**	-0.0354**
	(-2.49)	(-2.55)	(-2.41)	(-2.35)
Observations	7270	7270	6979	6979
R^2	0.028	0.028	0.224	0.222

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Returns and the Second Vatican Council

This table shows the triple differences-in-differences regression described in Section 5. Columns (1)-(3) use returns in excess of US treasury returns as the dependent variable. Columns (4)-(6) use CAPM α's from Fama-Macbeth regressions as the dependent variable. The year 1963 is the year of treatment and is excluded. The post-period is 1955-1962 and the post-period is 1964-1971. Standard errors are heteroskedasticity robust and clustered by country and date.

	(1)	(2)	(3)	(4)	(5)	(6)
Autocracy	0.243	0.287***		0.254*	0.278***	
	(1.63)	(3.39)		(1.79)	(2.96)	
Post-Vatican II × Maj Cath	-0.0455	-0.0414		-0.0351	-0.0259	
	(-1.39)	(-0.83)		(-1.11)	(-0.60)	
Autocracy × Maj Cath	-0.183	-0.301**		-0.150	-0.239	
	(-0.98)	(-2.24)		(-0.86)	(-1.62)	
Post-Vatican II × Autocracy	0.0826	-0.0980		0.0856	-0.0675	
	(1.25)	(-1.02)		(1.26)	(-0.61)	
Post-Vatican II × Maj Cath × Autocracy	0.178*	0.392**	0.288***	0.177	0.362**	0.300***
	(1.78)	(2.92)	(4.89)	(1.69)	(2.31)	(3.85)
Date FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Region × Date	No	Yes	Yes	No	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	608	594	594	608	594	594

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Returns and the Second Vatican Council: Single Difference-in-Differences

This table shows regressions on subsamples of the triple difference-in-differences specification. Columns (1) and (2) show the treatment from Vatican II on majority Catholic, autocratic countries in the sub-sample of all autocratic countries. Columns (3)-(4) show the treatment from Vatican II on majority Catholic, autocratic countries in the sub-sample of all majority Catholic countries. The year 1963 is taken as the year of treatment and is excluded. Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)
Post-Vatican II $\times$ Maj Cath $\times$ Autocracy	0.111	0.780***	0.170**	0.155**
	(1.13)	(3.26)	(2.69)	(2.19)
Date FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Region $\times$ Date	No	Yes	No	Yes
Controls	Yes	Yes	Yes	Yes
Subsample	Autocracy	Autocracy	Majority Catholic	Majority Catholic
N	285	231	216	200

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Returns and the Second Vatican Council: Nearest Neighbor Matching

This table shows the average treatment effect from Vatican II for majority Catholic, autocracies using a nearest neighbor matching procedure. Columns (1) and (2) match on the level of democratic institutions. Columns (3) and (4) match on the proportion of the population that is Catholic. Columns (1) and (3) calculate a nearest single neighbor treatment effect, and Columns (2) and (4) calculate a nearest two neighbors treatment effect.

	(1)	(2)	(3)	(4)
SATE	0.239**	0.226**	0.0440	0.0927
	(2.11)	(2.48)	(0.53)	(1.38)
Observations	608	608	608	608
R^2				

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 1: Equity Premium Before, During, and After Democratizations and Financial Crises

This figure shows the path of the average five-year change in d/p in a five-year window around democratization events (solid red line). Time t can be a multiple year event and on average democratizations last 2 years. The average five-year change in d/p for financial crises is plotted (dotted blue line), as well. Ninety-five percent confidence intervals are shaded in grey.

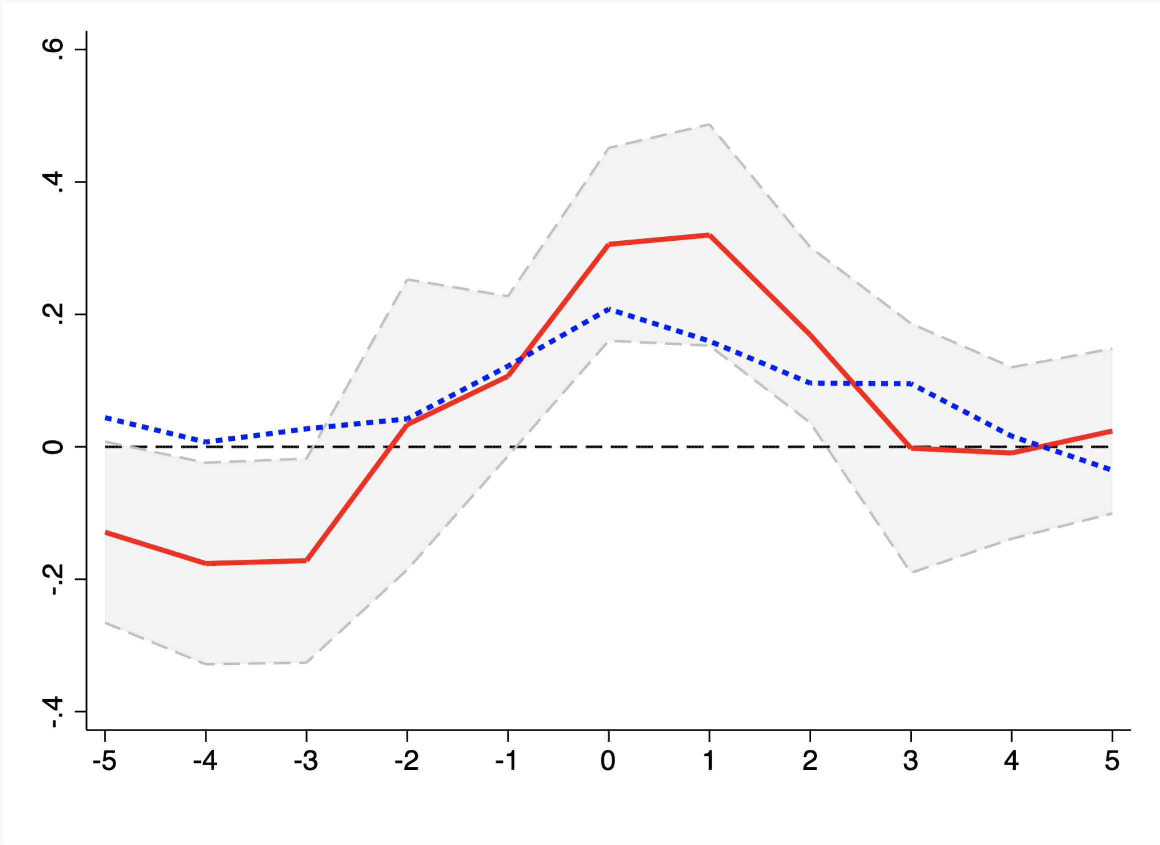


Figure 2: Selected Variables Before, During, and After Democratizations and Financial Crises

This figure shows the path of dividend yields, discount rate news, cash flow news, and the growth in GDP in a ten-year window around the start of democratization events. Discount rate and cash flow news come from a first order vector autoregression decomposition of innovations to dividend growth and the dividend yield, controlling for the risk free rate where the data is available. Results are a regression with country and year fixed effects and various controls with the standard errors clustered at the country and date level.

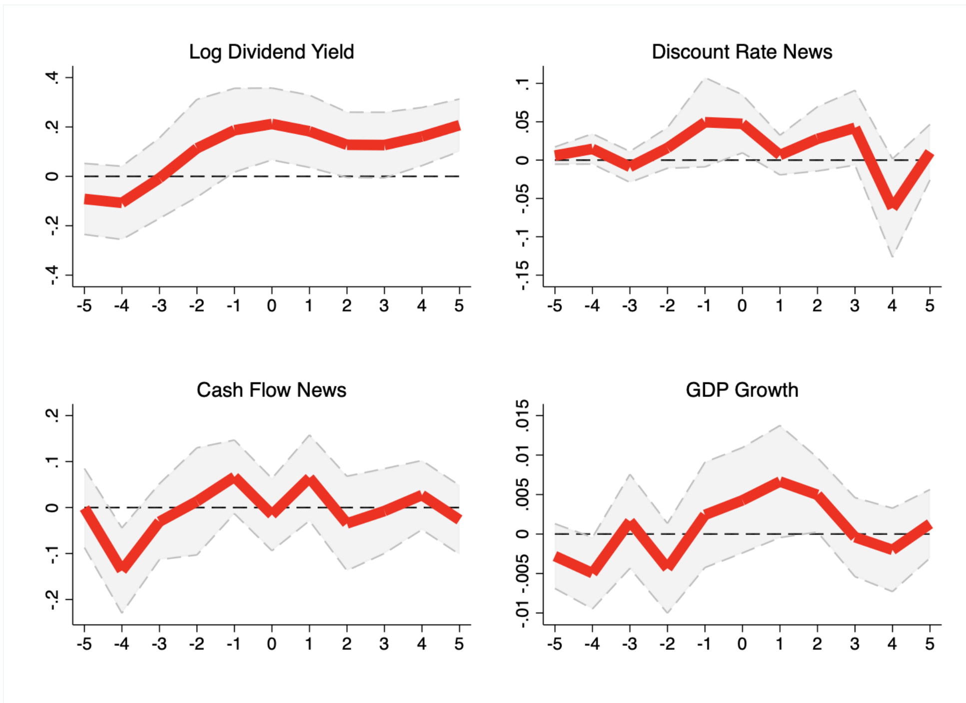


Figure 3: Distribution of Consumption Growth During and Outside of Democratizations

This figure shows a histogram and smoothed kernel density plot of consumption growth, inside of and outside of democratizations and five-years after democratizations. Consumption growth is winsorized at the .5% and 99.5% levels, which is done to for the purposes of appearances. Nearly all of the tail observations shrunk inward are for the "Not Democratizations" as was the sample minimum.

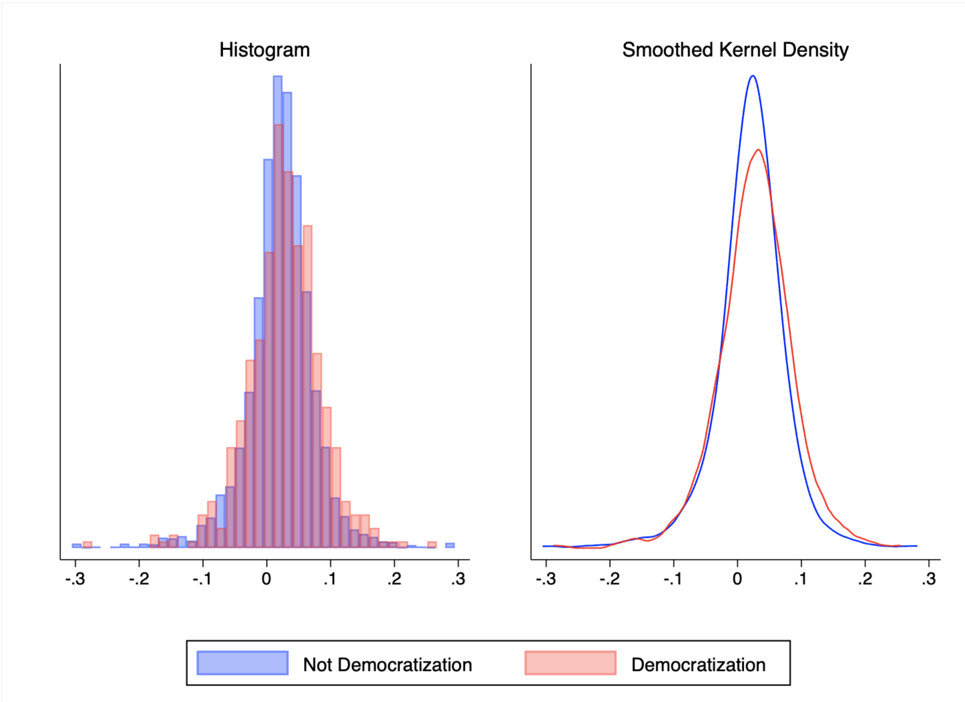


Figure 4: Equilibrium Outcome for Regions of μ

This figure shows the equilibrium outcomes based on the the values that μ takes. In the stylized version of the model presented, $\mu^C = \mu^{**}$ so that a revolution never occurs on the equilibrium path.

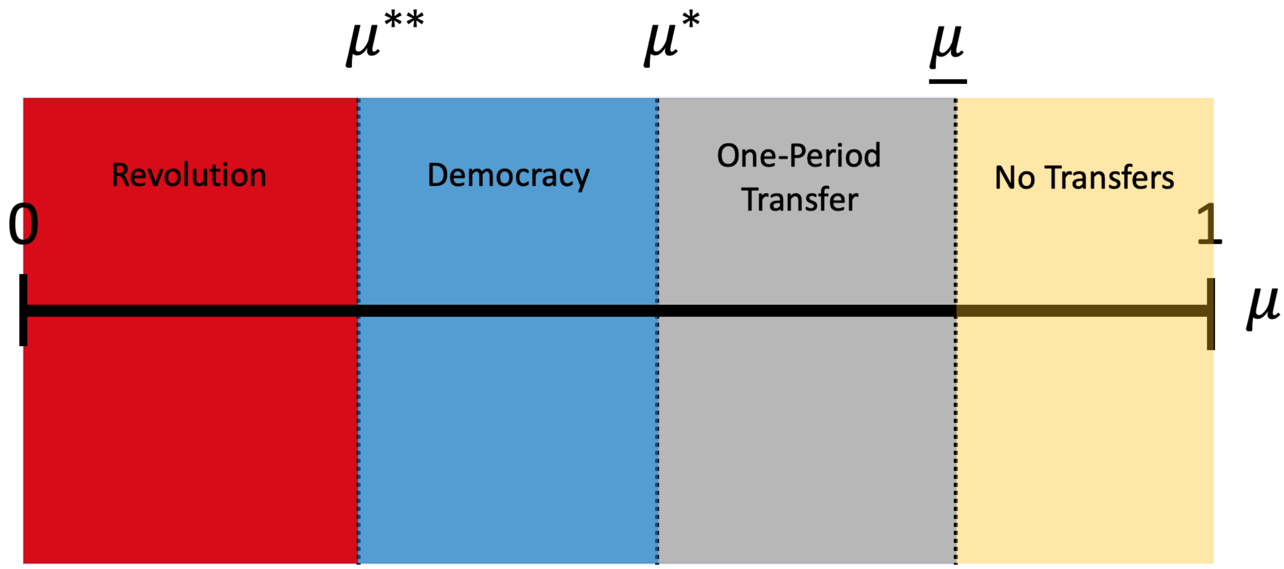


Figure 5: Response of Dividend Yields, Risk Free Rates, and Equity Premia

This figure shows the response of the dividend yield, risk free rate, and equity premium in response to changes in the level of income inequality.

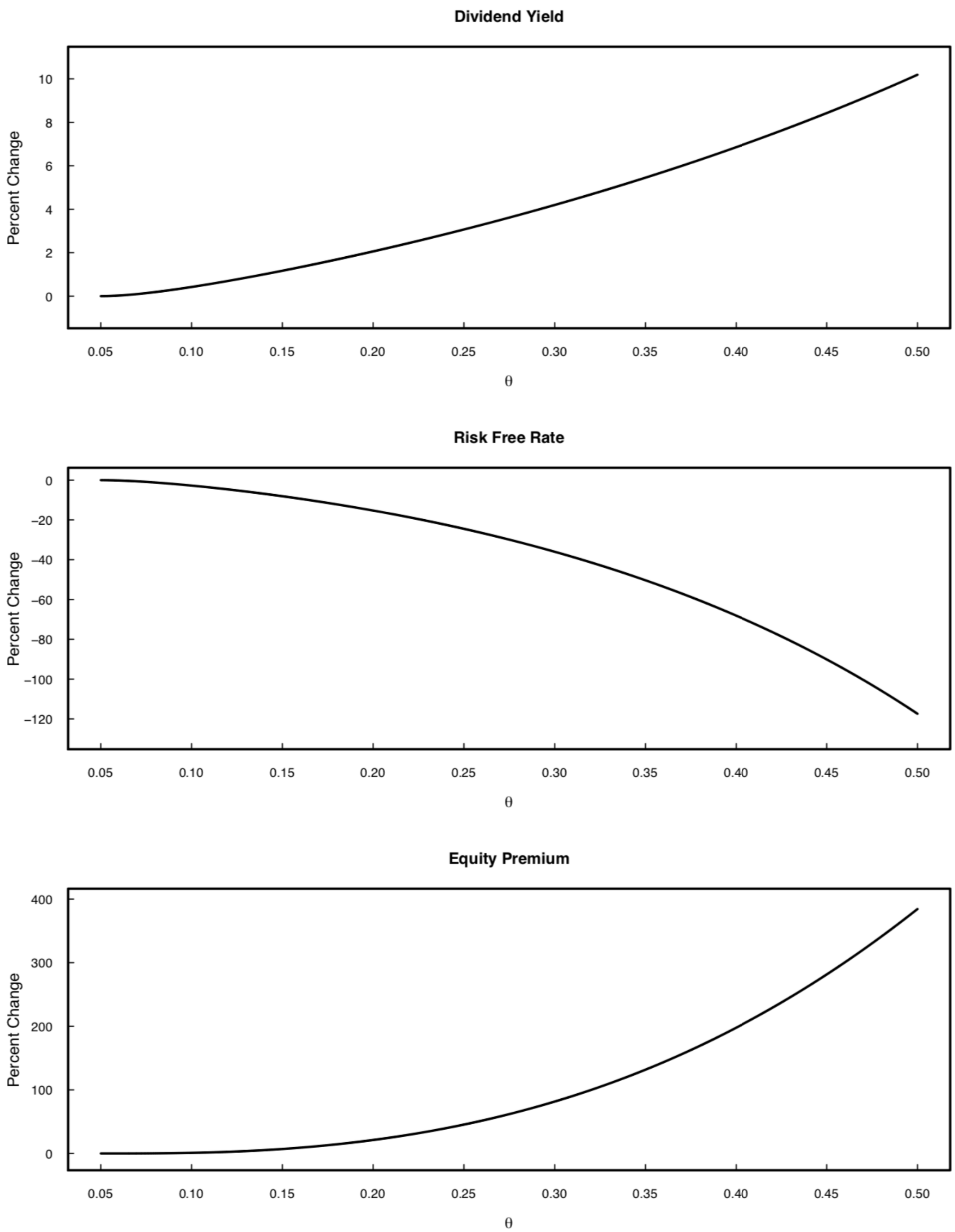
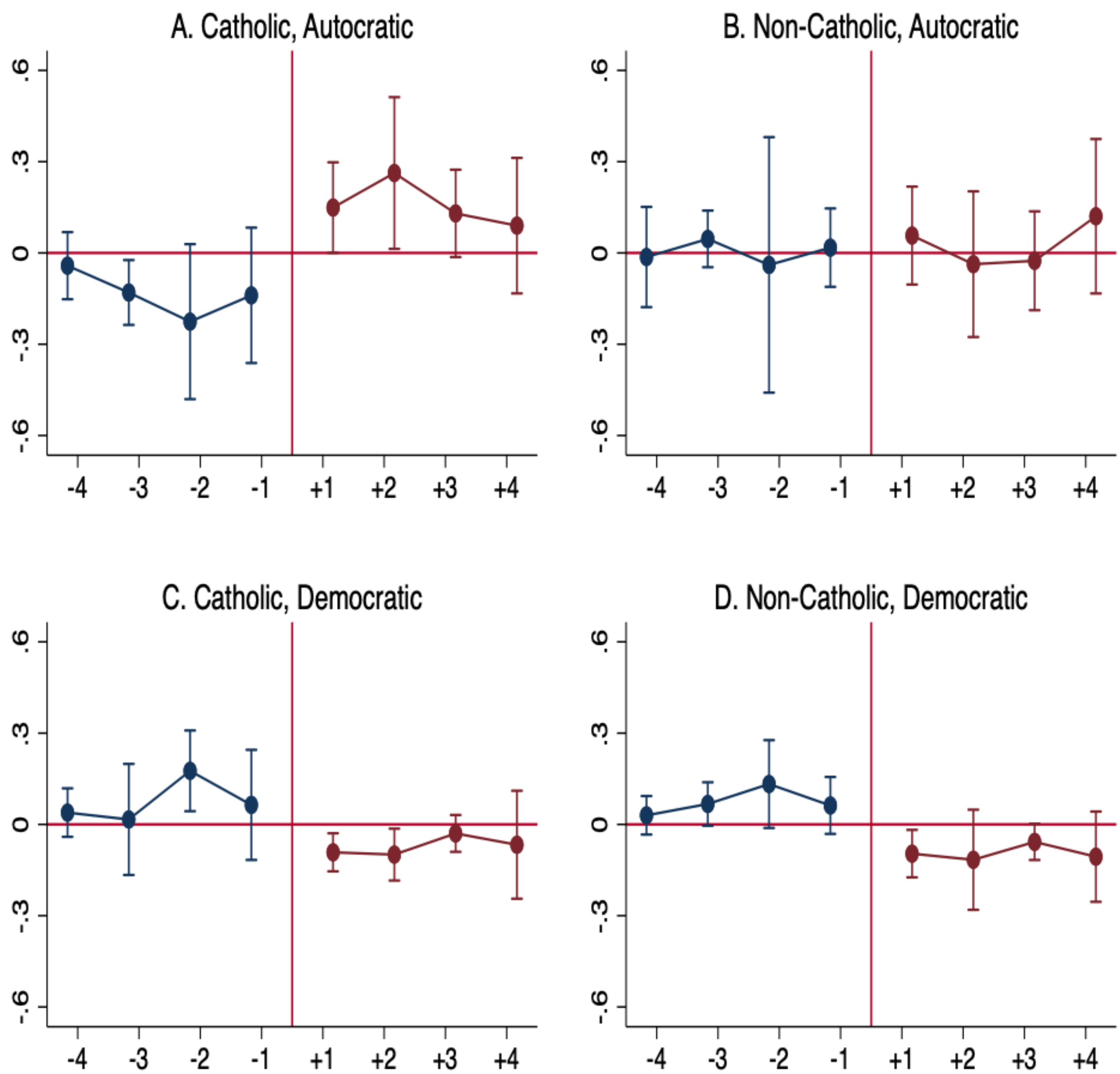


Figure 6: Excess Returns and the Second Vatican Council: Treatment Effect over Time

This figure show the coefficients on two regressions with indicator variables for each of the four groups interacted with indicator variables for two-year periods. The treated group, majority Catholic autocracies, is shown in the top left panel, with the other three panels reserved for the three control groups. The points in blue are the coefficients estimated using the eight years prior to the Vatican II announcement (1955-1962) and the points in red are estimated using the eight years after the Vatican II announcement (1964-1971). All regression include country and time fixed effects and standard errors are clustered by country and year.



INTERNET APPENDIX

A Model Calculations and Proofs

A.1 Optimal Tax Rate for the Citizens

This is given by by the objective function

$$\max_{\tau_t}(1-\tau_t)\bar{Y}_t^p + (\tau_t - C(\tau_t))Y_t$$

which yields the first-order condition

$$-\bar{Y}_t^p + Y_t - C'(\tau_t)Y_t = 0$$

giving the optimal tax from the perspective of the Citizens as

$$\tau^{p*} = (C')^{-1}\left(\frac{\theta-\delta}{1-\delta}\right)$$

if $C(\cdot)$ is invertible.

A.2 Value Upon Revolution

The value function for the citizens if they revolt is given by

$$\begin{aligned}
V(R,\mu_t) =& \frac{(1-\mu_t)Y_t}{(1-\delta)} + \mathbb{E}_t\left[\beta^p \frac{(1-\mu_t)Y_t e^{\bar{y}+\sigma_y\varepsilon_{t+1}^y}}{(1-\delta)} + (\beta^p)^2 \frac{(1-\mu_t)Y_t e^{2\bar{y}+\sigma_y(\varepsilon_{t+1}^y+\varepsilon_{t+2}^y)}}{(1-\delta)} + \cdots\right] \\
=& \frac{(1-\mu_t)Y_t}{(1-\delta)}\left[1 + \beta^p e^{\bar{y}+\frac{1}{2}\sigma_y^2} + (\beta^p e^{\bar{y}+\frac{1}{2}\sigma_y^2})^2 + \cdots\right] \\
=& \frac{(1-\mu_t)Y_t}{(1-\delta)(1-\beta^p e^{\bar{y}+\frac{1}{2}\sigma_y^2})}.
\end{aligned}$$

A.3 Finding $\underline{\mu}$

To solve for $\underline{\mu}$, I set the continuation value under the no redistribution case equal to the value from a revolution when $\mu = \underline{\mu}$. This gives

$$\begin{aligned}
\frac{\bar{Y}_t^p}{(1-\beta^p e^{\bar{y}+\frac{1}{2}\sigma_y^2})} &= \frac{(1-\underline{\mu})Y_t}{(1-\delta)(1-\beta^p e^{\bar{y}+\frac{1}{2}\sigma_y^2})} \\
\Rightarrow \frac{1-\theta}{1-\delta}Y_t =& \frac{(1-\underline{\mu})}{(1-\delta)}Y_t \\
\Rightarrow \theta =& \underline{\mu}.
\end{aligned}$$

A.4 Proof for $\mu^* > \mu^{**}$

First, note that any payoff $\tilde{Y}_t^p \in [\bar{Y}_t^p, \hat{Y}_t^p]$ and since the value function is increasing in the size of each payoff, $V^p(D) = V^p(R, \mu^{**})$ will be the highest possible payoff the Citizens can receive, since in this case they get $\hat{Y}_t^p$ in each period. Further, note that in state A, the time t payoff is $\bar{Y}_t$, so it must be that $V^p(N, \mu^A) < V^p(D)$. Now, suppose that in state D, $\mu^D = \mu^*$. This will give the value function

$$V(N, \mu^D) = \hat{Y}_t^p + \beta^p \mathbb{E}_t[pV(N, \mu^A) + (1 - 2p)V(N, \mu^D) + pV^p(D)].$$

Suppose, by contradiction, that $\mu^* = \mu^{**}$. This would mean that $V(N, \mu^*) = V^p(D)$ which yields

$$V^p(N, \mu^D) = \hat{Y}_t^p + \beta^p \mathbb{E}_t[pV^p(N, \mu^A) + (1 - p)V^p(D)].$$

However, for this to be true, I need $V^p(N, \mu^A) = V^p(D)$ which is not true. Therefore, it must be that $\mu^* > \mu^{**}$.

A.5 Proof of Proposition 1

First, note that in states A and D the Citizens have no incentive to revolt, as $V(R, 1) = 0 < V(N, 1)$, so they will accept any tax rate from the Elites. Therefore, the Elites can choose any tax rate, meaning they optimally should choose $\tau = \tau^r = 0$. In state C, the Citizens are indifferent between revolution and consolidation of democracy, so I assume they choose to accept consolidated democracy. If the Elites deviate from consolidating democracy, they receive $V^r(R) = 0 < V^r(D)$, so they have no incentive to deviate. In this case, the Citizens choose their preferred tax rate, $\tau = \tau^p$. As no one has any incentive to deviate and is playing a best response given the state of the economy, this is a Markov perfect equilibrium.

A.6 Solving for b

The value for b comes from solving

$$\begin{aligned}
\Delta y_t^r(D, \mu^C | \mu_{t-1} = \mu^D) \equiv \log\left(\frac{\int_0^\delta \hat{Y}_t^r(\tau^p)\mathrm{d}i}{Y_{t-1}^r}\right) &= \log\left(\frac{(1 - \tau^p)\theta Y_{t-1} e^{\bar{y} + \sigma_y \varepsilon_t^y} + (\tau^p - C(\tau^p))\delta Y_{t-1} e^{\bar{y} + \sigma_y \varepsilon_t^y}}{\theta Y_{t-1}}\right) \\
&= \log\left(\left[1 - \tau^p + (\tau^p - C(\tau^p))\frac{\delta}{\theta}\right] e^{\bar{y} + \sigma_y \varepsilon_t^y}\right) \\
&= \bar{y} + \sigma_y \varepsilon_t^y + \log\left(1 - (1 - \frac{\delta}{\theta})\tau^p - \frac{\delta}{\theta} C(\tau^p)\right)
\end{aligned}$$

where $1 - (1 - \frac{\delta}{\theta})\tau^p - \frac{\delta}{\theta}C(\tau^p) < 1$ since $\delta < \theta$, $C(\tau^p) > 0$, and $\tau^p > 0$.

A.7 The Price-to-Consumption Ratio with Epstein-Zin Preferences

In the autocracy state, the pricing equation for the consumption claim gives

$$
\begin{aligned}
1 &= \mathbb{E}_t\Big[M_{t+1}R_{w,t+1}\Big] \\
&= \mathbb{E}_t\Big[(\beta^r)^{\Theta}\Big(\frac{C_{t+1}}{C_t}\Big)^{-\frac{\Theta}{\psi}} R_{w,t+1}^{(\Theta-1)}R_{w,t+1}\Big] \\
&= \mathbb{E}_t\Big[(\beta^r)^{\Theta}\Big(\frac{C_{t+1}}{C_t}\Big)^{-\frac{\Theta}{\psi}} R_{w,t+1}^{\Theta}\Big] \\
&= \mathbb{E}_t\Big[\Big(\beta^r\Big(\frac{C_{t+1}}{C_t}\Big)^{-\frac{1}{\psi}}\frac{P_{t+1}^w + C_{t+1}}{P_t^w}\Big)^{\Theta}\Big] \\
&= \mathbb{E}_t\Big[\Big(\beta^r\Big(\frac{C_{t+1}}{C_t}\Big)^{-\frac{1}{\psi}}\Big(\frac{\frac{P_{t+1}^w}{C_{t+1}}+1}{\frac{P_t^w}{C_t}}\Big)\Big(\frac{C_{t+1}}{C_t}\Big)\Big)^{\Theta}\Big] \\
&= \mathbb{E}_t\Big[\Big(\beta^r\Big(\frac{C_{t+1}}{C_t}\Big)^{1-\frac{1}{\psi}}\Big(\frac{\kappa(\mu_{t+1})+1}{\kappa(\mu_t)}\Big)\Big)^{\Theta}\Big] \\
\Rightarrow \kappa(\mu_t)^{\Theta} &= \mathbb{E}_t\Big[\Big(\beta^r\Big(\frac{C_{t+1}}{C_t}\Big)^{1-\frac{1}{\psi}}(\kappa(\mu_{t+1})+1)\Big)^{\Theta}\Big]
\end{aligned}
$$

under the conjecture that the price-to-consumption ratio is a state dependent constant and after multiplying both sides by $\kappa(\mu_t)^{\Theta}$. Since the transition probabilities are independent of the normal shock on the endowment, I can explicitly apply them in each state, yielding three equations.

$$
\begin{aligned}
(\kappa^A)^{\Theta} &= \mathbb{E}_t\Big[\exp\Big\{\Theta\Big(\log(\beta^r)+(1-\frac{1}{\psi})\Delta c_{t+1}\Big)\Big\}\Big((1-q)(\kappa^A+1)^{\Theta}+q(\kappa^D+1)^{\Theta}\Big)\Big] \\
&= \exp\Big\{\Theta\Big(\log(\beta^r)+(1-\frac{1}{\psi})\bar{y}+\frac{1}{2}(1-\gamma)(1-\frac{1}{\psi})\sigma_y^2\Big)\Big\}\Big((1-q)(\kappa^A+1)^{\Theta}+q(\kappa^D+1)^{\Theta}\Big) \\
&= K^{\Theta}\Big((1-q)(\kappa^A+1)^{\Theta}+q(\kappa^D+1)^{\Theta}\Big) \\
(\kappa^D)^{\Theta} &= \mathbb{E}_t\Big[\exp\Big\{\Theta\Big(\log(\beta^r)+(1-\frac{1}{\psi})\Delta c_{t+1}\Big)\Big\}\Big(p(\kappa^A+1)^{\Theta}+(1-2p)(\kappa^D+1)^{\Theta}+p(\kappa^C+1)^{\Theta}\Big)\Big] \\
&= \exp\Big\{\Theta\Big(\log(\beta^r)+(1-\frac{1}{\psi})\bar{y}+\frac{1}{2}(1-\gamma)(1-\frac{1}{\psi})\sigma_y^2\Big)\Big\}\Big(p(\kappa^A+1)^{\Theta}+(1-2p)(\kappa^D+1)^{\Theta}+pb^{1-\gamma}(\kappa^C+1)^{\Theta}\Big) \\
&= K^{\Theta}\Big(p(\kappa^A+1)^{\Theta}+(1-2p)(\kappa^D+1)^{\Theta}+pb^{1-\gamma}(\kappa^C+1)^{\Theta}\Big) \\
(\kappa^C)^{\Theta} &= \mathbb{E}_t\Big[\exp\Big\{\Theta\Big(\log(\beta^r)+(1-\frac{1}{\psi})\Delta c_{t+1}\Big)\Big\}(\kappa^C+1)^{\Theta}\Big] \\
&= \exp\Big\{\Theta\Big(\log(\beta^r)+(1-\frac{1}{\psi})\bar{y}+\frac{1}{2}(1-\gamma)(1-\frac{1}{\psi})\sigma_y^2\Big)\Big\}(\kappa^C+1)^{\Theta} \\
\Rightarrow \kappa^C &= \exp\Big\{\Big(\log(\beta^r)+(1-\frac{1}{\psi})\bar{y}+\frac{1}{2}(1-\gamma)(1-\frac{1}{\psi})\sigma_y^2\Big)\Big\}(\kappa^C+1) \\
&= K(\kappa^C+1) \\
&= \frac{K}{1-K}
\end{aligned}
$$

B Model with CRRA Preferences

In this section, I solve the model with CRRA preferences. These preferences have the advantage of a closed form solution. However, they are not able to quantitatively match what is in the data as the price-to-dividend ratio moves in the wrong direction.

B.1 The Risk Free Asset

In the autocratic state, with CRRA utility, this yields the normal Consumption CAPM result for the risk free rate

$$R_t^f(\mu_t = \mu^A) = \exp\left\{ -\log(\beta^r) + \gamma\bar{y} - \frac{1}{2}\gamma^2\sigma_y^2 \right\} \tag{B.1}$$

because in the autocratic state, there is no immediate danger of a drop in consumption for the Elites. This is also the risk free rate in the consolidation state as well. However, in the democratization state, there is a chance that a consumption disaster will occur for the Elites. In the democratization state, there is a chance that a consumption disaster will occur for the Elites. This leads to different risk free rate dynamics, where the price of the risk free rate is given by

$$\begin{aligned}
Q_t(\mu_t = \mu^D) =& \mathbb{E}_t\left[\beta\left(\frac{C_{t+1}}{C_t}\right)^{-\gamma}\right] \\
=& \mathbb{E}_t\Bigg[p\exp\left\{\log(\beta^r) - \gamma\Delta y_{t+1}^r(N, \mu^A)\right\} + (1-2p)\exp\left\{\log(\beta^r) - \gamma\Delta y_{t+1}^r(N, \mu^D)\right\} \\
& + p\exp\left\{\log(\beta^r) - \gamma\Delta y_{t+1}^r(D, \mu^C|\mu_{t-1} = \mu^D)\right\}\Bigg] \\
=& p\exp\left\{\log(\beta^r) - \gamma\bar{y} + \frac{1}{2}\gamma^2\sigma_y^2\right\} + (1-2p)\exp\left\{\log(\beta^r) - \gamma\bar{y} + \frac{1}{2}\gamma^2\sigma_y^2\right\} \\
& + p\exp\left\{\log(\beta^r) - \gamma\bar{y} + \frac{1}{2}\gamma^2\sigma_y^2\right\}\exp\left\{-\gamma\log(b)\right\}\Bigg] \\
=& \exp\left\{\log(\beta^r) - \gamma\bar{y} + \frac{1}{2}\gamma^2\sigma_y^2\right\}\left[p + (1-2p) + pb^{-\gamma}\right]
\end{aligned}$$

and risk free rate by

$$R_t^f(\mu_t = \mu^D) = \exp\left\{-\log(\beta^r) + \gamma\bar{y} - \frac{1}{2}\gamma^2\sigma_y^2\right\}\left[1 - p(1 - b^{-\gamma})\right]^{-1}.$$

Note that since $b < 1$, the risk free rate is lower in the democratization state than in the autocracy state. This is to disincentive the Elites from a saving, encouraging them to consume their entire endowment.

B.2 The Consumption Claim

The Elites trade a claim to their own consumption (not aggregate consumption) among themselves. The Euler equation for the consumption claim is given by

$$P_t^C(\mu_t) = \mathbb{E}_t\left[\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{-\gamma}(P_{t+1}^C + C_{t+1})\right],$$

which after some algebra yields

$$\frac{P_t^C(\mu_t)}{C_t} = \mathbb{E}_t\Bigg[\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}(\frac{P_{t+1}^C(\mu_t)}{C_{t+1}}+1)\Bigg]$$

To move forward, I conjecture that the price-to-consumption ratio is constant given the state, $\frac{P_t^C(\mu_t)}{C_t} = \kappa(\mu_t)$, yielding

$$\begin{aligned}
\kappa(\mu^A) \equiv \kappa^A =& \mathbb{E}_t\Bigg[(1-q)\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}(\kappa^A+1)\Bigg] + \mathbb{E}_t\Bigg[q\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}(\kappa^D+1)\Bigg]\\
\kappa(\mu^D) \equiv \kappa^D =& \mathbb{E}_t\Bigg[p\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}(\kappa^A+1)\Bigg] + \mathbb{E}_t\Bigg[(1-2p)\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}(\kappa^D+1)\Bigg]\\
&+ \mathbb{E}_t\Bigg[p\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}(\kappa^C+1)\Bigg]\\
\kappa(\mu^C) \equiv \kappa^C =& \mathbb{E}_t\Bigg[\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}(\kappa^C+1)\Bigg].
\end{aligned}$$

The most simple one to solve for is the price-to-consumption ratio in the consolidation state. This is given by

$$\begin{aligned}
\kappa^C &= \mathbb{E}_t\Bigg[\beta^r\left(\frac{C_{t+1}}{C_t}\right)^{1-\gamma}\Bigg]\\
\frac{\kappa^C}{\kappa^C+1} &= \mathbb{E}_t\Bigg[\exp\Bigg\{\log(\beta^r)+(1-\gamma)\Delta y_{t+1}^r(D,\mu^C|\mu_t=\mu^C)\Bigg\}\Bigg]\\
&= \exp\Bigg\{\log(\beta^r)+(1-\gamma)\bar{y}+\frac{1}{2}(1-\gamma)^2\sigma_y^2\Bigg\}
\end{aligned}$$

which gives

$$\kappa^C = \frac{K}{1-K}$$

where $K = \exp\{\log(\beta^r)+(1-\gamma)\bar{y}+\frac{1}{2}(1-\gamma)^2\sigma_y^2\}$, and is the standard C-CAPM result. In the autocratic state,

$$\begin{aligned}
\kappa^A =& \mathbb{E}_t\Bigg[(1-q)\exp\Bigg\{\log(\beta^r)+(1-\gamma)\Delta y_{t+1}^r(N,\mu^A)\Bigg\}(\kappa^A+1)\Bigg]\\
&+ \mathbb{E}_t\Bigg[q\exp\Bigg\{\log(\beta^r)+(1-\gamma)\Delta y_{t+1}^r(N,\mu^D)\Bigg\}(\kappa^D+1)\Bigg]\\
=&(1-q)K(\kappa^A+1)+qK(\kappa^D+1)\\
=&K\Bigg[(1-q)\kappa^A+q\kappa^D+1\Bigg]\\
=&\frac{K[q\kappa^D+1]}{(1-(1-q)K)}
\end{aligned}$$

which differs from the consolidation state due to the risk of entering the democratization state in the following period. In the democratic state, the price-to-consumption ratio is given by

$$
\begin{aligned}
\kappa^D =& \mathbb{E}_t\left[p\exp\left\{\log(\beta^r)+(1-\gamma)\Delta y^r_{t+1}(N,\mu^A)\right\}(\kappa^A+1)\right]\\
&+\mathbb{E}_t\left[(1-2p)\exp\left\{\log(\beta^r)+(1-\gamma)\Delta y^r_{t+1}(N,\mu^D)\right\}(\kappa^D+1)\right]\\
&+\mathbb{E}_t\left[p\exp\left\{\log(\beta^r)+(1-\gamma)\Delta y^r_{t+1}(D,\mu^C|\mu_t=\mu^D)\right\}(\kappa^C+1)\right]\\
=&K\left[p(\kappa^A+1)+(1-2p)(\kappa^D+1)+pb^{1-\gamma}(\kappa^C+1)\right]\\
=&K\left[p\kappa^A+(1-2p)\kappa^D+pb^{1-\gamma}\kappa^C+\left(1-p+pb^{1-\gamma}\right)\right]\\
=&K\left[p\left(\frac{K[q\kappa^D+1]}{(1-(1-q)K)}\right)+(1-2p)\kappa^D+pb^{1-\gamma}\left(\frac{K}{1-K}\right)+\left(1-p+pb^{1-\gamma}\right)\right]\\
=&K\left[\left(\frac{Kpq}{(1-(1-q)K)}+(1-2p)\right)\kappa^D+Kp\left(\frac{1}{(1-(1-q)K)}+\frac{b^{1-\gamma}}{1-K}\right)+\left(1-p+pb^{1-\gamma}\right)\right]\\
=&\frac{K[1+p(b^{1-\gamma}-1)+\frac{Kpb^{1-\gamma}}{1-K}+\frac{Kp}{1-K(1-q)}]}{1-K(1-2p)-\frac{K^2pq}{1-K(1-q)}}
\end{aligned}
$$

which is greater than κ^A and κ^C provided $\gamma > 1$. This means that in the CRRA example, it isn't possible to obtain the price-to-dividend ratios observed in the data. This is because under CRRA utility and $\gamma > 1$ the risk free rate effect which raises the P/D ratio dominates the discount rate and consumption growth effects that push down the price-to-dividend ratio. This is why in the main text I use Epstein-Zin preferences.

This gives all the information necessary to calculate the expected return on equity, which is again constant in each state. In the autocracy state, this is given by

$$
\begin{aligned}
\mathbb{E}_t[R_{t+1}|\mu_t=\mu^A] =& \mathbb{E}_t\left[(1-q)\frac{(\kappa^A+1)}{\kappa^A}\exp\{\Delta y^r_{t+1}(N,\mu^A)\}+q\frac{(\kappa^D+1)}{\kappa^A}\exp\{\Delta y^r_{t+1}(N,\mu^D)\}\right]\\
=&\frac{1}{\kappa^A}\left(1+(1-q)\kappa^A+q\kappa^D\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}.
\end{aligned}
$$

which is equal to

$$
\begin{aligned}
\mathbb{E}_t[R_{t+1}|\mu_t=\mu^A] =& \frac{1}{\kappa^A}\left(1+(1-q)\kappa^A+q\kappa^D\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}\\
=&\left(\frac{1+q\kappa^D}{\kappa^A}+(1-q)\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}\\
=&\left(\frac{[q\kappa^D+1](1-(1-q)K)}{K[q\kappa^D+1]}+(1-q)\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}\\
=&\left(\frac{(1-(1-q)K)}{K}+\frac{(1-q)K}{K}\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}\\
=&\frac{1}{K}e^{\bar{y}+\frac{1}{2}\sigma_y^2}\\
=&\exp\{-\log(\beta^r)+\gamma\bar{y}-\frac{1}{2}\gamma^2\sigma_y^2+\gamma\sigma_y^2\}.
\end{aligned}
$$

This yields log excess returns that are the same as in the C-CAPM,

$$\log\left[\frac{\mathbb{E}_t[R_{t+1}|\mu_t=\mu^A]}{R_t^f(\mu_t=\mu^A)}\right] = -\log(\beta^r)+\gamma\bar{y}-\frac{1}{2}\gamma^2\sigma_y^2+\gamma\sigma_y^2-(-\log(\beta^r)+\gamma\bar{y}-\frac{1}{2}\gamma^2\sigma_y^2)$$
$$=\gamma\sigma_y^2.$$

The results are the same in the consolidation state

$$\begin{aligned}\mathbb{E}_t[R_{t+1}|\mu_t=\mu^C] =&\left(\frac{\kappa^C+1}{\kappa^C}\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}\\ =&\left(\frac{\frac{K}{1-K}+1}{\frac{K}{1-K}}\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}\\ =&\frac{1}{K}e^{\bar{y}+\frac{1}{2}\sigma_y^2}\end{aligned}$$

yielding

$$\log\left[\frac{\mathbb{E}_t[R_{t+1}|\mu_t\in\{\mu^A,\mu^C\}]}{R_t^f(\mu_t=\mu^A)}\right]=\gamma\sigma_y^2.$$

However, the expected return on the consumption claim differs in the democratization state. In this state, the return on equity is given by

$$\begin{aligned}\mathbb{E}_t[R_{t+1}|\mu_t=\mu^D] =&\mathbb{E}_t\Bigg[p\frac{(\kappa^A+1)}{\kappa^D}\exp\{\Delta y_{t+1}^r(N,\mu^A)\}\\ &+(1-2p)\frac{(\kappa^D+1)}{\kappa^D}\exp\{\Delta y_{t+1}^r(N,\mu^D)\}\\ &+p\frac{(\kappa^C+1)}{\kappa^D}\exp\{\Delta y_{t+1}^r(D,\mu^C|\mu_t=\mu^D)\}\Bigg]\\ =&\frac{1}{\kappa^D}\left(1-p+pb+p\kappa^A+(1-2p)\kappa^D+pb\kappa^C\right)e^{\bar{y}+\frac{1}{2}\sigma_y^2}.\end{aligned}$$

This gives excess returns

$$\begin{aligned}\log\left[\frac{\mathbb{E}_t[R_{t+1}|\mu_t=\mu^D]}{R_t^f(\mu_t=\mu^A)}\right] =&\log\left(1-p+pb+p\kappa^A+(1-2p)\kappa^D+pb\kappa^C\right)\\ &+\log\left(1+p(b^{-\gamma}-1)\right)+\log(K)+\gamma\sigma_y^2.\end{aligned}$$

For this to be greater than the expected returns in the autocracy state, the following condition needs to hold:

$$\log(\kappa^D)-\log(K)<\log\left(1-p+pb+p\kappa^A+(1-2p)\kappa^D+pb\kappa^C\right)+\log\left(1+p(b^{-\gamma}-1)\right).$$

By plugging in parameter values, I find that excess returns are higher in the democratization state.

C Data Appendix

C.1 Alternative Data on Democratizations

In this section, I test several alternative definitions of democratization events, namely, the data used in Lindberg et al. (2018), V-Dem explicitly denominated democratizations[35], democratizations under the Vanhanen index, democratizations under the Freedom House measures, and democratizations under the Polity IV measure. Each of these measures have specific drawbacks that make them unattractive for my analysis, but the results broadly hold using these dates, as well.

The drawback to using the Lindberg et al. (2018), as described in the main text, is that the democratization episodes are very long[36]. This is not useful for examining targeted episodes of high uncertainty. Nonetheless, the results on the five-year change in d/p and corporate credit spreads still hold using these dates, shown in Tables A3 and A4.

The V-Dem denominated events only cover 20 events[37] and seem to be incomplete. This may be because democratization events may come along with other political events and are therefore coded differently, and so I do not catch them in my analysis. However, the results still hold, even with these limited data.

The results also hold in the sample of democratizations[38] using the Vanhanen Democratization Index. However, as with the previous date selection, there are many fewer democratization events using this procedure, as the Vanhanen Democratization Index does not have the same time series or cross-sectional coverage as the V-Dem indices.

I also use the changes in the Freedom House index as in Acemoglu et al. (2015) and Delis et al. (2019). This is a popular methodology for constructing democratization episodes, but has the drawback that the data do not begin until 1960. Using the same methodology as in the main text[39], I find 21 episodes of democratization, with the first beginning in 1973. The results in this sample are mixed. As noted in the main text, the corporate credit spreads results are reversed in the post-1984 part of the sample, a result which holds for the other metrics too. To test the fidelity of the sample I use in the main text, I re-run the results on the post-1973 sample and find that the results are broadly consistent with those that come from the Freedom House index. The weakening of the results in the late part of the sample is interesting and a fruitful area for future research. It could be that the globalization of markets leads to differences in the latter part of the sample, as democratization could lead to the opening of new trade networks and to positive cashflow shocks to incumbent firms.

[35] V-Dem denominates regimes that ended in a democratization episode, but seems to do this more rarely as time goes on.

[36] For example, Argentina is in a democratization for most of its modern history, and the Netherlands is going through a democratization for 34 years, from 1946-1980.

[37] There are only 7 after the ones with adverse macroeconomic events are removed.

[38] Constructed in the same way as in the main text using the V-Dem data.

[39] Looking at jumps above the 95th percentile and excluding adverse macroeconomic events.

This can also be seen in the Polity IV measure. The results are the same in the early part of the sample, but are reversed after 1984. The Polity IV measure is less responsive to institutional changes than the V-Dem measures, and as such there are far fewer democratization episodes in the sample, 65 total events, slightly more than 1/3 of the total under the V-Dem measure. Further, nearly half of these events take place after 1984, which as discussed above, leads to significantly weaker results. However, in the pre-1984 part of the sample, the results are broadly consistent with those shown in the main text.

Finally, I combine each of these measures together to create an "all-democratization variable" which contains each of the above democratizations, as well as all democratizations that occur during adverse macroeconomic events. This gives me nearly 900 democratization periods[40] and the results I find with this variable are identical to[41] those in the main text. Further, in the sample where I remove the Lindberg et al. (2018) democratizations[42] the results also hold.

C.2 Details on VAR Decomposition

This section is nearly identical to the VAR example solved in Campbell (1991). The model I estimate to decompose cashflow and discount rate news is

$$\tilde{\mathbf{X}}_{t+1} = \Phi \tilde{\mathbf{X}}_t + \varepsilon_{t+1}$$

where $\tilde{\mathbf{X}}_t = \mathbf{X}_t - \bar{\mathbf{X}}$ and $\mathbf{X}_t = (r_t, \Delta d_t)$ where r_t is the log real return on equity. Using the definitions as in Campbell (1991), we have that cash flow and discount rate (future return) news is given by

$$\varepsilon^{CF}_{t+1} = (\mathbb{E}_{t+1} - \mathbb{E}_t) \sum_{j=0}^{\infty} \rho^j \Delta d_{t+1+j}$$

$$\varepsilon^{DR}_{t+1} = (\mathbb{E}_{t+1} - \mathbb{E}_t) \sum_{j=0}^{\infty} \rho^{j+1} r_{t+2+j}$$

meaning that total unexpected returns are $\eta_{t+1} = \varepsilon^{CF}_{t+1} - \varepsilon^{DR}_{t+1}$. The estimated VAR gives expressions for each of these, where

$$\begin{aligned}
\Delta d_{t+1+j} &= \mathbf{e}_2' \tilde{\mathbf{X}}_{t+1+j} + \mathbf{e}_2' \bar{\mathbf{X}} \\
&= \mathbf{e}_2' (\Phi \tilde{\mathbf{X}}_{t+j} + \varepsilon_{t+1+j}) + \mathbf{e}_2' \bar{\mathbf{X}} \\
&= \mathbf{e}_2' (\sum_{i=0}^{j} \Phi^{j-i} \varepsilon_{t+1+i}) + \mathbf{e}_2' \Phi^j \mathbf{X}_t + \mathbf{e}_2' \bar{\mathbf{X}}
\end{aligned}$$

[40] These mostly come from the Lindberg et al. (2018) democratizations.

[41] In fact, the results are stronger in the sense that I more strongly reject the null of no effect.

[42] Due to the reasons mentioned above. This measure assigns many years as democratization years whereas the changes in political institutions often happen during concentrated periods.

is for cash flows and

$$\begin{aligned} r_{t+2+j} &= \mathbf{e}_1'\tilde{\mathbf{X}}_{t+2+j} + \mathbf{e}_1'\bar{\mathbf{X}} \\ &= \mathbf{e}_1'(\Phi\tilde{\mathbf{X}}_{t+1+j} + \varepsilon_{t+2+j}) + \mathbf{e}_1'\bar{\mathbf{X}} \\ &= \mathbf{e}_1'(\sum_{i=0}^{j+1} \mathbf{\Phi}^{j+1-i}\varepsilon_{t+1+i}) + \mathbf{e}_1'\Phi^{j+1}\mathbf{X}_t + \mathbf{e}_1'\bar{\mathbf{X}} \end{aligned}$$

is for discount rates where $\mathbf{e}_i$ is the elementary column vector with a 1 in the i-th position. Subtracting the expectation at $\mathbb{E}_{t+1}$ and $\mathbb{E}_t$ gives,

$$\begin{aligned} (\mathbb{E}_{t+1} - \mathbb{E}_t)\Delta d_{t+1+j} &= \mathbf{e}_2'\Phi^j\varepsilon_{t+1} \\ (\mathbb{E}_{t+1} - \mathbb{E}_t)r_{t+2+j} &= \mathbf{e}_1'\mathbf{\Phi}^{j+1}\varepsilon_{t+1} \end{aligned}$$

which gives

$$\begin{aligned} \varepsilon_{t+1}^{CF} &= \sum_{j=0}^{\infty} \rho^j \mathbf{e}_2'\mathbf{\Phi}^j\varepsilon_{t+1} \\ &= \mathbf{e}_2'(\mathbf{I} - \rho\Phi)^{-1}\varepsilon_{t+1}. \end{aligned}$$

and

$$\begin{aligned} \varepsilon_{t+1}^{DR} &= \sum_{j=0}^{\infty} \rho^{j+1}\mathbf{e}_1'\Phi^{j+1}\varepsilon_{t+1} \\ &= \rho\Phi\sum_{j=0}^{\infty} \rho^j\mathbf{e}_1'\mathbf{\Phi}^j\varepsilon_{t+1} \\ &= -\mathbf{e}_1'\rho\Phi(\mathbf{I} - \rho\Phi)^{-1}\varepsilon_{t+1}. \end{aligned}$$

These estimates are used as the implied discount rate shocks in the main text.

C.3 Data Details for Natural Experiment

To collect excess returns data for the natural experiment, I take total equity return data from GFD's home stock market index series and combine it with data on total returns from the London Stock Exchange (LSE). In creating a single series, I use the home market equity series if it is available, and then fill in with the LSE where it is not. I also fill in with price data from home stock markets and the LSE when I do not have total returns data.

In the empirical exercise, I require that countries have at least 13 years of data out of the 17 years. This means I exclude data from Cuba, Guatemala, Jamaica, South Korea, Mozambique, Paraguay, and Taiwan. Cuba has a market closure in 1963, meaning there are no observations in the post-sample. Similarly, I lose data from Guatemala in the pre-Vatican II period. Correcting for this by assigning a -100% return for Cuba would not hurt my estimate, as 1963 is excluded, and would help my estimated treatment effect in the case of Guatemala. The data for Guatemala comes from the LSE and therefore, I do not believe it is correct to assign a -100% return in this case. This is also true for Paraguay, who I lose LSE data for in 1965. This loss is the only one that could potentially effect the results. In the rest of the cases, I receive data only in the post-Vatican II period, and therefore cannot use them in the exercise, though there inclusion only increases the strength of the results.

The countries I keep with incomplete data are Ecuador, Egypt, Singapore, and Thailand. I begin to have data from Ecuador in 1958 and have it for the remainder of the sample. For Egypt, total returns are available until 1961 and prices until 1969 on the LSE. I have data from Singapore until 1957 and then from 1962 to the end of the sample. Data on Thai equity comes from the LSE until 1970 but is not available in 1971.

Excluding the incomplete data[43], I find similar results, though they are weaker. However, I do not think this is the correct way to do the exercise, as data should only be excluded for a good reason. Moreover, selectively including data because it exits the sample introduces a survivorship bias; in fact, the autocratic countries that exit the sample[44] have significantly worse returns than other non-majority catholic autocracies. Precisely for this reason, they should not be removed from the sample.

C.4 Natural Experiment Robustness Checks

In Table D.16, I show the results for the triple difference-in-differences specification using the most conservative and unfavorable specification. Here, the results in the baseline specification are not as strong, but much stronger results in Column (2) point to continent specific shocks over time being the reason why. Once these are accounted for, the results are very close to being significant at the 10% with no significant pre-trend. However, the net effect, though large, is insignificant (Column (3)). The Fama-Macbeth regressions yield similar insight, with the added bonus that once market risk is accounted for, the net effect is positive and highly significant. This means that once world market risk is accounted for, average excess returns are abnormally high in the post-period. Within a neoclassical framework[45], this would point to increased risk as being the culprit.

Table D.17 presents the results from single difference-in-differences estimations within the treated subsamples. The first two columns show the treatment effect within the autocratic country subsample. The coefficient in Column (1) is positive and consistent with the results stated in the main paper, though not significant. Column (2), which contains Region×Year fixed effects, is large and highly significant. This means that once continent specific shocks are controlled for, the results persist. Column (3) shows that within the majority Catholic subgroup, there is a significant treatment effect on the autocracies relative to the democracies. However, this result is insignificant once Region×Year fixed effects are included.

The nearest neighbor matching results shown in Table D.18 back up the results from Table D.17. Columns (1) and (2) are matched on the level of electoral democratic institutions, GDP growth and level, and level of military activation, and show that there is a significant treatment for the majority catholic autocracies. Columns (3) and

[43]Meaning that I only keep observations with the full 18 years of data.

[44]Egypt, Singapore, and Thailand.

[45]By this, I mean a framework not allowing for mispricing.

(4) are matched on the level of catholic population, GDP growth and level, and level of military activation, and show an insignificant treatment effect.

Table D.19 reports the median of several relevant macroeconomic and financial variables for the period from 1955-1962 for each of the four groups of countries. This shows that while democracies are richer in terms of GDP, and majority Catholic autocracies are richer than non-majority Catholic autocracies, each of the groups match up well.

Figure D.1 shows the t-statistics from dropping all pairwise combinations of countries from the sample. In none of these pairs does the sign reverse, with all the estimates maintaining t-statistics above 1.2 in the baseline specification. In the specification with Region$\times$Year fixed effects, all the coefficients are significant regardless of the composition of countries. The net effects are also robust to removing countries from the sample.

D Appendix Tables and Figures

Table D.1: Democratization and the Change in Dividend Yields

This table shows a series of regressions of a dummy for periods of democratization on the five-year change in the log dividend yield. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	0.288***	0.323***	0.310**	0.361**	0.339**	0.420**
	(3.67)	(2.76)	(2.54)	(2.58)	(2.33)	(2.61)
Autocratization			-0.0428		-0.0548	-0.0617
			(-0.81)		(-0.98)	(-1.08)
War			-0.0111		-0.0178	-0.0257
			(-0.29)		(-0.39)	(-0.42)
Post-War			-0.0459		-0.0475	-0.0394
			(-1.50)		(-1.44)	(-1.03)
Sovereign Default			-0.255***		-0.298***	-0.312***
			(-3.22)		(-3.21)	(-2.78)
Recession			0.0126		-0.0101	-0.0275
			(0.40)		(-0.32)	(-0.88)
Financial Crisis			0.190***		0.167***	0.127**
			(3.71)		(2.85)	(2.41)
ICB Political Crisis			0.0438		0.0925	0.142*
			(0.60)		(1.15)	(1.94)
Consumption Growth				-0.273	-0.315	-0.00453
				(-1.12)	(-1.21)	(-0.02)
Observations	4875	4875	4875	4133	4133	3992
R^2	0.004	0.158	0.171	0.182	0.196	0.383

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.2: Democratization and the Cyclically Adjusted Price-to-Earnings (CAPE) Ratio

This table shows a series of regressions of a dummy for periods of democratization on the log cyclically adjusted price-to-earnings ratio with three years of earnings data. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	-0.230	-0.00881	-0.0536	-0.0863	-0.116**	-0.237***
	(-1.41)	(-0.07)	(-0.42)	(-1.47)	(-2.08)	(-2.78)
Autocratization			0.0107		0.0231	-0.00526
			(0.30)		(0.55)	(-0.10)
War			-0.0322		0.000753	0.0169
			(-0.62)		(0.01)	(0.27)
Post-War			0.0667*		0.0876*	0.101**
			(1.71)		(1.99)	(2.36)
Sovereign Default			-0.234		-0.277	-0.485*
			(-1.40)		(-1.46)	(-1.73)
Recession			-0.0397		-0.0179	-0.0435
			(-1.12)		(-0.48)	(-1.17)
Financial Crisis			-0.247***		-0.142**	-0.0696
			(-3.86)		(-2.35)	(-1.04)
ICB Political Crisis			-0.105**		-0.119***	-0.149***
			(-2.46)		(-2.92)	(-2.91)
vod_total_dem				0.320	0.271	0.925
				(0.78)	(0.66)	(1.59)
log_ggdc_rgdpnapc_g				3.701***	3.374***	3.038***
				(4.73)	(4.60)	(4.89)
R^f				0.107	0.114	0.216
				(0.58)	(0.66)	(0.78)
Observations	1621	1607	1607	1506	1506	1328
R^2	0.002	0.482	0.502	0.551	0.566	0.650

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.3: Democratization Start and Corporate Credit Spreads

This table shows a series of regressions of a dummy for periods of democratization on corporate credit spreads. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	0.0268***	0.0154	0.0173*	0.0196**	0.0221***	0.0118*
	(2.80)	(1.72)	(1.92)	(2.77)	(3.14)	(2.00)
Democratization, Post-1984	-0.0380**	-0.0313***	-0.0311***	-0.0324***	-0.0322***	-0.0100*
	(-2.18)	(-3.19)	(-3.50)	(-3.59)	(-4.03)	(-1.86)
Autocratization			0.00305		0.00451	0.000901
			(0.60)		(0.89)	(0.26)
War			-0.00689**		-0.00342	-0.00559**
			(-2.57)		(-1.26)	(-2.49)
Post-War			0.000221		0.00119	-0.00262
			(0.09)		(0.34)	(-0.89)
Sovereign Default			0.0285**		0.0316**	-0.00678
			(2.21)		(2.10)	(-0.78)
Recession			0.000344		0.00117	0.000866
			(0.34)		(1.20)	(0.67)
Financial Crisis			0.00953*		0.0123**	0.00889**
			(1.92)		(2.79)	(2.26)
ICB Political Crisis			0.00254		0.00531*	0.00810*
			(0.88)		(1.83)	(1.75)
vod_total_dem				0.0142	0.0231	0.00282
				(0.62)	(0.93)	(0.17)
log_ggdc_rgdpnapc_g				0.0163	0.0444*	0.0151
				(1.23)	(1.98)	(0.65)
R^f				-0.00168	0.00350	-0.00421
				(-0.18)	(0.35)	(-0.34)
all_div_g				-0.00305	-0.00425	-0.00397
				(-0.67)	(-1.09)	(-0.86)
Observations	1492	1478	1478	1362	1362	1185
R^2	0.008	0.458	0.480	0.482	0.507	0.641

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.4: Democratization and Real Bill Returns

This table shows a series of regressions of a dummy for periods of democratization on the return on government bills adjusted for expected inflation using the predictive value from an AR(1). Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	-0.0424**	-0.0169	-0.0181	-0.0304	-0.0270	-0.0271
	(-1.97)	(-0.79)	(-0.81)	(-1.23)	(-1.10)	(-0.91)
Autocratization			-0.00788		-0.00907	0.00100
			(-0.82)		(-1.01)	(0.12)
War			-0.00780		-0.00520	-0.000120
			(-0.63)		(-0.42)	(-0.01)
Post-War			-0.0196**		-0.0187*	-0.0188**
			(-2.03)		(-1.92)	(-2.16)
Sovereign Default			-0.0221		-0.0113	-0.0134
			(-1.01)		(-0.49)	(-0.59)
Recession			0.00109		0.00710	0.00220
			(0.12)		(0.79)	(0.22)
Financial Crisis			0.0186		0.0183	0.0223
			(1.03)		(0.96)	(1.29)
ICB Political Crisis			0.00184		-0.00492	-0.00171
			(0.09)		(-0.28)	(-0.08)
vod_total_dem				-0.00154	-0.0102	0.0156
				(-0.05)	(-0.32)	(0.62)
log_ggdc_rgdpnapc_g				0.179	0.190	0.150
				(1.22)	(1.26)	(0.85)
Observations	4526	4526	4524	4218	4218	3904
R^2	0.002	0.341	0.345	0.352	0.355	0.517

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.5: Democratization and Five-Year Ahead Excess Returns

This table shows a series of regressions of a dummy for periods of democratization on five-year ahead average excess returns. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
F.Democratization Start	0.0265	0.0327**	0.0356**	0.0383**	0.0401**	0.0445***
	(1.20)	(2.48)	(2.58)	(2.16)	(2.23)	(2.78)
Autocratization			-0.000432		-0.00151	-0.00192
			(-0.03)		(-0.12)	(-0.16)
War			-0.00538		-0.000405	0.00486
			(-0.50)		(-0.04)	(0.44)
Post-War			0.00283		-0.00187	-0.00227
			(0.22)		(-0.16)	(-0.18)
Sovereign Default			0.0507***		0.0306	0.0181
			(2.90)		(1.59)	(0.89)
Recession			-0.00393		-0.00620	0.00183
			(-0.44)		(-0.69)	(0.22)
Financial Crisis			-0.0151		-0.0145	0.00553
			(-1.06)		(-0.95)	(0.34)
ICB Political Crisis			-0.0238		-0.0233	0.0141
			(-1.37)		(-1.33)	(0.77)
Consumption Growth				-0.120	-0.121	-0.0944
				(-1.58)	(-1.58)	(-1.23)
Observations	4911	4910	4904	4380	4375	4190
R^2	0.000	0.356	0.362	0.354	0.357	0.514

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.6: Democratization and Five-Year Ahead Fama-Macbeth Alphas

This table shows a series of regressions of a dummy for periods of democratization on five-year ahead abnormal returns using the method of Fama and MacBeth (1973). Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
F.Democratization Start	0.00566	0.0366**	0.0370**	0.0524***	0.0514**	0.0523***
	(0.28)	(2.32)	(2.30)	(2.73)	(2.64)	(2.88)
Autocratization			0.00548		0.00195	-0.000889
			(0.40)		(0.14)	(-0.06)
War			0.00725		0.00743	0.00931
			(0.50)		(0.52)	(0.73)
Post-War			0.0106		-0.000114	-0.00159
			(0.71)		(-0.01)	(-0.13)
Sovereign Default			0.0310		0.00688	0.00787
			(1.60)		(0.33)	(0.43)
Recession			-0.0124		-0.0154*	-0.00698
			(-1.48)		(-1.78)	(-0.84)
Financial Crisis			0.00343		0.00101	0.0151
			(0.22)		(0.06)	(0.83)
ICB Political Crisis			-0.0215		-0.0163	0.0137
			(-1.22)		(-0.98)	(0.78)
Consumption Growth				-0.171**	-0.189**	-0.147**
				(-2.27)	(-2.46)	(-2.01)
Observations	4044	4044	4042	3546	3545	3489
R^2	0.000	0.292	0.297	0.309	0.311	0.474

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.7: Democratization and Discount Rate News

This table shows a series of regressions of a dummy for periods of democratization on discount rate news estimated using the methods of Campbell (1991). Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
F.Democratization Start	0.0103	0.0455	0.0399	0.0337	0.0288	0.0315
	(1.01)	(1.46)	(1.50)	(1.55)	(1.63)	(1.25)
Democratization Start	0.0242*	0.0435**	0.0337**	0.0454**	0.0368**	0.0621
	(1.89)	(2.13)	(2.28)	(2.18)	(2.09)	(1.67)
Autocratization			-0.0156		-0.0140	-0.00555
			(-0.92)		(-0.86)	(-0.45)
War			-0.0261		-0.0193	-0.0290
			(-0.96)		(-0.82)	(-0.95)
Post-War			-0.0211		-0.0220	-0.0216
			(-1.05)		(-1.09)	(-1.00)
Sovereign Default			-0.0319**		-0.0336*	-0.0346*
			(-2.05)		(-1.77)	(-1.83)
Recession			-0.0367		-0.0362	-0.0467
			(-1.06)		(-1.08)	(-1.07)
Financial Crisis			0.0253		0.0269	0.0460
			(0.90)		(0.90)	(0.96)
ICB Political Crisis			0.0181		0.0253	0.0412
			(1.05)		(1.09)	(1.07)
Consumption Growth				0.159	0.0958	0.224
				(0.97)	(0.79)	(1.00)
Observations	4541	4537	4537	4058	4058	3917
R^2	0.000	0.044	0.047	0.055	0.058	0.108

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.8: Democratization and Cash Flow News

This table shows a series of regressions of a dummy for periods of democratization on cash flow news estimated using the methods of Campbell (1991). Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
F.Democratization Start	0.0269	0.0707	0.0702	0.104*	0.108*	0.163**
	(0.47)	(1.49)	(1.51)	(1.83)	(1.93)	(2.59)
Democratization Start	-0.0150	-0.00593	-0.0277	-0.0443	-0.0563	-0.0269
	(-0.30)	(-0.12)	(-0.58)	(-0.91)	(-1.15)	(-0.45)
Autocratization			-0.0161		-0.0111	-0.0227
			(-0.64)		(-0.39)	(-0.83)
War			-0.0533***		-0.0376*	-0.0354
			(-2.69)		(-1.86)	(-1.62)
Post-War			0.000310		-0.00996	-0.00484
			(0.02)		(-0.51)	(-0.24)
Sovereign Default			-0.0612		-0.0388	-0.0624
			(-1.45)		(-0.74)	(-1.11)
Recession			-0.0229		-0.00334	-0.0251
			(-1.31)		(-0.18)	(-1.31)
Financial Crisis			-0.0797**		-0.0808**	-0.0570
			(-2.17)		(-2.21)	(-1.53)
ICB Political Crisis			-0.0280		-0.00222	-0.0346
			(-1.19)		(-0.08)	(-1.15)
Consumption Growth				0.881***	0.842***	0.920***
				(5.14)	(4.88)	(4.74)
Observations	4541	4537	4537	4058	4058	3917
R^2	0.000	0.151	0.157	0.148	0.151	0.339

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.9: Post Democratization and Dividend Growth

This table shows a series of regressions of a dummy for periods of democratization on dividend growth. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	0.0202	0.0213	0.00207	0.00170	-0.0101	0.0241
	(0.49)	(0.55)	(0.06)	(0.04)	(-0.23)	(0.41)
Post Democratization	-0.0370	-0.0464**	-0.0529***	-0.0358	-0.0407	-0.0298
	(-1.53)	(-2.32)	(-2.74)	(-1.44)	(-1.60)	(-1.32)
Autocratization			-0.0313		-0.0268	-0.0420
			(-1.47)		(-1.21)	(-1.64)
War			-0.0335		-0.0180	-0.0144
			(-1.41)		(-0.67)	(-0.58)
Post-War			0.00451		0.0000941	0.00112
			(0.23)		(0.00)	(0.05)
Sovereign Default			-0.0728*		-0.0569	-0.0845*
			(-1.99)		(-1.20)	(-1.76)
Recession			-0.0204		0.000932	-0.0224
			(-1.11)		(0.05)	(-1.07)
Financial Crisis			-0.0500		-0.0481	-0.0421
			(-1.46)		(-1.48)	(-1.19)
ICB Political Crisis			-0.0238		0.00538	-0.0349
			(-0.77)		(0.13)	(-1.05)
Consumption Growth				0.907***	0.884***	0.945***
				(6.52)	(6.45)	(6.46)
Observations	4911	4911	4911	4261	4261	4118
R^2	0.001	0.154	0.157	0.148	0.150	0.320

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.10: Post Democratization and Cash Flow News

This table shows a series of regressions of a dummy for periods of democratization on cash flow news estimated using the methods of Campbell (1991). Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	0.0286	0.0336	0.0118	0.0119	-0.000268	0.0220
	(0.63)	(0.74)	(0.27)	(0.24)	(-0.01)	(0.32)
Post Democratization	-0.00996	-0.0204	-0.0271	-0.0202	-0.0235	-0.0236
	(-0.41)	(-1.06)	(-1.52)	(-0.87)	(-0.98)	(-1.01)
Autocratization			-0.0136		-0.00782	-0.0169
			(-0.57)		(-0.30)	(-0.61)
War			-0.0510**		-0.0363*	-0.0321
			(-2.60)		(-1.82)	(-1.49)
Post-War			0.00158		-0.0103	-0.00362
			(0.08)		(-0.53)	(-0.17)
Sovereign Default			-0.0649		-0.0432	-0.0708
			(-1.57)		(-0.84)	(-1.32)
Recession			-0.0231		-0.00364	-0.0255
			(-1.30)		(-0.19)	(-1.28)
Financial Crisis			-0.0779**		-0.0749**	-0.0527
			(-2.20)		(-2.13)	(-1.45)
ICB Political Crisis			-0.0299		-0.00220	-0.0384
			(-1.23)		(-0.08)	(-1.28)
Consumption Growth				0.866***	0.829***	0.904***
				(5.12)	(4.86)	(4.69)
Observations	4600	4596	4596	4066	4066	3925
R^2	0.000	0.153	0.158	0.147	0.150	0.337

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.11: Post Democratization and Number of Companies

This table shows a series of regressions of a dummy for periods of democratization on the number of publicly traded companies. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	-0.465***	-0.0936	-0.0784	-0.0929	-0.0838	-0.137
	(-3.03)	(-0.61)	(-0.50)	(-0.57)	(-0.51)	(-0.73)
Post Democratization	-0.518***	0.0207	0.0169	0.0336	0.0281	0.00479
	(-5.95)	(0.17)	(0.14)	(0.26)	(0.22)	(0.03)
Autocratization			-0.0454		-0.0607	0.0409
			(-0.63)		(-0.83)	(0.71)
War			0.0420		0.00935	0.0602
			(0.30)		(0.07)	(0.74)
Post-War			-0.137		-0.140	-0.127
			(-0.83)		(-0.85)	(-1.17)
Sovereign Default			0.133		0.135	0.0154
			(1.40)		(1.38)	(0.16)
Recession			-0.0586		-0.0667	0.0433
			(-0.68)		(-0.74)	(0.73)
Financial Crisis			0.00523		-0.00914	0.0195
			(0.09)		(-0.16)	(0.30)
ICB Political Crisis			0.292**		0.277**	0.0613
			(2.29)		(2.12)	(1.52)
Consumption Growth				-0.222	-0.228	0.493
				(-0.54)	(-0.53)	(1.19)
Observations	2983	2965	2965	2867	2867	2759
R^2	0.013	0.800	0.803	0.795	0.798	0.871

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.12: Post Democratization and Consumption Growth

This table shows a series of regressions of a dummy for periods of democratization on consumption growth. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	0.00978	0.0140*	0.00615	0.0165**	0.00890	0.00392
	(1.42)	(1.83)	(0.84)	(2.06)	(1.14)	(0.46)
Post Democratization	0.00547*	0.00531	0.00313	0.00551	0.00317	0.00148
	(1.69)	(1.17)	(0.71)	(1.09)	(0.66)	(0.30)
Autocratization			-0.00768***		-0.00765***	-0.00422
			(-3.04)		(-2.98)	(-1.22)
War			-0.00780**		-0.00725*	-0.00877**
			(-2.18)		(-1.77)	(-2.05)
Post-War			-0.00406		-0.00358	0.000926
			(-1.35)		(-1.17)	(0.35)
Sovereign Default			-0.0106*		-0.0112*	-0.00829
			(-1.73)		(-1.98)	(-1.24)
Recession			-0.0269***		-0.0264***	-0.0241***
			(-8.49)		(-8.42)	(-6.49)
Financial Crisis			-0.0105***		-0.00867**	-0.00528
			(-2.80)		(-2.17)	(-1.39)
ICB Political Crisis			-0.0177**		-0.0181**	-0.0145
			(-2.37)		(-2.26)	(-1.47)
Observations	4377	4377	4377	4133	4133	3992
R^2	0.001	0.214	0.247	0.217	0.250	0.439

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.13: Post Democratization and Consumption Standard Deviation

This table shows a series of regressions of a dummy for periods of democratization on consumption standard deviation estimated using a ten-year forward rolling window. Column (1) shows a simple OLS regression. Columns (2)-(5) include country and year fixed effects. Column (3) adds event controls. Column (4) removes event controls and adds non-event controls. Column (5) includes event and non-event controls. Column (6) adds Region×Year fixed effects to the specification in Column (5). Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Democratization	-0.000231	-0.00430	-0.000854	-0.00329	-0.000397	-0.000639
	(-0.10)	(-1.26)	(-0.25)	(-0.99)	(-0.11)	(-0.18)
Post Democratization	0.000166	-0.00550*	-0.00438	-0.00552	-0.00460	-0.00376
	(0.13)	(-1.72)	(-1.43)	(-1.60)	(-1.40)	(-1.38)
Autocratization			0.00521*		0.00614**	0.00609**
			(1.86)		(2.25)	(2.25)
War			0.00689		0.00551	0.00631
			(1.52)		(1.56)	(1.63)
Post-War			-0.00180		-0.00209	-0.00175
			(-0.66)		(-0.95)	(-0.76)
Sovereign Default			0.00979		0.00845	0.0151*
			(1.16)		(0.91)	(1.78)
Recession			0.00456**		0.00519***	0.00286*
			(2.66)		(3.10)	(1.79)
Financial Crisis			0.00105		-0.000628	0.000153
			(0.57)		(-0.37)	(0.08)
ICB Political Crisis			0.00163		0.00232	0.00496
			(0.21)		(0.30)	(0.66)
Observations	4444	4444	4444	4169	4169	3998
R^2	0.000	0.407	0.420	0.434	0.444	0.597

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.14: Alternative Democratizations and the Price-to-Dividend Ratio

This table shows a series of regressions of democratization events coming from different measures on the five-year change in price-to-dividend ratios. All regressions include country and year fixed effects, and have event and non-event controls included.

	(1)	(2)	(3)	(4)	(5)
Lindberg et al. (2018) Demo.	0.181***				
	(3.40)				
Democratization, Post-1984	-0.144				
	(-1.26)				
Alt. V-Dem Democratization		0.0651			
		(0.54)			
Vanhannen Index Democratization			0.0595		
			(1.63)		
Democratization, Post-1984			0.0293		
			(0.27)		
FH Democratization				0.338	
				(1.02)	
Democratization, Post-1984				-0.345	
				(-0.79)	
Polity Democratization					0.174
					(1.49)
Democratization, Post-1984					-0.430**
					(-2.25)
Observations	3675	2363	4413	4413	4103
R^2	0.203	0.224	0.192	0.192	0.198

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.15: Alternative Democratizations and Corporate Credit Spreads

This table shows a series of regressions of democratization events coming from different measures on the five-year change in price-to-dividend ratios. All regressions include country and year fixed effects, and have event and non-event controls included.

	(1)	(2)	(3)	(4)
Lindberg et al. (2018) Demo.	0.00860			
	(0.77)			
Democratization, Post-1984	0.0183^{*}			
	(1.96)			
Vanhannen Index Democratization		0.0142^{*}		
		(1.79)		
Democratization, Post-1984		-0.0140		
		(-1.10)		
FH Democratization			0.0403^{***}	
			(3.35)	
Democratization, Post-1984			-0.0406^{***}	
			(-4.47)	
Polity Democratization				0.0235^{***}
				(2.98)
Democratization, Post-1984				-0.0165^{*}
				(-2.08)
Observations	1277	1341	1341	1387
R^2	0.543	0.516	0.516	0.509

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.16: Returns and the Second Vatican Council: Conservative Window

This table shows the triple differences-in-differences regression described in Section 5. Columns (1)-(3) use returns in excess of US treasury returns as the dependent variable. Columns (4)-(6) use CAPM α's from Fama-Macbeth regressions as the dependent variable. The time period from 1959-1963 are the years of treatment and are excluded. Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)	(5)	(6)
Autocracy	0.106	-0.0612		0.145	-0.0788	
	(0.88)	(-0.32)		(1.22)	(-0.47)	
Post-Vatican II × Maj Cath	-0.0749**	-0.107*		-0.0697*	-0.0648	
	(-2.21)	(-1.93)		(-2.07)	(-1.22)	
Autocracy × Maj Cath	-0.115	-0.0714		-0.0690	0.113	
	(-0.89)	(-0.41)		(-0.70)	(0.71)	
Post-Vatican II × Autocracy	0.0865*	-0.0457		0.0944**	-0.00517	
	(1.80)	(-0.53)		(2.29)	(-0.07)	
Post-Vatican II × Maj Cath × Autocracy	0.0897	0.260*	0.124	0.140**	0.241*	0.205**
	(1.08)	(1.94)	(1.26)	(2.49)	(1.88)	(2.53)
Date FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Region × Date	No	Yes	Yes	No	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	617	546	546	617	546	546

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.17: Returns and the Second Vatican Council: Single Difference-in-Differences

This table shows regressions on subsamples of the triple difference-in-differences specification. Columns (1) and (2) show the treatment from Vatican II on majority Catholic, autocratic countries in the sub-sample of all autocratic countries. Columns (3)-(4) show the treatment from Vatican II on majority Catholic, autocratic countries in the sub-sample of all majority Catholic countries. The year 1963 is taken as the year of treatment and is excluded. Standard errors are heteroskedasticity robust and clustered by country.

	(1)	(2)	(3)	(4)
Post-Vatican II × Maj Cath × Autocracy	-0.0321	0.444*	0.109	0.124*
	(-0.46)	(1.84)	(1.13)	(1.89)
Date FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Region × Date	No	Yes	No	Yes
Controls	Yes	Yes		
Subsample	Autocracy	Autocracy	Majority Catholic	Majority Catholic
N	303	227	225	209

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.18: Returns and the Second Vatican Council: Nearest Neighbor Matching

This table shows the average treatment effect from Vatican II for majority Catholic, autocracies using a nearest neighbor matching procedure. Columns (1) and (2) match on the level of democratic institutions. Columns (3) and (4) match on the proportion of the population that is Catholic. Columns (1) and (3) calculate a nearest single neighbor treatment effect, and Columns (2) and (4) calculate a nearest two neighbors treatment effect.

	(1)	(2)	(3)	(4)
SATE	0.234**	0.218**	0.0642	0.0922
	(2.05)	(2.38)	(0.68)	(1.26)
Observations	609	609	609	609
R^2				

t statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table D.19: Returns and the Second Vatican Council: Summary Statistics

This table shows the summary statistics for the pre-period (1955-1962) for the four groups of countries analyzed in Section 5. The median values are reported here for each variable.

	Catholic, Auto	Non-Catholic, Auto	Catholic, Dem	Non-Catholic, Dem
GDP Per Capita	4689.5	2137.5	10302	14157
GDP Growth Per Capita	.03	.02	.04	.03
Inflation	.06	.03	.04	.02
Govt Bond Yields	.04	.05	.05	.05
Corp Bond Yields	.05	.05	.06	.05
Exports	474.5	385.94	1856	1666.53
Imports	603.95	529.56	2712	2052.29
Gini Coef	49.1	51.7	41.34	38.83

Figure D.1: Returns and the Second Vatican Council: Removing Countries

This figure shows a histogram the t-statistics on the triple interaction coefficients and the net effect, the coefficient on the fixed effects regression with a single indicator variable of Post-SVC$\times$Majority Catholic $\times$ Autocracy, from the first specification when removing every pair of countries from the sample. The top-and bottom-right panels show the baseline specification, without Region$\times$Year fixed effects. The top-and bottom-left panels show the results when Region$\times$Year fixed effects are included.