



Democracies in Crisis: How Do Levels of Democracy Affect Economic Outcomes in Crises of the Developing World?

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June 2016

Users Working Paper

SERIES 2016:02

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Democracies in Crisis: How Do Levels of Democracy Affect Economic Outcomes in Crises of the Developing World?

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Abstract

This paper estimates how levels and changes of democracy affect economic outcomes around economic crises, using yearly data from the Varieties of Democracy project¹. I observe the different impacts on factors like the debt-to-GDP ratio, GDP growth, and the exchange rate to the US dollar. While my model finds statistically significant results for many of these factors, the overall impact of democracy is found to be small and appears to be specific to certain regions or specific economic crises rather than having a generalizable trend. I also discuss possible limitations to my findings.

¹ The Varieties of Democracy dataset is a new dataset on democracy that includes data on almost 400 indicators of democracy in 173 countries around the world from 1900 until 2012 (for 60 countries also 2013-2014), engaging over 2,500 country experts worldwide to collect data (Coppedge et al. 2016). The country-expert data is combined into country-year estimates using a state-of-the-art Bayesian ordinal item-response theory model developed by a set of specialized methodologists (Pemstein *et al.* 2015).

I. Introduction

Democracy is considered the most desirable system of government in the Western world, and its benefits to social wellbeing, political and economic stability, and creation of a space for capitalism are extolled widely. However, debate remains about whether democracy is the best system for managing an economy. In developed countries such as the United States or members of the European Union, democracy has allowed creative destruction to occur and to keep their economies developing and growing. The rest of the world is attempting to catch up to the economic accomplishments of developed nations, and they face a different route to development than countries did a century ago. To the head of state in a developing nation, democracy and the limits it places on government may feel like more of a hindrance to growth than a formula to achieve it.

Non-democratic rule has features that may be promising for economic growth. A non-democracy does not need to heed the desires of its citizens in the way that a democracy does. The government can make painful but necessary choices without fear that they will be replaced before the benefits of difficult policies become reality. For example, a dictator may easily raise taxes to pay for a long-term investment because he knows that he will not lose his position of power as a result of his actions. Also, non-democracies may not be bogged down with the deliberation and constraints of power that democracies have. If a problem were to arise, a non-democracy could respond quickly and solve the problem before the legislature of a democratic state has voted on a bill to address the same situation.

Democracies also offer potential benefits to economic performance. While democracies may take longer to come to a decision, more thought and deliberation can go into the solution. A non-democracy may be able to act decisively and quickly, but that does not prevent them from acting in a way that will hurt the economy. Further, democracies are more likely to hold the faith and confidence of their citizens. If an unelected leader in a non-democracy taxes his or her people too highly, there may be riots. If an elected leader does so in a democracy, the issue will likely be decided on the ballot rather than in the streets. Therefore, strong democracies may be more stable than their non-democratic or less-democratic peers and create an environment where the economy can grow without threats of unrest.

A large school of thought of economic development credits political institutions with creating the best economic order. Fukuyama (1992) believed that, with the fall of the Soviet Union, liberal democracy had proven itself to be the best political system economically, among other measures. More recently, Acemoglu and Robinson (2012) posit that greater degrees of

political inclusion will create economic inclusion and see greater economic growth and stability as a result. In terms of crises, Haggard (2000) concludes that more democratic regimes fared better in the Asian financial crisis than their less-democratic counterparts.

Other parts of the literature are skeptical of the institutionalists' ability to conclude that democratic regimes produce better economic outcomes. Institutions and the democratic regimes that they uphold may be an endogenous explanation of economic performance and may suffer from measurement error and bias (see, for example, Bizzarro et al. 2015, Chang 2010, Przeworski 2004, and Vollrath 2014). How democratic a nation is may have no effect on economic performance or may only be positively correlated with outcomes like GDP growth because of other characteristics associated with both.

I seek to establish whether democratic regimes are any more or less able to guide their economies during times of crisis. In order to do so, I focus on the Latin American debt crisis and the Asian financial crisis. These crises occurred in the developing world, which varies widely in terms of economic development and level of democracy. Both of these crises were the result of a loss of liquidity as international markets stopped lending to the countries and the people in them. In Latin America, where growth was funded by large amounts of debt taken on by the government, this crisis began as a sovereign debt problem. Growth in Asian countries, on the other hand, was less fueled by government debt, but domestic growth was outstripped by private debt accumulation, especially from banks. When international markets stopped rolling over private debt, the economies of many countries suffered and contracted. I use these events to observe how regimes of varying levels of democracy respond to crises.

In my analysis, I am unable to find that a country's democratic status has a convincing impact on economic performance during these crises. Some of my individual analyses find statistically significant effects of democracy on economic factors, but any links between democracy and economic results appear specific to certain places or times, and a generalizable hypothesis that more democracy leads to a better or worse economy seems unlikely to exist. In section II, I describe the data that I use for this project. In section III, I detail the methods I use to analyze the relationship of democracy with economic factors, and I provide my results in part IV. In part V, I conclude and discuss the relevance and limitations of my findings.

II. Data

I use data from the Varieties of Democracy project to evaluate democratic and some economic factors. For the purposes of this project, I use data from the years 1972 – 2007, i.e. ten years before the Latin American debt crisis through ten years after the Asian financial crisis, and limit the countries to Latin America, East Asia, and Southeast Asia in the Varieties of Democracy data.

Table I: Descriptive Statistics

Variable	Mean	Observations
Liberal Democracy Index score	0.311 (0.008)	1192
Δ Liberal Democracy Index Score	0.007 (0.001)	1192
GDP Growth	2.434 (0.141)	1220
Exports	31.784 (2.535)	1214
Inflation	86.216 (20.582)	1085
Government Bond Yield	7.717 (0.665)	79
Exchange Rate to USD	549.077 (61.757)	1143

In order to quantify democracy, I use the Liberal Democracy Index score. I use this index because it combines the Electoral Democracy Index with the Liberal Democracy Component. The Electoral Democracy Index captures how much citizens are able to make their government responsive to them. The Liberal Democracy Component accounts for the protection of civil liberties, the rule of law, independence of the judiciary, and limits on the executive. Therefore, using this index, I can determine the economic consequences of having a restrained executive, strong rule of law, and political inclusion which many institutionalists find to be the causes of economic prosperity.

In order to assess the impact of democracy, I observe several dependent variables. I observe the government-debt-to-GDP ratio in Latin America where high levels of government debt set off the crisis. Debt is mostly the consequence of a government's policy because a government chooses how much debt to take out. I also observe inflation which is primarily a factor of how much money the government chooses to issue, often in order to pay

their debts. In using these variables, I try to find a relationship with the democratic conditions of a government and the choices it makes with regard to the economy.

My sample also includes several outcomes, or the consequences of all government actions and external actors' decisions regarding the economy. These include growth, levels of exports, the yield on government bonds, and the currency's exchange rate to the dollar. By observing outcomes of democracy, I can estimate whether international markets have a bias for or against democracies, as well as draw larger conclusions about the effect of democracy on a country's economy.

III. Methodology

In order to estimate the relationship between democracy and economic outcomes, I begin by observing aspects of the Latin American debt crisis. Given that Latin America's crisis was preceded by the accumulation of public debt, I evaluate how the level of democracy affected the amount of debt that governments took on. I split my analysis from 1972 – 1981, to observe if more democratic countries took on more or less levels of debt leading up to the crisis, and from 1982 – 1991, to observe if countries responded differently in reducing their amount of debt depending on their level of democracy.

Next, I run two regression models to observe how democracy affects various economic results. In the first, I use GDP growth, levels of exports (in billions of current USD), inflation rate, government bond yield, and the exchange rate to the USD as dependent variables, and I use level of democracy and annual change in democracy as explanatory variables, while controlling for country effects, region effects, year effects, and region-year effects. In my next model, I use the same dependent variables and control for the same factors, but I create separate variables of level and annual change of democracy for the separate regions in the sample, Latin America and Asia. In doing so, I am able to dissect the results from my first model to see which results are generalizable and which appear to be specific to a given region or a certain economic crisis.

With these findings, I will observe if more democratic countries are able to grow faster than their peers, and I will compare these findings to results for government bond yield and currency exchange rate which represent how international markets treat the countries. By these means, I will be able to determine if international markets have a tendency to treat countries differently based on their democratic status.

My methodology relies on my ability to estimate the counterfactual, or how countries would have responded had no crisis occurred. In order to do so, I use the list of countries from

Latin America and Asia for which full data are available. In doing so and by applying the controls in my models, my regressions assume that the countries that avoided the brunt of the crises are good estimations for how the countries in crisis would have continued without a crisis. However, the countries that were affected by the crises may be fundamentally different than the countries that did not have such severe economic downturns. If this is the case, my results will be biased, and I will be unable to estimate the true values of the relationships between democracy and economic outputs and outcomes.

IV. Results and Analysis

Given that the Latin American debt crisis began when governments had accumulated too much debt and could no longer borrow on international markets, I regress the debt-to-GDP ratio of Latin American countries on their level of democracy before and after the debt crisis began. These results are displayed in Table II below. I find a positive and statistically significant

Table II: Regression Estimates of the Impact of Democracy on a Country's Debt-to-GDP Ratio

	Pre Crisis	Post Crisis
Liberal Democracy Index	0.26** (0.13)	1.25** (0.49)
Observations	180	198
R^2	0.598	0.554

* indicates significance at the 90% confidence level

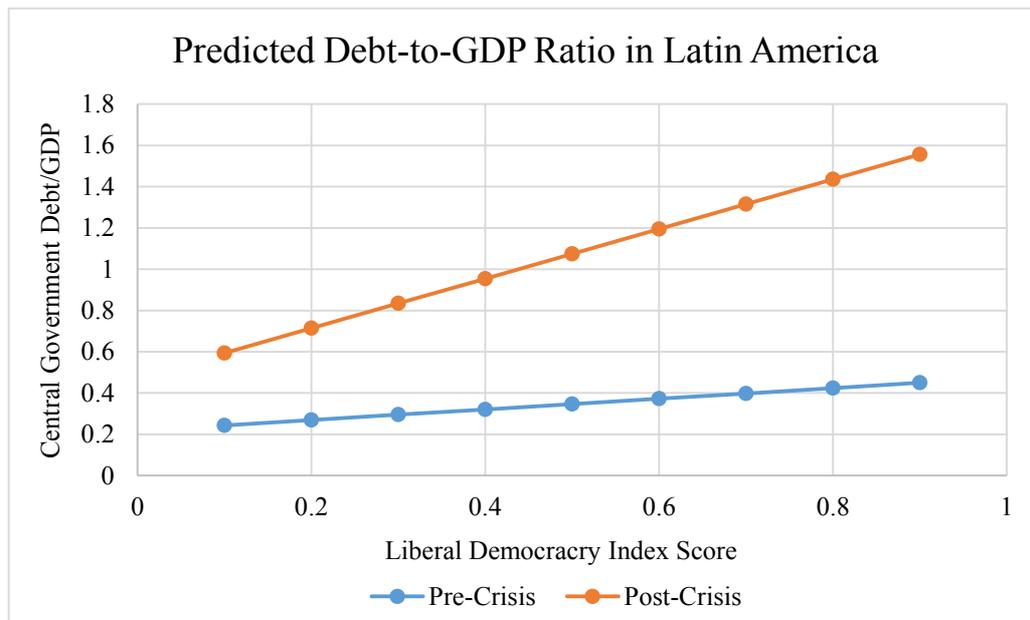
** indicates significance at the 95% confidence level

*** indicates significance at the 99% confidence level

relationship between democracy and government debt, suggesting that more democratic countries tend to take on more debt. These findings could be a result of bias within the markets – that is, markets are willing to lend more or more leniently to democratic countries. However, I did not find a similar bias towards more democratic countries in other measures, such as exports, so the variance in levels of debt may be best explained by the decisions of the government.

I hypothesize that more democratic countries may take on more debt because debt is an easy alternative to cutting spending or raising revenues from taxes. In order to keep the government paid and functioning, leaders may choose to borrow money rather than risk their political reputations on an unpopular tax hike. Further, democratic regimes may use their budgets in order to build and sustain electoral support. Costly government programs such as welfare or infrastructure projects may be used to ensure that incumbents win elections given that they may be unable to buy elections through bribery or patronage.

Trends of debt accumulation before and after the Latin American debt crisis help support this hypothesis. Before the debt crisis, more democratic countries were borrowing more money. Following the crisis, the rate of borrowing jumped rapidly in democratic countries compared to less democratic countries. If my hypothesis regarding democracies' need to appease their



voters is correct, one could expect to see countries trying to use their money to prop up their economies before they face a political disaster. The accelerated debt accumulation shown in the data may represent governments acting in this way. Further, the level of democracy has a more pronounced effect on the debt-to-GDP ratio after the crisis. This finding supports the hypothesis that democratic countries are more likely to use debt to help with the economy in order to appease voters.

I perform two series of regressions, controlling for country effects, region effects, year effects, and region-year effects, using the Liberal Democracy Index score and the change in the Liberal Democracy Index score as explanatory variables. The results for these regressions are given in Tables III and IV. In the first set of regressions, liberal democracy and change in liberal democracy have statistically significant coefficients. My model estimates that a country will grow about 0.7 percentage points lower than a country with a Liberal Democracy Index score one standard deviation lower, and a change in a country's Liberal Democracy Index score by one standard deviation will result in GDP growth that is about two percentage points higher. In my second model, by separating the Liberal Democracy Index scores and changes by region, I

Table III: Regression Estimates of Effect of Democracy from Model I

	<u>GDP Growth</u>	<u>Exports</u>	<u>Inflation</u>	<u>Government Bond Yield</u>	<u>Exchange Rate</u>
Average	2.43 (0.14)	31.78 (.91)	86.22 (2.62)	7.12 (0.87)	549.08 (16.24)
Liberal Democracy Index	-2.58*** (0.97)	6.96 (13.01)	133.24 (162.25)	-47.75*** (14.07)	-1,597.67*** (324.61)
Δ Liberal Democracy Index	7.50*** (2.84)	3.00 (37.92)	61.74 (458.69)	102.95* (51.56)	1,289.47 (926.54)
Observations	1,148	1,154	1,023	79	1,143
R^2	0.327	0.594	0.150	0.901	0.618

* indicates significance at the 90% confidence level

** indicates significance at the 95% confidence level

*** indicates significance at the 99% confidence level

cannot find a general effect of democracy on GDP growth. In Asia, the Liberal Democracy Index score has a significant effect on growth, but for Latin American GDP growth, only a change in the democracy score has a significant effect. Since my models cannot provide consistent, significant effects of democracy on growth, I cannot conclude that either levels or changes in democracy has an impact on GDP growth. However, my models predict consistent directions of the effect of levels and changes of democracy on growth – that the overall level of democracy has a negative effect on growth while change in democracy has a positive effect. These estimates suggest that there may be a general effect of democracy on growth, but my models are unable to capture it.

My findings elsewhere are less robust. Neither of my models finds a significant relationship between democracy and exports or inflation. I find significant effects of democracy on government bond yield, but these findings are driven almost entirely by variation in Latin America. Also, these results are based on relatively few observations which allows for observation bias. Therefore, I can draw no general conclusions about the effect of democracy on government bond yield. I find similarly limited results on the effect of democracy on the exchange rate, so I find no evidence for a general effect of democracy on the exchange rate.

Table IV: Regression Estimates of Effect of Democracy from Model II

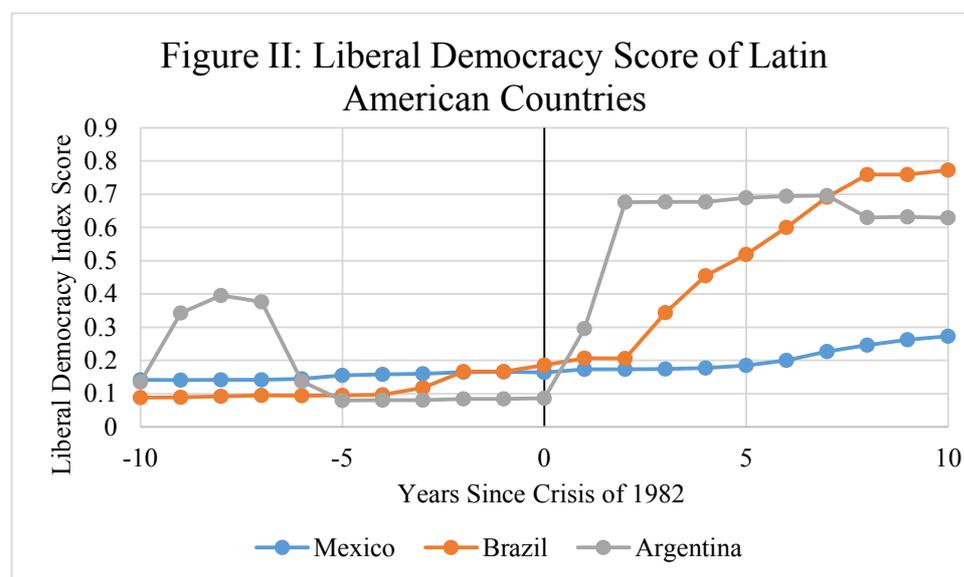
	GDP Growth	Exports	Inflation	Government Bond Yield	Exchange Rate
Average					
Latin America	1.39 (0.18)	10.50 (1.04)	133.57 (32.86)	9.71 (0.85)	168.82 (26.30)
Asia	3.76 (0.21)	59.26 (5.43)	7.64 (0.57)	3.65 (0.40)	1,115.73 (144.82)
Liberal Democracy Index					
Latin America	-1.56 (1.17)	10.25 (15.73)	186.69 (189.62)	-47.76** (14.79)	103.70 (373.97)
Asia	-4.72*** (1.74)	-0.31 (23.23)	-14.28 (314.60)	365.17 (1,492.00)	-5,644.94*** (576.67)
Δ Liberal Democracy Index					
Latin America	8.75*** (3.17)	-1.01 (42.39)	62.55 (507.29)	103.91* (54.47)	216.18 (1,007.89)
Asia	1.60 (6.39)	17.13 (85.39)	-3.46 (1,084.81)	-205.33 (949.28)	4,185.59** (1,957.37)
Observations	1,148	1,154	1,023	79	1,071
R^2	0.330	0.630	0.151	0.902	0.644

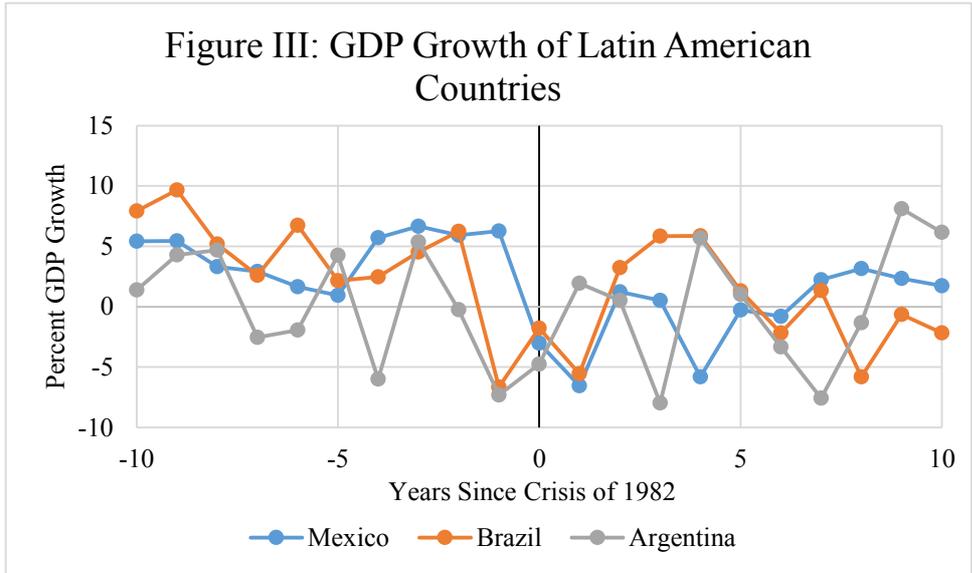
* indicates significance at the 90% confidence level

** indicates significance at the 95% confidence level

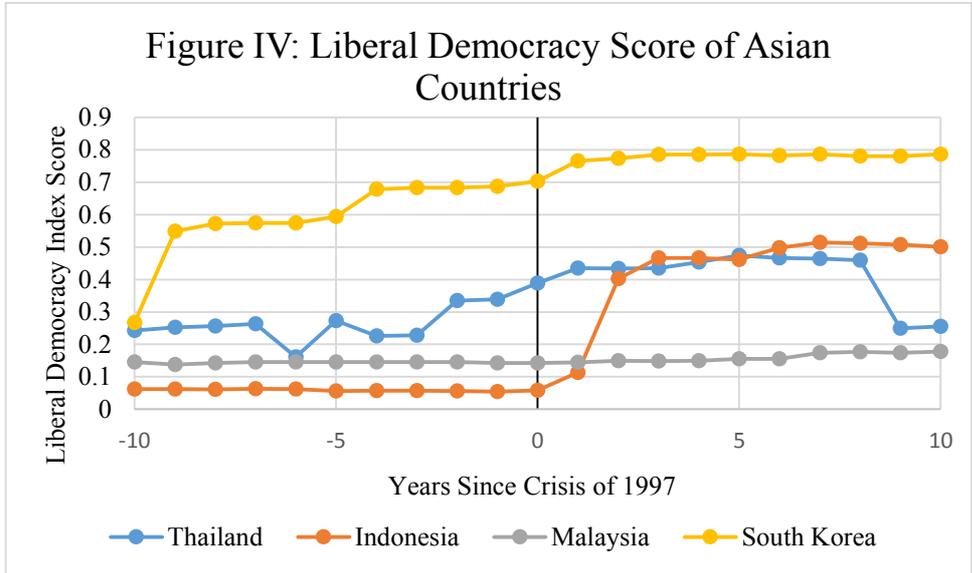
*** indicates significance at the 99% confidence level

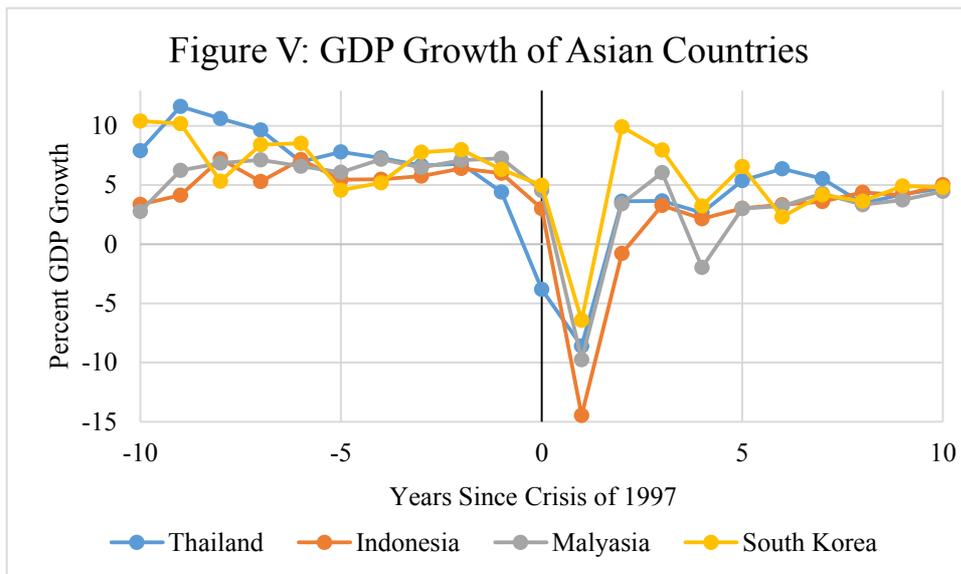
Observing trends of countries' Liberal Democracy Index scores and growth rates also fails to find a consistent link between the two. Figure II and Figure III below show the Liberal Democracy Index score and GDP growth rates respectively of Brazil, Mexico, and Argentina, before and after the Latin American debt crisis in 1982. While Brazil is the most democratic of





these countries by the end of the sampled years, it has the lowest growth rate. Mexico is the least democratic country for most of the post-crisis period, yet its economic growth is not notably better or worse than other countries. Argentina became considerably more democratic in the years immediately following the debt crisis and remained fairly stable afterward, yet it appears that this trend had no effect on its growth rate which bounced around as much as Brazil's and Mexico's growth rates. Further, these countries change little in terms of being the most or least democratic country in the sample after the crisis – the only change occurs when Brazil becomes





more democratic than Brazil in the 1990s – yet their growth rates all appear volatile, and no country has consistently higher or lower growth despite having consistent trends of level of democracy. Therefore, there is no clear, consistent link between democracy and growth rates.

A similar account can be observed in the Asian financial crisis. Figure IV and Figure V show the Liberal Democracy Index scores and growth rates respectively and use data from before and after the crisis in Thailand, Indonesia, Malaysia, and South Korea. Level of democracy does not appear to be the main factor for which countries suffered the largest economic recession. Also, despite a large range of democratic scores, growth rates converge after a few years. Further, when countries experience a large change in democratic score, there is no noticeable corresponding change in growth that could not be explained by trends in other countries. Again, no consistent pattern between level of democracy and growth rate emerges.

V. Conclusion and Relevance

My models find no consistent, statistically significant effect of democracy on economic outcomes. I am able to estimate a statistically significant, positive effect of democracy on debt accumulation in Latin America, before and after the region’s debt crisis, but government debt is not necessarily a major contributing factor to every crisis, so the overall impact that democracy has on economic crises through debt is unclear. While my models estimate significant effects democracy on some economic factors, comparing my models suggests that most of these effects are limited to specific regions or crises.

I will now address limitations to my model. The connection between democracy and the economy is tricky and entangled. Even though I controlled for factors such as time, country,

region, and region at a certain time, it is not clear from this model that it is democracy that causes growth and not the other way around. More democratic systems tend to coexist with environments that promote a stable, growing economy, but my model assumes that democracy is responsible for growing or shrinking the economy and does not test this assumption. Other models which use instruments to isolate democracy and economics may be able to find a causal relationship that my model cannot register.

Further, my estimates cannot answer the question of whether a democratic regime creates a more healthy economy than a non-democratic regime. My models try to establish a link between democracy and economic factors like growth, but not all growth is good. Some growth may be concentrated to a few individuals or groups, skewing the overall growth numbers while almost no citizens see an increase in economic prosperity. Also, a country may grow very little in the course of a year, but it could be developing into a more sustainable or productive economy for the future. For example, divesting from coal while investing in renewable resources may seem bad for growth when looking at its value on paper, but its low growth should not be taken to mean an unhealthy economy. In other words, high growth is not always good, and low growth is not always bad. This model, however, is unable to make these distinctions.

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