Democracy and Financial Crisis

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Phillip Y. Lipscy

Abstract Existing scholarship attributes various political and economic advantages to democratic governance. These advantages may make more democratic countries prone to financial crises. Democracy is characterized by constraints on executive authority, accountability through free and fair elections, protections for civil liberties, and large winning coalitions. These characteristics bring important benefits, but they can also have unintended consequences that increase the likelihood of financial instability and crises. Using data covering the past two centuries, I demonstrate a strong relationship between democracy and financial crisis onset: on average, democracies are about twice as likely to experience a crisis as autocracies. This is an empirical regularity that is robust across a wide range of model specifications and time periods.

Over the past several centuries, financial crises have been frequent, widespread, and consequential. Charles Kindleberger counts over fifty international financial crises and panics since the seventeenth century. More recently, Reinhart and Rogoff have identified about 700 country-years of banking crises since 1800.[1] Financial crises are associated with adverse macroeconomic performance, most notoriously the depressions of the late nineteenth and early twentieth centuries and Japan's lost decade of the 1990s.[2] The US subprime crisis and the Euro crisis have underscored the salience of financial crises in the current era and also revealed important gaps in political science scholarship on the issue.[3]

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1. Throughout this article, I use "banking crisis" and "financial crisis" interchangeably. When I refer to a financial crisis, I am referring to a crisis of the financial system. As I discuss later, the empirical findings are robust to adopting a broader definition of financial crises.

2. Reinhart and Reinhart 2008.

3. Cohen 2009; Copelovitch, Frieden, and Walter 2016; Helleiner 2011; Mosley and Singer 2009; Nelson and Katzenstein 2014. There is an emerging literature that seeks to fill these gaps, which I will discuss at greater length in the section that deals with mechanisms. Among others, Lipscy 2017 and Lipscy and Lee forthcoming argue that political distortions in the International Monetary Fund (IMF) can contribute to crises. Copelovitch and Singer 2012 find that variation in regulatory policy affects the incidence of crises, and Calomiris and Haber 2014 explore the sources of such variation through reference to the historical record. Broz 2012 argues that crises may occur in partisan cycles: right-leaning government tends to liberalize policy and precipitate financial booms while left-leaning governments are elected to clean up the mess. On political explanations for variation in response to financial crises see, among

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I argue that more democratic countries are more susceptible to financial crises. Democratic governance is characterized by constraints on executive authority, accountability through free and fair elections, protections for civil liberties, and large winning coalitions.[4] These characteristics bring important benefits, which are widely recognized. However, they may also have unintended consequences that increase the likelihood of financial instability and crisis onset. Veto players can make it difficult to take swift administrative or legislative action to forestall crises. Frequent executive turnover can make democratic leaders neglect the long-term costs of policies that encourage short-term speculative booms. Philosophical attachment to private liberty and freedom may be associated with excessive financial liberalization. Large winning coalitions tend to encourage democratic leaders to pursue economic openness, which exposes countries to international contagion.

Empirically, I show that more democratic countries are more prone to financial crises. This is a striking regularity that can be traced back to the early nineteenth century, and perhaps even earlier. The finding is robust to a variety of controls and model specifications. The association is also robust across time periods: the relationship exists in the nineteenth and twentieth century, before and after World War II, and before and after the collapse of the Bretton Woods System.

My analysis underscores the importance of examining the validity of theories using historical data over long time periods.[5] The relationship between democracy and crisis was weakest during the "Washington Consensus" period of the 1980s and 1990s, when diffusion of neoliberal ideas led both democratic and autocratic regimes alike to embrace aggressive financial sector liberalization. Most scholarship on banking crises, for understandable reasons, such as the availability of other variables of interest, has focused on data dominated by this anomalous time period.[6] This has likely led scholars to neglect the strong, historical association between democracy and crises.

Like other relationships involving democracy, such as the democratic peace,[7] democratic advantage in war,[8] and the greater propensity for democracies to engage in international trade,[9] it is not an easy task to pinpoint the precise mechanisms responsible for this empirical regularity. Democracy is multifaceted and embodies many characteristics. Financial crises are also complex phenomena that lend themselves to multiple explanations—for example, the official commission

others, Keefer 2007; Lipscy and Takinami 2013; Puente 2012; Rosas 2006, 2009. On public perceptions of bailouts, see Bechtel, Hainmueller, and Margalit 2014.

4. I discuss these concepts in greater detail in the mechanism section. For a discussion of definitional questions related to democracy, see Collier and Levitsky 1997.

5. See, for example, Boix 2011, which challenges critics of modernization theory by utilizing long-term temporal data on democracy and economic development, and Haber and Menaldo 2011, who call into question the association between natural resource endowments and authoritarianism using historical data.

6. Broz 2012; Copelovitch and Singer 2012; Keefer 2007; Laeven and Valencia 2008; Rosas 2009.

7. Bueno de Mesquita et al. 1999; Kant 1795; Maoz and Abdolali 1989; Maoz and Russett 1993.

8. Fearon 1994; Lake 1992; Partell and Palmer 1999; Schultz 1999.

9. Mansfield, Milner, and Rosendorff 2002; Milner and Kubota 2005.

of the US government tasked with investigating the causes of the 2008 subprime crisis split sharply along partisan lines and ultimately failed to produce a consensus report.[10] In this article, I assess the observable implications of several mechanisms derived from the literature on democratic advantage. In particular, I examine four hypotheses related to constraints, time horizons, liberalization, and openness.

This article is not a critique of democratic governance. Surely, the many advantages of democracy outweigh the costs of occasional crises. However, financial crises are often associated with protracted output loss, high unemployment, and ballooning public sector debt. The vulnerability of democracies may also become a more serious concern as the frequency and magnitude of crises increase along with global capital flows[11]— the period between World War II and the 1970s, which saw the suppression of capital mobility, and the 1980s and 1990s, which saw the disparity between regime types temporarily diminish, may have masked some potential sources of democratic instability. Recent crises in major democracies such as Japan, the Nordic states, the United States, and the Euro Area represent a return to a pattern more consistent with the historical record. As such, the argument I outline here may necessitate a reassessment of empirical findings that rely heavily on post-World War II data on a range of topics such as democratization and differences in economic growth and stability by regime type.

Democracy and Financial Crisis: A Historical Overview

There is limited empirical data on financial crises prior to the nineteenth century. Most writing on the period is by economic historians and popular authors,[12] and to date, no comprehensive database of early crisis episodes exists. There is some crude evidence of financial speculation and ill consequences as early as the second century BCE in the Roman Republic, but records are scant.[13] Perhaps the most authoritative source on the matter is Kindleberger, who spent much of his career as an economic historian chronicling financial crises.[14] Table 1 reproduces his list of pre-nineteenth-century crises, with dates, countries, and a concise description. It is striking how many of these crises occurred in countries with the most liberal or limited governments of the era,[15] particularly given the paucity of such states in the international system at the time—nine out of twelve crises occurred in England/Britain, the Dutch Republic, or the United States. Of course, these regimes were hardly full democracies in the contemporary sense. Although they featured elections, relatively strong protections for civil liberties compared to

10. Financial Crisis Inquiry Commission 2011.
11. Reinhart and Rogoff 2009.
12. Chancellor 1999; Galbraith 1990; Mackay 1841.
13. Chancellor 1999.
14. Kindleberger 2000.
15. See, for example, discussion in Schultz and Weingast 2003.

peers, and nontrivial constraints on executive authority, these countries limited suffrage to a subset of the population, and the United Kingdom and United States allowed slavery well into the nineteenth century. However, Table 1 suggests that relatively more democratic countries were more prone to financial crises in years prior to the nineteenth century.

TABLE 1. *Notable pre-nineteenth-century financial crises*

Years	*Country/state involved*	*Trigger/features*
1618–1623	Holy Roman Empire	Currency debasement
1634–1637	Dutch Republic	Tulip Mania
1690–1696	England	East India Company speculation
1720	England	South Sea Company speculation
1720	France	Mississippi Company speculation
1763	Amsterdam	*Wisselruitij*; bills related to commodity speculation
1772	Britain	Ayr Bank and country banks; housing and infrastructure
1772	Amsterdam	*Wisselruitij*, Bank of Amsterdam; East India Co.
1792	United States	Speculation in US bonds
1793	England	Canal Mania
1797	England	Canal and securities speculation
1799	Hamburg	*Wechselreiterei*; commodity speculation

Source: Kindleberger 2000.

A brief inspection of the historical record also gives the impression that the most notable financial crises have afflicted or centered on relatively democratic regimes. Besides the Dutch Tulip Mania and South Sea Bubble, one may also point to the series of crises related to railroads in the United States and Great Britain in the nineteenth century and the Panic of 1907. The Great Depression of the 1930s severely affected the leading democracies of the era, while the relatively autocratic Soviet Union and Japan were largely unscathed.[16] The so-called "big five" financial crises of recent years have all struck democracies—Spain, Japan, and the Nordic trio of Finland, Norway, and Sweden.[17] The most recent wave of crises—the 2008 subprime debacle in the United States and the Euro crisis—are predominantly democratic affairs. The most prominent autocracy of the contemporary era, China, largely escaped the consequences of the 2008 crisis, reinforcing a narrative of the country's rise.[18]

Transitions toward more democratic government are also often associated with an intensification in financial instability and crises. France's establishment of the Third Republic in 1871, which moved the country from political vacillation to relatively stable democracy, was followed by a sharp increase in the frequency of banking

16. Between 1929 and 1935, on a GDP per capita basis, the economies of France, the UK, and the US contracted by 8 percent on average, while Japan grew by 5 percent and the USSR grew by 35 percent. Maddison 2010.

17. Reinhart and Rogoff 2009.

18. See discussion in Helleiner 2010, 629–30.

crises.[19] Japan's Taisho Democracy, a brief period of democratic experimentation after the end of World War I, was also a period of recurrent banking crises, while the military's consolidation of power in the 1930s coincided with financial stability despite the onset of the Great Depression and deteriorating conditions in the rest of the world.[20] Recent episodes of democratization and democratic consolidation in developing countries, such as those in Argentina, Ecuador, South Korea, Thailand, and Turkey, have also been associated with shifts from relative financial stability to fragility.

Of course, this is hardly systematic evidence. It may be that financial crises in more autocratic regimes are less likely to be recorded or are less salient. One can point to some famous counterexamples, such as the Mississippi Bubble, which occurred in France under the rule of Louis XV, and the financial instability associated with the Latin American debt crisis, which primarily afflicted autocratic countries. There are also several large-scale crises that afflicted autocracies and democracies alike, such as the "long depression" of 1873 and the Asian Financial Crisis of 1997–1998.

More systematic evidence is available from the nineteenth century onward. Reinhart and Rogoff have collected data on financial crises from 1800 to the present for sixty-eight countries, using a variety of international and country-specific sources.[21] I focus on their indicator for systemic banking crises because the measure is the clearest proxy for a crisis of the financial system.[22] In this data set, banking crises are coded as a dichotomous variable, taking on a value of 1 if a country is in crisis and 0 otherwise. The data systematically cover a wide range of countries, such as developing countries and autocracies, which might otherwise be neglected by historians focusing on episodes of perceived significance.[23]

Figure 1 depicts the relationship between democracy and financial crisis in this raw data. The figure separates countries dichotomously into democracies and autocracies according to several common measures.[24] The Polity IV project provides a widely used measure of regime type based on institutional characteristics.[25] I follow

19. Prior to the establishment of the Third Republic, France had not experienced a banking crisis for sixty-five years according to data from Reinhart and Rogoff 2009. From 1800 to1870, France averaged a polity score of -4.3 and experienced banking crises in 3 percent of country years. From 1871 to 1939, after which French democracy was temporary suspended, the country averaged a polity score of 7.7 and experienced banking crises in 13 percent of country years.

20. Between 1914 and 1931, the period of Taisho Democracy, Japan spent 28 percent of its country years in banking crises. After the Showa financial crisis of 1927–1928, Japan experienced no banking crises through the end of World War II.

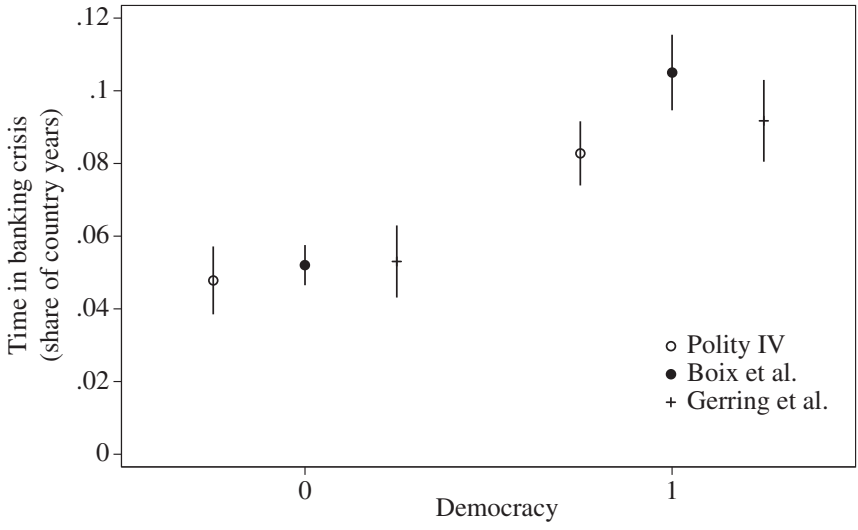
21. The primary alternative data set for identifying banking crises, compiled by Laeven and Valencia 2008 although more rich in details, is available for only the most recent historical time period.

22. As I discuss in the empirical section, the association between democracy and crisis weakens but is robust to the inclusion of other types of crises in the data set—currency crises, inflation crises, and debt crises.

23. For example, see discussion in Reinhart and Rogoff (2009, 8–10 and chapter 10).

24. Plots based on level changes of the continuous measures are available in Appendix V.

25. Marshall, Gurr, and Jaggers 2010.



Notes: The figure depicts the association between share of country years spent in banking crises and regime type over the past two centuries. The predicted probabilities are derived from univariate logit models relating banking crises to several dichotomous measures of democracy. The Boix, Miller, and Rosato 2013 measure is a dichotomous indicator of democracy. Dichotomous measures for regime type are derived from the other two continuous measures as follows: Polity IV (democracy if score equal to or greater than 7, autocracy for less than or equal to -7); Gerring et al. 2005 (democracy if stock greater than equal to one standard deviation above the mean, autocracy if stock less than one standard deviation below the mean).

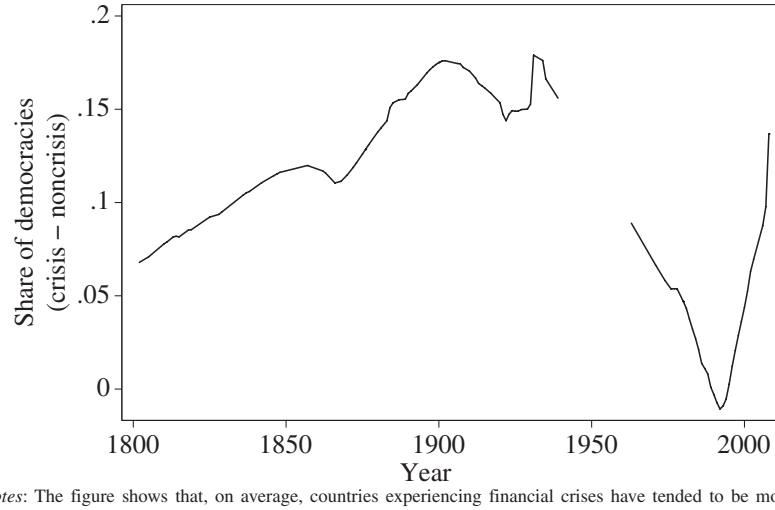
FIGURE 1. *Time spent in banking crisis (1800–2009), various measures of democracy*

convention by coding autocracies as countries with polity scores less than or equal to −7 and democracies as countries with polity scores greater than or equal to 7. The measure by Boix, Miller, and Rosato codes democracy dichotomously based on the presence of free and fair elections and a threshold value for suffrage.[26] Gerring, Bond, Barndt, and Moreno's measure codes democracy as a stock based on the premise that democratic experience accumulates over time.[27] Because this measure is continuous, I dichotomized it by setting thresholds at one standard deviation below and above mean. As the figure shows, regardless of the specific measure of democracy used, democratic countries have spent about twice as many country years on average in financial crises (about 7 to 11%) compared to autocratic countries (about 4 to 6%).

26. Boix, Miller, and Rosato 2013

27. The formula is available in Gerring et al. 2005, 348, and was extended to cover 1800–2009. The measure attempts to capture the accumulation of democratic experience over time by summing each country's polity score from 1800 to the present year, depreciated by a fixed annual percentage rate. More details on the coding for this measure are available in the empirical section.

One reason that this association between democracy and financial crisis has gone unnoticed is the partially anomalous nature of the recent historical period. Figure 2 depicts the relationship between regime type and financial crises over time. Based on the dichotomous measure of democracy proposed by Boix, Miller, and Rosato,[28] the figure compares the difference in share of democracies among countries that experienced the onset of a financial crisis and those that did not. The figure was derived by taking the difference of lowess curves separately fitted to country years experiencing the onset of a banking crisis and country years not experiencing the onset of a banking crisis. For example, based on lowess fitting, in 1900, the share of democracies among countries experiencing banking crisis onset was 0.41, while the share of democracies among noncrisis countries was 0.24. The figure depicts the difference, 0.17.



Notes: The figure shows that, on average, countries experiencing financial crises have tended to be more often democratic during the past two centuries. The figure was derived by taking the difference of lowess curves separately fitted to country years experiencing the onset of a banking crisis and country years not experiencing the onset of a banking crisis. For example, based on lowess fitting, in 1900, the share of democracies among countries experiencing banking crisis onset was 0.41, while the share of democracies for noncrisis countries was 0.24, and the figure depicts the difference, 0.17. Democracy is operationalized using the dichotomous measure proposed by Boix, Miller, and Rosato 2013. Two recent decades (1980–1999) were anomalous, with the difference converging toward 0. Because there were no crisis onsets during a long period in 1948–1962, these years are omitted from the figure. Figures using other measures of democracy are available in Appendix V and show a similar relationship.

FIGURE 2. *Financial crisis and democracy over time*

28. Boix, Miller, and Rosato 2013. Similar figures that use differences in the polity scale and democracy stock are available in Appendix V.

The figure shows that the democratic share of countries experiencing financial crisis onset has been higher for much of the past two centuries. For much of history, from 1800 through the Great Depression years, banking crises were disproportionately democratic affairs. The decades immediately after World War II were characterized by financial stability and very few crises—generally attributed to the suppression of global capital flows.[29] The 1980s and 1990s saw an unusually large share of crises among relatively autocratic states. The most recent decade from 2000 to 2009 has reverted to what is more historically typical.

Of course, these observations are only suggestive. There are several important potential confounders. The most obvious of these is that the accumulation of wealth and the development of a robust middle class, which is associated with the rise of limited government,[30] is also a source of financial excess that contributes to crises. In the following section, I more carefully establish the empirical association between democracy and crisis incidence to rule out such alternative explanations. I then turn to a discussion of mechanisms.

Empirical Evidence

To estimate the association between regime type and banking crises, I recoded a dichotomous variable for BANKING CRISIS ONSET.[31] This variable takes on a value of 1 for all country years in which a banking crisis started, and 0 otherwise.[32] The key independent variable is DEMOCRACY, measured using polity scores.[33] Since this is a time series cross-sectional analysis with a binary dependent variable, I include cubic splines in all models to account for duration dependence, as well as a count variable for previous incidence of banking crises.[34]

I generally keep the empirical models sparse. There is a limited set of control variables that are theoretically plausible and available for a suitably large number of countries over two centuries. In addition, controlling for an immediate temporal precursor to financial crises—such as a proxy for financial booms—is problematic since it is plausibly a consequence of the key explanatory variable.[35] I consider

29. Reinhart and Rogoff 2009.
30. Barro 1999; Boix 2011; Lipset 1959.
31. Reinhart and Rogoff 2009.
32. When crises last more than one year, this variable is coded as missing for year 2 and subsequent years until the crisis ends. This reflects the fact that the country is not "at risk" for another crisis until the ongoing crisis has ended. See discussion in McGrath 2015. Coding ongoing years as 0 produces nearly identical substantive results.
33. Marshall, Gurr, and Jaggers 2010. Other measures are examined in Table 3 and produce substantively similar results.
34. Beck, Katz, and Tucker 1998. Knots were placed at 1, 4, and 7 years. I tried a variety of alternative knot placements but this had no bearing on the substantive results.
35. King, Keohane, and Verba 1994.

control variables that are plausible on theoretical grounds and evaluate the empirical models using the Bayesian Information Criterion (BIC) as suggested by Raftery.[36]

TABLE 2. *Financial crisis and democracy, 1800–2009*

Independent variables/model specification	*Logit*	*Logit with fixed effects*	*Logit with fixed effects*	*Logit with fixed effects*	*Logit with fixed effects*
DEMOCRACY (POLITY2)	0.02*	0.08*	0.08*	0.07*	0.07*
	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
GDP/CAPITA			0.02*	0.02*	0.03*
			(0.01)	(0.01)	(0.01)
WAR				0.24	0.22
				(0.18)	(0.18)
CURRENCY CRISIS				1.02*	0.90*
				(0.17)	(0.18)
INFLATION CRISIS					0.36
					(0.22)
DOMESTIC DEBT CRISIS					0.72*
					(0.35)
EXTERNAL DEBT CRISIS					−0.12
					(0.23)
Constant	−3.74*				
	(0.24)				
Splines	Y	Y	Y	Y	Y
χ^2	31.60*	63.82*	68.37*	104.74*	111.43*
BIC	2181	1878	1883	1864	1884
N	6775	6775	6775	6775	6775

Notes: Dependent variable in all models is a dichotomous indicator of banking crisis onset. All models include cubic splines to account for duration dependence and a count variable for previous crisis episodes. Numbers in parenthesis are standard errors. Asterisk denotes a coefficient at least two standard errors removed from 0.

The first column in Table 2 presents the results from a basic logit specification including only democracy. Some unmeasured factors also likely affect the tendency for countries to experience crises. For example, countries that have served as important financial centers during the entirety of the past two centuries—for example, the United Kingdom and France—may be more prone to crisis for reasons unrelated to regime type. Time-invariant factors such as proximity to sea lanes or cultural attitudes toward risk taking may also affect the tendency for speculative excesses to develop. Countries located in geographic areas subject to extreme weather patterns may be prone to crises triggered by crop failures. To account for this type of unobserved

36. As Raftery suggests (1995, 139), a BIC difference in excess of 6 will be judged to be strong evidence in favor of the model with the lower BIC, analogous to statistical significance at the 0.05 level. The models in Table 2 are run on the same set of observations to make meaningful comparisons using BIC (i.e., observations that are nonmissing for all control variables examined in the table). The appendix includes a replication of Table 2 in which all available observations are used. The substantive results are very similar.

heterogeneity, the second column of Table 2 includes country fixed effects.[37] In both specifications, there is a positive and statistically significant association between democracy and financial crisis incidence.

One obvious control variable is per capita GDP. It is well known that wealthy countries are more likely to be democratic.[38] Wealthy countries may also be more likely to experience financial crises for reasons orthogonal to democracy. For example, it is possible that wealthy countries have larger, more complex banking systems that are difficult to regulate effectively. Speculative mania may also take hold more frequently in wealthy countries where markets are reasonably well developed and citizens have accumulated assets to invest. Hence, the third column of Table 2 includes GDP PER CAPITA as a control variable.[39] The association between democracy and financial crisis incidence remains unaltered. The BIC for the second and third columns of Table 3 are similar, indicating that neither model is clearly preferred. I opt to retain GDP PER CAPITA as a control variable in subsequent models on theoretical grounds.

In several historical episodes, such as 1914, military conflict has served as a trigger for banking crises. There is also a large body of work that associates regime type with the likelihood of militarized conflict.[40] I therefore include a dummy variable for WAR in the fourth column of Table 2.[41] It is also possible that democracy is correlated with other types of economic crises, which destabilize financial institutions. In particular, economists have noted the frequent association of currency and banking crises, which often occur as "twin crises."[42] I therefore include a dummy variable for CURRENCY CRISES.[43] The inclusion of these variables does not alter the association between democracy and financial crisis incidence. Because there are plausible theoretical grounds to retain these variables, and their inclusion is associated with a lower BIC, they will be included in subsequent analyses. In the fifth column of Table 2, I include dummy variables for three other crisis types: INFLATION, DOMESTIC, and EXTERNAL DEBT CRISES. Although these crisis types are not as frequently associated in the literature with banking crises, they could also plausibly trigger financial instability. As results show, inclusion of these variables does not alter the association between democracy and crises, and the higher BIC suggests they should be excluded

37. Fixed effects in pooled-time-series cross-sectional models with a dichotomous dependent variable can be problematic if many units of analysis do not vary on the dependent variable, as is the case with dyadic MID data. Beck and Katz 2001. This is not a concern here because essentially all countries in the sample have experienced banking crises at some point over the past 200 years—the only exception in the data set is Mauritius. The time span is also long enough that even the most democratic states in the data set, such as the United Kingdom, exhibit temporal variation in the key independent variable of interest, DEMOCRACY.

38. Lipset 1959; Przeworski and Limongi 1997.

39. GDP PER CAPITA is expressed in 2011 USD, 2011 benchmark, from Maddison Project Database 2018.

40. For example, Russett and Oneal 2001.

41. Reinhart and Rogoff 2009. The variable includes interstate, intrastate, and extrastate wars, which are all plausible triggers for banking crises.

42. Kaminsky and Reinhart 1999.

43. Reinhart and Rogoff 2009.

from the model.[44] In all subsequent analyses, I use the model from the fourth column of Table 2 as the baseline.

In Table 3, I consider alternative operationalizations of democracy. The first column replicates the fourth model from Table 2 to serve as a baseline. It is possible that unstable regimes, such as those transitioning to democracy, are particularly prone to crises as a result of political turmoil. Therefore in the second and third columns of Table 3 I control for NEW DEMOCRACY and UNSTABLE REGIMES.[45] Neither variable is statistically significant, and the relationship between democracy and crisis incidence remains unchanged. Analogously, the relationship between democracy and crisis could be curvilinear, such that anocracies are most prone to crisis. In the fourth column of Table 3, I include dichotomous variables for FULL DEMOCRACY and ANOCRACY, where the reference category is full autocracy.[46] The results in the column do not support the notion of a curvilinear relationship: anocracies are more crisis prone than autocracies, and full democracies are more crisis prone than anocracies.[47]

Finally, to avoid overreliance on a single measure of democracy, I reran the empirical specifications using several alternative measures of democracy. The fifth column substitutes a dichotomous democracy measure from Boix, Miller, and Rosato.[48] The sixth column substitutes a measure of democracy as a stock proposed by Gerring and colleagues.[49] These alternative measures also show a clear, positive association between democracy and crisis incidence. Comparison of BIC values for the

44. I included these variables in the models one by one, and the BIC values were higher for all three and above the threshold for "strong" preference for exclusion except domestic debt crisis, which was just short of "strong" preference for exclusion. I opted to exclude this variable because there is also limited theoretical justification for inclusion. Inclusion or exclusion of these variables has no bearing on the substantive findings. I also reran the model from the fourth column of Table 2 omitting democracy to examine if including democracy improves model fit. The large BIC difference of about 14 indicates that the model including democracy is preferred, even after including the control variables. See discussion of model selection using BIC in Raftery 1995.

45. NEW DEMOCRACY is a dichotomous variable that equals 1 if the polity score ≥ 7 and the polity score for ten years prior was < 7. Unstable regime is a dichotomous variable coded as 1 if the current value of polity2 is different from that of ten years prior. I tried various alternative cutoffs and years, but in no case did the inclusion of these variables alter the positive association between democracy and crises.

46. Per convention, full democracy is coded as polity2 ≥ 7, full autocracy as polity2 ≤ -7, and anocracies those in between. Note that the middling range of the polity2 scale is subject to considerable measurement error, and these results should be interpreted with appropriate caution. See Treier and Jackman 2008.

47. I also tested for a curvilinear relationship directly by using polity2 and its square. The square term was not statistically significant.

48. Boix, Miller, and Rosato 2013. A dichotomous measure derived from the polity scale produces substantively similar results.

49. The formula is available in Gerring et al. 2005 (348), and it was extended to cover 1800 to 2009. The measure captures the accumulation of democratic experience over time by summing each country's polity score from 1800 to the present year, depreciated by a fixed annual percentage rate. The table shows results using a depreciation rate of 5 percent. The democracy stock measure is positively associated with banking crisis onset for low depreciation rates, but it is not statistically significant for depreciation rates below 2 percent. This is because the stock measure exhibits counterintuitive features at low deprecation rates and extended to two centuries. For example, since many countries accumulate a large amount of "autocratic stock" during the nineteenth century, the measure codes countries as autocratic after long periods of subsequent democratization. Higher depreciation rates produce a more plausible measure.

models in Table 3 indicate that the baseline model entering polity2 as a single linear term is preferred.

TABLE 3. *Financial crisis and alternative measures and relationships with democracy, 1800–2009*

Independent variables/ model specification	*Logit with fixed effects*	*Logit with fixed effects*	*Logit with fixed effects*	*Logit with fixed effects*	*Logit with fixed effects*	*Logit with fixed effects*
DEMOCRACY (POLITY2)	0.07* (0.02)	0.07* (0.02)	0.07* (0.02)			
NEW DEMOCRACY		0.22 (0.23)				
UNSTABLE REGIME			0.04 (0.15)			
FULL DEMOCRACY				1.33* (0.28)		
ANOCRACY				0.50* (0.25)		
DICHOTOMOUS DEMOCRACY					0.78* (0.19)	
DEMOCRACY STOCK						0.005* (0.001)
Control Vars	Y	Y	Y	Y	Y	Y
Splines	Y	Y	Y	Y	Y	Y
χ^2	104.74*	105.61*	104.82*	108.11*	98.46*	96.44*
BIC	1864	1872	1873	1869	1870	1872
N	6775	6775	6775	6775	6775	6775

Notes: Dependent variable in all models is a dichotomous indicator of banking crisis onset. All models include the following control variables, which are omitted from the table for brevity: GDP/capita, currency crisis, war, cubic splines to account for duration dependence, and a count variable for previous crisis episodes. Numbers in parenthesis are standard errors. Asterisk denotes a coefficient at least two standard errors removed from 0.

I performed a range of additional robustness checks and confirmed that the substantive results remain unchanged.[50] To consider the possibility of reverse causation—that is, the occurrence of financial crises triggers democratization—I reran the statistical specifications using lagged democracy (one, five, and ten years) as the key independent variable. Because there might be some concern that financial crises are rare events, I reran the analysis using Rare Events Logistic Regression.[51] To confirm that the results are not unduly influenced by the United States, United Kingdom, and the Netherlands, which have long histories of both democratic government and financial crises, I excluded these countries from the analysis. I also recoded the dependent variable to include the onset of all crisis types included in the Reinhart and Rogoff data set, on the logic that "financial crisis" could be

50. The detailed results are available in Appendix I.
51. King and Zeng 2001.

more broadly defined.[52] The positive association between democracy and financial crisis incidence remained positive and statistically significant under all of these alternative specifications.

One additional concern is that some autocracies, such as communist regimes, may experience few financial crises because there are no private banks. If so, regime type would be a determinant of financial crisis incidence, but for trivial reasons. A related, less trivial possibility is that limited government produces large banking systems by minimizing the threat of expropriation, and in turn, large banking systems are more prone to occasional crises.[53] To consider this possibility, I reran the analysis: (1) omitting all countries that adopted communism at any time; (2) omitting country years in which bank lending as a share of GDP was less than 5 percent; and (3) directly controlling for bank lending as a share of GDP.[54] In all models, the association between democracy and financial crisis onset remains positive and statistically significant.[55]

Finally, it is useful to consider whether the positive relationship between democracy and banking crisis onset is specific to any particular time period. Table 4 separates the data into several time periods of substantive interest—the nineteenth century, the twentieth century, the period after World War II, the period after the collapse of the Bretton Woods System, and the Washington Consensus years. The results illustrate that the positive association between democracy and banking crises is not driven by the inclusion of any specific time period. Other plausible temporal divisions of the data, such as pre- and post- World War I, produce substantively similar results.[56] As discussed earlier, the relationship between democracy and crisis incidence weakens during the Washington Consensus years, though it remains positive and just short of statistical significance in the specification presented.[57]

52. These are currency crisis, inflation crisis, domestic debt crisis, external debt crisis. When all of these crisis types are aggregated into a single variable, the relationship between democracy and crisis is positive and statistically significant, but the substantive difference in crisis incidence according to regime type is smaller than when evaluating banking crises alone.

53. For example, Clague et al. 1999 use "contract-intensive money," or the ratio of noncurrency money to the total money supply, as a proxy for institutional quality based on the premise that contract-intensive money will be attractive only under minimal threat of expropriation and contract enforceability.

54. The variable is from Beck, Demirguc-Kunt, and Levine 2000, supplemented by long-term historical data available from Jordà, Schularick, and Taylor 2017. This variable is available for only a subset of countries. Directly controlling financial sector size in the empirical models is likely problematic. Because financial booms are so closely intertwined with and proximate to the occurrence of crises, there is a danger that we are controlling for a variable that is a consequence of the key explanatory variable as noted by King, Keohane, and Verba 1994. Because bank lending is available for only recent years for most countries, including the variable also means throwing away about half of the available data. I therefore do not use bank lending as a control variable in subsequent empirical models.

55. Results available in Appendix I.

56. As a result of the fixed effects specification, the results are more sensitive when the analysis is restricted to time periods when there is insufficient temporal variation in regime type or very few financial crises—short time periods (e.g., the interwar years or single decades), and periods dominated by 1945–1975, when there were very few crises (e.g., the Bretton Woods System and Cold War years).

57. $p = 0.06$.

TABLE 4. *Financial crisis and democracy, various time periods of interest*

Independent variables/ model specification	*Logit with fixed effects nineteenth century*	*Logit with fixed effects twentieth century*	*Logit with fixed effects post-WWII (1945–2009)*	*Logit with fixed effects post-Bretton Woods System (1971–2009)*	*Logit with fixed effects Washington Consensus (1980–2000)*
DEMOCRACY (POLITY2)	0.18*	0.07*	0.08*	0.08*	0.06
	(0.07)	(0.02)	(0.02)	(0.02)	(0.03)
Control Vars	Y	Y	Y	Y	Y
Splines	Y	Y	Y	Y	Y
χ^2	36.20*	111.14*	91.73*	61.34*	47.12*
BIC	385	1245	844	748	459
N	1223	4684	3662	2261	1000

Notes: Dependent variable in all models is a dichotomous indicator of banking crisis onset. All models include the following control variables, which are omitted from the table for brevity: GDP/capita, currency crisis, war, cubic splines to account for duration dependence, and a count variable for previous crisis episodes. Numbers in parenthesis are standard errors. Asterisk denotes a coefficient at least two standard errors removed from 0.

Mechanisms

Economists, using cross-national data, have tied the incidence of financial crises to variables such as capital inflow bonanzas,[58] financial liberalization,[59] and macroeconomic mismanagement or shocks.[60] However, these accounts are largely apolitical. The considerable qualitative work on the sources of crises generally examines a handful of notable cases in Europe, Latin America, Japan, and the United States.[61] Quantitative work on political factors affecting financial crisis incidence has been relatively limited, but recent work has examined domestic factors such as partisanship and regulatory policies,[62] institutional constraints on financial crisis response,[63] and international distortions caused by the IMF.[64] These studies have generally focused on a limited time period since the 1970s, for understandable reasons—data on many variables of interest are unavailable for a longer time period. However, this may be problematic because of the anomalous nature of the 1980s and 1990s.

58. Kaminsky and Reinhart 1999; Reinhart and Rogoff 2008.
59. Rancière, Tornell, and Westermann 2008.
60. Demirgüç-Kunt and Detragiache 1998; Eichengreen and Rose 1998; Gavin and Hausmann 1996.
61. Amyx 2006; Calomiris and Haber 2014; Chinn and Frieden 2011; Grimes 2002; Lipscy and Takinami 2013.
62. Broz 2012; Copelovitch and Singer 2012.
63. Keefer 2007; Rosas 2006, 2009.
64. Lipscy 2017; Lipscy and Lee forthcoming.

Drawing from this literature as well as other sources, in this section, I propose several mechanisms that may make more democratic countries more prone to financial crisis. In particular, I posit and evaluate hypotheses concerning constraints, turnover, liberalization, and openness. I draw each hypothesis from a distinct characteristic of democratic governance: constraints on executive authority, free and fair elections, protection for civil liberties, and large winning coalitions. After introducing the logic of the hypotheses and briefly considering their plausibility, I examine empirically whether proxies associated with each appear to account for the association between democracy and the incidence of financial crises presented earlier.

Constraints

A major feature of democratic government is the presence of constraints on political authority, which are also an important component of polity scores.[65] Compared to autocrats, the actions of democratic leaders tend to require some degree of support from other domestic actors such as legislatures, political parties, or the judiciary.[66] Executive constraints are widely cited as a major benefit of democracy, not only as a mechanism to prevent arbitrary violations of property rights and the rule of law, but also as a source of credible commitment that can produce economic and diplomatic advantages.[67]

Financial crises are often preceded by credit-fueled speculation in assets such as real estate and equities—when mania gives way to bust, financial institutions are left with severely impaired assets, triggering instability.[68] Government intervention to preempt crises often requires the implementation of controversial policies, such as the use of public funds to recapitalize financial institutions or regulatory measures to curb risky lending and speculation—what former Federal Reserve Chairman William Martin described as "taking away the punchbowl" just as a party is getting started.[69] In democracies, the constraints on political action by multiple veto players may slow or prevent measures to curtail speculative excesses by private actors. In contrast, in autocracies, unconstrained leaders may be able to take sweeping, flexible actions to mitigate the risk of outright crises. Hence, we may posit:

Constraints Hypothesis: Democratic leaders are constrained by domestic veto players from taking actions to curb speculative excesses prior to the incidence of a crisis.

We can begin by considering the long-term historical data, which have often been referenced by scholars focusing on theories about limited government. Table 5 reproduces a list of "world leaders and challengers," the most powerful countries

65. Marshall, Gurr, and Jaggers 2010.
66. Gurr and Eckstein 1975.
67. Cox and Weingast 2015; North and Weingast 1989; Schultz 1999.
68. Kindleberger 2000.
69. Martin 1955.

during each historical time period as classified by long-cycle theorists.[70] I added China as a plausible challenger to the United States during the post-Cold War period. These are large, powerful countries chosen by Schultz and Weingast to demonstrate their core hypothesis about asymmetrical constraints. If constraints are related to financial crisis incidence, this is a plausible set of countries to examine based on findings in the existing literature.

TABLE 5. *Banking crises among "world leaders and challengers"*

	Leader	*Number of banking crises*	*Challenger*	*Number of banking crises*
1609–1713	Netherlands	1	France	0
1714–1815	Great Britain	7	France	1
1816–1945	Great Britain	7	Germany	6
1946–1990	United States	1	USSR	0
1991–	United States	1	China	1

Notes: Identities of world leaders and challengers are from Schultz and Weingast 2003, with China added for the post-Cold War period. Banking crises as identified by Reinhart and Rogoff 2009 from 1800 to present and Kindleberger 2000 for years prior to 1800.

The table illustrates that more democratic "leader" countries have generally experienced more financial crises during each historical time period—cumulatively, the count is seventeen to eight, or about twice as many crises for the more constrained governments. However, the large disparity between Great Britain and France in the eighteenth century accounts for most of the difference. This is not inconsistent with the premises of the democratic constraints literature. In early liberal states, such as Britain in the eighteenth century, the franchise was limited to substantial holders of wealth—in such cases, the interests of parliamentary representatives overlapped heavily with those of private financial interests. It may be that constraints were particularly acute during this period: legislatures aligned closely with financial interests may impose particularly strong constraints against executive actions to rein in speculative financial activity.

Turning to a broader set of countries, Henisz has developed a measure of executive constraints, POLCONIII, which is available for the entire duration of my data set.[71] The variable proxies for the feasibility of policy change in a country based on both institutional factors (i.e., the independence of the executive, upper legislative, and lower legislative chambers) as well as the extent of alignment across branches of government based on partisan composition. Following the logic of Baron and Kenny,[72] if executive constraints are an important mediator for the relationship between democracy and crises, at a minimum, constraints should be positively associated with both democracy and crises, and the

70. Schultz and Weingast 2003. In Appendix VI, I examine several additional hypotheses that consider the impact of constraints on crises via credibility and secure property rights.

71. Henisz 2002. The broader constraint measure, POLCONV, which incorporates judicial and subfederal institutions, is available for only a shorter time period.

72. Baron and Kenny 1986.

inclusion of the variable in the empirical models should weaken the direct association between democracy and crises. The evidence is consistent with constraints being a partial mediator. When constraints are included in the empirical models, the coefficient on polity2 remains positive, but it is attenuated considerably.[73]

The constraints hypothesis is difficult to test directly because of the practical difficulties of identifying financial crises that were averted.[74] However, Laeven and Valencia have collected detailed information about government responses during recent crises, including the timing of extensive liquidity support provided to the financial sector.[75] Their data are collected based on observed crises, which may introduce bias, since countries that acted proactively to avert crises are not represented. However, the direction of the bias should generally stack the decks against findings consistent with the constraints hypothesis: unconstrained countries that select into crises will tend to be those that are slow or unable to take proactive steps for other reasons. According to these data, countries that score high on political constraints are relatively slower in initiating liquidity support for the financial sector.[76] This is a crude measure, but it provides some preliminary support for the intuition that political constraints may hinder policy measures to address crises.

We can also point to historical episodes that are consistent with the constraints hypothesis. For example, Japan, a country that scored high on the POLCONIII measure in the late 1980s and early 1990s,[77] was notoriously characterized by inaction and forbearance when major asset price bubbles inflated and then collapsed, destabilizing the financial system.[78] In 1922, Swedish authorities attempted to rein in speculative risk taking by prohibiting ownership of equity companies by banks, but by the time the legislation had passed in 1924, most of the equity companies had already declared bankruptcy.[79] Former US Treasury official Lee Sachs, reflecting on the crises in Japan and the United States, explained the difficulty of acting preemptively in a democratic context: "the sooner you act and the greater force with which you act, the better the outcome and the cheaper the cost to the taxpayer … It's very hard to execute in reality … because the pressure hasn't built to the point where there's overwhelming popular demand for you to do some of the difficult things you have to do."[80] Contemporary China presents a stark contrast. In response to perceived

73. See Appendix I. The *p*-value for polity2 when constraints are included is 0.1.

74. See discussion in Schaeck and Cihak 2007 and Thegeya and Navajas 2013.

75. Laeven and Valencia 2008.

76. Comparing the dates when the crisis became systemic and the date when liquidity support to the financial sector became extensive, countries scoring above mean on POLCONIII provided extensive liquidity support about 120 days later compared to countries below the mean.

77. For example, Japan's POLCONIII score in 1989 was 0.492, which put it in the ninetieth percentile (i.e., it was a highly constrained state according to this measure).

78. Amyx 2006.

79. Lonnborg, Ogren, and Rafferty 2014. Sweden's POLCONIII score in 1922 was 0.487, which was in the eightieth percentile for the year.

80. Tim Geithner, "On the Criticism that Obama's Progressive Economic Advisers Were Pushed to the Side," Lee Sachs, Counselor to Treasury Secretary (2009–10), *The Financial Crisis: The Frontline Interviews,* <http://www.pbs.org/wgbh/pages/frontline/oral-history/financial-crisis/tags/tim-geithner/>.

asset price speculation, Chinese authorities have implemented a series of draconian measures unthinkable in Western democracies, such as rules limiting house ownership to one per family and mass arrests of market speculators.[81]

Turnover

Relatively frequent executive turnover is another defining feature of democratic government. Most definitions of democracy include free and fair elections as a basic precondition.[82] In democracies, citizens can hold their leaders accountable through the electoral process. Democratic leaders often face meaningful political competition and frequent elections. Term limits are common. By comparison, executive turnover in autocratic governments is generally less institutionalized, costly, and unpredictable. For sure, some autocratic systems—such as China in recent years—feature predictable, orderly executive turnover. However, on average, democratic leaders tend to stay in office for shorter time periods and therefore probably face shorter time horizons compared to their autocratic counterparts. In the past 150 years, the average length in office for an autocratic leader was about twelve years, while for a democratic leader it was about five years.[83]

Short time horizons can create incentives for democratic leaders to pursue policies that improve economic conditions during their time in office or before elections, even if such policies have negative long-term consequences. For example, democratic leaders may manufacture financial booms by strategically relaxing regulatory standards, holding interest rates low, or subsidizing speculative activities. In effect, frequent financial crises in democracies could be one manifestation of the political business cycle.[84]

Time Horizon Hypothesis: Democratic leaders are more likely to create the preconditions for financial crisis because of short time horizons.

If this explanation is correct, one observable implication is that we should expect financial crisis incidence to track other proxies for time horizons aside from regime type. For example, autocratic leaders who do not expect to stay in office very long should face comparable incentives to underplay the long-term consequences of actions that stimulate financial booms. Similarly, it should be possible to observe variation among democratic leaders according to other variables that proxy for their time horizons.

81. As an autocracy, China is coded as having a POLCONIII score of 0. Joe Weisenthal, "Beijing Just Unveiled Uber-Draconian 'One House Per Family' Rules To Curb Bubble," *Business Insider*, 30 April 2010; Mark Banham, "China Arrests 197 as Authorities Pin Blame for Stock Market Crash on 'Online Rumours,'" *International Business Times*, 31 August 2015.
82. Collier and Levitsky 1997.
83. Goemans, Gleditsch, and Chiozza 2009.
84. Nordhaus 1975.

Although the time horizons of political leaders are not directly observable, plausible proxies are available from the existing literature. If the short time horizons of democratic leaders are responsible for the frequency of democratic crises, other proxies for time horizons should also be related to crisis onset. I use the following measure proposed by Quan Li: the number of changes of the chief executive accumulated to date during the life of a particular political regime, divided by the cumulative years of life of the regime from the first observation.[85] The rationale is that leaders governing countries that have experienced frequent turnover of the chief executive are likely to believe their time will also be brief and have short time horizons. This turnover measure has two practical advantages: it is available for a long time period (about 150 years), and it is not specific to any regime type. As one would expect, turnover is moderately correlated with regime type ($R = 0.31$) and negatively correlated with actual time remaining in office ($R = -0.25$).

When included in the baseline statistical model, turnover is positively associated with crisis onset, and the coefficient on democracy is reduced slightly but remains positive and statistically significant.[86] Turnover may partially account for the observed relationship between regime type and crisis onset. However, several caveats are in order. The turnover measure may be picking up some latent instability or political dysfunction in the country. Underlying political and economic problems may be jointly responsible for frequent executive turnover and crisis onset. If so, the positive association between turnover and crises may be unrelated to time horizons. I also considered several other conventional proxies for time horizons—leader age and length of leader tenure—but these were not meaningfully related to crisis onset. I also substituted turnover of the executive party on the rationale that some parties remain in control for long periods in democracies despite turnover of specific leaders. This variable was not meaningfully associated with crises.[87]

Liberalization

Democratic governance is generally predicated on the recognition of inherent rights and liberties of its citizens. Protections for civil liberties are often used to proxy for degree of democratization cross-nationally: for example, it is one of the two components in the "Freedom in the World" index compiled by Freedom House.[88] Some scholars argue that there is a philosophical and legal consistency between these basic principles of democracy and the notion that citizens should be able to

85. Li 2009.
86. The results are available in Appendix I.
87. I coded executive party control based on data from Henisz 2002. These results are available in Appendix I.
88. Freedom House 2017.

engage freely in economic activity.[89] One facet of this is the freedom to invest freely and without restriction, that is, financial liberalization. To be clear, democracy does not always go hand in hand with unfettered economic liberalization in an absolute sense. Even among democratic states, the Great Depression led to a long period of strict regulation, capital controls, and Keynesian government intervention.[90] However, even during this period, government intervention in economic activity was often more severe among autocratic states, many of which adopted communism or distortionary policies such as import substitution industrialization.

Democratic leaders may also have a relative preference for financial liberalization because of their larger winning coalitions.[91] Financial institutions within autocracies are often tightly controlled and manipulated to support economic activities that benefit close supporters of the regime.[92] Financial liberalization breaks up these arrangements by introducing price competition and market entry by domestic and foreign firms, benefiting consumers.[93] Empirical studies have found a strong association between democracy and capital account liberalization.[94]

In turn, financial liberalization has been widely noted as an important precursor of banking crises by a large economics literature.[95] This leads to the following hypothesis:

Liberalization Hypothesis: Democratic governments are more likely to have liberalized financial sectors, which leads to a higher likelihood of banking crisis onset.

One practical difficulty when testing this hypothesis is the availability of data on financial liberalization. Comprehensive data on liberalization are available only since the 1970s.[96] However, the 1980s and 1990s were a somewhat anomalous period when considering the relationship between regime type and financial liberalization. This is the height of the so-called "Washington Consensus." During this period, through ideological diffusion and the leadership of international institutions such as the International Monetary Fund, "big bang" market-oriented reforms were adopted widely by democratic and autocratic regimes alike.[97] Both democratic and autocratic regimes pursued aggressive liberalization programs during these two decades. One point in favor of the liberalization hypothesis is the fact that the 1980s and 1990s were decades characterized by unusually high incidence of crises among autocratic regimes.

89. Dailami 2000; Quinn 2000.
90. Bordo, Eichengreen, and Irwin 1999; Helleiner 1994.
91. Bueno de Mesquita et al. 2005.
92. Brune et al. 2001.
93. Noy 2004.
94. Brune et al. 2001; Giuliano, Mishra, and Spilimbergo 2009; Quinn 2000.
95. Kaminsky and Reinhart 1999; Noy 2004; Rancière, Tornell, and Westermann 2008.
96. Abiad, Detragiache, and Tressel 2010.
97. Quinn and Toyoda 2007.

As Figure 2 illustrates, outside of this period, financial crises have more reliably struck more democratic countries. The first decade of the twenty-first century represents a break from this pattern, which is also consistent with the liberalization hypothesis. The Washington Consensus was weakened after the spotty record of big-bang reforms during postcommunist transitions and the 1997–1998 Asian Financial Crisis. The 1990s represented a high-water mark for the Washington Consensus, after which even IMF staff reassessed the effectiveness of rapid liberalization in favor of gradualism.[98] More recently, Western democracies have seen the explosion of shadow banking and various financial sector "innovations" unmatched in other parts of the world. The US subprime crisis and the Euro crisis mark a return to a pattern more consistent with the historical record.

Although a direct measure of financial liberalization is not available before 1970, the absence of capital controls, that is, liberalization of international capital transactions, may be a reasonable proxy—international liberalization is one component of the financial liberalization measure, and it is highly correlated with the broader index ($R = 0.81$). I use data on capital controls from Eichengreen and Leblang,[99] which are available going back to 1880. Based on this measure, it appears that the behavior of democracies and autocracies indeed diverged from the historical pattern during the Washington Consensus period. Prior to 1980, there is an association between democratization and the removal of capital controls, a pattern that held in both the pre- and post-World War II periods. In comparison, there is no such relationship from 1980 to 2000.[100]

Openness

Democracies are characterized by large winning coalitions compared to autocratic regimes.[101] One seminal prediction that emerges from this insight is that governments with large winning coalitions tend to adopt relatively open trade policies.[102] Free trade policies have features of a public good, benefiting a large proportion of citizens in a country, whereas protectionism tends to advantage a narrow group of import-competing firms at the expense of the consumer. Empirically, democratic countries tend to adopt freer trade policies and engage in greater international trade compared to their autocratic counterparts.[103]

Financial crises are often characterized by contagion.[104] Particularly during periods of heightened international capital mobility, the incidence of a crisis in one

98. Chwieroth 2010, particularly chapter 8.
99. Eichengreen and Leblang 2008.
100. Details are provided in Appendix II.
101. Bueno de Mesquita et al. 2005.
102. McGillivray and Smith 2008.
103. Eichengreen and Leblang 2008; Mansfield, Milner, and Rosendorff 2002; Milner and Kubota 2005; Yu 2010.
104. Bordo and Murshid 2001; Kaminsky, Reinhart and Vegh 2003.

country can quickly spill over across borders. The Barings Crisis of 1890 began in Argentina but quickly spread to a host of other countries. The Asian Financial Crisis of 1997–1998 affected seemingly unrelated countries such as South Korea, Brazil, and Russia. The 2008 subprime crisis originated in the United States but quickly destabilized financial institutions in a much wider set of primarily European countries.

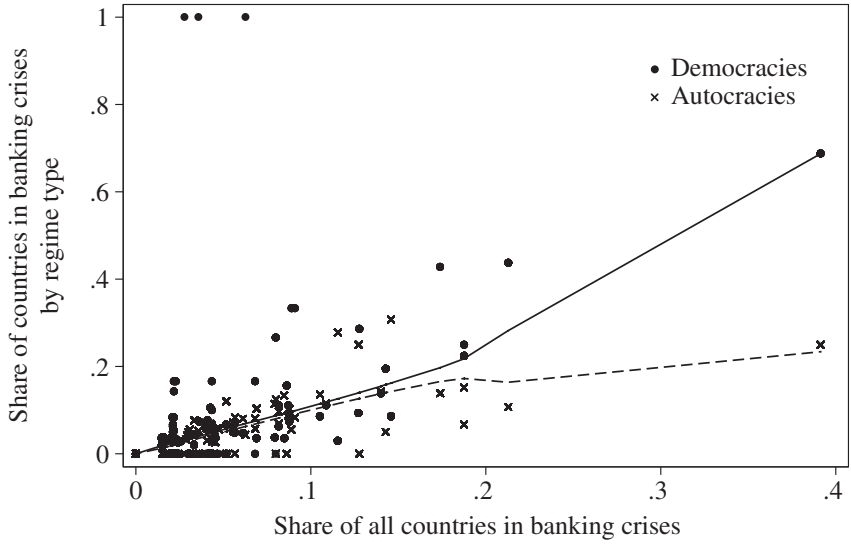
Democratic governments may be particularly susceptible to contagion because of their tendency toward economic openness. These economic linkages may make democracies more susceptible to adverse international shocks. In short:

Openness Hypothesis: Because they are more globally integrated, democratic countries are more susceptible to international contagion.

One observable implication of this hypothesis is that democratic crises should more frequently cluster together in time. If democratic crises are being set off by contagion, they should have a tendency to occur together in rapid succession. Conversely, if autocratic crises are less likely to be induced by contagion, they should more frequently occur as one-off events. Figure 3 plots crisis years according to the percentage of all countries experiencing banking crises on the x-axis, and the same percentage by regime type on the y-axis. Steep slopes indicate that a particular regime type is more susceptible to crisis during years when there are many ongoing crises. As the figure illustrates, during years when there are many episodes of banking crises, democratic countries are more likely to be affected than autocratic countries.[105] Consistent with the openness hypothesis, autocratic crises have often been singular events, while democratic crises have often clustered together.

Is contagion the whole story? To consider this possibility, I reran the statistical models omitting years during which more than 10 percent of countries were experiencing banking crisis onsets.[106] Such years include widely recognized systemic financial crises such as the Panic of 1907, the onset of the Great Depression, and the 2008 subprime crisis. Even with these years omitted, democracy is strongly associated with crisis onset.[107] I also reran the models including decade dummies for crisis periods, as well as an indicator for the global average polity2 score during each year on the logic that crises may be especially prevalent with many democracies in the international system. These specifications also produced substantively similar results.[108] Hence, contagion is unlikely to be solely responsible for the association between democracy and financial crises.

105. I use the dichotomous Boix, Miller, and Rosato 2013 measure to separate autocracy and democracy.
106. These years are 1890, 1907, 1914, 1921, 1923, 1931, 1990–1992, 1994–1995, 1997, and 2008.
107. See Appendix III.
108. See Appendix III.



Notes: The lines are lowess curves for each regime type (solid = democracy; dotted = autocracy). When a large number of banking crises occur simultaneously (a rightward movement on the x-axis), it is more common for democratic regimes to be involved than autocratic regimes. This is consistent with the possibility that democratic regimes are more susceptible to contagion. Data are for 1800–2009. Regime type is defined by the dichotomous Boix. Miller, and Rosato 2013 measure. The cluster of points on the upper left are from the early nineteenth century when there were very few democracies in the data set.

FIGURE 3. *Regime type and contagion*

Analysis

So far, I have considered the mechanisms in isolation. In Table 6, I examine proxies for the hypothesized relationships described earlier. For constraints, I use the POLCONIII variable from Henisz.[109] For time horizons, I use the Quan Li measure: the number of changes of the chief executive accumulated to date during the life of a particular political regime, divided by the cumulative years of life of the regime from the first observation.[110] To measure the possibility of contagion, I constructed a diffusion variable that represents the average occurrence of banking crises in all of a country's trading partners, weighted by trade share of GDP.[111] Unfortunately, the financial liberalization variable from

109. Henisz 2002.
110. Li 2009.
111. The measure is constructed as follows: first, an N × N × T matrix of dyadic trade is constructed with each cell representing the total trade (imports+exports) between two countries in a given year. Data on dyadic trade are obtained from Barbieri, Keshk, and Pollins 2009. Second, the matrix is row standardized by total

Abiad, Detragiache, and Tressel is available for only recent years, severely limiting the time period for analysis.[112] I therefore separate the analysis into two time periods, 1973–2005, for which the liberalization variable is available, and 1870–2009, for which all other variables are available.

Table 6 presents the empirical results. The first two columns cover the time period between 1973 and 2005, when the financial liberalization variable is available. The first column runs the specification with polity2 and the control variables from the baseline model (Table 2, column 4) to confirm that democracy is meaningfully associated with crisis incidence for the available observations during this period. The second column adds the four proxies for mechanisms. As the results show, once the mechanism variables are included, the relationship between democracy and crisis onset weakens considerably, with the coefficient on polity2 becoming statistically indistinguishable from 0.[113] All the mechanism variables are signed in the correct direction, with the exception of TURNOVER, which is statistically indistinguishable from 0. I reran the analysis for the same years while retaining time horizons but omitting the other mechanism variables, and turnover was consistently indistinguishable from 0: it appears that turnover and crisis incidence are not meaningfully associated during the recent period.

In the third and fourth columns of Table 6, I reran the analysis for the years 1870–2009 omitting the financial liberalization measure, which is available for only recent years. This shows analogous results, with the exception that all mechanism variables, including TURNOVER, are associated with crisis onset in the expected direction.[114] The divergent result for turnover may reflect the declining ability of political leaders in recent years to manipulate economic outcomes according to their narrow political interests, for example, because of the advent of independent central banking.

How should these findings be interpreted? Although the empirical results suggest that constraints, turnover, liberalization, and openness are important in accounting for the relationship between democracy and financial crisis incidence, we should be cautious about dismissing alternative mechanisms. As is generally the case with

trade of the country (with all of its trading partners) in a given year. Third, an N × T matrix of banking crisis incidence is constructed. Fourth, the two matrices are multiplied to obtain the diffusion variable, which, for each country-year, is essentially the average occurrence of banking crises in all of a country's trading partners. This variable is then weighted by the country's total trade volume as a share of GDP.

112. Abiad, Detragiache, and Tressel 2010. I also tried substituting the absence of capital controls from Eichengreen and Leblang 2008, which is available for a longer time period, but this variable was not meaningfully associated with banking crisis incidence in any of the specifications.

113. Replacing polity2 with the dichotomous measure from Boix, Miller, and Rosato 2013 or the democracy stock measure from Gerring et al. 2005 produces substantively similar results.

114. Comparison of BIC values between the models including and excluding the mechanism variables indicates that the models including the mechanism variables are preferred. I also reran the specifications from column 2 and 4 excluding polity2, and comparison of BIC values indicate that once the mechanism variables are included, models excluding polity2 are preferred. This is consistent with the premise that the mechanism variables account for the observed association between democracy and crises. When including the mechanism variables in the models one by one, the only instance where comparisons of BIC values strongly support exclusion is turnover in the first pair of models. Excluding the turnover variable from Table 6 column 2 produces otherwise similar substantive results.

observational studies covering long historical time periods, it is difficult to comprehensively rule out alternative mechanisms that could account for the association between democracy and financial crises.

TABLE 6. *Considering the hypotheses*

Independent variables/ model specification	*Logit with fixed effects 1973–2005*	*Logit with fixed effects 1973–2005*	*Logit with fixed effects 1870–2009*	*Logit with fixed effects 1870–2009*
DEMOCRACY	0.08*	0.01	0.06*	0.02
(POLITY2)	(0.03)	(0.04)	(0.02)	(0.02)
CONSTRAINTS		2.21*		1.46*
(POLCONIII)		(1.11)		(0.67)
TURNOVER		−4.11		2.29*
		(7.20)		(0.90)
LIBERALIZATION		0.26*		
		(0.05)		
CONTAGION		2.08*		3.62*
(TRADE)		(0.67)		(0.44)
Control Vars	Y	Y	Y	Y
Splines	Y	Y	Y	Y
χ^2	45.17*	100.07*	88.05*	173.39*
BIC	547	521	1367	1307
N	1413	1413	4702	4702

Notes: Only coefficients for variables of interest are shown for the sake of presentation. Time period of analysis is constrained by availability of data for the independent variables. Variables included in the model but omitted from the table are: GDP per capita, currency crisis, war, cubic splines, and an indicator for previous crises. Dependent variable in all models is a dichotomous indicator of banking crisis onset. Numbers in parenthesis are standard errors. Asterisk denotes a coefficient at least two standard errors removed from 0.

Should the variables I analyzed be thought of as mechanisms associated with democracy or independent factors that account for the occurrence of crises? As I discussed earlier, each hypothesis is derived from a well-established literature that argues that a specific feature of democracy is closely related to the mechanism variable in question. The data are generally consistent with the proposition that the mechanism variables are closely intertwined with democracy. For example, in theory, we might expect an autocracy with strong executive constraints, frequent turnover, a liberalized financial system, and trade openness to experience frequent financial crises. However, this counterfactual autocracy does not exist: in the entire data set, there are no instances of autocracies that are above-mean levels for all four of these variables.[115]

Nonetheless, there is nontrivial variation in the mechanism variables that is independent of regime type, and the models suggest that this variation is important in predicting the onset of financial crises. For example, there are some unconstrained democratic

115. Calculated for polity2 < -6 based on annual means. If we expand the scope of autocracies to include polity2 < 0, there are still only two instances, the Dominican Republic in 1974 and Panama for a brief period in the early 1980s.

leaders in the data, such as the premiers of New Zealand in the late nineteenth century, and relatively autocratic states that pursue open economic policies, such as Singapore. The most reasonable interpretation of these findings is that more democratic countries are generally (but not uniformly) associated with greater constraints on executive authority, higher rates of turnover, financial liberalization, and openness to trade. In turn, when present, these factors are associated with a higher likelihood of financial crisis onset.

Conclusion

Although democratic governance has many advantages over the alternatives, it is associated with more frequent financial crises. I have argued that the propensity of more democratic countries to experience financial crises may be a result of features of democracy often cited as advantages. Existing work generally finds that democracies: (1) have leaders who are more constrained and therefore more capable of credible commitment; (2) have greater executive accountability because of free and fair elections; (3) tend to place fewer restrictions on the activities of private citizens; (4) are more economically open thanks to large winning coalitions.

I described how each of these purported advantages can also increase the likelihood of financial crises. First, executive constraints can make it difficult for leaders to implement effective policies to curb speculative excesses in the run up to a financial crisis. Second, short time horizons give democratic leaders incentives to orchestrate financial booms without sufficient consideration for the long-term consequences. Third, democracies tend to place great value on personal liberty and freedom of action, which may lead to excessive liberalization of the financial sector. Finally, because they are economically open, democracies may be particularly susceptible to international contagion.

The research presented here raises the possibility that democratic governance is less stable than conventionally recognized. The relationship between democracy and financial crises has been somewhat masked since World War II, first by the suppression of global capital flows and then by the Washington Consensus years. Existing research relying heavily on this period may overstate the economic and political stability of democratic regimes. In particular, serious financial crises among advanced industrialized democracies were extremely rare post-World War II until the 1990s, but they were a common occurrence in the nineteenth and early twentieth centuries. One may question, for example, whether democracy in these countries proved stable because of high incomes,[116] or because high-income countries have enjoyed a long period of unusual financial stability. Scholarship that associates democracy with stable or higher economic growth rates has also relied heavily on postwar data, which may overstate democratic stability.[117]

116. Boix 2011; Przeworski and Limongi 1997.

117. Among others, see Acemoglu et al. 2003; Acemoglu et al. 2014; Gerring et al. 2005; Gründler and Krieger 2016; Klomp and de Haan 2009; Mobarak 2005; Papaioannou and Siourounis 2008; Yang 2008.

The fact that democracies are more prone to financial crisis should not lead us to question the legitimacy or appropriateness of democratic governance. Democracy has myriad advantages that almost certainly outweigh the occasional brush with financial instability. However, crises will likely continue to increase in frequency in future years along with global capital flows.[118] If the macroeconomic consequences of crises continue to affect democracies asymmetrically, it could feed into incipient narratives lauding the purported advantages of authoritarianism, such as the "Beijing Consensus."[119] To avoid a repeat of the democratic reversals of the early twentieth century, it will be important to better understand the mechanisms responsible for democratic financial crises.

Supplementary Material

Supplementary material for this article is available at <https://doi.org/10.1017/S0020818318000279>.

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118. Reinhart and Rogoff 2009.
119. Halper 2010; Jacques 2009.

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