Democracy and Financial Crisis

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Abstract

Existing scholarship has often attributed economic advantages to democratic governance. I argue that some of these advantages may ironically make democracies more susceptible to financial crises. Using data covering banking crises over the past two centuries, I demonstrate a strong relationship between democracy and the incidence of crises. Ceteris paribus, in a given year, democracies are about three to five times more likely to encounter a financial crisis than autocracies. This is an empirical regularity that is robust across a wide range of model specifications and time periods.
Introduction

Over the past several centuries, financial crises have been frequent, widespread, and oftentimes consequential. Charles Kindleberger counts over fifty international financial crises and panics since the 17th century. More recently, Reinhart and Rogoff have identified about 700 country-years of banking crises since 1800. Financial crises are associated with adverse macroeconomic performance, most notoriously the depressions of the late-19th and early 20th centuries and Japan’s lost decade of the 1990s (Reinhart and Rogoff 2008). The Asian Financial Crisis of 1997-1998 and the US subprime crisis of 2008 have underscored the salience of financial crises in the current era. A basic reading of the history of financial crises also makes it clear that politics plays a central role in setting the preconditions for crises and guiding the subsequent response. Nonetheless, political science scholarship on the issue still remains underdeveloped (Helleiner 2011; Cohen 2009; Mosley and Singer 2009).

In this article, I will argue that advantages frequently ascribed to democracy may make these regimes particularly prone to financial crises. Democracies are characterized by greater freedom, executive accountability and turnover, openness, transparency, and the ability to credibly commit. Each of these characteristics brings important benefits, which are well-recognized. However, they may also increase the likelihood of financial instability and crisis onset. The philosophical attachment to private liberty and freedom may contribute to excessive financial deregulation and liberalization. Frequent executive turnover may lead democratic leaders to neglect the long-term costs of policies that encourage short-term economic booms. Low interests rates, associated with credible commitment to repay, can fuel excessive leverage and speculation. Informational transparency can exacerbate the propagation of bank runs. Economic openness exposes countries to international contagion.
Empirically, I will demonstrate that democracies are particularly prone to financial crises. This is a striking empirical regularity that can be traced back to the early 19th 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 – e.g. the relationship exists in the 19th century and 20th century, before and after World War II, and before and after the 1970s. The relationship between democracy and crisis was weakest during the “Washington Consensus” period of the 1980s and 1990s, when diffusion of neoliberal ideas and intervention by the International Monetary Fund led both democratic and autocratic regimes alike to embrace aggressive financial sector liberalization. Most existing work on the causes of banking crises has focused on this anomalous time period, perhaps leading scholars to neglect the strong historical relationship between financial crises and democracy.

Like other relationships involving democracy, such as the democratic peace (Bueno de Mesquita et al. 1999; Maoz and Russett 1993; Maoz and Abdolali 1989; Kant 1795), democratic advantage in war (Partell and Palmer 1999; Schultz 1999; Fearon 1994; Lake 1992), and the greater propensity for democracies to engage in international trade (Milner and Kubota 2005; Mansfield et al. 2002), it is not an easy task to pinpoint the precise causal mechanisms responsible for this empirical regularity. Democracy is a multifaceted variable that embodies many characteristics such as rule of law, free and fair elections, executive constraints, and freedom of expression. Financial crises are also complex phenomena that lend themselves to multiple explanations – e.g., the official commission of the U.S. government tasked with investigating the causes of the 2008 Subprime Crisis split sharply along partisan lines and ultimately failed to produce a consensus report (The Financial Crisis Inquiry Commission 2011).
In this paper, I will assess the observable implications of several causal mechanisms derived from the literature on democratic advantage. In particular, I will examine five hypotheses related to credibility, transparency, time horizons, liberalization, and openness. I find considerable evidence in favor of the time horizons, liberalization, and openness mechanisms, while the evidence for credibility and transparency is mixed.

It should be made clear at the outset that this paper 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 with global capital flows (Reinhart and Rogoff 2009) – 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 outlined in this paper 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.

This paper will proceed as follows. In the next section, I will develop several hypotheses from the literature on democratic advantage to argue that democracies may be more prone to financial crisis. I will then present a general overview of the data that appears to show an association between democracy and the occurrence of crises. This will be followed by a more rigorous statistical test. The results confirm that there is a strong association between democracy
and the incidence of financial crises. I then assess the plausibility of the causal mechanisms. The final section provides a brief conclusion and discussion.

**Hypotheses**

What causes financial crises? Economists, using cross-national data, have traced the incidence of financial crises to factors such as capital inflow bonanzas (Kaminsky and Reinhart 1999; Reinhart and Rogoff 2008), financial liberalization (Rancière et al. 2008), and macroeconomic mismanagement or shocks (Demirgüç-Kunt and Detragiache 1998; Gavin and Hausmann 1996; Eichengreen and Rose 1998). However, these accounts are largely apolitical. There is also considerable qualitative work on the sources of crises, which generally examine a handful of notable cases such as Latin America, Japan, and the United States (Chinn and Frieden 2011; Amyx 2006; Grimes 2002). Quantitative work on political factors affecting financial crisis incidence has been limited, but recent work has examined the impact of partisanship (Broz 2010), and institutional constraints on financial crisis response (Rosas 2009). However, these studies have generally focused on a limited time period from the 1970s to the present, for understandable reasons – e.g., data on many variables of interest are not available for a longer time period. However, this may be problematic for reasons that I will explain in subsequent sections.

In this section, I will propose several causal mechanisms that may make democratic governments more prone to financial crisis than autocracies. In particular, I posit five hypotheses concerning credibility, transparency, time horizons, liberalization, and openness. The empirical validity of each of these mechanisms will be evaluated in subsequent sections.
Credibility

Financial crises are often preceded by excessive 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 (Kindleberger 2000). Case studies of several major crisis episodes triggered by asset price bubbles have highlighted excessively low real interest rates as an important culprit. For example, the Bank of Japan may have held interest rates too low in the late 1980s, contributing to twin bubbles in equities and real estate (Grimes 2002; Bernanke 2000). Similarly, the Federal Reserve under Alan Greenspan may have held interest rates too low in the mid-2000s, facilitating the development of an excessive housing boom (Taylor 2009).

A major thread in the literature on democratic advantage in international conflict points to lower borrowing costs for democratic governments. Because democratic leaders are constrained, they are better able to commit to repayment, and hence receive favorable borrowing rates from lenders (Schultz and Weingast 2003; North and Weingast 1989). For this reason, it is possible that democratic countries are characterized by lower overall borrowing costs in comparison to autocracies. As the domestic lender of last resort, governments often provide explicit or implicit guarantees to the domestic financial system. For example, in the United States, government borrowing rates are directly tied to mortgage interest rates through guarantees provided to home mortgage institutions such as Fannie Mae and Freddie Mac. Moreover, governments have served as the lender of last resort for domestic financial institutions since at least the 18th century – guarantees by more credible governments are therefore likely to allow private financial institutions to borrow at more attractive rates. The impact of sovereign credibility for domestic financial institutions is aptly illustrated by the “Japan Premium,” which
developed in the late 1990s as Japan’s sovereign credit rating came under question, as well as the downgrading of US debt in 2011 by Standard & Poors, which was immediately followed by downgrades of scores of US financial institutions. These observations lead to the following hypothesis:

*Credibility Hypothesis*: Democratic governments can borrow cheaply due to their ability to credibly commit to repayment. In turn, democratic economies may be characterized by lower overall borrowing costs, which can increase the likelihood of excessive leverage and speculation.

It is worth noting that credibility can cut both ways. In particular, democracies may also be able to commit credibly to avoiding generous bailouts of financial institutions (Rosas 2009). If so, this may dampen speculative activity by financial institutions, reducing the likelihood of crises. However, this requires two conditions: 1. The political influence of financial actors must be suitably constrained in democratic systems; 2. Executives of financial institutions have proper incentives aligned with the prospects of their firms. If executives are rewarded generously in good times but receive minimal punishment during a bust, the likelihood of a government bailout is unlikely to influence their behavior. Compared to borrowing costs, where the incentives of governments are unambiguous, there is more room for a disparity between a government’s ability and desire to credibly commit to avoiding generous bailouts. In any case, it is an empirical question as to which one of these mechanisms associated with credibility dominates.

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2 E.g., “S&P downgrade hits scores of companies, funds” *AFP*, 8-8-2011.
Another common feature of financial crises is widespread panic among bank deposit holders, and in the most recent period, investors in the commercial paper market. Virtually all financial institutions are characterized by an asset-liability mismatch – short-term deposits are used to finance long-term loans. For this reason, even a fundamentally sound bank can go bust if a large number of depositors panic and demand repayment immediately. In recent crises, panic in the commercial paper market has caused similar problems – institutions and firms that depend on short-term repurchase agreements can face a liquidity crisis when their access to credit dries up (Gorton 2010).

Democratic regimes are generally characterized by information transparency (Hollyer et al. 2010; Broz 2002). Although a free press and the unencumbered flow of information may play a role in preventing famines (Sen 1999a, 1999b), they may also make countries vulnerable to the occurrence of widespread panic.³ Where unfiltered information propagates quickly, trouble in one region or financial institution may rapidly trigger widespread fear and self-fulfilling runs on financial institutions (Diamond and Dybvig 1983).

Transparency Hypothesis: Democratic regimes are more subject to self-fulfilling panic due to information transparency and freedom

Of course, transparency can also cut both ways. In countries with limited information, although panic might spread less rapidly, greater mistrust and uncertainty can make it more difficult to

³ I thank Lisa Blaydes for suggesting this as a potential mechanism.
differentiate between sound and unsound financial institutions. This rationale served as the basis for “stress tests” implemented in Japan in 1999 and the US in 2009.\(^4\) As such, panics may spread more quickly in democratic countries but also be more easily contained to the most problematic institutions. As is the case with credibility, it is an empirical question as to which one of these mechanisms predominates.

**Time Horizons**

Frequent executive turnover is another salient feature of democratic government. Perhaps the most obvious advantage of democracy is the ability of citizens to hold their leaders accountable through the electoral process. Democratic leaders often face meaningful political competition and frequent elections. Term limits are common. In 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 frequent, orderly executive turnover, but on average, democratic leaders tend to stay in office for shorter time periods and hence probably face shorter time horizons compared to their autocratic counterparts.\(^5\)

Short time horizons may 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

\(^4\) E.g., see (Hoshi and Kashyap 2008; Lipsy and Takinami 2011),

\(^5\) E.g., during the past 150 years, the average length in office for an autocratic leader was about 11 years, while for a democratic leader it was about 4 years. (Goemans et al. 2009)
subsidizing speculative activities. In effect, frequent financial crises in democracies may be one manifestation of the political business cycle (Nordhaus 1975). Hence:

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

If this explanation is correct, we would 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 for 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 proxies for their time horizons.

*Liberalization*

Democratic governance is generally predicated on the recognition of inherent rights and liberty of its citizens. There may be some ideological consistency between these basic principles of democracy and the notion that citizens should be able to invest freely and without restriction, leading to more frequent financial liberalization (Dailami 2000; Quinn 2000). There is also an instrumental rationale for why democratic leaders more often pursue liberalization that autocrats. Financial institutions within autocracies are often tightly controlled and manipulated to support economic activities that benefit close supporters of the regime (Brune et al. 2001). Financial liberalization effectively breaks up these arrangements by introducing price competition and market entry by domestic and foreign firms (Noy 2004). Hence, financial liberalization may be
one tool that newly democratic leaders employ in order to weaken the economic support base of the ancien régime. Indeed, empirical studies have found a strong correlation between democracy and capital account liberalization (Brune et al. 2001; Giuliano et al. 2009; Quinn 2000).

In turn, financial liberalization has been widely noted as an important precursor of banking crises (Kaminsky and Reinhart 1999; Noy 2004; Rancière et al. 2008). 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.

*Openness*

Financial crises are often characterized by contagion (Kaminsky et al. 2003; Bordo and Murshid 2001). Particularly during periods of heightened international capital mobility, the incidence of a crisis in one 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 the effects of contagion because of their tendency towards economic openness. Besides having liberalized financial sectors, which can facilitate greater interaction with foreign financial institutions, democracies are also more likely to engage in international trade (Milner and Kubota 2005; Mansfield et al.)
2002) and attract FDI inflows (Jensen 2003) compared to their autocratic counterparts. 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 the effects international contagion.

One observable implication of this hypothesis is that democratic crises should more frequently cluster together in time. In addition, economic openness should correlate with crisis onset independent of regime type – economically integrated autocracies should experience crises frequently, while relatively autarkic democracies should not.

Empirical Evidence

There is limited empirical data on financial crises prior to the 19th century. Most writing on the period is by economic historians and popular authors (Mackay 1841; Galbraith 1990; Chancellor 1999), 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 B.C., in the Roman Republic, but records are scant (Chancellor 1999). Perhaps the most authoritative source on the matter is Kindlebeger (2000), who spent much of his career as an economic historian chronicling financial crises. Table 1 reproduces his list of pre-19th 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, 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, this is hardly systematic evidence – it is possible that, for example, the accumulation of wealth and the development of a robust middle class were jointly responsible for both speculative excess and a tendency towards limited government.

More reliable evidence is available from the 19th century onward. Reinhart and Rogoff (2009) have collected data on banking crises from 1800 to the present for sixty six countries, using a variety of international and country-specific sources. In this dataset, banking crises are coded as a dichotomous variable, taking on a value of 1 if a country is in crisis and 0 otherwise. An important feature of this data is that it systematically covers a wide range of countries, such as developing countries and autocracies, which might otherwise be neglected by historians focusing on episodes of perceived significance. Figure 1 plots the relationship between democracy and financial crisis in this raw data. Democracy is measured using polity scores from the Polity IV project (Marshall et al. 2010). The Y-axis is the percentage of country years spent in financial crisis. As the figure illustrates, during the past two hundred years, more democratic countries have experienced financial crises more frequently. On average, autocratic countries have been in financial crisis during about 5% of country years, while the same number for democratic countries is about 12%.

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6 See, e.g., discussion in (Schultz and Weingast 2003)
7 E.g., see discussion in Reinhart and Rogoff (2009, 8-10 and Chapter 10).
8 I follow convention by defining autocracies as countries with polity scores less than or equal to -7, and democracies countries with polity scores greater than or equal to 7.
To estimate the effect of regime type on the onset of banking crises, I recoded a dichotomous variable for banking crisis onset, which takes on a value of 1 for all country years in which a banking crisis started, and 0 otherwise. The key independent variable of interest is democracy, measured using polity scores. 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 (Beck et al. 1998).\(^9\)

One important control variable is per capita GDP. It is well known that wealthy countries are more likely to be democratic (Przeworski and Limongi 1997; Lipset 1959). 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 or prone to producing the occasional bad apple. Speculative mania may also take hold more frequently in wealthy countries where markets are reasonably well developed and citizens have accumulated assets to invest. For this reason, all models include GDP per capita as a control variable.\(^{10}\)

The first column in Table 2 presents the results from a basic logit specification. Some unmeasured factors are also likely to affect the general tendency for countries to experience crises. For example, countries that have served as important financial centers during the entirety of the past two centuries – e.g., the United Kingdom and France – may be more prone to crisis

\(^9\) Knots were placed at 1, 4, and 7 years. A variety of alternative knot placements was tried, including no knots (Carter and Signorino 2010), but this had no bearing on the substantive results.

\(^{10}\) GDP per Capita (PPP) is expressed in thousands of 1990 Int. Geary-Khamis dollars (Maddison 2010).
for reasons unrelated to regime type. Time-invariant factors such as proximity to sea lanes or cultural attitudes towards 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 heterogeneity, the second column of Table 2 includes country fixed effects. In both specifications, there is a positive and statistically significant association between democracy and financial crisis incidence.

It is also possible that democracy is in fact correlated with other types of economic crises, such as currency crises, which destabilize banks and therefore trigger banking crises. If this were the case, we might observe a correlation between democracy and banking crises even though there is no direct relationship between the two. Hence, the third column in Table 2 includes dummy variables for currency crises, inflation crises, domestic and external debt crises (Reinhart and Rogoff 2009). I also include a dummy variable for war, which has served as a trigger for banking crises in several notable historical episodes, such as 1914. The inclusion of these variables does not alter the positive association between democracy and banking crises. To consider the possibility of reverse causation – i.e., the occurrence of financial crises triggers democratization – I reran the statistical specifications using lagged democracy (1, 5, and 10 years) as the key independent variable. This produced substantively similar results.

One additional concern is that some autocracies, such as communist regimes, may experience few financial crises due to the fact that there are no private banks. If so, regime type would still be a determinant of financial crisis incidence, but for trivial reasons. Analogously,

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11 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, as essentially all countries in the sample have experienced banking crises at some point over the past two hundred 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.

12 I omit these results for brevity, but they are available from author upon request.
GDP per capita may not adequately capture cross-national variation in financial sector size. To address these concerns, I include two controls variables that directly proxy for the size of the private financial sector – private credit as a share of GDP and financial system deposits as a share of GDP.

It is potentially problematic to include these variables in the statistical model, as they are plausible consequences of democracy according to several of the proposed hypotheses. For example, if democratic leaders are prone to facilitate private credit growth through financial liberalization, these variables may pick up some of the variation that ought to be attributed to regime type. In effect, we would be controlling for a variable that is a consequence of our key explanatory variable (King et al. 1994). Nonetheless, it is helpful to examine whether the substantive effect of democracy runs entirely through variation in financial sector size. The last two columns of Table 2 illustrate that this is not the case. Even after controlling for private credit and financial system deposits as a share of GDP, democracy remains strongly related to financial crisis incidence.

Finally, it is useful to consider whether the positive relationship between democracy and financial crisis onset is specific to any particular time period. Table 3 separates the data into several substantive time periods of interest – the 19th century, the 20th century, the period after World War II, and the period after the collapse of the Bretton Woods System. 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. Due to 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 – e.g., short

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time periods (e.g. the Interwar Years or single decades), and periods dominated by 1945-1975, during which there were almost no crises (e.g. the Bretton Woods System and Cold War years).

The difference in crisis propensity between democratic and autocratic regime type is substantively significant. Holding all other variables to their mean values, the predicted probabilities of crisis incidence indicate that fully democratic countries can be expected to experience a banking crisis once every 18 years (12-28 years with 95% confidence), while the same number for fully autocratic countries is once every 64 years (38-113 years with 95% confidence).¹⁴

**Considering the Mechanisms**

In this section, I will consider the plausibility of the five hypotheses proposed earlier. I show that the empirical evidence in favor of the credibility and transparency hypotheses is weak or mixed, while the evidence in favor of the time horizons, liberalization, and openness hypotheses are stronger.

*Credibility*

The credibility hypothesis is predicated on the idea that democratic governments are able to secure attractive borrowing costs due to their superior ability to credibly commit (North and Weingast 1989; Schultz and Weingast 2003). This premise has been challenged by recent work,

¹⁴ Estimated using the model in the third column of Table 2 for polity scores at 10 and -10 respectively using procedures described by King et al (2000).
which finds no systematic difference in risk premiums and credit ratings by regime type among
developing countries in the recent era (Archer et al. 2007; Saiegh 2005). A democratic
advantage in borrowing does appear to exist once credit rationing is accounted for – many
autocratic regimes are shut out of sovereign debt markets entirely (Nelson 2009). Perhaps
reflecting this fact, although government borrowing rates are not generally lower for
democracies, private lending rates are. Nonetheless, the difference is small. Empirically, I find
no systematic relationship between private lending rates (real or nominal) and banking crisis
onset for the time period for which these data are readily available.\footnote{Data on private interest rates are available for most countries going back to the mid-20\textsuperscript{th} century (International Monetary Fund, International Financial Statistics).}

The commitment mechanism may be more powerful for large, economically developed
states with deep capital markets – repudiation of debt may be tempting even for limited
governments if the debt is predominantly held by overseas investors.\footnote{E.g., see discussion in Schultz and Weingast (2003), 12-13.} For this reason,
developing countries may be the wrong place to look for a democratic advantage in borrowing.\footnote{Personal communication with Kenneth Schultz.}

Table 4 reproduces a list of “world leaders and challengers,” the most powerful countries during
each historical time period as classified by long-cycle theorists (Schultz and Weingast 2003).
China has been added 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 commitment and borrowing costs. Hence, if government
borrowing costs are related to financial crisis incidence at all, this would be the most likely set of
countries to exhibit a difference. As the table illustrates, the democratic “leader” countries have
generally experienced more financial crises during each historical time period – cumulatively,
the count is 18 to 8, or about twice as many crises for the democratic states. However, the large
disparity between Great Britain and France in the 18th century accounts for most of the difference. This is not inconsistent with the premises of the credible commitment literature. In early liberal states, such as Britain in the 18th century, the franchise was limited to substantial wealth holders – in such cases, the interests of parliamentary representatives overlapped heavily with those of private bondholders. Hence, it may be that the effect of credible commitment, both on borrowing costs and private speculative activity, was particularly acute during this period. It is also possible that another type of credible commitment – not to bail out banks on generous terms (Rosas 2009) – has increased in importance as the franchise expanded to encompass a broader segment of the population.

In sum, lower interest rates associated with credibility are not associated with the onset of financial crises in recent years. The mechanism might have played a role in earlier crises, when limited government overrepresented financial interests and sovereign debt was primarily owed to domestic lenders.

Transparency

Of the proposed causal mechanisms, empirical support for transparency is the weakest. To proxy for transparency, I use the Freedom of Speech measure from the Cingranelli and Richards Human Rights Dataset. There is a strong correlation between democratic regime type and transparency (R = 0.66). However, when this variable is included in the empirical models, there is no statistically significant relationship between transparency and the onset of banking crises. In addition, the inclusion of transparency has very little effect on the coefficient on polity2 in the statistical models, indicating that this mechanism is unlikely to account for the
association between democracy and crisis onset. This is probably because transparency can cut both ways as explained in the theoretical section – it may lead to more rapid propagation of information and panic, but it can also reduce uncertainty and calm fears. However, as was the case with credibility, good data on transparency is not available before the modern period. For this reason, it is not possible to rule out transparency as a factor in the 19th or early 20th centuries. It is plausible, for example, that the development of communications technology over the past two centuries means that information now travels suitably rapidly even within autocratic regimes, reducing the importance of transparency as a transmission mechanism and enhancing the role of transparency as a means of reducing uncertainty.

*Time Horizons*

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 developed by Quan Li (2009): the number of changes of the chief executive accumulated during the life of a particular political regime type, divided by the cumulative year of life of the regime from the first observation. The rationale is that leaders governing countries that have experienced frequent turnover in the chief executive are likely to believe their time will also be brief and therefore have short time horizons. This turnover measure has two practical advantages: it is available for a suitably long time period (about 150 years), and it is not specific to a particular regime type. Turnover is moderately correlated with regime type (R = 0.32).
When included in the statistical model, turnover is positively associated with crisis onset, and the coefficient on democracy is slightly reduced but remains positive and statistically significant. 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 causing frequent executive turnover and crisis onset. If so, the positive association between turnover and crises may be unrelated to time horizons. I also tried several other conventional proxies for time horizons – leader age and length of leader tenure – but these were not found to be related to banking crisis onset.

**Liberalization**

Existing studies have found a strong correlation between democracy and financial liberalization (Brune et al. 2001; Giuliano et al. 2009; Quinn 2000). In turn, financial liberalization has been widely cited as an important precursor of banking crises (Kaminsky and Reinhart 1999; Noy 2004; Ranci’ere et al. 2008). Indeed, restricting our attention to the most recent historical time period, in which reliable data on financial liberalization is available, there is considerable evidence that liberalization is one mechanism responsible for making democratic regimes prone to financial crises. As Table 5 shows, liberalization is strongly associated with banking crisis onset, and the inclusion of the variable in the statistical model weakens the association between democracy and crises. The coefficient on polity2 remains positive and significant at the 90% level, which suggests other mechanisms are also at play. However, the

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18 I use the financial liberalization measure from Abiad et al (2010)
tendency for democratic regimes to be more liberalized does appear to be an important factor, at least in the recent era.

Turning to the historical record, it is important to recognize how anomalous the 1980s and 1990s were 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 (Quinn and Toyoda 2007) and the leadership of international institutions such as the International Monetary Fund, market-oriented reforms were adopted widely by democratic and autocratic regimes alike. As Figure 2 shows, both democratic and autocratic regimes pursued aggressive liberalization programs during these two decades.

Hence, another point in favor of the liberalization hypothesis is the fact that the 1980s and 1990s were decades characterized by unusually weak correlations between regime type and banking crisis onset. As Figure 3 illustrates, for much of history, from 1800 through the Depression years, the correlation between democracy and crisis onset was stable and positive. There were very few crises in the immediate post-World War II period. The correlation is weakest in the 1980s and 1990s, the height of the Washington Consensus.

Many substantive variables of interest are not widely available for time periods prior to World War II. For this reason, most existing scholarly work on banking crises has focused on episodes occurring since the 1970s (Rosas 2009; Laeven and Valencia 2008). Such work may miss or mischaracterize the relationship between regime type and crises, as the period is dominated by the Washington Consensus years. The 2000-2010 decade appears to represent a break from this anomalous period: the Washington Consensus has been weakened after the spotty record of post-communist transition and the 1997-1998 Asian Financial Crisis, and Western democracies have seen the explosion of shadow banking and various financial sector
“innovations” unmatched in other parts of the world. Although the jury is still out, the subprime and Euro crises in the first decades of the 21st century may mark a return to a pattern more consistent with the historical record.

Openness

Besides being liberalized, democratic regimes may also be particularly susceptible to the effects of financial contagion due to their proclivity towards economic openness. One clear, observable implication of this hypothesis is that democratic crises should tend to more frequently cluster together temporally. In other words, 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 4 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.\(^\text{19}\) During years in which more than 10% of countries encountered banking crises, more than 10% of democracies were involved in crises in all but one year. In contrast, in the vast majority of such cases, less than 10% of autocracies were involved. Consistent with the openness hypothesis,

\(^{19}\) I use the standard polity2 score cutoffs of 7 and -7 to define autocracy and democracy.
autocratic crises have often been singular events, while democratic crises have tended to cluster together.

Is contagion the whole story? To consider this possibility, I reran the statistical models omitting years during which more than 10% of countries were experiencing banking crises. Such years include widely recognized systemic financial crises such as the Panic of 1873, Panic of 1907, and the onset of the Great Depression. Even with these years omitted, democracy is strongly associated with crisis onset. Hence, contagion is unlikely to be solely responsible for the empirical findings reported above.

Analysis

In Table 6, I rerun the statistical analysis from column 3 of Table 2 including proxies for the hypothesized relationships described above. As reliable data on financial liberalization, private lending rates, and transparency is not available before the 1970s, I begin with an analysis of years during which this data is available. The variables are the same as those identified earlier. I use trade openness (exports + imports / GDP) as a proxy for openness. The results show that once the proxies are included, there is no meaningful relationship between regime type and crisis onset. Financial liberalization and trade openness have the expected relationship with crisis onset. Proxies for the other mechanisms are not meaningfully associated with crisis onset.

It is possible that this short time period is anomalous or offers insufficient variation in the variables of interest. To consider a longer time frame, I drop private lending rates and free speech from the analysis. Although a direct measure of financial liberalization is not available

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before 1970, the absence of capital controls, i.e. 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 (2008), which is available going back to 1880.

The results are presented in the second column of Table 6. As in the previous analysis, the proxies for financial liberalization and openness are strongly associated with financial crisis onset, while democracy is not. Over this longer time period, the time horizon measure is also positively associated with financial crisis onset. Perhaps this reflects the declining ability of political leaders in recent years to manipulate economic outcomes according to their narrow political interests – e.g., due to the advent of independent central banking.

How should these results be interpreted? While existing research finds a strong relationship between democracy on the one hand and financial liberalization and openness on the other, causality appears to run both ways (Eichengreen and Leblang 2008). In effect, democratic government and economic liberalization go hand in hand and are self-reinforcing. Democracy can be said to “cause” financial crises to the extent that it is part of this self-reinforcing process. However, in terms of the economic measures, it is probably more helpful to think of democracies as being prone to crisis due to the tendency for democracy and economic liberalization to be symbiotic. For autocracies that look like democracies according to the measures included in the analysis – liberalized financial sectors, open economies, and frequent executive turnover – financial crises would be expected to occur frequently. As an empirical matter, such instances are rare – in the data, the only case of a country above mean levels on all three of these measures with a polity score below zero is Nigeria in 1997-1998. Removing the turnover criteria expands

Conclusion

Although democratic governance has many advantages over the alternatives, democracies also appear to be more susceptible to financial crises. I have argued that the propensity of democracies to experience financial crises may ironically be due to features of democratic government often cited as advantages. Existing work generally finds that democracies: 1. are more capable of credible commitment; 2. are more transparent; 3. have more frequent executive turnover; 4. tend to place fewer restrictions on the activities of private citizens; 5. are more economically open.

I described how each of these purported advantages can also make democracies prone to financial crises. First, credible commitment allows sovereigns to borrow at lower rates of interest and hence finance larger military expenditures. However, lower sovereign interest rates are also associated with lower private borrowing rates, which can contribute to excess borrowing, leverage, and speculative activities. Second, democracies are often characterized by open flows of information through the free press, opposition parties, and nongovernment organizations. While these free flows of information may be responsible for preventing famines, they may also amplify and exacerbate the panic conditions that accompany the onset of financial crises. Third, short time horizons may give democratic leaders incentives to orchestrate financial booms without sufficient consideration for the long-term consequences. Fourth, 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. I assessed the plausibility of each of these potential mechanisms and found relatively strong support for the time horizon, liberalization and openness hypotheses, while the evidence in favor of credibility and transparency is mixed at best.

This is certainly not an exhaustive list of potential mechanisms that relate democratic regime type to financial crisis – subsequent scholarship will undoubtedly develop alternative theories and hypotheses, as has been the case in the literature on other facets of democracy such as the democratic peace, the democratic advantage in war, and the democratic propensity to engage in trade. It is also possible that better data on the pre-World War II period could provide stronger evidence in favor of the credibility and transparency hypotheses, which are not supported in the most recent period.

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 over the alternative 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 (Reinhart and Rogoff 2009). If the macroeconomic consequences of crises continue to asymmetrically affect democracies, it could feed into incipient narratives lauding the purported advantages of authoritarianism, such as the “Beijing Consensus” (Jacques 2009; Halper 2010). Understanding the mechanisms responsible for democratic financial crises will therefore be useful not only as an academic exercise, but also in order to consider countermeasures to avoid a repeat of the democratic reversals of the early 20th century.
Table 1: Notable Pre-19th Century Financial Crises

<table>
<thead>
<tr>
<th>Years</th>
<th>Country/Countries Involved</th>
<th>Trigger / Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1618-1623</td>
<td>Holy Roman Empire</td>
<td>Currency debasement</td>
</tr>
<tr>
<td>1634-1637</td>
<td>Dutch Republic</td>
<td>Tulip Mania</td>
</tr>
<tr>
<td>1690-1696</td>
<td>England</td>
<td>East India Company Speculation</td>
</tr>
<tr>
<td>1720</td>
<td>England</td>
<td>South Sea Company Speculation</td>
</tr>
<tr>
<td>1720</td>
<td>France</td>
<td>Mississippi Company Speculation</td>
</tr>
<tr>
<td>1763</td>
<td>Amsterdam</td>
<td>Wisselruitij; bills related to commodity speculation</td>
</tr>
<tr>
<td>1772</td>
<td>Britain</td>
<td>Ayr Bank and country banks; housing and infrastructure</td>
</tr>
<tr>
<td>1772</td>
<td>Amsterdam</td>
<td>Wisselruitij, Bank of Amsterdam; East India Co.</td>
</tr>
<tr>
<td>1792</td>
<td>United States</td>
<td>Speculation in US bonds</td>
</tr>
<tr>
<td>1793</td>
<td>England</td>
<td>Canal Mania</td>
</tr>
<tr>
<td>1797</td>
<td>England</td>
<td>Canal &amp; Securities Speculation</td>
</tr>
<tr>
<td>1799</td>
<td>Hamburg</td>
<td>Wechselreiterei; Commodity Speculation</td>
</tr>
</tbody>
</table>

Source: Kindleberger (2000)
<table>
<thead>
<tr>
<th>Indep Vars/ Model Specification</th>
<th>Logit</th>
<th>Logit with Fixed Effects</th>
<th>Logit with Fixed Effects</th>
<th>Logit with Fixed Effects</th>
<th>Logit with Fixed Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy (Polity2)</td>
<td>0.03*</td>
<td>0.08*</td>
<td>0.09*</td>
<td>0.08*</td>
<td>0.07*</td>
</tr>
<tr>
<td>GDP/Capita</td>
<td>-0.01</td>
<td>0.05*</td>
<td>0.03</td>
<td>0.03</td>
<td>0.10</td>
</tr>
<tr>
<td>Currency Crisis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation Crisis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Debt Crisis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Debut Crisis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>War</td>
<td>0.47*</td>
<td>0.81*</td>
<td>0.69*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Credit/ GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial System Deposits / GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-3.80*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Splines  Y      Y      Y      Y      Y          Y
n         6494    6394    5837    2141    2152

Note: Dependent variable in all models is a dichotomous indicator of financial 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. Star denotes a coefficient at least two standard errors removed from zero.
### Table 3: Financial Crisis and Democracy, Various Time Periods of Interest

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy (Polity2)</td>
<td>0.20* (0.08)</td>
<td>0.07* (0.02)</td>
<td>0.08* (0.03)</td>
<td>0.09* (0.03)</td>
</tr>
<tr>
<td>GDP/Capita</td>
<td>0.81 (0.80)</td>
<td>0.11* (0.03)</td>
<td>0.20* (0.05)</td>
<td>0.06 (0.06)</td>
</tr>
<tr>
<td>Currency Crisis</td>
<td>1.44* (0.67)</td>
<td>0.73* (0.21)</td>
<td>0.84* (0.25)</td>
<td>0.72* (0.26)</td>
</tr>
<tr>
<td>Inflation Crisis</td>
<td>-1.28 (1.72)</td>
<td>0.60* (0.25)</td>
<td>0.62* (0.32)</td>
<td>0.07 (0.33)</td>
</tr>
<tr>
<td>Domestic Debt Crisis</td>
<td>-0.68 (1.05)</td>
<td>1.01* (0.47)</td>
<td>1.34* (0.54)</td>
<td>1.38* (0.55)</td>
</tr>
<tr>
<td>External Debt Crisis</td>
<td>0.71 (1.13)</td>
<td>-0.13 (0.28)</td>
<td>0.03 (0.33)</td>
<td>-0.04 (0.34)</td>
</tr>
<tr>
<td>War</td>
<td>0.62 (0.55)</td>
<td>0.45* (0.22)</td>
<td>0.53 (0.28)</td>
<td>0.53 (0.31)</td>
</tr>
<tr>
<td>Splines</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>n</td>
<td>827</td>
<td>4520</td>
<td>3417</td>
<td>2174</td>
</tr>
</tbody>
</table>

Note: Dependent variable in all models is a dichotomous indicator of financial 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. Star denotes a coefficient at least two standard errors removed from zero.
Table 4: Banking Crises among “World Leaders and Challengers”

<table>
<thead>
<tr>
<th>Period</th>
<th>Leader</th>
<th># Banking Crises</th>
<th>Challenger</th>
<th># Banking Crises</th>
</tr>
</thead>
<tbody>
<tr>
<td>1609-1713</td>
<td>Netherlands</td>
<td>1</td>
<td>France</td>
<td>0</td>
</tr>
<tr>
<td>1714-1815</td>
<td>Great Britain</td>
<td>7</td>
<td>France</td>
<td>1</td>
</tr>
<tr>
<td>1816-1945</td>
<td>Great Britain</td>
<td>8</td>
<td>Germany</td>
<td>6</td>
</tr>
<tr>
<td>1946-1990</td>
<td>United States</td>
<td>1</td>
<td>USSR</td>
<td>0</td>
</tr>
<tr>
<td>1990-</td>
<td>United States</td>
<td>1</td>
<td>China</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Identities of World Leaders and Challengers are from Schultz and Weingast (2003), with China added for the post-Cold War period. Banking Crisis as identified by Reinhart and Rogoff (2009) from 1800 to present and Kindleberger (2000) for years prior to 1800.
Table 5: Financial Liberalization and Democracy, 1973-2005

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy (Polity2)</td>
<td>0.09* (0.03)</td>
<td>0.06+ (0.03)</td>
</tr>
<tr>
<td>Financial Liberalization</td>
<td>0.39* (0.06)</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>2058</td>
<td>1694</td>
</tr>
</tbody>
</table>

Note: Only coefficients for polity2 and the financial liberalization index are shown for the sake of presentation. Polity2 in the second model is statistically significant at the 90% level but not at the 95% level. Data on financial liberalization is only available for the years specified. Variables included in the model but omitted from the table are: GDP per Capita, cubic splines and an indicator for previous crises, currency crisis, external and internal debt crisis, inflation crisis, and war. Dependent variable in all models is a dichotomous indicator of financial crisis incidence. Numbers in parenthesis are standard errors. Star denotes a coefficient at least two standard errors removed from zero.
## Table 6:Considering the Hypotheses

<table>
<thead>
<tr>
<th>Indep Vars/Model Specification</th>
<th>Logit with Fixed Effects 1973-1999 (All Hypotheses)</th>
<th>Logit with Fixed Effects 1886-1999 (Longer Time Period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy (Polity2)</td>
<td>-0.04 (0.07)</td>
<td>0.01 (0.02)</td>
</tr>
<tr>
<td>Financial Liberalization</td>
<td>0.29* (0.10)</td>
<td></td>
</tr>
<tr>
<td>Capital Openness</td>
<td></td>
<td>0.65* (0.31)</td>
</tr>
<tr>
<td>Trade Openness</td>
<td>0.31* (0.13)</td>
<td>0.24* (0.10)</td>
</tr>
<tr>
<td>Turnover</td>
<td>-20.5 (21.6)</td>
<td>3.86* (1.39)</td>
</tr>
<tr>
<td>Free Speech</td>
<td>-0.10 (0.42)</td>
<td></td>
</tr>
<tr>
<td>Real Interest Rates</td>
<td>0.02 (0.02)</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>553</td>
<td>2750</td>
</tr>
</tbody>
</table>

Note: 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, cubic splines and an indicator for previous crises, currency crisis, external and internal debt crisis, inflation crisis, and war. Dependent variable in all models is a dichotomous indicator of financial crisis incidence. Numbers in parenthesis are standard errors. Star denotes a coefficient at least two standard errors removed from zero.
Figure 1

Democracy and the Incidence of Financial Crisis

Note: Democracy is defined by a polity score greater than or equal to 7, and dictatorship by a polity score less than or equal to -7. Source: Abiad et al. (2010)
Figure 3

Correlation between Banking Crisis Incidence and Polity Scores by Decade
Figure 4

Clustering of Crises by Regime Type

Percentage of Countries in Banking Crises by Regime Type

Percentage of All Countries in Banking Crises

Democracies
Autocracies
Bibliography


Li, Quan. 2009. "Democracy, Autocracy, and Expropriation of Foreign Direct Investment." Comparative Political Studies 42 (8):1098-127.


