THE POLITICAL ECONOMY OF FINANCIAL CRISIS POLICY

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Highlights

- Government intervention to stabilise financial systems in times of banking crises ultimately involves political decisions. This paper sheds light on how certain political variables influence policy choices during banking crises and hence have an impact on fiscal outlays.
- We employ cross-country econometric evidence from all crisis episodes in the period 1970-2011 to examine the impact political and party systems have on the fiscal cost of financial sector intervention.
- Governments in presidential systems are associated with lower fiscal costs of crisis management because they are less likely to use costly bank guarantees, thus reducing the exposure of the state to significant contingent and direct fiscal liabilities. Consistent with these findings we find further evidence that these governments are less likely to use bank recapitalisation and more likely to impose losses on depositors.

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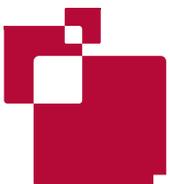
1. Introduction

The severity of the recent financial and banking crises has led to significant analysis of the policies, costs and effectiveness of financial crisis intervention. Such research is warranted given the scale of public support. In the EU, for example, the contingent taxpayer support to stabilise financial institutions has amounted to 40 percent of GDP (€5.1 trillion) (European Commission, 2014). Measures to contain and resolve crises require political decisions. This paper provides a systematic analysis of some of the political dynamics of financial crisis management. Specifically, we analyse the impact political and party systems have on the fiscal cost of financial sector intervention. It thus aims to contribute to the growing literature on the public responses to banking crises (Laeven and Valencia, 2012a), as well as draw the relevant policy implications by giving some political, institutional and strategic context to our understanding of financial sector intervention in times of crisis.

Using a data set of 147 systemic banking crises from 1970-2011, our empirical findings suggest that the fiscal costs of financial sector intervention are systematically associated with political economy factors. In particular we show how the institutional setting may condition the policy choice and mix in financial crises. Our empirical evidence also shows the channel by which these variables may interact by examining the policies different governments use in their strategies to manage financial crises.

We start by first outlining the policy choices available to governments when managing systemic financial crises. We then review the literature on the political economy of crisis management and present our hypotheses. Following this, we present our data and research design for our analysis. We then discuss our results, after which we analyse the likelihood distinct types of governments adopt different tools in their crisis management strategy.

2. Policy choice and financial crisis policy

Financial crises have many causes. A collapse in asset prices can lead to contagion between credit institutions which affect funding, forcing banks to shed assets. This may depress prices further, causing a loss spiral (Brunnermeier *et al*, 2009). A sudden loss in creditor confidence can lead to deposit runs and widespread disruption to the payments system. Rising losses, higher haircuts and rapid deleveraging can cause widespread panic. Such dynamics may require government

intervention to stabilise financial markets and restore confidence in the financial system. Although no two crises are the same, financial crisis management can broadly be broken down into two stylised phases, containment and resolution (Honohan and Laeven, 2005). During the containment phase governments have a range of policy tools available. These have included *inter alia* liquidity support, deposit freezes and asset or liability guarantees. Once markets have stabilised, governments must move swiftly to the resolution phase and take a number of steps to re-establish debtor-creditor relationships, deal with debt overhangs or undercapitalisation. Policies here can include attaching conditionality to public support, early action on impaired assets (eg through asset management companies), strengthening resolution regimes to ensure swift resolution, reform of insolvency regimes to establish fast-track procedures, as well as the liquidation or sometimes nationalisation of credit institutions (Claessens *et al*, 2011). These are often combined in a different sequence and policy mix (Laeven and Valencia, 2010, 2012a, 2008b; Calomiris, Klingebiel and Laeven, 2004).

How governments deal with crisis containment and resolution has varied significantly (see Figure 1). Swift restructuring following the Swedish crisis, for example, facilitated *"economic adjustment and productivity growth, while in Japan the 'zombification' of banks contributed to a decade of stagflation during which productivity hardly improved"* (Darvas, Pisani-Ferry and Wolff, 2013). Some suggest that *"the more aggressive the government is in designing a rescue plan, the easier it is to force more restructuring in the financial sector, and the better the chances of leaving the surviving system stronger and less dependent on the taxpayer"* (Geithner, 2014). However previous research has found that the use of accommodative policies adds significantly to the fiscal cost of crisis management (Honohan and Klingebiel, 2003; Claessens, Klingebiel and Laeven, 2005). These policy tools are often used in the containment phase to stem the panic from depositor runs, creditor runs (eg short-term unsecured lending), or margin runs (for collateralised funding markets), in response to a negative shock.

Figure 1: Variance in government response to banking crises (1970-2011)

(a) Frequency of crisis response tools   (b) Variation in the fiscal cost of crisis policy
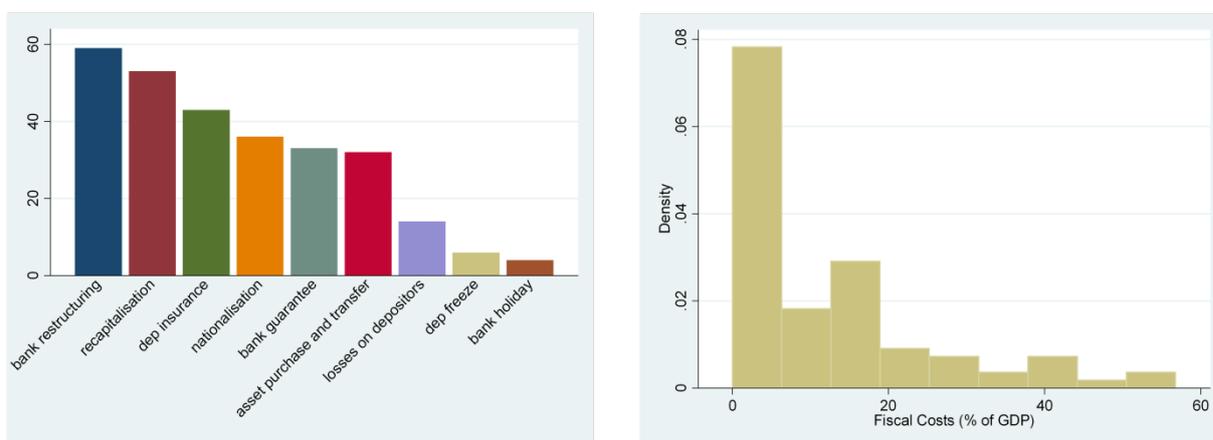
Source: Laeven and Valencia (2012a).

Strategies that commit more fiscal resources, however, often lead to worse post-crisis economic performance and delayed recovery (Detragiache and Ho, 2010). This suggests that no trade-off appears to exist between the commitment of large fiscal resources and speedy crisis recovery. *"Policies that are bad for fiscal soundness result in lower output growth and delayed recovery"* (Detragiache and Ho, 2010, 17). Nonetheless, domestic political environment may condition the policy choices available to governments when managing financial crises. Therefore, political economy factors, or cross-national differences in political variables should be evident in the policy choice and hence fiscal costs of crisis management.

3.   The political economy of financial crisis policy: theory

The political economy of finance literature highlights the impact political institutions have on the development of the financial system (Haber and Perotti, 2008; La Porta *et al*, 1997; Beck and Levine, 2008). Much of the research on banking crises from the fields of economics and finance however does not take political variables into account. Furthermore, political economy and political science have much to understand about banking crises. There is a broad literature on the economic effects of constitutions for policymaking and performance (see Persson and Tabellini, 2005, for an overview). From a political economy perspective, institutions are *"the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction"* (North, 1990, 3). Institutional approaches capture the ways in which institutions mediate domestic pressures through the distribution of veto players in the political system, or try to understand how different political

regimes select, structure and constrain decision-making. Formal rules translate preferences into policy outcomes and restrain incumbents from acting opportunistically (North and Weingast, 1989).

Banking crises can result in recession, leading to lower investment, lower incomes and higher unemployment. Therefore, how governments choose to intervene in banking crises is quite important for the economic and fiscal cost, as well as the duration and subsequent recovery from the crisis. Containing a crisis can help prevent disorderly de-leveraging and allow time for balance sheet repair. However the use of certain policies to contain crises can also expose the state to significant contingent or direct liabilities. This was dramatically demonstrated by the 2008 decision by the Irish government to guarantee nearly all of the liabilities of the banking system. This ultimately forced them out of the bond markets and into an EU/IMF programme of adjustment. Intervention to contain a crisis, and restructure and resolve financial institutions, means allocating the costs of a crisis to certain groups in society. Such decisions can lead to distributional conflicts. Distributional conflicts and concerns about the consequences of macroeconomic policy can lead to powerful incentives to deviate from the most economically efficient outcomes (Walter, 2013, 227). For example a government may step in to guarantee liabilities in a bank or the banking system if they are concerned about capital outflows. However, depending on the location of creditors and the scope of government support, political cleavages can emerge – between domestic debtors and creditors and often more controversially between domestic debtors and foreign creditors (Pepinsky, 2014, 10-13). Moreover, taxpayer support to the financial sector can present an opportunity cost for governments. This can result from an increased cost of borrowing if direct or contingent support results in the state paying higher interest rates on government debt, or a reduction in the provision of public goods from fiscal austerity due to taxpayer support to financial institutions. Finally, intervention may create perverse incentives, aggravate moral hazard and even delay recovery.

Previous empirical research suggests democratic regimes differ from autocratic states in their propensity towards bailouts (Rosas, 2006). That politicians are less likely to engage in bailouts under democratic regimes suggests that electoral accountability is an important determinant of crisis response. Chwieroth and Walter (2010) find financial crises are generally associated with higher rates of political turnover. However, Crespo-Tenorio, Jensen and Rosas (2014) examining the patterns of incumbent survival following banking crises, find that although *"democratic governments with several veto players are systematically less secure in their tenure than democratic governments with fewer veto players, both in the presence and in the absence of banking crises"*, no differences in survival

times of incumbents under banking crises are evident. In explaining this result they propose that although multiple veto players may limit 'clarity of responsibility', they may also constrain the ability of governments to enact policies in response to banking crises. Such constraints are the subject of this paper. The success of financial sector intervention also depends heavily on effective legal, regulatory and political institutions. Better institutional development (including the quality of institutions, less corruption and efficient judicial systems) are also associated with faster economic recovery (Claessens, Klingebiel and Laeven, 2005).

3.1 Veto players

A veto player is an individual or collective of actors that have to agree for a policy to change Tsebelis (1995). Tsebelis (1995) seminal analysis explains how every political system has a configuration of veto players either specified in a country's constitution – 'institutional veto players', or by the political system – 'partisan veto players'. From a theoretical perspective a number of models explore why crises and veto players are associated with inaction, delay and sub-optimal outcomes (see Sturzenegger and Tommasi, 1998; Drazen, 2000; Drazen and Easterly, 2001, for an overview). Drazen and Grilli (1993, 2) suggest *"crises may be necessary to induce significant reform because of distributional implications of large policy changes. Drastic but necessary policy changes are resisted* [however] *because economic participants believe someone else can be forced to bear the burden of change"*. Alesina and Drazen (1991) use a 'war of attrition' model to explain how conflict over the known costs (although information is asymmetric) of macroeconomic stabilisation leads to delays.[1] Only when one group concedes is the policy adopted. Fernandez and Rodrik (1991) model how uncertainty regarding the distribution of gains and losses from reform can lead to a bias against efficiency enhancing reforms (and towards the status quo) when winners and losers cannot be identified ex ante. Laban and Sturzenegger (1994, 273), who model the status quo bias in a dynamic context, conclude that *"only an extreme crisis, eg an economic crisis, may trigger the necessary political consensus for reform"*.

MacIntyre (2001) proposes that an intermediate concentration of veto players is optimal in a crisis. He deduces, from his analysis of the response to the Asian financial crisis, that a U-shaped relationship between policy stability and rigidity exists. A smaller number of veto players can lead to a

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[1] *"In the basic war of attrition model from biology, two animals are fighting over a prize. Fighting is costly, and the fight ends when one animal drops out, with the other gaining the prize"* (Alesina and Drazen, 1991,9).

risk of policy volatility, uncertainty and a lack of credibility in the government's response. The larger the number of veto players, the greater the risk of policy rigidity. This can lead governments to be unable to deal with mounting vulnerabilities. Angkinand and Willett (2008) provide some empirical evidence to support this proposition, with regard to the magnitude of output loss for crises in emerging market economies. When controlling for competitive elections, Keefer (2007) however, finds no relationship between veto players and outcomes.

We also test for the impact of veto players in our analysis below. Theory suggests a larger number of veto players will lead to policy rigidity. If policy rigidity occurs due to a larger number of veto players, such governments may not be able to agree on policies which fiscally expose the state when managing financial crises, thus limiting the fiscal burden on the state.

Hypothesis 1: A larger number of veto players are associated with lower fiscal costs of financial crisis management.

Veto players theory is an attempt to overcome long classified systems of government, but given the limited evidence to date, we also explore other political factors which may condition policy choice in financial crisis management. In the political economy literature two particular features that have attracted considerable attention are (i) the form of government and (ii) electoral rules. "Politicians make policy choices, but their specific electoral incentives and powers to propose, amend, veto and enact economic policies hinge on the rules for election, legislation, and execution" (Persson and Tabellini, 2005, 11). The next section will discuss these in turn.

3.2 Constitutional rules: parliamentary vs. presidential

In modern democracies, two broad forms of government exist: (i) parliamentary systems; and (ii) presidential systems[2]. These forms of government define the constitutional relationship between the executive and the legislature and are distinct based on the unification or separation of powers. How both types of institutions shape decision-making and economic outcomes has received much attention in both comparative politics and political economy literatures. Put simplistically,

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[2] Hybrid systems also exist. For example, the *Database of Political Institutions* (Beck *et al*, 2001, 2012) also includes a category 'assembly elected President'. However given the similarity in the classification criteria (based on Shugart and Carey, 1992) and the low number of observations, for the purpose of this analysis, we include these in parliamentary systems and limit the categories to parliamentary and presidential.

presidential regimes have a stronger separation of powers whereas parliamentary regimes are associated with a greater concentration of powers (Persson and Tabellini, 2005).

Persson, Roland and Tabellini (1997) model this relationship and show that the separation of powers under presidential systems improves the accountability of elected officials. The *"separation of powers between executive and legislative bodies … helps to prevent the abuse of power, but only with appropriate checks and balances. Checks and balances work by creating a conflict of interest between the executive and the legislature, yet requiring both bodies to agree on public policy. In this way, the two bodies discipline each other to the voters' advantage. Under appropriate checks and balances, separation of powers also helps the voters elicit information"* (Persson, Roland and Tabellini, 1997, 1163).

Lijphart (1999, 117) explains this by outlining three key differences between presidential and parliamentary forms of government: (i) in parliamentary systems the head of government is dependent on the confidence of the legislature, whereas in a presidential system the head of government (president) is normally elected for a prescribed period and normally cannot be forced to resign through a vote of no confidence; (ii) presidents are popularly elected directly or by a college, whereas prime ministers are selected by legislatures; and (iii) parliamentary systems have a collegial cabinet whereas presidential systems effectively have a one-person executive. These crucial features of different forms of government mean that in presidential systems voters can keep more direct control of the executive and it is more accountable. In parliamentary systems the executive is only indirectly accountable to the voters, and is directly accountable to the legislature (see Persson, Roland and Tabellini, 1997, 1167-192). Finally, in parliamentary regimes, both the policy initiative and agenda setting roles rely on the support of the parliament (Persson, Roland and Tabellini, 2000, 1125). Maintaining this power of agenda setting induces 'legislative cohesion' in parliamentary systems which further concentrates power (Diermeier and Feddersen, 1998, Huber, 1996). These dynamics mean the different forms of government are associated with very different policy outcomes. In presidential systems for example, the capacity for change decreases (Tsebelis, 1995). Presidential systems are associated with fewer rents for politicians (Persson and Tabellini, 1999, Persson, Roland and Tabellini, 2000). *"Separation of powers in the congressional regime produces a smaller government, with less waste and less redistribution but also inefficiently low spending on public goods. Intuitively, separation of powers enables the voters to discipline the politicians, and this reduces waste and moderates the tax burden . . . legislative cohesion in the parliamentary regime, on*

the other hand, leads to a larger government, with more taxation and more waste, but also more spending on public goods and redistribution benefiting a broader group of voters. Intuitively, there is now more scope for collusion among politicians, which increases waste and taxation. But policy aims to please a majority group of voters, which increases public-good provision, calls for a more equal redistribution, and makes the majority support a high level of taxation" (Persson, Roland and Tabellini, 2000, 1126). In line with this literature, with respect to financial crisis management, Detragiache and Ho (2010) have found that parliamentary systems are more likely to engage in policies that put more fiscal resources at risk[3].

3.3 Electoral rules: single party vs. coalition government

Electoral rules shape the number of parties, government formation and hence policy choice. This has been well established in the political science literature (see for example Taagepera and Shugart, 1989). The first key political factor which influences this is the electoral formula which translates votes into seats. The two basic classes of electoral formula that are usually considered are: (i) plurality rule, associated with 'winner take all' systems; and (ii) proportional representation, whereby the number of seats (and spoils of office) are, to variant degrees, proportionally allocated according to vote share (see Cox, 1990). Persson, Roland and Tabellini (2007, 1) model how a more fragmented party system and a larger incidence of coalition governments are induced under proportional electoral systems than under plurality rule. Proportional systems, via coalition governments therefore can constrain policy choice.

The second key political factor which influences this is the district magnitude which is the number of seats to be filled in a district (Cox, 1990). "One polar case is that all legislators are elected in a single district. Larger districts diffuse electoral competition, inducing parties to seek support from broad coalitions in the populations. Smaller districts steer electoral competition towards narrower geographical constituencies" (Persson and Tabellini, 2005, 22).

Single-party and coalition governments differ in respect to the size of public spending due to an 'electoral common pool problem' because voters can differentiate between parties in a coalition but

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[3] Using a sample of 40 crisis episodes, Detragiache and Ho (2010, 7) construct a policy response index (whereby policies that shift the burden of the crisis from bank stakeholders to the government receive a score of one, while policies that do not commit public funds receive a score of minus one) and instrument the political system to measure the effect on output growth and crisis duration.

not between factions of a single-party at the polls (see Persson, Roland and Tabellini, 2007). Persson, Roland and Tabellini (2007) show that *"the indirect effects of electoral rules — on the number of parties and the type of government — are essential to the finding that majoritarian elections lead to less public spending than proportional elections"*. A significant body of empirical research confirms this (see for example Bräuninger, 2005, Lizzeri and Persico, 2001, Rickard, 2012). The difference in the number of parties also impact policy through the accountability channel. *"A single party in government is accountable for all of its policy decisions since it must promote the collective interest of a broad support base if it wants to keep its majority … [p]articipants in multiparty coalition governments, by contrast, are held primarily responsible for only a subset of policy decisions: those in the policy areas in which they have the biggest stake. This difference in electoral accountability… results in systematic differences in policy decisions"* (Bawn and Rosenbluth, 2006, 251).

Putting the constitutional rules and electoral rules together for the purposes of this research, we derive four broad categories of government: (i) single-party parliamentary systems; (ii) multiparty parliamentary systems; (iii) single-party presidential systems; and (iv) multiparty presidential systems. So what could we expect for financial crisis management? Presidential systems are more accountable to the electorate than parliamentary systems due to the separation of powers. This is because even *"presidents in multiparty systems who do not have to seek majority party support in congress have a far less incentive to seek and maintain lasting coalitions in congress than do parliamentary executives"* (Shugart and Carey, 1992, 33). In financial crisis management, we can deduce that presidential governments are less likely to put fiscal resources at risk, thus resulting in lower losses to the state.

Similarly, because single-party governments are accountable for all policy decisions, multiparty governments are more likely to strike less efficient decisions in financial crisis management. This, for example, could include providing a guarantee on assets or liabilities which does not immediately draw on fiscal resources of the state, but could end up very costly later on. Multi-party coalitions also have multiple interests to serve so could use other fiscally costly policies such as bank recapitalisation or spare creditors and depositors losses - both resulting in higher cumulative fiscal costs from managing a banking crisis.

Hypothesis 2: Presidential systems with single-party government are associated with less fiscal costs from financial crisis management when compared with other forms of government.

3.4 What other political factors could affect the fiscal costs of crisis management?

Electioneering incentives may also play a role in the policy choices in the management of financial crises and thus impact fiscal costs. Nordhaus (1975) presents a simple adaptive- expectations model of intertemporal choice between economic objectives, which captures well the incentive for opportunistic politicians to manipulate policy. Elections induce a 'political business cycle'. His model predicts that office seeking politicians will maximise the probability of re-election by stimulating the economy in advance of an election. Similarly, Tufte (1980) proposes that politicians will manipulate policies such as transfer payments or tax cuts prior to an election, as voters reward good economic performance.

A second field of political economy general equilibrium models include rational expectations and predict smaller less regular cycles (Rogoff and Sibert, 1988, Rogoff, 1990). Persson and Tabellini (1990) argue that following an exogenous macroeconomic shock, voters retrospectively rationally evaluate the incumbents' performance in managing stabilisation, given control of policies and privileged information. Better performance leads to a higher probability of re-election. Whilst empirical evidence for office-seeking electoral cycles is inconsistent, that incumbents benefit from favourable macroeconomic conditions has unequivocal support (Franzese Jr, 2002). We therefore also test for the impact that electoral cycles have in financial crisis management.

Finally partisanship may impact financial crisis policy. Constructivists have shown how discursive practices can generate a narrative structure for policy formation and could shape containment or resolution strategies. *"Successful discursive attacks on Asian model practices, coupled with the severe economic effects of the crisis, generated a normative environment for policy formation, that severely constrained resistance to the radical restructuring of the institutional and legal framework of the Korean economy than would otherwise have been expected"* (Hall, 2003, 95). Constructivist approaches to political economy do not accept that beliefs are reducible to a priori interests, rather for example, treat party leaders as *"ideational entrepreneurs who actively modify agents' beliefs about what their interests are"* (Blyth, 2003, 698). Crises and responses only make sense in terms of the way ideas are used to diagnose the problem and reduce uncertainty (Blyth, 2002, 253). Therefore, the political prominence of certain societal groups may be translated into policy preferences through political parties which ideologically represent them (Stasavage, 2007). This may in turn condition the

policy response. Broz (2013), for example, argues that a partisan-policy financial cycle exists whereby right wing (pro-market) governments preside over financial booms, while left-wing governments are left to govern over the crash. Without deriving specific hypotheses, we also test for the impact partisanship may have on financial crisis management.

The next section will explain in detail our data and method of investigation.

4. Data and research design

Econometric analysis to examine the relationships between political institutions, financial crisis management, and economic outcomes is limited by the number of crises and the availability of detailed policy and outcome data. The recent financial crisis however has led to an increased number of observations, particularly among advanced economies and democracies. This larger sample size allows us to more accurately estimate the interplay between political-economy factors and the fiscal cost of financial crisis management. In order to test the hypotheses above, we make use of the updated Systemic Banking Crises database constructed by Laeven and Valencia (2012a, 2010, 2008a). This database contains detailed information on all systemic banking crises from 1970-2011 – totalling 147 episodes. We merged this dataset with the World Bank database of political institutions 2012 (Beck *et al*, 2001, 2012), which is a balanced panel dataset comprising several institutional and political variables for 178 countries over the period 1975-2012.

Laeven and Valencia provide data on several variables describing the various banking crises. Of particular interest to our research question are the fiscal costs associated with a particular crisis episode. Laeven and Valencia define fiscal costs as gross fiscal outlay directed to the restructuring of the financial sector. However, they exclude liquidity assistance from the treasury but this is included in the measure for liquidity support. The focus on gross, rather than net, fiscal costs in our analysis is due to the fact that the former better captures the 'intensity of the intervention' (Laeven and Valencia, 2012a, 5). The depth of the crisis will likely affect both the policy decisions and the fiscal costs. In order to correct for this aspect, we produced a measure of the crisis depth, defined as the gap between real GDP growth at year t-1 (before the crisis) and the local minimum growth rate during the crisis period.

We use our event-based dataset to test whether political characteristics have an impact on the gross fiscal outlay resulting from a banking crisis. Following previous literature we first look at veto players as a raw variable. To do this we take three measures of veto players. Firstly, we use the checks and balances variable *Checks and balances (DPI)* taken from the World Bank database of political institutions (DPI) (Beck *et al*, 2001, 2012). This is measured on a scale from 1-7 and takes into account the number of veto players and the effectiveness of electoral competitiveness in the political system. A higher value indicates more checks and balances (see appendix for full description). Secondly, we use an index provided by Henisz (2002) which assigns a score based on effective veto points *Political constraints index*. It also uses a simple spatial model of political interaction to derive the extent to which any one political actor, or their replacement, is constrained in their choice of future policies. Finally, following Keefer (2007), we take the residual of the regression of the checks and balances variable on competitive elections *Checks residual* to isolate the effect of veto players. This is because the checks and balances variable captures both the extent to which countries have competitive elections and the number of veto players (see Keefer, 2007, 22).

To capture whether the country has a competitive political system, we use the Legislative Index of *Electoral Competitiveness LIEC* provided in Beck *et al* (2001, 2012). This is a scale from 1-7 (see appendix for full construction). On the basis of this scale, and following Beck *et al* (2001, 2012), we take democracies as LIEC >4. We then look at the categories of political system defined in section 4.2 above. Taking single-party parliamentary systems as a baseline, we create dummy variables for *Presidential system – single-party*, *Presidential system – multi-party*, and *Parliamentary system – multi-party*. To explore possible effects of other political variables, we measure the *Years to the next election* and examining the role of partisanship, our variable *Government orientation* refers to the governing parties' ideological orientation with respect to economic policy. Left captures parties that are defined as communist, socialist, social democratic, or left-wing. Centrist parties cover those that, for example, advocate strengthening private enterprise in a social-liberal context. Whereas right captures those defined as conservative, Christian democratic, or right-wing. Political variables, which we use from the World Bank database of political institutions (Beck *et al*, 2001, 2012), are taken at time t, the first crisis year. This might seem somewhat reductive, as crises protract for several years, with variables such as government partisanship changing throughout. However, because accommodative policies associated with large fiscal costs (such as asset or liability guarantees for example) are usually employed during the containment phase (see discussion above), we think that this is not an unreasonable assumption.

We control for a range of macroeconomic and political variables. *Liquidity support* captures in percentage points the increase in central bank claims on financial institutions over deposits and foreign liabilities. *Monetary expansion* is computed as the change in the monetary base between its peak during the crisis and its level one year prior to the crisis as a percentage of GDP. *Credit* is a measure of domestic credit as a share of GDP, averaged over three pre-crisis years, and, in line with the literature, here used as a proxy for the size of the financial sector. *Credit boom* is a dummy which takes the value of 1 if there was a credit boom before the crisis, as defined by Dell'Ariccia, Igan and Laeven (2012). We also control for *GDP per capita*, and whether the country is a member of the *OECD*. Banking crises often do not happen in isolation. We therefore control for a *Concurrent currency crisis* and *Concurrent sovereign debt crisis* (see appendix for a full list and construction of variables used).

Aside from determining which political characteristics are associated with higher fiscal costs, as a second step, we exploit the data to try and determine the channel through which this effect takes place. In this regard, the Laeven and Valencia database provides detailed information on many of the policies employed during a crisis for a subset of 65 episodes. *Bank guarantee*, for example, indicates whether or not the authorities introduced a blanket guarantee on deposits (and possibly other liabilities). *Depositor losses* tell us whether the country imposed losses on depositors when managing their crisis. Similarly, *Bank recapitalisation* further tells us if the governments in question recapitalised their banks as part of their strategy for financial crisis management.

Before turning to the results of our quantitative analysis, we assembled some descriptive statistics of our institutional variables. Table 1 below details the number of observations, mean, standard deviation, minimum and maximum, for the set of selected political variables which fed into our quantitative exercise. It shows that although single-party presidential systems represent a majority of crisis episodes (44.8 percent), our sample is not excessively skewed, and this will be particularly important for our econometric analysis below. 37 governments are characterised as left-wing, 35 as right-wing and 17 as centrist. Non-OECD members represented a majority, with 117 observations, against 29 OECD-member banking crises. In general, looking at the time distribution of the financial crises we see that they present an unprecedented spike in 2008. A large number of the OCED members form part of the latest 2008 financial crisis.

Table 1: Institutional characteristics - descriptive statistics

	Obs	Mean	Std. Dev.	Min	Max
Checks and balances	139	2.697	0.890	1	7
Political constraints index	147	0.250	0.230	0	0.7069
Years to next election	139	1.916	1.611	0	7
Snap election	142	0.309	0.620	0	3
Government orientation	89	2.022	0.904	1	3
Legislative Index of Electoral Competition	142	5.306	2.177	1	7
Presidential-single-party	147	0.448	0.499	0	1
Presidential-multiparty	147	0.170	0.376	0	1
Parliamentary-multiparty	147	0.156	0.364	0	1

This analysis however is necessarily limited by the data. Firstly, turning to crisis duration, we highlight a major limitation of the Laeven and Valencia database. Whilst a systemic banking crisis is deemed over whenever the conditions are no longer fulfilled (detailed in appendix), a crisis is also considered terminated after five years, regardless of economic or financial circumstances. This is depicted in Table 2 below, with a spike in the five-year crises. Whereas fiscal costs may protract further over time, the most severe contractions in GDP tend to be experienced in the early years of a crisis. Therefore we expect this to be less of a problem and not to directly encroach on the robustness of our analysis.

Table 2: Frequency distribution of crisis duration

Crisis Duration	Frequency
1	38
2	16
3	19
4	10
5	64

Secondly, and connected to the first point, the crisis is still on-going in some of the countries in our sample. However, our unit of analysis is gross (rather than net) fiscal cost to capture the 'intensity of the intervention' associated with political economy factors. Therefore it should reasonably estimate the impact political economy factors have on gross fiscal costs for on-going crises. Thirdly, fiscal cost is but one measure of the 'costs of crises'. Our analysis does not capture the output a country loses from a crisis, or indeed the social cost associated with the crisis or the fiscal intervention. These may be more effectively captured using other metrics. Furthermore, whilst our results show relationships between certain political variables and gross fiscal costs, our analysis does not attempt to estimate the effectiveness of the fiscal intervention on economic performance or crisis duration. Despite these

limitations, the Laeven and Valencia dataset provides the best comparable data for the fiscal costs of crisis management.

5. Empirical evidence

Table 3 shows the results of our basic analysis of the effect that veto players have on the gross fiscal cost of financial sector intervention in times of crisis. In line with previous empirical findings (Keefer, 2007; Crespo-Tenorio, Jensen and Rosas, 2014), we do not find any evidence for an effect of veto players on the fiscal costs of crisis management. Therefore, using these raw metrics for checks and balances, no effect on the government response is visible from the data. To better understand how political institutions may impact fiscal costs, we must therefore analyse other political variables.

The main regression results for this paper are given in Table 4. This shows the impact variant political systems, derived above, have on the gross fiscal costs of financial crisis management. We find significant evidence to suggest that both single-party and multiparty presidential systems are associated with lower gross fiscal costs. Given no effect was found for the impact of veto players, this suggests that a deeper comparative analysis of the form of government is necessary to capture how political institutions impact policy choice following shocks. In line with hypothesis 2, this suggests that the separation of powers leads to less fiscal resources being put at risk, and hence less fiscal costs. Given governments in these systems can be held more easily to account by voters; they may be less likely to use policies which expose the state when managing financial banking crises.

This effect holds when controlling for GDP per capita, liquidity support from the central bank, and size of the financial sector. The coefficients are stable across a number of specifications. The results should also be consistent across banking crises as we also control for the severity of the crisis. Furthermore, all regression specifications are run using standard errors that are robust to heteroskedasticity. These results also confirm similar findings which look at the broad impact of political systems on economic performance and crisis duration (Detragiache and Ho, 2010). It is worth recalling that we are not suggesting presidential systems are 'better' at managing financial crises. Our analysis does not examine the effectiveness of the intervention which may be better analysed through other metrics such as output loss or crisis duration. We do however show robust results to suggest that political institutions condition policy choice in response to shocks.

Models (4)-(12) use democracies only. This is important as the political economy variables and underlying accountability theory we have outlined can only fully play out in a democratic context. We find no robust evidence for a political-business cycle - the significance of Years to the next election in Model (2) is the result of an outlier (Chile 1982). Excluding this data point no evidence was found. Furthermore, we find no evidence that partisanship affects the fiscal costs of financial sector intervention.

This section has looked at the impact select political variables have on the fiscal costs of crisis management. Finding that certain political characteristics are associated with higher fiscal costs is interesting, but identifying the channel through which this happens bridges an important gap in the literature for our understanding of the political economy of crisis management. To explore our hypotheses and results in more detail we will now look at the channels by which this might occur. This next section will therefore look at the likelihood that variant governments use policies for crisis management which put public resources at risk.

Table 3: Regression results for veto players and fiscal costs of banking crises

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Political constraints index		-9.422		-12.09	-18.60	-9.583	-21.61	-16.10	4.285
		(7.229)		(8.313)	(12.84)	(17.54)	(13.23)	(15.15)	(11.06)
Drop in GDP					0.448	0.287	0.244	0.235	0.291
					(0.270)	(0.325)	(0.301)	(0.321)	(0.332)
Concurrent currency crisis					9.895**	7.193	10.34**	5.439	2.126
					(4.736)	(4.736)	(4.444)	(5.032)	(4.596)
Concurrent sovereign debt crisis					-9.874	-6.953	-9.059	-7.680	
					(7.157)	(8.118)	(6.648)	(7.921)	
Credit boom						5.863*	4.558	6.762*	6.363**
						(3.337)	(3.610)	(3.689)	(3.085)
NPL					0.102	0.224*		0.332**	0.498***
					(0.159)	(0.127)		(0.143)	(0.138)
Years to the next election						1.699			
						(1.053)			
LIEC						-2.532			
						(2.292)			
Credit						-0.000*	-0.000**	-0.001**	
						(0.000)	(0.000)	(0.000)	
GDP per capita				-0.008	0.054		0.091	0.116	
				(0.084)	(0.083)		(0.118)	(0.091)	
Checks and balances DPI	-0.865								
	(1.039)								
Checks residual			0.005						
			(1.400)						
Government orientation									0.011
									(2.262)
Constant	15.29***	15.47***	12.47***	16.87***	10.73	19.42	12.10*	4.272	-4.226
	(3.909)	(3.097)	(1.506)	(3.392)	(7.245)	(13.49)	(6.045)	(7.573)	(9.178)
Observations	86	87	86	84	59	55	55	53	45
R-squared	0.011	0.023	0.000	0.038	0.309	0.500	0.245	0.360	0.440
Democracies only	NO	NO	NO	NO	NO	NO	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4: Regression results for political institutions and fiscal costs of banking crises

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Presidential system-single-party	-7.218	-6.735	-10.53**	-11.36**	-11.18**	-13.42**	-11.27**	-11.29**	-11.10**	-12.25**	-12.79**	-8.727*
	(5.396)	(5.227)	(5.179)	(5.453)	(5.104)	(6.170)	(4.816)	(5.137)	(4.969)	(5.150)	(5.536)	(4.409)
Presidential system-multiparty	-11.36*	-11.03*	-10.84*	-12.25*	-11.98*	-14.89**	-11.27**	-11.38*	-11.48**	-12.23**	-11.93*	-9.343*
	(5.868)	(5.768)	(5.903)	(6.305)	(5.995)	(7.289)	(5.379)	(5.892)	(5.622)	(5.603)	(6.076)	(5.463)
Parliamentary system-multiparty	-7.229	-7.246	-6.721	-7.729	-7.615	-6.381	-7.659	-6.687	-8.576	-8.462	-8.864	-5.281
	(5.048)	(5.037)	(5.403)	(4.979)	(5.582)	(5.043)	(5.187)	(5.616)	(5.437)	(5.558)	(5.752)	(5.135)
Years to next election		2.300**										
		(0.995)										
Drop in GDP	0.446	0.441	0.275	0.253	0.275	0.206	0.172	-0.034	0.004	0.133	0.224	0.149
	(0.281)	(0.270)	(0.253)	(0.257)	(0.268)	(0.276)	(0.295)	(0.271)	(0.300)	(0.290)	(0.365)	(0.313)
Concurrent currency crisis	13.11***	13.71***	11.34***	11.16**	11.07***	10.65**	11.00**	9.744*	11.93**	10.92**	10.19**	6.806
	(4.086)	(3.856)	(3.940)	(4.275)	(4.091)	(4.239)	(4.439)	(5.057)	(4.625)	(4.484)	(4.629)	(5.342)
Concurrent sovereign debt crisis	-2.698	-2.123	-1.507	-1.358	-1.404	-1.046	-1.870	4.668	-2.363	-1.768	2.482	-2.105
	(6.183)	(6.838)	(6.015)	(6.087)	(6.058)	(6.060)	(5.392)	(5.106)	(5.442)	(5.437)	(4.721)	(6.192)
LIEC			-2.918									
			(2.038)									
GDP per capita				-0.011								
				(0.093)								
Credit					-0.000*	-0.001*						
					(0.000)	(0.000)						
OECD						-4.808						
						(5.037)						
Credit boom							3.823	5.574	3.293	3.703	2.688	5.798
							(3.410)	(3.536)	(3.549)	(3.479)	(3.691)	(3.663)
Government orientation								-1.949				

|	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
								(2.339)				
Snap election									2.543			
									(2.574)			
Liquidity support										0.004		
										(0.062)		
Monetary expansion											-0.177	
											(0.476)	
NPL												0.279*
												(0.161)
Constant	10.75**	6.399	32.59**	13.82**	13.49***	17.00**	12.21**	16.50**	12.96**	13.41**	14.21**	6.290
	(4.601)	(4.901)	(14.88)	(5.851)	(4.971)	(6.863)	(4.687)	(6.287)	(4.970)	(5.339)	(6.252)	(4.793)
Observations	62	61	61	58	58	58	56	46	55	55	51	54
R-squared	0.297	0.383	0.354	0.280	0.284	0.300	0.295	0.285	0.311	0.301	0.300	0.379
Democracies only	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

6. Policies for financial crisis management

To identify the channels by which political variables impact fiscal costs, we deploy a two-stage approach. In the first stage we identify the impact of specific policies for crisis management (bank guarantees, losses imposed on depositors, and bank recapitalisations) have on fiscal costs. In the second stage, we run a number of regressions to see whether certain political systems are more conducive to adopting specific policies when managing financial crises. The use of any particular policy to manage crises entails a trade-off for the governments. Certain tools are useful to avoid contagion, stem depositor withdrawals or contain capital flight, cleanse balance sheets of non-performing loans (NPLs), or stimulate credit flow to business. However they each expose the state to direct fiscal costs which they may or may not recoup later, or to contingent liabilities which may be called upon. This is illustrated in Figure 2 which shows the variance in fiscal costs associated with the use of two different policies for crisis management.

Figure 2: Variance in fiscal costs associated with bank guarantees and bank recapitalisations
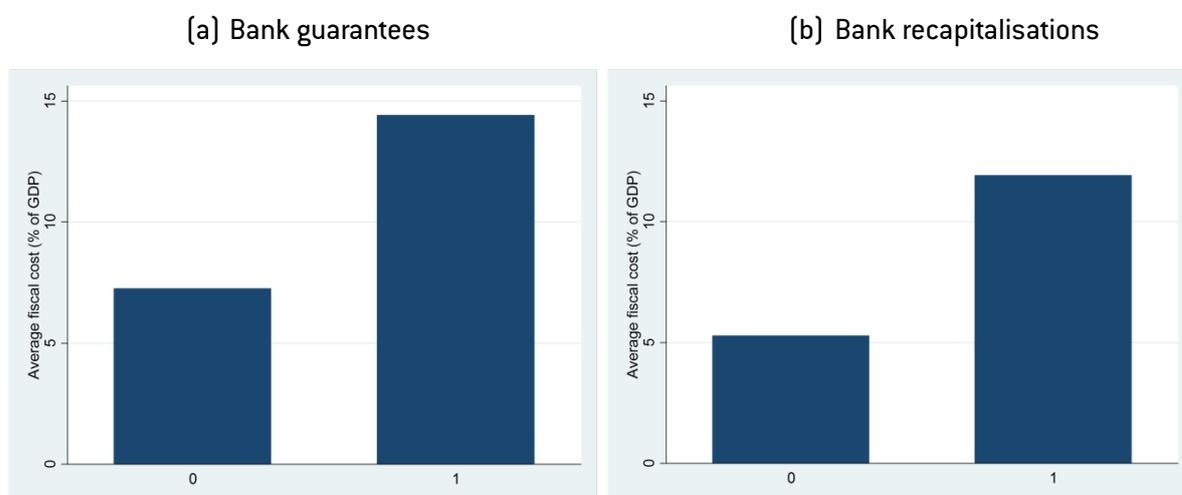
Source: Laeven and Valencia (2012a)

Blanket guarantees, if credible, can help restore depositor confidence. However they may increase fiscal costs if called upon, or indirectly by exacerbating the risky behaviour of banks (Laeven and Valencia, 2008b, 15). Using public money to recapitalise a bank can facilitate lending to the real economy. Homar and van Wijnbergen (2013), for example, find that bank recapitalisations substantially reduce crisis duration. However if a recapitalised bank turns out to be insolvent, the state may end up losing its investment. Finally, imposing losses on depositors, whilst politically

unpopular, often spares the state from having to bailout a bank. However depositor losses could also lead to further deposit withdrawals without capital controls.

Table 5 shows the results for the impact different crisis management policies have on the fiscal costs of financial crisis management. Reasonably robust results show that the use of bank guarantees and bank recapitalisations are significantly associated with higher fiscal costs. This is in line with previous empirical work on the subject (Honohan and Klingebiel, 2003, Laeven and Valencia, 2012b). This data is binary in nature and therefore very imprecise. Nonetheless it is encouraging that we found robust evidence to support our empirical analysis above. We did not find any significant evidence for an effect of depositor losses on fiscal costs. This could be because only 13 cases in our dataset imposed losses on depositors and half of these losses were considered minor to moderate (Laeven and Valencia, 2008a, see table 8).

Table 5: The impact of different policies on the fiscal costs of crisis management

	(1)	(2)	(3)	(4)
Bank guarantee	7.512**	7.562**	8.055*	10.01*
	(3.048)	(3.103)	(4.522)	(5.183)
Depositor losses	2.387	1.490	1.597	0.796
	(4.190)	(4.859)	(4.842)	(5.100)
Bank recapitalisation	7.489*	5.237*	5.279*	5.808*
	(4.147)	(2.929)	(2.963)	(2.879)
Drop in GDP	0.197	0.132	0.134	0.0556
	(0.315)	(0.340)	(0.346)	(0.338)
Credit		-0.000***	-0.000***	-0.000***
		(0.000)	(0.000)	(0.000)
Credit boom		4.033	3.808	3.273
		(4.014)	(4.825)	(4.591)
NPL		0.339**	0.329**	0.298**
		(0.136)	(0.142)	(0.141)
Concurrent currency crisis	12.10***	6.128	6.035	6.753
	(3.823)	(5.221)	(5.139)	(5.509)
Concurrent sovereign debt crisis	-5.746	-5.028	-5.199	-5.916
	(6.520)	(7.583)	(7.862)	(7.628)
GDP per capita			-0.0270	
			(0.136)	
OECD				-4.311
				(5.761)
Constant	-5.726	-8.286**	-7.811	-6.577
	(5.107)	(3.827)	(4.670)	(4.691)
Observations	59	53	53	53
R-squared	0.292	0.411	0.412	0.424
Democracies only	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Linear probability model for bank guarantees

	(1) LPM	(2) LPM	(3) LPM	(4) LPM	(5) LPM	(6) LPM	(7) LPM	(8) LPM	(9) LPM	(10) LPM	(11) Logit	(12) Probit
Presidential system-single-party	-0.503***	-0.498***	-0.467***	-0.467***	-0.525***	-0.548***	-0.575***	-0.628***	-0.492***	-0.507**	-3.134*	-1.677**
	(0.169)	(0.169)	(0.170)	(0.170)	(0.166)	(0.170)	(0.167)	(0.175)	(0.181)	(0.194)	(1.652)	(0.752)
Presidential system-multiparty	-0.555***	-0.528***	-0.452**	-0.452**	-0.496**	-0.533***	-0.696***	-0.726***	-0.731***	-0.729***	-4.019**	-2.226***
	(0.166)	(0.166)	(0.194)	(0.194)	(0.188)	(0.184)	(0.180)	(0.228)	(0.184)	(0.185)	(1.813)	(0.855)
Parliamentary system-multiparty	0.031	0.019	0.019	0.019	-0.04	-0.036	-0.089	-0.091	-0.107	-0.100	-1.313	-0.659
	(0.152)	(0.146)	(0.147)	(0.147)	(0.145)	(0.142)	(0.130)	(0.135)	(0.126)	(0.125)	(1.274)	(0.653)
Drop in GDP		0.015*	0.019**	0.019**	0.016*	0.013	0.007	0.008	0.011	0.013	0.049	0.024
		(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.010)	(0.008)	(0.009)	(0.061)	(0.034)
Concurrent currency crisis			-0.181	-0.181	-0.175	-0.215	-0.0624	0.0398	0.0118	-0.0165	-0.874	-0.518
			(0.131)	(0.131)	(0.134)	(0.130)	(0.161)	(0.172)	(0.166)	(0.198)	(0.990)	(0.569)
Concurrent sovereign debt crisis			0.069	0.069								
			(0.251)	(0.251)								
Credit					0.000	0.000	0.000	0.000	0.000	0.000	0.014**	0.008**
					(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.007)	(0.004)
Credit boom						0.178	0.198*	0.115	0.207*	0.213*	2.261**	1.221**
						(0.109)	(0.106)	(0.109)	(0.107)	(0.110)	(1.143)	(0.522)
NPL							-0.004	-0.004	-0.005	-0.004	-0.017	-0.006
							(0.005)	(0.006)	(0.006)	(0.006)	(0.040)	(0.021)
Government orientation								-0.015				
								-0.083				
Snap election										-0.042		
										(0.114)		
Constant	0.769***	0.656***	0.665***	0.665***	0.739***	0.722***	0.816***	0.891***	0.793***	0.788***	0.285	0.153
	(0.121)	(0.139)	(0.137)	(0.137)	(0.129)	(0.135)	(0.136)	(0.267)	(0.137)	(0.138)	(1.386)	(0.784)
Observations	62	62	62	62	61	57	55	46	53	53	55	55
R-squared	0.300	0.335	0.357	0.357	0.377	0.403	0.436	0.457	0.446	0.447		
Democracies only	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Further exploring whether our political economy factors are associated with the use of these policies, Table 6 shows the results for a linear probability model for bank guarantees. It shows that presidential systems (both single-party and multiparty) are less likely to use public guarantees when managing financial crises. These findings contribute to explaining the results found in Table 4 above, which show that presidential systems are associated with less fiscal costs of crisis management. We also test for alternative specifications (Probit and Logit models) and our main results hold, suggesting the significance of our results does not rest on the choice of econometric model. Our results are also robust to a battery of macroeconomic controls including Credit boom and GDP per capita.

Table 7: Linear Probability Model for depositor losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	LPM	LPM	LPM	LPM	LPM	Probit	Logit
Presidential system-single-party	0.034	0.026	0.129	0.056	0.055	0.548	1.414
	(0.144)	(0.143)	(0.141)	(0.117)	(0.128)	(0.970)	(2.516)
Presidential system-multiparty	0.346**	0.327*	0.409**	0.413**	0.417**	1.755*	3.448
	(0.173)	(0.172)	(0.191)	(0.197)	(0.191)	(1.045)	(2.830)
Parliamentary system-multiparty	-0.054	-0.046	0.080	0.075	0.125	0.895	1.929
	(0.124)	(0.128)	(0.120)	(0.129)	(0.120)	(1.013)	(2.883)
Drop in GDP		-0.01	-0.004	-0.007	-0.012	-0.018	-0.034
		(0.009)	(0.009)	(0.009)	(0.011)	(0.043)	(0.078)
Credit			0.000	0.000	0.000	-0.002	-0.004
			(0.000)	(0.000)	(0.000)	(0.004)	(0.008)
Concurrent currency crisis			0.105	0.0861	0.0336	0.103	0.129
			(0.126)	(0.137)	(0.127)	(0.544)	(1.030)
Credit boom			-0.076	-0.090			
			(0.097)	(0.097)			
NPL			0.009*	0.008	0.010**	0.051***	0.090**
			(0.00503)	(0.00525)	(0.00406)	(0.0187)	(0.0367)
Snap election					0.0319	-0.271	-0.441
					(0.0782)	(0.477)	(1.072)
Constant	0.154	0.233*	-0.101	-0.044	-0.078	-2.646**	-4.939*
	(0.103)	(0.125)	(0.126)	(0.125)	(0.109)	(1.053)	(2.701)
Observations	63	63	55	53	56	59	59
R-squared	0.134	0.158	0.364	0.381	0.392		
Democracies only	NO	NO	NO	YES	YES	NO	NO

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 7 and Table 8 show the results of linear probability models for depositor losses and bank recapitalisations respectively. Here, consistent with our main regression results and the subsequent analysis on the use of guarantees, presidential systems with multi-party governments are more likely to impose losses on depositors and less likely to use bank recapitalisations in the crisis management strategy.

The results of our econometric investigation show that political factors indeed condition policy choice and hence impact the fiscal costs of financial crisis management. Our data suggest that this may not be due to the difference in the number of veto players in the political system, but rather to other elements such as the fact that in presidential systems, the executive is directly accountable to voters. This enhanced accountability to the electorate is clearly visible in both the policies that different governments use, and the fiscal costs associated with banking crises.

Table 8: Linear probability model for bank recapitalisation

	(1) LPM	(2) LPM	(3) LPM	(4) LPM	(5) LPM	(6) Logit	(7) Probit	(8) Probit
Presidential system-single-party	-0.188*	-0.240*	-0.248*	-0.255*	-0.178	-18.10***	-5.510***	-5.677***
	(0.102)	(0.126)	(0.125)	(0.129)	(0.119)	(1.836)	(1.027)	(1.357)
Presidential system-multiparty	-0.071	-0.077	-0.005	-0.012	-0.018	-15.89***	-4.244***	-4.026***
	(0.071)	(0.072)	(0.073)	(0.076)	(0.107)	(1.753)	(0.875)	(1.303)
Parliamentary system-multiparty	0.000	0.003	0.003	0.007	0.020			
	(0.002)	(0.007)	(0.023)	(0.026)	(0.031)			
Drop in GDP	-0.000	-0.003	-0.000	-0.000	0.000	-0.009	-0.005	-0.080
	(0.002)	(0.003)	(0.004)	(0.004)	(0.004)	(0.054)	(0.030)	(0.115)
Concurrent currency crisis			-0.137	-0.141	-0.113	-2.037	-1.214	-3.100**
			(0.085)	(0.089)	(0.129)	(2.394)	(1.159)	(1.249)
Credit					0.000	0.004	0.003	0.023*
					(0.000)	(0.007)	(0.004)	(0.013)
Credit boom					-0.012	-0.206	-0.097	0.160
					(0.086)	(1.967)	(0.812)	(0.941)
NPL					0.001	-0.013	-0.006	0.018
					(0.002)	(0.047)	(0.024)	(0.027)
GDP per capita				-0.000				
				(0.001)				
Government orientation								1.404**
								(0.644)
Constant	1.001***	1.024***	1.032***	1.044***	1.000***	20.42***	6.823***	4.225**
	(0.0195)	(0.0251)	(0.0286)	(0.0386)	(0.0526)	(2.524)	(1.454)	(2.009)
Observations	63	60	59	58	53	35	35	29
R-squared	0.101	0.139	0.204	0.204	0.131			
Democracies only	NO	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

7. Conclusion

There is significant variance in how different countries deal with banking crises. Both theory and experience have led to ambiguous recommendations regarding 'optimal' policy responses because crises involve many coordination problems and are aggravated by institutional weaknesses (Claessens, Klingebiel and Laeven, 2005). Empirical research has largely focused on the 'effectiveness' of specific policy tools with respect to their effect on output, or duration of crises (Honohan and Klingebiel, 2003; Homar and van Wijnbergen, 2013). However, intervention in financial crises requires political decisions. Whilst seemingly obvious, we know very little about how politics conditions policy choice in banking crises. Cross-country econometric analysis of how domestic institutions mediate pressures in times of crises, or shape policy responses, can help decipher the constraints which decision-makers are under when designing strategies and responding to crises.

In this paper we attempted to quantitatively estimate the impact that select political variables have on policy choice and hence the fiscal costs of banking crises. We find that both single-party and multi-party governments in presidential systems are associated with lower fiscal costs of crisis management. Looking at crisis containment strategies, we further show that these governments are less likely to use guarantees that would expose the state to significant contingent and direct fiscal liabilities are and less likely to use bank recapitalisations in their crisis management strategy. Not using these tools in their banking crisis management strategy limits the state's fiscal exposure. Finally we show presidential systems with multiparty governments are more likely to impose losses on depositors.

Our results raise many questions for future research. The limitations outlined in section 4 clearly show the need for better data to enhance our understanding of the links between systemic financial crisis and political variables. More analysis of the link between policy choice and fiscal cost resulting from a crisis, as well as the channels through which our findings occur could be interesting to explore.

Nonetheless, our empirical results have important implications for the understanding of financial crisis policy-making. Decision-making during financial crisis occurs under a lot of uncertainty and it is clear that financial crises upset old political economy equilibria. Therefore, a greater understanding of the impact that institutions and politics have on policy choices may allow us to better understand and predict decision-making in times of financial stress.

Bibliography

Alesina, Alberto and Allen Drazen (1991) "Why are Stabilizations Delayed?" *The American Economic Review* 81(5):1170–1188

Angkinand, Apanard P. and Thomas D. Willett (2008) "Political influences on the costs of banking crises in emerging market economies: testing the U-shaped veto player hypothesis." *Macroeconomics and Finance in Emerging Market Economies* 1(2):279 –297

Bawn, Kathleen and Frances Rosenbluth (2006) "Short versus long coalitions: electoral accountability and the size of the public sector." *American Journal of Political Science* 50(2):251–265

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh (2001, 2012) "New Tools in Comparative Political Economy: The Database of Political Institutions." *World Bank Economic Review* (1)

Beck, Thorsten and Ross Levine (2008) *Legal institutions and financial development*. Springer Berlin

Blyth, Mark (2002) *Great transformations: Economic ideas and institutional change in the twentieth century*. Cambridge: Cambridge University Press

Blyth, Mark M (2003) "Structures Do Not Come with an Instruction Sheet: Interests, Ideas, and Progress in Political Science." *Perspectives on Politics* 1(4):695–703.

Bräuninger, Thomas (2005) "A partisan model of government expenditure." *Public Choice* 125(3-4):409–429.

Broz, Laurence J. (2013) Partisan financial cycles. In *Politics in the New Hard Times: The Great Recession in Comparative Perspective*, ed. Miles Kahler and David A Lake. Cornell University Press chapter 3.

Brunnermeier, Markus K., Andrew Crockett, Charles A. E. Goodhart, Avinash Persaud and Hyun Song Shin (2009) The Fundamental Principles of Financial Regulation. Geneva Reports on the World Economy 11 Centre for Economic Policy Research and International Centre for Monetary and Banking Studies.

Calomiris, Charles W., Daniela Klingebiel and Luc Laeven (2004) A Taxonomy of Financial Crisis Resolution Mechanisms: Cross-Country Experience. World Bank Policy Research Working Paper No. 3379 World Bank.

Chwieroth, Jeffrey M and Andrew Walter (2010) Financial crises and political turnover- a long run panoramic view.

Claessens, S., C. Pazarbasioglu, L. Laeven, M. Dobler, F. Valencia, O. Nedelescu and K. Seal (2011) Crisis Management and Resolution, Early Lessons from the Financial Crisis. International Monetary Fund Staff Discussion Note SDN/11/05.

Claessens, Stijn, Daniela Klingebiel and Luc Laeven (2005) Crisis resolution, policies, and institutions: empirical evidence. In Systemic Financial Crises: Containment and Resolution, ed. Patrick Honohan and Luc Laeven. Cambridge: Cambridge University Press chapter six.

Cox, Gary W (1990) "Centripetal and centrifugal incentives in electoral systems." *American Journal of Political Science* 34(4):903–935.

Crespo-Tenorio, Adriana, Nathan M Jensen and Guillermo Rosas (2014) "Political Liabilities Surviving Banking Crises." *Comparative Political Studies* 47(7):1047–1074.

Darvas, Zsolt, Jean Pisani-Ferry and Guntram B. Wolff (2013) Europe's growth problem (and what to do about it). Bruegel Policy Brief No. 2013/03.

Dell'Ariccia, Giovanni, Deniz Igan and Luc Laeven (2012) Policies for macrofinancial stability: How to deal with credit booms. International Monetary Fund Staff Discussion Note SDN/12/06.

Detragiache, Enrica and Giang Ho (2010) Responding to Banking Crises: Lessons from Cross-Country Evidence. International Monetary Fund Working Paper WP/10/18.

Diermeier, Daniel and Timothy J. Feddersen (1998) "Cohesion in legislatures and the vote of confidence procedure." *American Political Science Review* 92(3):611– 621.

Drazen, Allan and Vittorio Grilli (1993) "The Benefit of Crises for Economic Reforms." *American Economic Review* 83(3):598–607.

Drazen, Allan and William Easterly (2001) "Do crises induce reform? Simple empirical tests of conventional wisdom." *Economics & Politics* 13(2):129–157.

Drazen, Allen (2000) *Political Economy in Macroeconomics*. Princeton University Press.

European Commission (2014) Staff Working Document Impact Assessment, Accompanying the document Proposal for a Regulation of the European Parliament and of the Council on structural measures improving the resilience of EU credit institutions and the Proposal for a Regulation of the European Parliament and of the Council on reporting and transparency of securities financing transactions. Commission Staff Working Document SWD(2014) 30 final European Commission.

Fernandez, Raquel and Dani Rodrik (1991) "Resistance to reform: Status quo bias in the presence of individual-specific uncertainty." *The American Economic Review* 81(5):1146–1155.

Franzese Jr., Robert J. (2002) "Electoral and partisan cycles in economic policies and outcomes." *Annual Review of Political Science* 5(1):369–421.

Geithner, Timothy F. (2014) "The Paradox of Financial Crises: Aggressive government in- tervention will lead to a stronger financial system less dependent on the taxpayer." The Wall Street Journal. Date last accessed 24 August 2014.

Haber, Stephen and Enrico Perotti (2008) The political economy of financial systems. Tinbergen Institute Discussion Paper TI 2008-045/2.

Hall, Rodney Bruce (2003) "The Discursive Demolition of the Asian Development Model." *International Studies Quarterly* 47(1):71–99.

Henisz, Witold J (2002) "The political constraint index (POLCON) dataset".

Homar, Timotej and Sweder van Wijnbergen (2013) On Zombie Banks and Recessions after Systemic Banking Crises: Government Intervention Matters. Tinbergen Institute Duisenberg School of Finance Working Paper 13-039/IV/DSF54.

Honohan, Patrick and Daniela Klingebiel (2003) "The fiscal cost implications of an accommodating approach to banking crises." *Journal of Banking and Finance* 27(8):1539–1560.

Honohan, Patrick and Luc Laeven, eds (2005) S*ystemic Financial Crises: Containment and Resolution*. Cambridge: Cambridge University Press.

Huber, John D (1996) "The vote of confidence in parliamentary democracies." *American Political Science Review* 90(2):269–282.

Keefer, Philip (2007) "Elections, Special Interests, and Financial Crisis." *International Organization* 61(3):607–641.

La Porta, Rafael, Florencio Lopez-de Silanes, Andrei Shleifer and Robert W. Vishny (1997) "Legal determinants of external finance." *The Journal of Finance* 52(3):1131–1150.

Laban, Raul and Federico Sturzenegger (1994) "Distributional conflict, financial adaptation and delayed stabilizations." *Economics & Politics* 6(3):257–276.

Laeven, Luc and Fabian Valencia (2008a) "Systemic Banking Crisis: A New Database." pdf, Excel.

Laeven, Luc and Fabian Valencia (2008b) The Use of Blanket Guarantees in Banking Crises. International Monetary Fund Working Paper WP/08/250.

Laeven, Luc and Fabian Valencia (2010) Resolution of Banking Crises: The Good, the Bad, and the Ugly. International Monetary Fund Working Paper WP/10/146.

Laeven, Luc and Fabián Valencia (2012a) Systemic Banking Crises Database: An Update. International Monetary Fund Working Paper WP/12/163.

Laeven, Luc and Fabián Valencia (2012b) "The use of blanket guarantees in banking crises." Journal of International Money and Finance 31(5):1220–1248.

Lijphart, Arend (1999) *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries*. New Haven: Yale University Press.

Lizzeri, Alessandro and Nicola Persico (2001) "The Provision of Public Goods under Alternative Electoral Incentives." *American Economic Review* 91:225–239.

MacIntyre, Andrew (2001) "Institutions and investors: The politics of the economic crisis in Southeast Asia." *International Organization* 55(01):81–122.

Nordhaus, William D (1975) "The Political Business Cycle." *Review of Economic Studies* 42:169–190.

North, Douglass C (1990) *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.

North, Douglass C. and Barry R. Weingast (1989) "Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England." *The Journal of Economic History* 49(4):803–832.

Pepinsky, Thomas (2014. Financial Crises and the Politics of Adjustment and Reform. In *Handbook Of The International Political Economy Of Monetary Relations*, ed. William Kindred Winecoff and Thomas Oatley. Cheltenham: Edward Elgar Publishing.

Persson, Torsten, Gerard Roland and Guido Tabellini (1997) "Separation of powers and political accountability." *The Quarterly Journal of Economics* pp. 1163–1202.

Persson, Torsten, Gerard Roland and Guido Tabellini (2000) "Comparative politics and public finance." *Journal of Political Economy* 108(6):1121–1161.

Persson, Torsten, Gerard Roland and Guido Tabellini (2007) "Electoral rules and government spending in parliamentary democracies." *Quarterly Journal of Political Science* 2(2):155–188.

Persson, Torsten and Guido Enrico Tabellini (1990) *Macroeconomic policy, credibility and politics*. Amsterdam: Harwood Academic Publishers.

Persson, Torsten and Guido Enrico Tabellini (2005) *The Economic Effects of Constitutions*. Boston, M.A.: MIT press.

Persson, Torsten and Guido Tabellini (1999) "The size and scope of government: Comparative politics with rational politicians." *European Economic Review* 43(4):699–735.

Rickard, Stephanie, J (2012) "Electoral Systems, Voters' Interests and Geographic Disper- sion." *British Journal of Political Science* 42(4):855–877.

Rogoff, Kenneth and Anne Sibert (1988) "Elections and macroeconomic policy cycles." *The review of Economic Studies* 55(1):1–16.

Rogoff, Kenneth S (1990) Equilibrium political budget cycles. National Bureau of Economic Research Working Paper No. 2428.

Rosas, Guillermo (2006) "Bagehot or Bailout? An Analysis of Government Responses to Banking Crises." *American Journal of Political Science* 50(1):175–191.

Shugart, Matthew S. and John M. Carey (1992) *Presidents and assemblies: Constitutional design and electoral dynamics*. Cambridge: Cambridge University Press.

Stasavage, David (2007) "Partisan politics and public debt: The importance of the Whig Supremacy for Britain's financial revolution." *European Review of Economic History* 11(01):123 –153.

Sturzenegger, Federico and Mariano Tommasi (1998) *The political economy of reform*. Boston, M.A.: MIT Press.

Taagepera, Rein and Matthew Soberg Shugart (1989) *Seats and votes: The effects and determinants of electoral systems*. New Haven: Yale University Press.

Tsebelis, George (1995) "Decision making in political systems: Veto players in presidentialism, parliamentarism, multicameralism and multipartyism." *British Journal of Political Science* 25(03):289–325.

Tufte, Edward R (1980) *Political control of the economy*. Chichester, West Sussex: Princeton University Press.

Walter, Stefanie (2013) *Financial crises and the politics of macroeconomic adjustments*. Cambridge: Cambridge University Press.

Appendix I: Definition of banking crises episodes

Following Laeven and Valencia, we define a banking crisis episode if two conditions are met:

1. Significant signs of financial distress in the banking system (as indicated by significant bank runs, losses in the banking system and/or bank liquidations.
2. Significant banking policy intervention measures in response to significant losses in the banking system.

Moreover, significant policy intervention is considered when at least three of the following policies are undertaken:

1. extensive liquidity support (5 percent of deposits and liabilities to non-residents)
2. bank restructuring gross costs (at least 3 percent of GDP)
3. significant bank nationalisations
4. significant guarantees put in place
5. significant asset purchases (at least 5 percent of GDP)
6. deposit freezes and/or bank holidays.

In the past, however, some countries intervened in their financial sectors using a combination of less than three of these measures, but on a large scale (for example, by nationalising all major banks in the country). Therefore, Laeven and Valencia consider a sufficient condition for a crisis episode to be deemed systemic when either:

1. a country's banking system exhibits significant losses resulting in a share of nonper- forming loans above 20 percent, or bank closures of at least 20 percent of banking system assets, or
2. fiscal restructuring costs of the banking sector are sufficiently high, exceeding 5 percent of GDP.

Appendix II: Construction of LIEC and Checks and Balances

Legislative and Executive Indices of Electoral Competitiveness (LIEC) (see Beck *et al*, 2001, 2012, codebook p14)

> Legislative IEC Scale: No legislature: 1
>
> Unelected legislature: 2
>
> Elected, 1 candidate: 3
>
> 1 party, multiple candidates: 4
>
> multiple parties are legal but only one party won seats: 5
>
> multiple parties won seats but the largest party received more than 75% of the seats: 6
>
> largest party got less than 75%: 7
>
> Checks and Balances (see Beck *et al*, 2001, 2012, codebook, p18-19)

Checks and Balances equals one if LIEC OR (the Beck *et al*, 2012, Executive Index of Electoral Competition) EIEC is less than 6 (5 for CHECKS_LAX) – countries where legislatures are not competitively elected are considered countries where only the executive wields a check.

In countries where LIEC and EIEC are greater than or equal to 6 (5 for CHECKS_LAX): Checks and Balances is incremented by one if there is a chief executive (it is blank or NA if not).

Checks and Balances is incremented by one if the chief executive is competitively elected (EIEC greater than six).

Checks and Balances is incremented by one if the opposition controls the legislature. In presidential systems, Checks and Balances is incremented by one:

> for each chamber of the legislature UNLESS the president's party has a majority in the lower house AND a closed list system is in effect (implying stronger presidential control of his/her party, and therefore of the legislature).
>
> for each chamber of the legislature UNLESS the president's party has a majority in the lower house AND a closed list system is in effect (implying stronger presidential control of his/her party, and therefore of the legislature).
>
> In parliamentary systems, Checks and Balances is incremented by one

for every party in the government coalition as long as the parties are needed to maintain a majority (the previous version of CHECKS – Checks3 in DPI3 – incremented by one for each of the three largest parties in the government coalition, regardless of whether they were needed for a legislative majority).

for every party in the government coalition that has a position on economic issues (right- left-center) closer to the largest opposition party than to the party of the executive.

In parliamentary systems, the prime minister's party is not counted as a check if there is a closed rule in place – the prime minister is presumed in this case to control the party fully.

Appendix III: Banking Crises 1970–2011

Country	Start	End	Country	Start	End	Country	Start	End
Albania	1994	1994	Equatorial Guinea	1983	1983	Nicaragua	2000	2001
Algeria	1990	1994	Eritrea	1993	1993	Niger	1983	1985
Argentina	1980	1982	Estonia	1992	1994	Nigeria	1991	1995
Argentina	1989	1991	Finland	1991	1995	Nigeria	2009	ongoing
Argentina	1995	1995	France	2008	ongoing	Norway	1991	1993
Argentina	2001	2003	Georgia	1991	1995	Panama	1988	1989
Armenia	1994	1994	Germany	2008	ongoing	Paraguay	1995	1995
Austria	2008	ongoing	Ghana	1982	1983	Peru	1983	1983
Azerbaijan	1995	1995	Greece	2008	ongoing	Philippines	1983	1986
Bangladesh	1987	1987	Guinea	1985	1985	Philippines	1998	2001
Belarus	1995	1995	Guinea	1993	1993	Poland	1992	2001
Belgium	2008	ongoing	Guinea-Bissau	1995	1998	Portugal	2008	ongoing
Benin	1988	1992	Guyana	1993	1993	Romania	1990	992
Bolivia	1986	1986	Haiti	1994	1998	Russia	1998	1998
Bolivia	1994	1994	Hungary	1991	1995	Russia	2008	ongoing
Bosnia and Herzegovina	1992	1996	Hungary	2008	ongoing	Sao Tome & Principe	1992	1992
Brazil	1990	1994	Iceland	2008	ongoing	Senegal	1988	1991
Brazil	1994	1998	India	1993	1993	Sierra Leone	1990	1994
Bulgaria	1996	1997	Indonesia	1997	2001	Slovak Rep	1998	2002
Burkina Faso	1990	1994	Ireland	2008	ongoing	Slovenia	1992	1992
Burundi	1994	1998	Israel	1977	1977	Slovenia	2008	ongoing
Cameroon	1987	1991	Jamaica	1996	1998	Spain	1977	1981
Cameroon	1995	1997	Japan	1997	2001	Sri Lanka	1989	1991
Cape Verde	1993	1993	Jordan	1989	1991	Swaziland	1995	1999
Central African Republic	1976	1976	Kazakhstan	2008	ongoing	Sweden	1991	1995
Central African Republic	1995	1996	Kenya	1985	1985	Sweden	2008	ongoing
Chad	1983	1983	Kenya	1992	1994	Switzerland	2008	ongoing
Chad	1992	1996	South Korea	1997	1998	Tanzania	1987	1988
Chile	1976	1976	Kuwait	1982	1985	Thailand	1983	1983
Chile	1981	1985	Kyrgyz Republic	1995	1999	Thailand	1997	2000
China	1998	1998	Latvia	1995	1996	Togo	1993	1994
Colombia	1982	1982	Latvia	2008	ongoing	Tunisia	1991	1991
Colombia	1998	2000	Lebanon	1990	1993	Turkey	1982	1984
Congo, Dem Rep	1983	1983	Liberia	1991	1995	Turkey	2000	2001
Congo, Dem Rep	1991	1994	Lithuania	1995	1996	Uganda	1994	1994
Congo, Dem Rep	1994	1998	Luxembourg	2008	ongoing	Ukraine	1998	1999
Congo, Rep	1992	1994	Macedonia, FYR	1993	1995	Ukraine	2008	ongoing
Costa Rica	1987	1991	Madagascar	1988	1988	United Kingdom	2007	ongoing
Costa Rica	1994	1995	Malaysia	1997	1999	United States	1988	1988
Cote d'Ivoire	1998	1992	Mali	1987	1991	United States	2007	ongoing
Croatia	1998	1999	Mauritania	1984	1984	Uruguay	1981	1985
Czech Republic	1996	2000	Mexico	1981	1985	Uruguay	2002	2005
Denmark	2008	ongoing	Mexico	1994	1996	Venezuela	1994	1998
Djibouti	1991	1995	Mongolia	2008	ongoing	Vietnam	1997	1997
Dominican Republic	2003	2004	Morocco	1980	1984	Yemen	1996	1996
Ecuador	1982	1986	Mozambique	1987	1991	Zambia	1995	1998
Ecuador	1998	2002	Nepal	1988	1988	Zimbabwe	1995	1999
Egypt	1980	1980	Netherlands	2008	ongoing			
El Salvador	1989	1990	Nicaragua	1990	1993			

Appendix IV: List of variables used

Variable	Source	Note
Crisis duration	Laeven and Valencia (2012)	Years
Fiscal Costs (% of GDP)	WEO, IFS, IMF Staff reports, Laeven and Valencia (2008), and authors' calculation.	Fiscal costs are defined as the component of gross fiscal outlays related to the restructuring of the financial sector. They include fiscal costs associated with bank recapitalizations but exclude asset purchases and direct liquidity assistance from the treasury.
Liquidity support	WEO, IFS, IMF Staff reports, Laeven and Valencia (2008), and authors' calculation.	Percentage points increase in central bank claims on financial institutions over deposits and foreign liabilities.
Monetary expansion	WEO, IFS, IMF Staff reports, Laeven and Valencia (2008), and authors' calculation.	In percent of GDP. Monetary expansion is computed as the change in the monetary base between its peak during the crisis and its level one year prior to the crisis.
Credit	World Bank	Averaged over the three pre-crisis years, domestic credit provided by the banking sector includes all credit to various sectors on a gross basis, with the exception of credit to the central government, which is net. The banking sector includes monetary authorities and deposit taking banks, as well as other banking institutions where data available (including institutions that do not accept transferable deposits but do incur such liabilities as time and savings deposits)
Credit boom	WEO, IFS, IMF Staff reports, Laeven and Valencia (2008), and authors' calculation	As defined in Dell'Ariccia *et al* (2012).
Form of government	World Bank - DPI2012	Parliamentary (2), Assembly-elected President (1), Presidential (0)
Government orientation	World Bank - DPI2012	Right (1); Left (3); Centre (2); No information (0); No executive (NA)
Legislative Index of Electoral Competitiveness (LIEC)	World Bank - DPI2012	No legislature: 1; Unelected legislature: 2; Elected, 1 candidate: 3; 1 party, multiple candidates: 4; multiple parties are legal but only one party won seats: 5; multiple parties did win seats but the largest party received more than 75% of the seats: 6; largest party got less than 75%: 7.

Years to next election	World Bank - DPI2012	Only full years are counted. Thus, a "0" is scored in an election year.
Degree of checks	World Bank - DPI2012	Degree of checks and balances, from 1 to 7.
Snap elections held during the crisis	World Bank - DPI2015, own calculations.	Cumulative number of snap executive elections held during the crisis years // The executive who formally (de jure) holds power is counted.
GDP per capita	IMF, WEO	Gross Domestic Product divided by midyear population. Data are taken in current U.S. dollars taken at t-1
Concurrent currency crisis	Laeven and Valencia (2012)	Definition based on Frankel and Rose (1996)
Concurrent debt crisis	Laeven and Valencia (2012)	Episodes of sovereign debt default and restructuring compiled relying on information from Beim and Calomiris (2001), World Bank (2002), Sturzenegger and Zettelmeyer (2006), IMF Staff reports, and reports from rating agencies.