POLITICAL BOOMS, FINANCIAL CRISES

HELIOS HERRERA, GUILLERMO ORDOÑEZ, AND CHRISTOPH TREBESCH

ABSTRACT. We show that *political booms*, measured by the rise in governments' popularity, predict *financial crises* above and beyond better-known early warning indicators, such as credit booms. This predictive power, however, only holds in emerging economies. We argue that governments in developing countries have stronger incentives to "ride" unsound credit booms in order to boost their popularity, rather than implementing corrective policies that could prevent crises but are politically costly. We provide evidence of the relevance of this mechanism, partly by constructing a new cross-country dataset on government popularity based on opinion polls.

Keywords: Credit Booms, Reputation, Financial Crises, Political Popularity, Emerging Markets.
JEL classification codes: D82; E44; E51; E58; H12; G01; N10; N20

Date: September 21, 2016.
We thank Harald Uhlig and three anonymous referees for excellent feedback that led to a significant improvement of the paper. We also thank Bennet Berger, Roberto Chang, Jesus Fernandez-Villaverde, Gary Gorton, Stephen Harber, Enrique Mendoza, Moritz Schularick, Aaron Tornell, Francesco Trebbi and seminar participants at the SED Meetings in Seoul, PUC-Rio de Janeiro, FGV-São Paulo, EIEF Rome, University of Ottawa, Wharton, the PRIN Workshop at Bologna and the PIER-ITAM Macroeconomics Conference in Mexico for comments. Thomas Ueberfuhr and Benjamin Wache provided outstanding research assistance.
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1. INTRODUCTION

A consistent predictor of financial crises, both in advanced and emerging economies, is the magnitude of the preceding credit boom. Schularick and Taylor (2012), for example, claim that "credit growth is a powerful predictor of financial crises, suggesting that such crises are credit booms gone wrong and that policymakers ignore credit at their peril".[1] This result poses a challenge for the understanding of financial crises, and thus for the design of financial regulation. If a credit boom is a warning signal, why do policymakers not take more corrective steps to control credit expansion? Why are macroprudential policies often too timid, too late, or enacted only after a crisis? Early warning signals, sometimes mixed and unclear, are in many cases paramount and apparent, if not to the general public, at least to more informed policymakers. In many circumstances what prevents the implementation of corrective actions seems to be more lack of political will than lack of information.[2]

In this paper we uncover a robust link between political factors and financial crises, which sheds light on the recurring phenomenon of credit booms gone bust. Our main result is that an increase in government popularity (*political booms*, henceforth) constitutes a powerful predictor of financial crises, above and beyond credit booms. There is an interesting caveat to this result, however: "political booms gone bust" are an emerging market phenomenon only.

To measure government popularity we use the "index of government stability" (*stability index*, henceforth), a standardized variable constructed by the International Country Risk Guide (ICRG) for over 60 countries since 1984. Additionally, we construct a novel cross-country database on *government approval* by gathering opinion poll data from national sources in 25 countries, which we find closely co-moves with the ICRG measure. Combining these political

[1] Similarly, Mendoza and Terrones (2012) conclude that "not all credit booms end in financial crises, but most emerging markets crises were associated with credit booms". Schularick and Taylor (2012) use a historical database with 14 developed countries from 1870 to 2008, while Mendoza and Terrones (2012) focus on credit booms for a broader set of countries after 1980 and study their link with macroeconomic variables. For other efforts to uncover these relations see Gourinchas et al. (2001), Claessens et al. (2011) and Gourinchas and Obstfeld (2012).

[2] For evidence on policymakers' availability of information prior to the Asian crisis see Corsetti et al. (1999), IMF (2000) or Radelet and Sachs (1998). For evidence on the information available to policymakers before the recent European crisis see Fernandez-Villaverde et al. (2013).

time series with widely used data on banking crises and sudden stops, we show that political booms are a powerful predictor of emerging markets crises, being quantitatively as important as other much better known early-warning indicators such as credit booms. In our baseline model, a one standard deviation increase in the stability index roughly doubles the probability of a banking crisis in emerging economies, while it has no predictive power in developed ones. This result survives a wide range of robustness checks, such as controlling for asset price booms (stocks, housing), economic growth, fiscal spending, central bank independence or the electoral cycle. Using our new opinion polls dataset on government approval, we also zoom into the political experiences of 12 major crisis events, providing further support for our results.

Our finding of "political booms gone bust" makes any potential explanation of financial crises even more challenging: why are crises more likely to occur after a rise in government popularity, and why only in emerging economies? To address these questions, we introduce a model in which the quest for popularity gains makes governments less willing to regulate financial markets responsibly, resulting in a higher risk of crises. Our theory focuses on political factors, without relying on exogenous differences in economic fundamentals, and provides a self-contained mechanism in which governments' political motives coexist with credit booms and jointly determine the likelihood of financial crises.

In the model there are two types of governments, "good" and "bad". Good governments are more likely to generate *good booms,* e.g. by introducing policies that create new economic opportunities and justify credit expansion (such as trade and labor reforms, innovation incentives or more stable institutional environments). These good booms are less likely to end in crisis as they are sustained by healthy economic fundamentals. The economy may also develop *bad booms*, fueled by bubbles, speculation and unsound fundamentals, thus usually accompanied by excessive credit expansion.[3] To reduce the probability of an ensuing crisis,

[3]For a model of why credit booms that are not sustained by good fundamentals are more likely to end in crises, see Gorton and Ordoñez (2014b). In this paper we focus instead on governments' incentives to act upon bad booms or not.

governments should regulate the financial sector during bad booms. Governments know regulation is the right course of action in this case, but regulation is also politically costly, resulting in a "popularity first, versus country first" trade-off. When potential popularity gains are strong, governments are more likely to avoid corrective actions, which increases crisis risks. Consistent with our empirical findings, the model generates both a positive correlation between credit booms and political booms and between political booms and subsequent financial crises. These correlations are stronger when there is more scope to improve popularity, which happens when government quality is relatively uncertain and when popularity is relatively low, two features that are most prominent in emerging markets, as we show. In short, our model provides one potential explanation for the empirical facts we observe: governments in emerging markets have larger political incentives to abstain from regulation and "ride" unsound credit booms, resulting in "political booms gone bust".

A good example of our mechanism is the Mexican financial crisis of 1994/95. According to Calomiris and Haber (2014), Haber (2005) and Kessler (1998), this crisis had its roots in the highly competitive presidential elections of 1988 in which the long-ruling PRI party won by only a slim margin. Facing strong political opposition and tight fiscal constraints, the newly elected President Salinas opted to privatize the country's banking sector, spending the proceeds on social programs.[4] The sudden liberalization was not implemented with sufficient regulation and a lending boom ensued, with domestic private credit increasing from less than 10% of GDP in 1988 to nearly 35% of GDP in 1994. During the boom the PRI experienced a strong political comeback, with President Salinas's approval rating increasing from about 50% in 1989 to 80% in 1993 (Buendia, 1996) and a subsequent political victory of the PRI and its candidate Zedillo in the presidential elections of 1994. Just a few weeks later, however, Mexico entered the largest financial crisis in its history.[5] This was a classic "political boom

[4]As Kessler (1998, p. 46) puts it: "Unable to pursue traditional populist solutions, which typically called for fiscal stimulus, the government turned to the financial sector."

[5]Calvo and Mendoza (1996) describe how the exchange rate collapsed, non-performing loans skyrocketed, capital inflows came to a sudden stop, and the banking system had to be bailed out and nationalized again, at a cost four times the income from the bank sales of 1991.

gone bust" – a government allowed an unsustainable credit boom to develop while reaping the political dividend of this boom, at the cost of financial fragility. We discuss several other such cases in the paper, including the credit booms and political booms preceding the Asian crisis of 1997/98 and the Russian crisis of 1998.

To the best of our knowledge, this is the first paper that considers the potentially critical role of politics to explain the link between credit booms and busts (see e.g. Bianchi and Mendoza (2012) and Gorton and Ordoñez (2014a and 2014b) for earlier work on this link). By establishing that political booms are predictors of financial crises we complement other explanations such as *domestic* credit booms (Schularick and Taylor (2012) and Mendoza and Terrones (2012), for instance) or *external* credit booms, such as bonanzas of international capital flows (such as Calvo et al. (2008), Reinhart and Reinhart (2008), and Forbes and Warncock (2012)).

The literature that explores the role of political factors around crises is scarce. Chang (2007), for example, shows how political crises and financial crises tend to happen jointly. While also true in our model, our focus is rather on the predictive power of political booms preceding crises, than on the political crashes that follow.

Our results, obtained for a large panel of countries and crises, are also in line with recent case study evidence: Calomiris and Haber (2014) highlight the "political origins of banking crises," presenting historical evidence of countries facing political frictions that resulted in looser banking regulation and more frequent systemic banking crises; Fernandez-Villaverde et al. (2013) study "political credit cycles" in the run-up to the Eurozone crisis; and McCarthy et al. (2013) shows how political dynamics in the US contributed to the build-up of the housing and credit bubble that led to the 2008 financial crisis.

Our focus is financial crises, but our model can accommodate the role of political factors in other areas, such as fiscal policy, monetary policy and liberalization regimes, more in line with the political business cycle (PBC) analysis of Drazen (2000), Chang (2001), Brender and Drazen (2008), Azzimonti (2011) and Ales et al. (2014).[6] Since potential popularity gains

[6]Schuknecht (1996) finds a significant effect of elections on fiscal discipline, also arguing that there should be more room for manipulation in developing countries, as checks and balances are weaker and then incumbents have

may distort behavior and increase the risk of crises, our paper relates to the literature on political competence, such as Rogoff and Sibert (1988), Rogoff (1990), Persson and Tabellini (2000) and Maskin and Tirole (2004)[7], in which "good politicians" have incentives to distort an optimal policy to signal their quality. In our paper the welfare-reducing distortion comes, perhaps more realistically, from "bad politicians", and is more likely in developing economies. The rest of the paper is structured as follows. We start by showing evidence that political booms predict financial crises in emerging economies, above and beyond credit booms and other economic and political variables. Then we develop a reputation model that proposes a potential rationalization of these findings based on political motives and suggests why we observe this phenomenon only in emerging economies. We finally conclude.

2. POLITICAL BOOMS PREDICT FINANCIAL CRISES

This section shows that political booms are significant predictors of financial crises above and beyond credit booms, but only in emerging economies. First, we present a new set of stylized facts on political variables before financial crises: the government stability index increases in the run-up to crises in emerging economies but not in advanced economies. Second, we replicate this pattern more systematically with regressions that control for credit booms and show a range of robustness tests. Our sample consists of 22 advanced economies and 40 emerging economies (EMEs), excluding the least developed countries (see Appendix A) and covering the largest time frame allowed by available information on political variables and financial crises (1984-2010 for banking crises, and 1990-2004 for sudden stops). Third, we construct a new dataset on government approval from opinion polls to show that the stability index we use is a good proxy of government popularity and to explore the evolution of government approval around 12 major crisis events.

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more power over monetary and fiscal policy. Shi and Svensson (2000) also find that a fiscal political business cycle is especially strong in developing countries.

[7]The PBC literature goes back to Nordhaus (1975) and Lindbeck (1976), but the first paper to incorporate rational voters and office-motivated politicians trying to signal their competence is Rogoff and Siebert (1988).

2.1. **Political booms.** To assess the political conditions of a country surrounding financial crises we use data from the International Country Risk Guide (ICRG) by the Political Risk Service Group, a leading supplier of financial, economic and political risk analysis. This dataset was explicitly constructed to provide measures of political risk that are comparable over time across different political settings, including advanced and developing countries, democracies and autocracies. The resulting political risk measures include 12 components that range from religious and ethnic tensions, to corruption, law and order, the role of military in politics, or external conflicts.[8]

In what follows we focus on the ICRG government stability index (simply *stability index*, henceforth), which according to ICRG is an "assessment both of the government's ability to carry out its declared program(s), and its ability to stay in office" (see PRS 2004). This indicator ranges from a minimum of 0 to a maximum of 12 and is itself composed of three sub-components, namely (i) *government unity* ("the extent to which the executive/cabinet is coalesced around the government's general policy goals"), (ii) *legislative strength* ("whether the government can realize its policy program through the legislative arm of government"), and (iii) *popular support* ("the level of support for the government and/or its leader, based on credible opinion polls"). A key advantage of using this stability index is its wide and standardized coverage, which goes back to 1984 and includes almost all emerging markets.

We consider the stability index as an empirical proxy of a government's popularity, namely its political strength and support. In what follows we refer to an increase of the stability index as a *political boom*. In section 2.5 we show that, in the countries and time frame in which public opinion polls are available, the evolution of the stability index captures very well the evolution of government popularity.

[8]The ICRG methodology was developed in the 1980s in conjunction with the US Department of State and the CIA and builds on research by a large team of country risk experts. ICRG data is well-known and widely used by private corporations and academics (examples of economic research that exploits this data include Acemoglu et al. (2001), Gelos and Wei (2005) and Alfaro et al. (2008)).

2.2. **Financial crises.** We use several data sources to identify events of financial crises. In a first step, we focus on *severe crises* events in advanced and emerging market economies identified by Reinhart and Rogoff (2009) and Reinhart and Reinhart (2010).[9] This severe crises sample serves as an initial illustration of new stylized facts.

In a second step, we broaden the sample for a more systematic assessment of crises. First, we rely on the widely used dataset constructed by Laeven and Valencia (2012), which covers systemic *banking crises* worldwide and back to the 1980s, and then we use data on systemic *sudden stops* during the period 1990 to 2004, as compiled by Calvo et al. (2008).

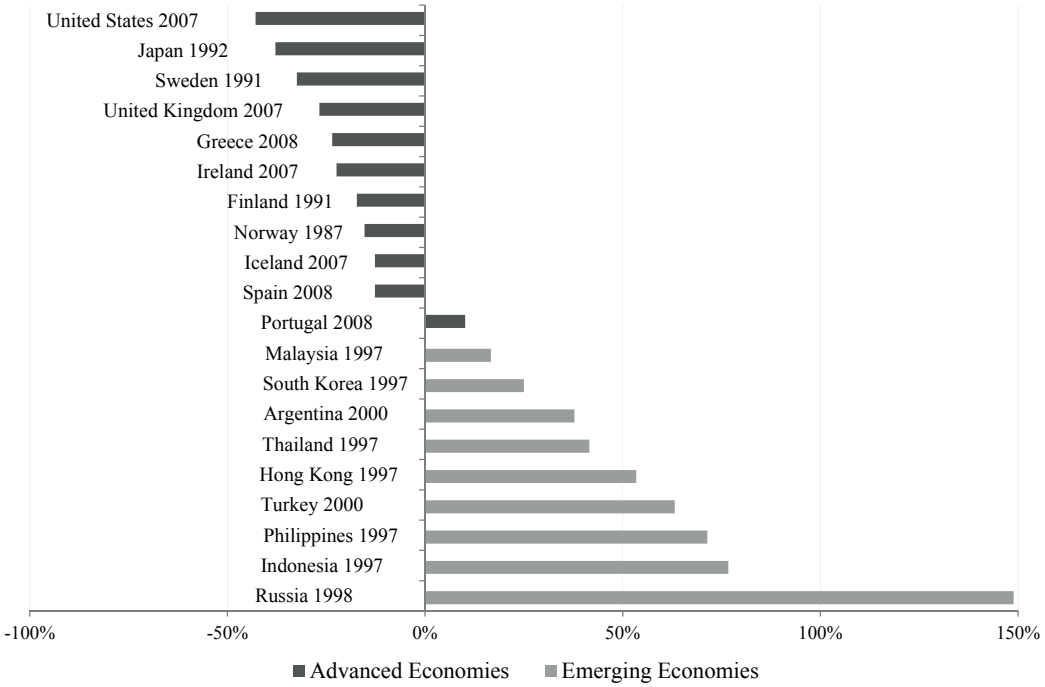
We provide a detailed list of all these crises in Appendix A. In the full sample, we identify 20 severe crises, 57 banking crises and 36 sudden stop episodes. Out of these, emerging markets experienced 9 severe crises, 37 banking crises and 30 sudden stops.

2.3. **Stylized facts on government stability prior to financial crises.** Figure 1 shows the cumulative percentage change of the government stability index during the five years preceding the start of a severe crisis, and illustrates stark differences between the experiences of advanced and emerging economies. The index increased substantially (on average by 53.7%) during those five years in emerging economies, including the Asian crisis and the crashes in Russia and Argentina, while the opposite happens (an average decline of 21.5%) in advanced economies, not only for crises of the late 1980s and early 1990s, but also for the recent crises affecting the UK, the US and peripheral Europe.

The evolution of the government stability index before severe crises and the clear difference between emerging and advanced economies are also documented in Figure 2, where the grey vertical bar (at $t = 0$) shows the crisis onset. The first panel shows how the stability index increases roughly from about 6 to nearly 10 in the five years interval before severe crises

[9]This *severe crises sample* includes the Asian Crisis of 1997 (Indonesia, Malaysia, Philippines, South Korea, Thailand and Hong Kong) and other well-known emerging market crises (Russia 1998, Argentina 2000/2001 and Turkey 2000/2001). For advanced economies, we include four of the "big five" (Norway 1987, Finland 1991, Sweden 1991, Japan 1992, but not Spain 1977 as we do not have political risk data before the 1980s), as well as the most recent financial crises in the US and Europe (Iceland 2007, Ireland 2007, United Kingdom 2007, United States 2007, Greece 2008, Portugal 2008 and Spain 2008).

FIGURE 1. Cumulative change in government stability (5 years pre-crisis)

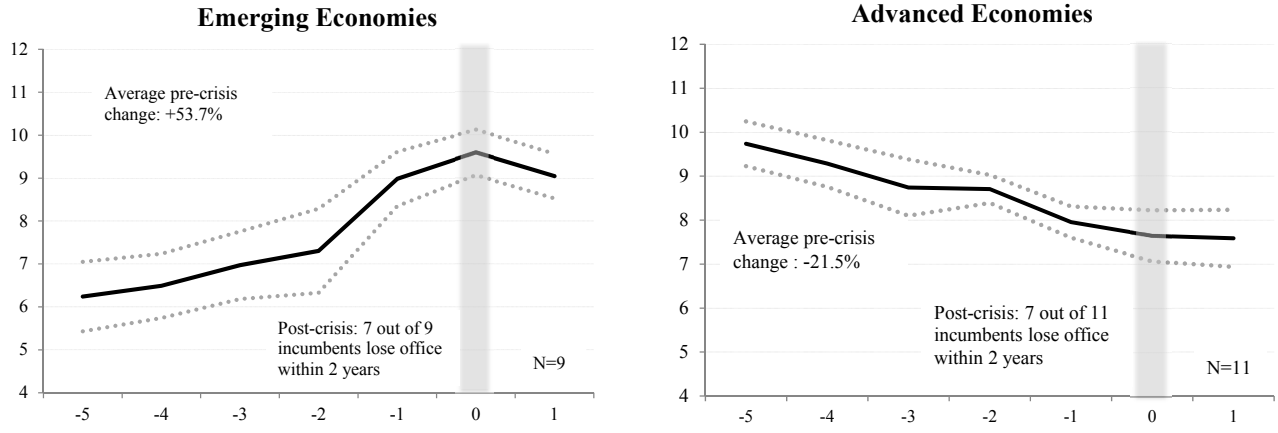


This figure shows the cumulative change in the ICRG government stability index in the 5 years prior to major financial crises. The sample of crises is taken from Reinhart and Rogoff (2009) and Reinhart and Reinhart (2010).

in emerging economies. This increase is statistically significant and corresponds to nearly two standard deviations of the index. The 90% confidence bands (dotted grey lines in the figure) are rather narrow, indicating that this dynamic is similar across all crisis episodes in emerging economies. The second panel shows the opposite trend for advanced economies, with the stability index dropping by about 2 points in the five years interval prior to severe crises. The change corresponds roughly to one standard deviation and is also statistically significant, albeit at a lower confidence level.[10]

[10]We do not show the evolution of the stability index after crises in these figures, since our main focus is on the pre-crisis period. Moreover, the before-after comparison is contaminated by the fact that governments entering a crisis often lose office shortly after, so that we would compare the stability of two different governments, one that entered the crisis and one that assumes right afterwards. In our sample of severe crises, 7 out of 9 emerging countries experienced a change in the executive (i.e. in the ruling party or president) within two years after the

FIGURE 2. Government stability surrounding severe crises



The broader sample of banking crises and sudden stop episodes (see Figures B.1 and B.2 in Appendix B) reinforces these motivating stylized facts: the stability index increases significantly prior to banking crises and sudden stops in emerging markets and slightly decreases, but not significantly, in the run-up to crises in advanced economies.

2.4. **Political booms predict financial crises.** We next assess the relation between popularity and financial crises more systematically, by studying whether political booms predict financial crises when controlling for the size of the preceding credit boom and other economic and political variables that have been shown to increase crisis risks.

2.4.1. *Empirical strategy and main finding:* We follow the literature on early warning systems, in particular the empirical strategy of Schularick and Taylor (2012) who examine the role of credit booms in predicting banking crises in 14 advanced economies back to the late 19th century. We estimate panel OLS and probit regressions using a binary variable for the starting year of banking crises as dependent variable. The key distinctive feature of our approach is

crisis. In advanced economies, the turnover count was 7 out of 11. We further explore the evolution of popularity pre- and post-crises in section 2.5.2 using poll data on government approval, which allows the identification of the different governments. See also Funke et al. (2016) for a long-run analysis on the political aftermath of financial crises.

the addition of "political booms" to "credit booms". Due to data availability we focus on a shorter time span, but broaden the country sample from 14 to 62 countries thereby including emerging economies. The following two regression specifications constitute our benchmark. Panel OLS (linear probability):

$$crisis_{it} = \beta_1(L)\Delta Credit_{it} + \beta_2(L)\Delta GovStab_{it} + \beta_3(L)X_{it} + \theta_i + e_{it}$$

Probit:

$$probit(crisis_{it}) = \beta_1(L)\Delta Credit_{it} + \beta_2(L)\Delta GovStab_{it} + \beta_3(L)X_{it} + \theta_i + e_{it}$$

where $crisis_{it}$ is a binary variable for the start of a crisis in country i in year t, $\Delta Credit_{it}$ is the (year on year) change of credit over GDP, $\Delta GovStab_{it}$ is the (year on year) change of the stability index, L is a lag operator which is greater or equal to one, X_{it} is a vector of control variables, θ_i are country fixed effects and e_{it} is an error term.

Table 1 shows the results using banking crises. Consistent with Schularick and Taylor (2012) the preceding increase in credit (a "credit boom") is a statistically significant predictor of a banking crisis in our broader sample. With regard to "political booms", we find no clear-cut effect in the full sample (column 1), as lagged changes in the stability index are not significant. The picture changes drastically, however, once we account for the type of country: in the sub-sample of emerging economies, the sum of the lagged coefficients is positive and significant at the 5% confidence level, while this is not the case for advanced economies (Columns 2 and 3). Columns 4 and 5 show our preferred baseline specifications for the full sample with an interaction term for emerging economies. Columns 6 and 7 confirm the results on "political booms" using different specifications for moving averages and year-to-year changes both for credit growth and changes in the stability index.

Table 1: Political booms, banking crises

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Full Sample	Advanced Economies Only	Emerging Economies Only	Main Model (Panel FE)	Main Model (Probit)	With Lags of Credit Growth	Moving Average Model	Interaction Political Boom & Credit Boom
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Country Sample	Full	AE only	EME only	Full	Full	Full	EME only	EME only
ΔGovernment Stability (yoy change, lag 1)	0.011**	-0.005	0.019***	-0.006	-0.006	-0.006		
	(0.006)	(0.010)	(0.007)	(0.010)	(0.012)	(0.010)		
ΔGovernment Stability (yoy change, lag 2)	-0.006	0.001	-0.007	0.001	-0.001	-0.000		
	(0.004)	(0.007)	(0.006)	(0.007)	(0.009)	(0.007)		
ΔGovernment Stability (yoy change, lag 3)	0.004	-0.009*	0.011*	-0.010*	-0.010	-0.009		
	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)		
Interaction ΔGovStab & EME Dummy (lag 1)				0.025**	0.029**	0.025**		
				(0.012)	(0.013)	(0.012)		
Interaction ΔGovStab & EME Dummy (lag 2)				-0.008	-0.009	-0.007		
				(0.009)	(0.012)	(0.009)		
Interaction ΔGovStab & EME Dummy (lag 3)				0.020**	0.024***	0.019**		
				(0.008)	(0.009)	(0.008)		
ΔPrivate credit to GDP (3-year moving avg.)	0.004***	0.005***	0.003*	0.004***	0.005***		0.003*	0.002
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)		(0.001)	(0.002)
ΔPrivate credit to GDP (change yoy, in %, lag 1)						0.001		
						(0.001)		
ΔPrivate credit to GDP (change yoy, in %, lag 2)						0.001**		
						(0.000)		
ΔPrivate credit to GDP (change yoy, in %, lag 3)						0.002***		
						(0.001)		
ΔGovernment Stability (3-year moving avg.)							0.021**	0.020**
							(0.009)	(0.009)
Interaction of ΔGovStab and ΔPrivate credit in % (3-year moving avg.)								0.003**
								(0.001)
Observations	1,205	460	745	1,205	860	1,213	745	745
R2	0.020	0.033	0.024	0.027		0.028	0.011	0.012
Adjusted/Pseudo R2	0.017	0.024	0.019	0.021	0.109	0.021	0.008	0.008

The dependent variable is a binary indicator for the onset of banking crises from Laeven and Valencia (2012). Our main explanatory variable is the change in government stability as measured by the continuous ICRG indicator (ranging from 1 to 12). All regressions include country fixed effects. Robust standard errors clustered on country in parentheses. Significance levels denoted by *** p<0.01, ** p<0.05, * p<0.10.

Quantitatively, the coefficients are large. In the OLS regressions, the sum of the interaction term coefficients of $EME_i * (L)\Delta GovStab_{it}$ has a value of about 0.04 throughout. A one point

increase in the stability index (year on year) increases the probability of a crisis by nearly 4 percentage points. This is substantial, given that the probability of a crisis in this sample is 3.9% overall, and that the change of the stability index has a standard deviation of 1.14. Put differently, a "political boom", defined as a one standard deviation increase in government stability during three years, more than doubles the predicted probability of a banking crisis in emerging markets (from 3.9% to 8.2%), *after* controlling for credit booms.

Importantly, political booms and credit booms seem to reinforce each other as crisis predictors in EMEs, as shown in Column 8 of Table 1 with a specification that interacts changes in credit with changes in the stability index. Figure 3 illustrates this interaction based on that specific regression. We plot the estimated coefficient of $\Delta Credit_{it}$ as a function of $\Delta GovStab_{it}$ and the 90 percent confidence bands (dotted lines). Credit growth is statistically significant (lower confidence band above zero) only when the stability index increases as well.[11] This suggests that in emerging markets crisis risks associated with a credit boom are significantly larger in the presence of a contemporaneous political boom.

2.4.2. *Goodness of fit:* In Figure 4 we illustrate the power of political booms as crisis predictor in comparison with credit booms, using a standard diagnostic test for binary event classification, the Receiver Operating Curve (ROC).[12]

In particular, the black line shows the ROC of our main model (Model 1) which accounts for both credit booms *and* political booms based on the regression of column 5 in Table 1. Model 2 (light grey line) uses credit booms only and Model 3 (dark grey line) uses political booms only.

[11] For illustration, the change in credit has a coefficient of 0.0025 when there is no change in government stability. Thus, with no change in the stability index (zero on the horizontal axis in Figure 3), an increase in credit growth by one standard deviation (4.8 percentage points) is associated with a 1.2 percentage point higher crisis probability (namely: 0.0025*4.8=0.012). However when $\Delta GovStab_{it}$ increases from zero to one, on average, the coefficient for credit growth doubles to 0.005. A one standard deviation increase in credit growth then translates into a 2.4 percentage point higher crisis probability (namely: 0.005*4.8=0.024).

[12] The ROC curve was first discussed in signal detection theory (Peterson, Birdsall, and Fox (1954)), then introduced into psychology and now applied in several fields, particularly medicine. For a classic text on ROC techniques, see Green and Swets (1966).

FIGURE 3. Interaction between political booms and credit booms

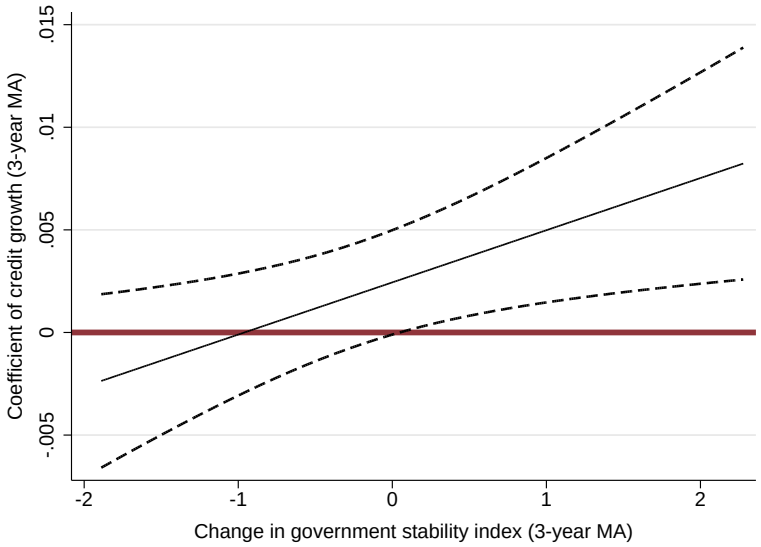
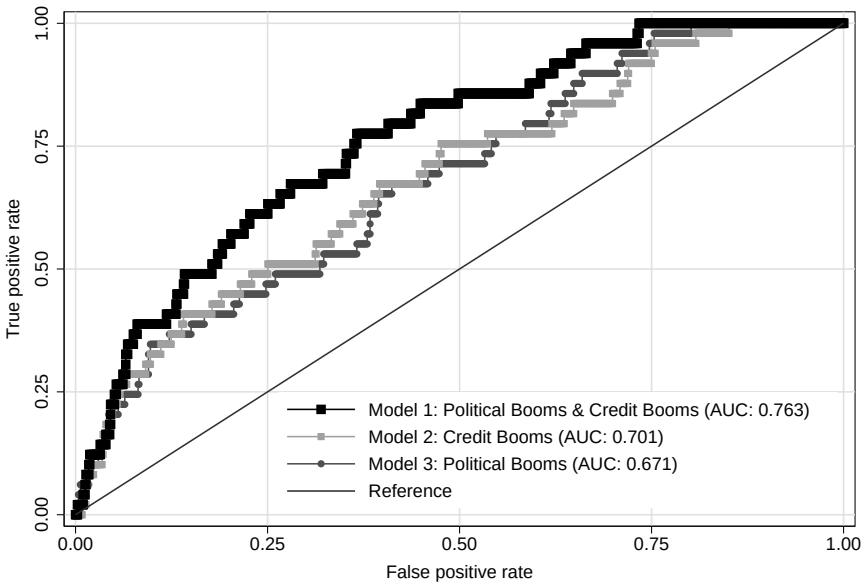


FIGURE 4. Receiver Operating Characteristic Curve (probit w/country FE)



Intuitively, the ROC curve illustrates how a signal (e.g. credit/political boom) performs as a crisis predictor. Performance is the ability of the signal to correctly identify positive

cases (crisis) and not identify negative cases (no crisis), across all possible signal levels (credit and/or popularity changes). The horizontal axis shows the False Positive rate, i.e. how often, if no crisis happens in the sample, the signal predicts a crisis, while the vertical axis shows the True Positive rate, i.e. how often, if a crisis happens in the sample, the signal predicts a crisis. For example, the ROC curve of Model 2 in the figure shows that a credit boom threshold level that predicts a crisis when there is one, say, around 50% of the time (y-axis), also predicts a crisis when there is not one about 25% of the time (x-axis).[13]

Thus, a ROC curve closer to the upper left corner and far from the diagonal indicates a better model fit. This fit is captured numerically by the area under the curve (AUC), which ranges between 0.5 and 1: an AUC value of 0.5 means that the model performs no better than tossing a coin (45-degree line), while a value of 1 indicates perfect prediction, with no false alarms. The estimated AUC can thus be tested against the null hypothesis of a 0.5 value ("coin toss").

In sum, the illustration above displays two key findings. First, political booms are as good predictors of crises as credit booms: we find that Model 2 and Model 3 each outperform the coin toss benchmark significantly and the difference between their AUC test is not statistically significant. Second, credit booms and political booms are different and independently informative predictors of crises: the AUC statistics for Model 1 is a high 0.76 - significantly higher than Model 2 or Model 3 at a 5% significance level.

To further assess the goodness of fit of our main model, we also perform out-of-sample forecasts for the post-1990 period using rolling probit regressions with lagged data on credit and stability index growth. The resulting AUC is 0.66 (with a standard deviation of 0.07), which is clearly lower than the in-sample results shown above, but still significantly better

[13]Similarly, choosing a very low credit boom threshold level to achieve a near-perfect True Positive rate (e.g., around 95-98% on the y-axis), comes at a cost of a high number of false alarms (around 75% on the x-axis).

than tossing a coin. This assures that our model performs reasonably well even when predicting crises one-year in advance. Last but not least, the out-of-sample exercise provides further indication that political booms are as good a predictor as credit booms.[14]

2.4.3. *Robustness checks:* We conduct a large battery of robustness checks. Table A.2 in Appendix A contains a summary of additional variables used as controls, their details and data sources.

First, we modify the estimation approach by running (i) random effects regressions (no country fixed effects), (ii) probit regressions, (iii) regressions that include year fixed effects and (iv) regressions that correct for autocorrelation in the standard errors, with little impact on the results. We also control for country-specific economic variables that may affect the probability of crises, such as macroeconomic fundamentals and asset prices. In particular, we account for (i) growth of real GDP, (ii) changes in real house prices, (iii) changes in real stock prices, (iv) the growth in government expenditures (as a fraction of GDP), (v) changes in household consumption (as a fraction of GDP), (vi) yearly inflation (in %), and (vii) the change in a country's terms of trade.

Second, we control for country-specific political and institutional factors, in particular: (i) autocratic or quasi-autocratic regime (defined by a democracy index from the Polity dataset below 6), (ii) the political system (presidential vs. parliamentarian), (iii) the quality of institutions (a measure of executive constraints, also from the Polity dataset, and indicators on bureaucratic quality and on the rule of law), (iv) the independence of the central bank (cross-sectional data from Arnone et al. 2007), (v) government turnover (a dummy for "new government", which captures whether the government has been in office for one or two years only, from the Database of Political Institutions (DPI)), (vi) the political orientation of the government (a dummy for left-wing governments from the DPI), (vii) wars and conflicts (both with data from ICRG and the Correlates of War project), (viii) the electoral cycle ("years until next election" and "years in office" from the DPI) and (ix) disruptive political events, in

[14]The AUC for the rolling regression with political booms only is 0.62, while that with credit booms only is slightly lower (0.60), but the difference is not statistically significant.

particular "major government crises" and "major cabinet changes" from Banks and Wilson (2014), federal elections (from the DPI), and public protests (number of "general strikes" and "violent street riots" also from Banks and Wilson (2014).

Tables B.1 and B.2 in Appendix B show that none of these additional controls affect the results qualitatively or quantitatively. As for potential non-linear effects,[15] adding second- and third-order polynomials of our credit or political boom variables leave results unchanged.

2.4.4. *Sudden stops:* Finally, we test the relevance of political factors for another type of financial crises: systemic sudden stops. We follow the exact same procedure as above replacing the dependent variable with the sudden stop measure compiled by Calvo et al. (2008) for 36 countries between 1990 and 2004. Table B.3 in Appendix B confirms that changes in the stability index is a statistically significant predictor also of sudden stops, above and beyond credit booms. Quantitatively, both the effects and the predictive power of political booms are again large.[16]

2.5. **A new dataset on government popularity.** We built a novel dataset of government popularity by collecting measures of government support directly from reputable polling organizations worldwide. Our data compilation contains high-quality time series of government approval polls (simply *popularity* henceforth) in 14 advanced economies and 11 emerging markets and as far back as possible. To the best of our knowledge there is no similar sample of

[15] It is possible that an increase in government stability is a by-product of credit booms that become particularly pronounced at certain levels. If this is the case, our finding on political booms might merely capture a nonlinear function of credit growth.

[16] In the main model (column 4 of Table B.3), the sum of the three interaction term coefficients of $EME_i * (L)\Delta GovStab_{it}$ implies that a one point increase in the stability index (less than one standard deviation) is associated with a 6.7 percentage point higher probability of facing a sudden stop. The AUC statistics resulting from the probit model is a high 0.79 and statistically different from a coin-toss model. The results are also robust to the checks performed for banking crises.

polling data on government support available for as many countries and as many periods.[17] Appendix C provides a detailed overview of the coverage, data sources, and definitions.[18]

This polling data is not sufficiently rich to replicate our previous stability index regressions, as polling time series are unavailable for many emerging markets during the 1980s and 1990s, the period with most EME crises.[19] This new dataset serves two purposes. First, to legitimate our interpretation of the stability index as government popularity, and its increase as a political boom. Second, to zoom into specific crises and track the evolution of popularity and the political environment surrounding those events. We develop these two points in the next two subsections.

2.5.1. *Government stability captures government popularity.* The stability index captures elements both of institutional quality and popular support, a combination that limits its interpretation as pure popularity, as we discussed.[20] Here we show that changes in popularity are the most important determinant of changes in the stability index. In other words, perhaps not surprisingly, institutional quality tends to be a much more persistent component of the stability index. This helps justify our definition of political booms as increases in the stability index.

First, we find a high correlation between changes in the stability index and changes in government approval, as shown in the cross-section scatter plot of Figure 5, based on the full sample of 25 countries for which we have polling data.[21] As an illustration, Appendix D also

[17] Duch and Stevenson (2008) document that long time series on government approval or voting intentions are readily available only for a few advanced countries, such as the US, the UK, or Germany, but scarce in most developing countries, especially prior to the mid-2000s. From 2005 onwards, the Gallup World Poll covers government approval in more than 100 countries on an annual basis. This data was first used by Guriev and Treisman (2016).

[18] We are very thankful for the support of many people in this process and for their willingness to share data with us (their names are also listed in the appendix).

[19] Specifically, for the sample with available polling data on government approval we only have 19 banking crises (of which only 6 are in EMEs) and 7 sudden stops.

[20] A second limitation is that the index is based on risk assessments by country experts, which could introduce a bias. The codebook on the ICRG website states that "The ICRG staff collects political information and financial and economic data, converting these into risk points for each individual risk component on the basis of a consistent pattern of evaluation. The political risk assessments are made on the basis of subjective analysis of the available information." (PRS 2004, p. 2).

[21] The full sample correlation between the two measures is 0.43 and statistically significant. A similar result holds when using levels, with a correlation of 0.44. See the scatter plot D.1 in Appendix D.

shows the close co-movement of the two measures in four prominent countries in the sample, the US, Germany, Argentina and Russia.

Second, we find evidence that popularity is by far the main ingredient driving the stability index. Table 2 shows regression results using the stability index as dependent variable and government approval (yearly poll averages) as an explanatory variable, in addition to a set of institutional and political controls (to account for political stability and legislative factors), and country fixed effects (to account for differences in the polling methodology across countries). Government approval is statistically significant both in levels and in first differences. Moreover, nearly one third of the large time-variation in the stability index can be explained by changes in government approval alone. In contrast, institutional and political controls (columns 3 and 4) have surprisingly little power in explaining the stability index and its movements. Put differently, popularity alone, measured directly through polling data, contributes more to the R-square in the regression than all of the other variables combined (columns 5 and 6).

FIGURE 5. Changes in the stability index (from ICRG) and popularity (from polls)

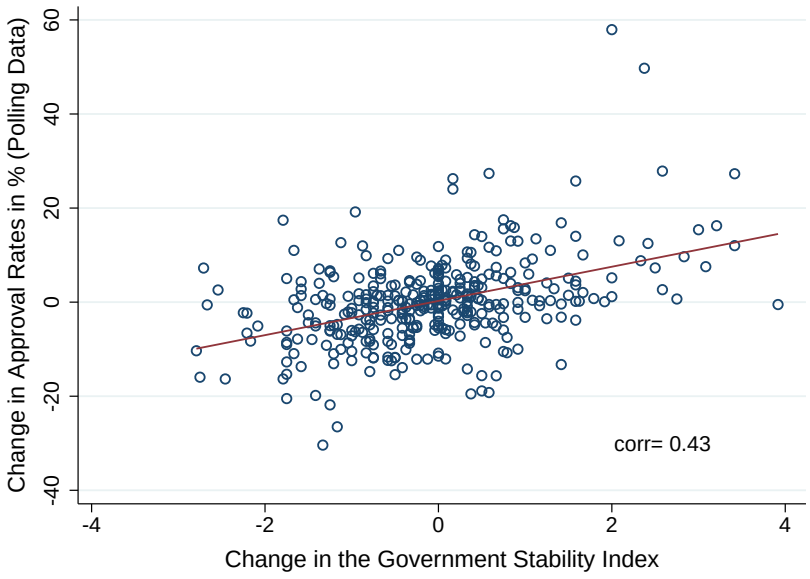


Table 2: Stability index as a proxy for popularity: regressions

	(1)	(2)	(3)	(4)	(5)	(6)
	Approval data only (levels)	Approval data only (first differences)	Institutional Quality and Fractionalisation	Political Events	All Controls (in levels)	All Controls (in first differences)
Regression in	levels	first differ.	levels	levels	levels	first differ.
Country fixed effects	Yes	No	Yes	Yes	Yes	Yes
Government Approval (polling data, in %)	0.069***				0.072***	
	(0.009)				(0.009)	
Government Approval (yoy change, in %)		0.051***				0.048***
		(0.007)				(0.007)
Democracy (Polity 2)			0.168		0.057	-0.083
			(0.286)		(0.079)	(0.140)
Presidential System (dummy)			2.012***		1.147***	-1.331***
			(0.357)		(0.366)	(0.223)
Rule of Law (ICRG index)			-0.243		-0.217	1.281
			(0.399)		(0.229)	(1.223)
Bureaucratic Quality (ICRG index)			0.172		0.153	-0.415
			(1.188)		(0.609)	(0.257)
Political Fractionalization (index from DPI)			-2.675		0.377	0.657
			(2.809)		(2.197)	(0.721)
External Conflict (ICRG index)				-0.315***	-0.133	-0.043
				(0.101)	(0.097)	(0.111)
Internal Conflict (ICRG index)				-0.033	-0.026	0.113
				(0.244)	(0.162)	(0.145)
New Executive (change in government)				0.017	-0.167	0.118
				(0.164)	(0.151)	(0.108)
General Strikes				-0.469***	-0.245*	-0.151
				(0.143)	(0.128)	(0.119)
Violent Street Riots				-0.043	-0.065	-0.027
				(0.104)	(0.082)	(0.073)
Anti-Government Demonstrations				-0.015	0.144	0.033
				(0.171)	(0.104)	(0.065)
R2 - within	0.284	0.182	0.037	0.054	0.359	0.195
R2 - between	0.132	0.251	0.054	0.032	0.089	0.451
R2 - overall	0.197	0.184	0.000	0.040	0.202	0.200
Observations	400	370	347	363	347	321

Dependent variable: government stability index by ICRG. Robust standard errors clustered on country in parentheses. Significance levels denoted by *** p<0.01, ** p<0.05, * p<0.10.

Last but not least, we show that the stability index correlates with subsequent electoral outcomes, as one should expect. In particular, Table D.1 in Appendix D shows that the lagged stability index is a good predictor for the probability of being reelected and negatively correlated with executive turnover as well as major government crises.

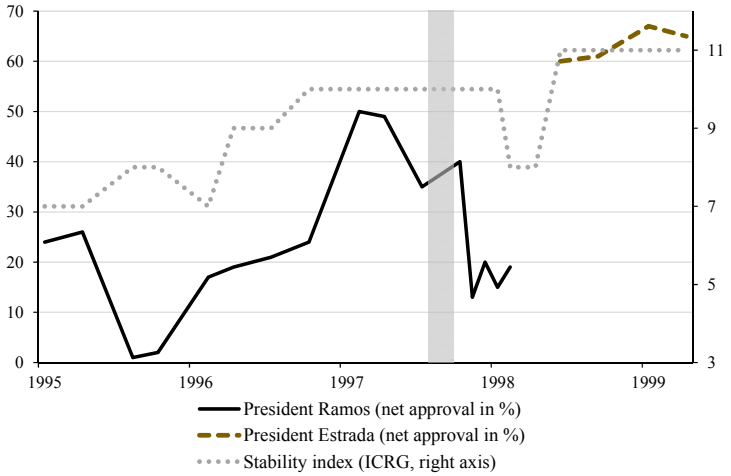
2.5.2. *The evolution of popularity around specific crisis events.* Our novel polling dataset allows us to scrutinize our key results with 12 case studies, namely by tracking government approval around well-known crisis events for which poll data is available. These include the emerging market crises of Mexico 1995, Hong Kong 1997, Philippines 1997, Russia 1998 and Uruguay 2002, as well as the advanced economy crises in Norway 1987, Finland 1991, Sweden 1991, Ireland 2007, UK 2007, Spain 2008 and in the US 2008. As an illustration, we describe the political context of two of these crises below (the Philippines in 1997, an emerging economy, and Sweden 1991, an advanced economy), and then summarize the evolution of popularity for the other 10 financial crises in Appendix D. The main take away is that our key stylized fact is confirmed: in all cases, government approval increases markedly prior to crises in emerging markets, but not in advanced economies. Moreover, the figures illustrate that governments are often replaced after a crisis and that, around crises, the poll-based government approval series co-move rather closely with the ICRG stability index.

Figure **??** focuses on the Philippines, where President Ramos enjoyed increasing public support between end-1995 and mid-1997, a period with strong economic and credit growth.[22] Loans to the private sector expanded most in 1995 and 1996 (with growth rates of more than 40% per year) and this was partly a consequence of the financial deregulation enacted after Ramos took office in 1992 (see Corsetti et al. 1999). In parallel, Ramos' popularity nearly doubled, as shown by the polling data, as well as the ICRG stability index. At the peak of this political and economic boom, and less than a year from the next presidential elections, President Ramos prominently declared that "the Philippines is no longer trapped in its old cycle of boom and bust [...] That past is now over; and a great era dawns upon us."[23] Yet, the crisis broke out just two months later, Ramos' popularity collapsed, and the opposition candidate Joseph Estrada won a landslide victory in May of 1998.

[22]Press reports at the time indicate that President Ramos was highly concerned with his low approval ratings in 1995, taking measures to boost the economy in his final two years in office. His press secretary Hector Villanueva explained that "the president's policy decisions are, well, not really influenced, but are guided by his popularity performance." Source: "Ramos Unpopular at Home", United Press International, Feb. 22, 1996.

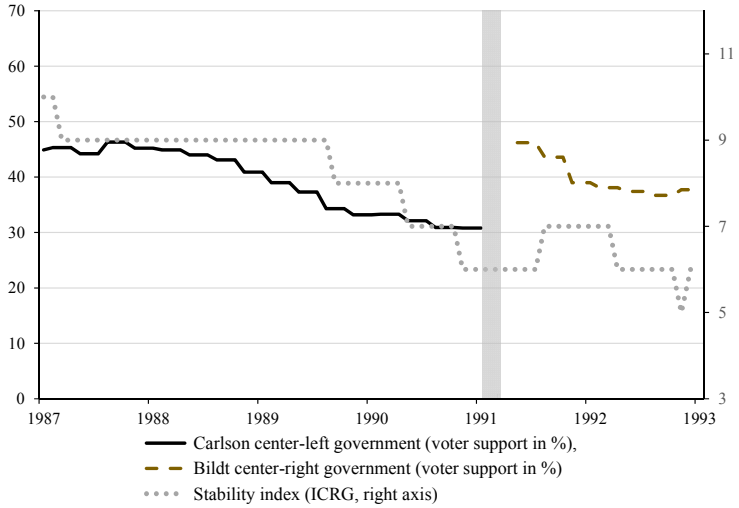
[23]See his state of the union address of July 1997 `http://www.gov.ph/1997/07/28/fidel-v-ramos-sixth-state-of-the-nation-address-july-28-1997/`.

FIGURE 6. Government popularity surrounding the 1997 crisis in the Philippines



The political environment looks very different in pre-crisis Sweden, where the Carlson government saw a gradual decline in voter support (from 45% to 30%) in the 4 years preceding the crash of 1991 (the stability index shows a very similar trend). After the crisis, the ruling Social Democrats lost the election and a new center-right coalition came to power (see Figure **??**).

FIGURE 7. Government popularity surrounding the 1991 crisis in Sweden



3. MODEL

We have shown that political booms predict crises above and beyond credit booms, but only in emerging economies. The simple model we present now illustrates a potential channel connecting political booms with financial crises. As we show, the mechanism we propose operates mostly in emerging economies and is thus consistent with the evidence above.

In the model governments may try to maintain/improve popularity by avoiding regulatory actions to control credit booms, thereby increasing the risk of a crisis. Our goal is to explain the emerging market phenomenon of "political booms gone bust" without imposing ex-ante intrinsic economic differences between emerging and advanced economies, but instead relying on political motivations alone and exploring how those motivations might differ across countries.

The model predicts that (i) countries characterized by more volatile, and on average lower, government popularity are more likely to ride booms; (ii) regulation (or lack thereof) is a key policy feature that distinguishes emerging and advanced economies during credit booms. Lastly, we provide evidence for these two model predictions.

3.1. **Environment.** The economy is composed by households (or voters) and a government. A credit boom generates *economic gains* Π for households, but may generate larger *economic losses* $X > \Pi$ if it ends in a crisis. The boom can be good (g) or bad (b). A good boom is sustained by an increase in productivity and ends in crisis with an exogenous probability η. A bad boom is sustained by speculation and without *regulation* may bust causing a crisis with a higher probability $\widehat{\eta} = q + \eta(1 - q) > \eta$, where q is the additional chance that a bad boom ends in a crisis relative to the good boom. We assume regulation reduces the economic gains of a credit boom only by an $\varepsilon > 0$, while it reduces the probability of crisis from $\widehat{\eta}$ to η in a bad boom, not affecting the probability η of crisis in a good boom. We assume regulation is

always optimal in a bad boom (this is, $(\widehat{\eta} - \eta)X > \varepsilon$) and never optimal in good boom, as $\varepsilon > 0$.[24]

Given this first-best response for each type of boom, we denote *regulating* as $\hat{b}$ (the optimal policy for booms b) and no-regulation, namely *riding* the boom, as $\hat{g}$ (the optimal policy for booms g).

There are two types of governments: Good (G) and Bad (B). The government knows its own type and we assume good governments are more likely to generate good booms than bad governments, that is

$$p_G \equiv \Pr(g|G) > p_B \equiv \Pr(g|B),$$

We assume that governments observe the type of the boom, while households do not, although this strong assumption can be relaxed without changing our results qualitatively.[25] Moreover, good governments always act optimally (they regulate a boom if and only if it is bad), which allows us to focus just on the strategy of bad governments.[26]

Government payoffs increase in two factors: its reputation level ϕ (*remain in office* motivation) and a policy reward parameter ρ (*enact the right policy* motivation). The reputation level ϕ is the household-assessed probability the government is good $\phi \equiv \Pr(G)$,[27] while the reward parameter ρ measures the magnitude of the policy motivation relative to the office motivation. We assume $\rho > 0$, which implies that the government's interests are aligned to those

[24]The welfare gain from riding a bad boom is $\Pi - \widehat{\eta}X$ and from riding a good boom $\Pi - \eta X$. The welfare gain from regulating any boom is $\Pi - \varepsilon - \eta X$.

[25]What matters for the model to work is that the government has at least some *additional* information about the nature of the boom and then the likelihood of a crisis.

[26]This assumption is expositionally convenient to maintain a unique outcome. Allowing good governments to decide whether or not to regulate generically expands the set of equilibria. As discussed in Fudenberg and Levine (1998), taking the optimal action is an evolutionary stable strategy for good governments. We could also justify this assumption imposing that good governments face larger costs from crises (or that they have a higher discount factor), in which case they would optimally choose to regulate bad booms more frequently than bad governments.

[27]In this simple setup we do not model elections and just interpret the incumbents' payoff as the reelection chance. This is true in a model in which the incumbent faces an opponent with the type drawn from an ex-ante distribution, and then average reputation. See Appendix G for an application of this reelection chance modeling.

of the voters, and the government enjoys when enacting policies that are optimal given the nature of the booms.

This is a single period economy with the following timing within the period: Nature draws the government type $\{B, G\}$. The government observes a boom of type $s \in \{b, g\}$, which depends stochastically on the government's type. The government decides whether to regulate or ride the boom $r \in \{\hat{b}, \hat{g}\}$. Households observe this regulation decision and subsequently a crisis or no-crisis $cr \in \{C, NC\}$, updating their beliefs about the government's type. Finally, the government receives a payoff which depends on its updated reputation $\phi_{r,cr}(\phi)$, a function both of its current reputation ϕ, its regulation decision ($r \in \{\hat{g}, \hat{b}\}$) and the crisis state ($cr \in \{C, NC\}$). The strategy $\sigma_B(r|s)$ is defined as B's chance of implementing policy r in state s, thus B's expected payoffs in each state are

$$u(\sigma_B(.|g)) = \sigma_B(\hat{g}|g)[\rho + E(\phi_{\hat{g}}|g)] + \sigma_B(\hat{b}|g)[\phi_{\hat{b}}], \tag{1}$$

$$u(\sigma_B(.|b)) = \sigma_B(\hat{g}|b)[E(\phi_{\hat{g}}|b)] + \sigma_B(\hat{b}|b)[\rho + \phi_{\hat{b}}]. \tag{2}$$

where $E(\phi_{\hat{g}}|g)$ is the expected reputation from riding a good boom and $\phi_{\hat{b}}$ is the (expected) reputation from regulating a good boom.[28]

3.2. **Equilibrium.**

A Perfect Bayesian Equilibrium consists of regulation strategies $\sigma_B = \{\sigma_B(.|g), \sigma_B(.|b)\}$ and updated reputation $\phi_{r,cr}$ such that (*i*) B maximizes utility, (*ii*) Bayes rule is used to update reputation and (*iii*) households' beliefs about strategy σ_B are correct.

Proposition 1. *In any equilibrium, B never regulates a good boom: $\sigma_B(\hat{g}|g) = 1$.*

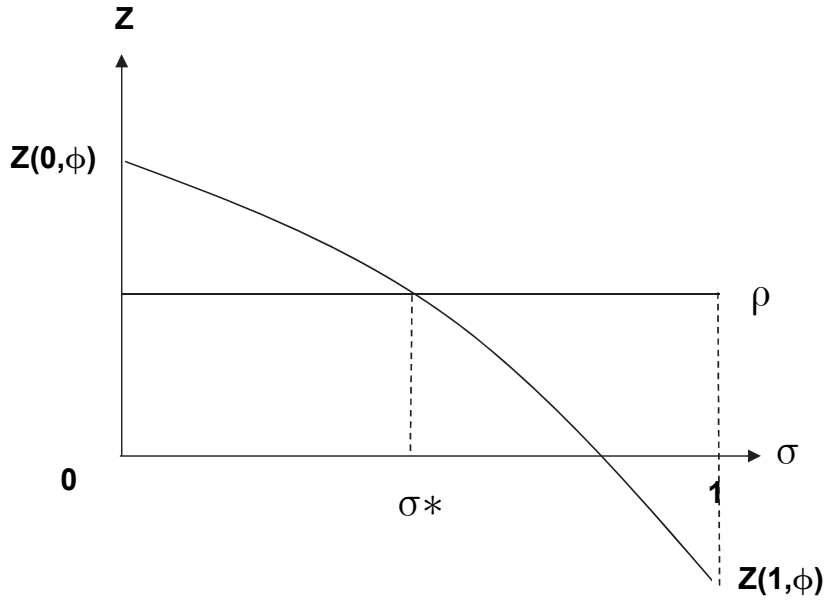
[28]The expectation is taken over the probability of facing a crisis or not. Since conditional on regulation there is no further updating conditional on crisis, the expectation term does not apply in this case. This is just a special result from assuming that upon regulation both booms have the same probability η of ending up in a crisis.

This result means there is no distortion from the optimal policy during good booms. Since $\sigma_B(\hat{g}|g) = 1$, then $\sigma := \sigma_B(\hat{g}|b)$ is effectively the only strategic choice variable, i.e. the probability of "riding" bad booms. We call $\sigma^* \in [0, 1]$ the amount of distortion in equilibrium, and say that policy is distorted if $\sigma^* > 0$. The proof (and all proofs for the next propositions) are in Appendix E.

Proposition 2. *The equilibrium exists and is unique. If $\phi \in (0, 1)$ the equilibrium displays policy distortion $\sigma^* > 0$ for a positive interval $\rho \in [0, \overline{\rho})$.*

The intuition of this proposition is illustrated in Figure 8, where we show the net reputational gain from riding a bad boom, $Z(\sigma, \phi) = E(\phi_{\hat{g}}|b)(\sigma) - \phi_{\hat{b}}(\sigma)$, and compare it to ρ. From equation (2) it is clear that bad governments ride bad booms if and only if $Z(0, \phi) := \overline{\rho} > \rho$.

FIGURE 8. Properties of $Z(\sigma, \phi)$



Note that $Z(\sigma, \phi)$ is strictly decreasing in σ, with $Z(0, \phi) > 0$ and $Z(1, \phi) < 0$, which means that the net benefits of riding a bad boom shrink when it becomes more likely that bad governments ride bad booms: when bad governments never ride bad booms, then riding is a good signal for the public, equivalent to observing good booms, but when bad governments

ride bad booms more frequently, riding is no longer a precise signal of a good boom.[29] Thus in this case regulation is politically costly: reputation decreases with regulation.

Inspecting Figure 8, it is clear that an equilibrium exists and is unique. Intuitively, a larger policy motivation parameter ρ increases the expected gains from avoiding crises which induces more regulation and lower distortions. It is also clear that, all else equal, as $Z(0,\phi)$ increases, distortions σ^* also increase.

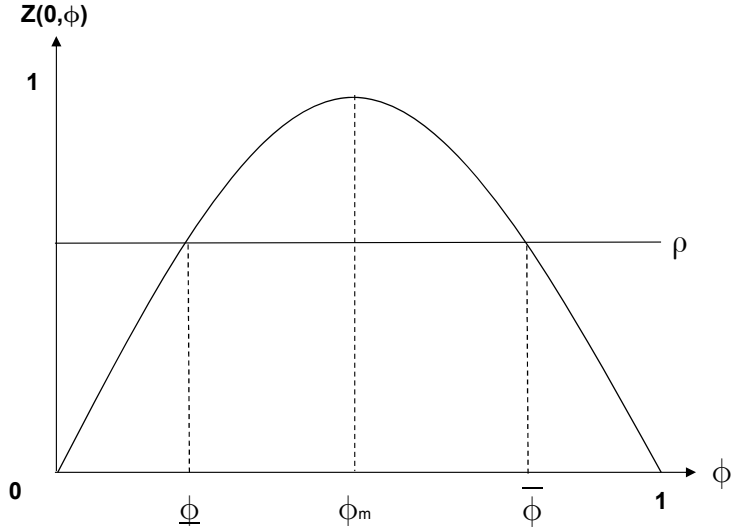
Figure 9 tracks the critical value $\overline{\rho} := Z(0,\phi)$ for different reputation levels ϕ, showing a non-monotonicity. The following comparative statics on the distortion probability σ^* are evident from the figure, but are also proved in Appendix E. *i*) No government rides a bad boom if there are no reputational gains, namely either if types are the same $p_B = p_G$ or if there is only one type, $\phi \in \{0,1\}$. *ii*) Bad booms riding is more likely when reputation is intermediate $\phi \in \left(\underline{\phi}, \overline{\phi}\right)$, that is, when the government's type is very uncertain there is more room for governments to change public opinion with their actions. *iii*) The larger the p_G and lower the p_B, i.e. the larger the variance of political types, the higher the incentives to ride a bad boom, as the popularity loss from regulation following the optimal policy is higher.

3.3. **Mapping the model to the data.** We now show that this model is consistent with the findings in the empirical section. First, we show that the model implies that political booms predict financial crises when potential concerns are large. Then, we discuss why emerging markets are more likely to present larger popularity concerns, thus making political booms better predictors of financial crises in those countries.

3.3.1. *Political booms can predict financial crises.* In the model we capture the change of popularity by the interim reputation updating after regulation (or lack thereof) is observed but before a crisis (or lack thereof) is.

[29] Several models of reputation-concerned governments have been proposed by the literature. Our setting, however, captures our key finding linking popularity surges before financial crises only in certain countries. Models of reputation in line with the seminar work of Kreps and Wilson (1982), for example, would suggest that governments "misbehave" (i.e. prefer to face the probability of a crisis rather than exerting efforts to prevent it) only when their reputation is large. This prediction, however, contradicts our empirical findings. Here we allow the data to discipline our modeling choices.

FIGURE 9. Governments with intermediate reputation distort more



The interim updated reputation, conditional on riding a boom ($\hat{g}$) and conditional on regulating a boom ($\hat{b}$) are

$$\phi_{\hat{g}} := \frac{p_G\phi}{p_G\phi + (p_B + (1-p_B)\sigma^*)(1-\phi)}; \qquad \phi_{\hat{b}} := \frac{(1-p_G)\phi}{(1-p_G)\phi + ((1-p_B)(1-\sigma^*))(1-\phi)}.$$

The next proposition shows that interim reputation declines upon regulation.

Proposition 3. *Conditional on observing regulation (riding) reputation declines (increases), namely:*

$$\phi_{\hat{g}} > \phi > \phi_{\hat{b}}.$$

The ex-ante probabilities of observing these interim changes in popularity are determined by the ex-ante probabilities of observing regulation (or lack thereof),

$$\begin{aligned} \Pr(\phi_{\hat{b}}) &= \phi(1-p_G) + (1-\phi)(1-p_B)(1-\sigma^*) \\ \Pr(\phi_{\hat{g}}) &= \phi p_G + (1-\phi)(p_B + (1-p_B)\sigma^*). \end{aligned}$$

Thus, the likelihood of a crisis conditional on observing a decline in popularity (i.e., conditional on regulation), is

$$\Pr\left(C|\phi_{\hat{b}}\right) = \frac{\Pr\left(C, \phi_{\hat{b}}\right)}{\Pr\left(\phi_{\hat{b}}\right)} = \eta. \tag{3}$$

Similarly, the likelihood of a crisis conditional on observing an increase in popularity (i.e., conditional on no regulation), is

$$\Pr\left(C|\phi_{\hat{g}}\right) = \frac{\phi p_G \eta + (1-\phi) p_B \eta + (1-\phi)(1-p_B)\sigma^* \widehat{\eta}}{\phi p_G + (1-\phi)(p_B + (1-p_B)\sigma^*)} = \eta + \frac{\sigma^* \Omega}{\Pr\left(\phi_{\hat{g}}\right)} \tag{4}$$

where

$$\Omega := (1-\phi)\left(1-p_B\right)\left(q\left(1-\eta\right)\right).$$

Equations (4) and (3) show a larger chance of crisis after observing an *increase* in reputation from ϕ to $\phi_{\hat{g}}$ relative to observing a decrease from ϕ to $\phi_{\hat{b}}$. In essence, bad governments riding bad booms with positive probability, $\sigma^* > 0$, is a necessary and sufficient condition for surges in popularity predicting crises. Importantly, a larger distortion probability σ^* implies higher predictive power of a "political boom." This is, $Pr(C|\phi_{\hat{g}}) - Pr(C|\phi_{\hat{b}}))$ is larger.

In Appendix G we simulate this model as a full-fledged repeated game. We assume an exogenous fraction ϕ_0 of good governments in the pool of politicians. If an incumbent earns a reputation $\phi < \phi_0$ she is replaced by another government with $\phi = \phi_0$ from the pool, and so forth.[30] Then we run regressions as we did with the empirical data and we obtain the same qualitative result, namely in the absence of potential popularity gains changes in popularity cannot predict crises.

In the data we cannot observe directly whether governments have or have not enacted regulations targeted and designed to avoid specific crises, but we can use the model to interpret an increase in reputation as reflecting no regulation and a decline as reflecting regulations. In Appendix F we show that indeed emerging market crises are usually preceded by loose

[30] In our single period setting the initial reputation of a government, ϕ, coincides with the fraction of good governments in the pool of politicians, ϕ_0. In the repeated game, the fraction of good governments in the pool of politicians only determines the initial reputation of new governments.

regulation and that there is a negative correlation between regulation and government popularity. In sum, regulation (or the absence of it) seems to be an important link between surges in popularity and the likelihood of crises in emerging markets.

3.3.2. *Why only in emerging markets?* Here we argue that potential popularity gains are stronger in emerging markets because the reputation of their governments is *intermediate* (from the model standpoint this is $\phi \in \left(\underline{\phi}, \overline{\phi}\right)$ and $\sigma^* > 0$). In contrast, in advanced economies average popularity is higher (from the model standpoint a smaller σ^* such that the difference between equations (4) and (3) is not large enough to predict crises).[31]

There is a key feature of intermediate reputation levels that allows us to check whether an environment with high distortions is typical in emerging economies: *volatility of popularity.* All else equal, beliefs vary more when the reputation prior is intermediate. To see this notice that the Bayesian updating variation is,

$$\phi_{\hat{g}} - \phi_{\hat{b}} = \phi(1-\phi)\frac{p_G - p_B - (1-p_B)\sigma^*}{Pr(\hat{g})Pr(\hat{b})},$$

where $\phi(1-\phi)$ is the variance of popularity, which is larger for intermediate levels of ϕ.[32]

Empirically, the popularity of governments in emerging countries is indeed more volatile: the standard deviation of our stability index is 4.04 in emerging economies and 2.47 for advanced economies, with the difference being statistically significant at a 99% confidence level. Similarly, the standard deviation of our new data series on government approval is 21.2% in emerging economies and 13.1% for advanced economies, also statistically significant at a 99% confidence level.

A second piece of evidence suggests that governments in emerging economies have intermediate reputation levels: (i) reputation cannot be too low as our database mainly includes

[31] In particular, if the reputation is relatively high such as $\phi > \overline{\phi}$, then $\sigma^* = 0$, the probability of a crisis is η and the increase in popularity does not help to predict a crisis at all.

[32] Note that more volatile popularity in our setting is not the result of greater heterogeneity in the quality of governments, but rather a property of Bayesian updating for intermediate priors about the quality of governments. In other words, given a signal, reputation changes more when the prior is neither too low nor too high.

democratic countries with regular turnover, thus reputation is almost always truncated below, and (ii) reputation in advanced economies is higher. The average stability index, for example, is 8.22 in advanced economies and 7.57 in emerging economies, with the difference being statistically significant at the 99% confidence level.[33] Finally, to further corroborate this finding Appendix F shows that, *even among emerging markets* alone, political booms predict crises better in countries with lower levels of popularity.

4. CONCLUSIONS

Financial crises are often credit booms gone wrong, both in developed and emerging markets. In this paper we show that, in emerging economies, financial crises are also political booms gone wrong. This new fact helps to understand why credit booms often do go wrong. Our model proposes an explanation consistent with this finding and other features of the data: striving to build popularity, governments may avoid corrective measures during credit booms, which results in higher risk that booms go bust.

In emerging markets, governments have more to gain from riding credit booms, because the popularity of politicians in these countries is more volatile compared to advanced economies. This key difference also explains why most emerging market crises were preceded by inaction or even deregulation, rather than regulation.

Our paper suggests that financial crises may not only be the result of exogenous fundamental economic differences across countries, as often proposed in the literature, but also of perverse incentives within political systems. This calls for a dynamic theory of *political-financial traps*: a country which holds its politicians in low regard is more subject to crises and economic volatility, as the political gains from "gambling for redemption" strategies are larger. This, in turn, makes high-risk policies more likely and keeps the average reputation of politicians low, a vicious circle.

[33] Before 1990 this difference was even larger, with an average popularity index of 8.43 in advanced economies and 6.00 in emerging economies, also a statistically significant difference.

To conclude, a main insight from our analysis is that credit booms are particularly dangerous if they coincide with political booms. This is currently relevant with a view to China, a country that is witnessing both types of booms. Credit/GDP increased from 147% in December 2008 to 255% in March 2016, while the Chinese leadership has enjoyed record popularity in the last few years.[34] If the past is any lesson, these two booms may reinforce each other, resulting in too little regulation and major risks to the Chinese and global economy.

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Online Appendix

APPENDIX A. SUMMARY OF SAMPLE AND VARIABLES

Sample of Countries

Sample of Advanced Economies (22): Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States.

Sample of Emerging Economies (40): Algeria, Argentina, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Czech Republic, Ecuador, Egypt, Estonia, Hong Kong, Hungary, India, Indonesia, Israel, Jordan, Latvia, Lithuania, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru, Philippines, Poland, Romania, Russia, Singapore, Slovak Republic, Slovenia, South Africa, South Korea, Thailand, Turkey, Uruguay, Venezuela.

Table A.1: Sample of Crises

Main Crises (Reinhart and Rogoff)		Banking Crises (Leaven and Valencia)		Sudden Stops (Calvo, Izquierdo and Mejía)	
Emerging Economies		**Emerging Economies**		**Emerging Economies**	
Hong Kong	1997	Costa Rica	1987	Argentina	1995
Indonesia	1997	Argentina	1989	Argentina	1999
Malaysia	1997	Jordan	1989	Brazil	1995
Philippines	1997	Algeria	1990	Brazil	1998
South Korea	1997	Brazil	1990	Bulgaria	1995
Thailand	1997	Romania	1990	Chile	1995
Russia	1998	Hungary	1991	Colombia	1997
Argentina	2000	Nigeria	1991	Costa Rica	1998
Turkey	2000	Estonia	1992	Ecuador	1995
		Poland	1992	Ecuador	1999
Advanced Economies		Slovenia	1992	Estonia	1998
Norway	1987	India	1993	Hong Kong	1998
Finland	1991	Costa Rica	1994	Indonesia	1997
Sweden	1991	Mexico	1994	Jordan	1994
Japan	1992	Venezuela	1994	Jordan	1998
Iceland	2007	Argentina	1995	Latvia	1999
Ireland	2007	Latvia	1995	Lithuania	1999
United Kingdom	2007	Lithuania	1995	Malaysia	1994
United States	2007	Bulgaria	1996	Mexico	1994
Greece	2008	Czech Rep.	1996	Pakistan	1995
Portugal	2008	Indonesia	1997	Peru	1997
Spain	2008	Malaysia	1997	Philippines	1995
		Philippines	1997	Poland	1999
		South Korea	1997	Slovak Rep.	1997
		Thailand	1997	Slovenia	1998
		China	1998	South Korea	1997
		Colombia	1998	Thailand	1996
		Ecuador	1998	Turkey	1994
		Russia	1998	Turkey	1998
		Slovak Rep.	1998	Uruguay	1999
		Turkey	2000		
		Argentina	2001	**Advanced Economies**	
		Uruguay	2002	Austria	1992
		Hungary	2008	France	1992
		Latvia	2008	Greece	1992
		Russia	2008	Portugal	1992
		Slovenia	2008	Spain	1992
				Sweden	1992
		Advanced Economies			
		United States	1988		
		Finland	1991		
		Norway	1991		
		Sweden	1991		
		Japan	1997		
		United Kingdom	2007		
		United States	2007		
		Austria	2008		
		Belgium	2008		
		Denmark	2008		
		France	2008		
		Germany	2008		
		Greece	2008		
		Iceland	2008		
		Ireland	2008		
		Netherlands	2008		
		Portugal	2008		
		Spain	2008		
		Sweden	2008		
		Switzerland	2008		

Table A.2: List of Variables and Data Sources

Variable	Definition	Source
Economic and Financial Variables		
Banking crises	Crisis onset year (dummy)	Leaven and Valencia (2012)
Sudden stops	Crisis onset year (dummy)	Calvo et al. (2008)
Credit growth	Change in domestic credit to private sector (yoy, as % of GDP)	World Bank WDI dataset
Growth rate (real)	Change in real GDP (yoy)	World Bank WDI dataset
Stock market prices	Change in main stock market index (yoy, inflation adjusted)	Reinhart and Rogoff (2009), updated dataset
House price changes	Change in real house prices (yoy)	Cesa-Bianchi (2013), complemented with data by Mack and Martínez-García (2011)
Expenditures/GDP	Change in general government total expenditure (yoy, as % of GDP)	IMF WEO dataset
Consumption/GDP	Change in household consumption expenditure (yoy, as % of GDP)	World Bank WDI dataset
Reserves	Change in total reserves (yoy, in months of imports)	World Bank WDI dataset
Inflation	Inflation rate (yoy, in logs)	World Bank WDI dataset
Terms of Trade	Change in terms of trade (yoy, constant local currency units)	World Bank WDI dataset
Political and Institutional Variables		
Government stability	Indicator capturing the government's ability to stay in office and carry out its policy program(s)	ICRG dataset
Popularity	Government approval rates (in %) based on political polls. See Appendix C for details	Own data collection (Appendix C)
Democracy	Polity2 index randing from -10 (full autocracy) to +10 (full democracy)	Polity IV project database
Presidential system	Based on "SYSTEM" variable (presidential systems)	Database of Politcal Institutions
Executive constraints	Based on "XCONST" variable in Polity IV project (Executive Constraints & Decision Rules)	Polity IV project database
Rule of law	Law and order indicator, capturing strength and impartiality of the legal system and the popular observance of the law	ICRG dataset
Bureaucratic quality	Indicator capturing the institutional strength and quality of the bureaucracy	ICRG dataset
Central bank independence	Central bank autonomy index, capturing both economic and political autonomy	Arnone et al. (2007)
New executive (gov. change)	Federal election (presidential or parliamentarian) in the last two years	Database of Politcal Institutions
Political fractionalization	Based on "GOVFRAC" variable (probability that two deputies picked at random from among the government parties will be of different	Database of Politcal Institutions
Years in office	Based on "YRSOFFC" in the DPI (How many years has the chief executive been in office?)	Database of Politcal Institutions
Years to next election	Based on "YRCURNT" in the DPI (years left in current term)	Database of Politcal Institutions
Left government	Based on "EXECRLC" on the DPI (party orientation "Left")	Database of Politcal Institutions
External conflicts	Scope of external conflicts, building on the subcomponents "War", "Cross-Border Conflict" and "Foreign Pressures"	ICRG dataset
Internal conflicts	Scope of internal conflicts, building on the subcomponents "Civil War", "Terrorism/Political Violence" and "Civil Disorder"	ICRG dataset
Violent riots	Any violent demonstration or clash of more than 100 citizens involving the use of physical	Banks and Wilson (2014)
General strikes	Any strike of 1,000 or more industrial or service workers that involves more than one employer and is aimed at national	Banks and Wilson (2014)
Anti-government demonstrations	Any peaceful public gathering of at least 100 people for the purpose of voicing opposition to government policies or authority, excluding	
Major government crises	Any rapidly developing situation that threatens to bring the downfall of the present regime - excluding situations of revolt aimed at such	Banks and Wilson (2014)

APPENDIX B. ROBUSTNESS ANALYSIS

FIGURE B.1. Stability index surrounding **banking crises**: full sample

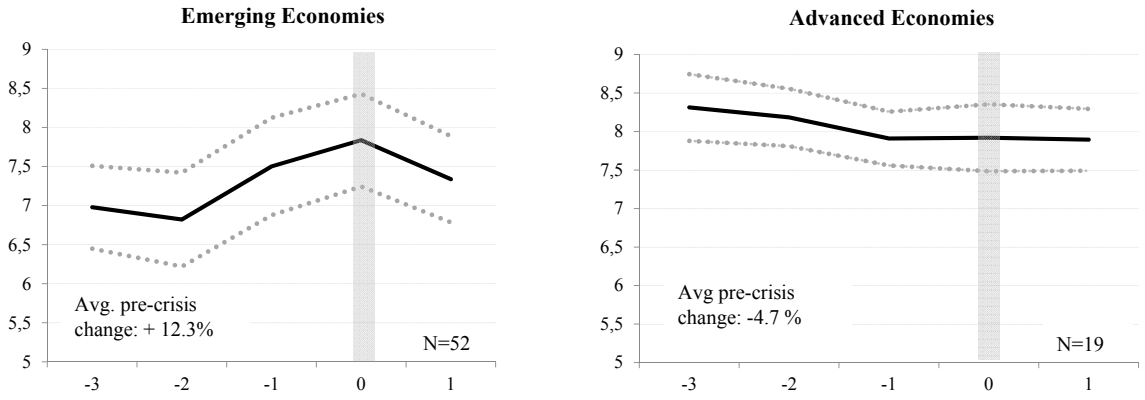


FIGURE B.2. Stability index surrounding **sudden stops**: full sample

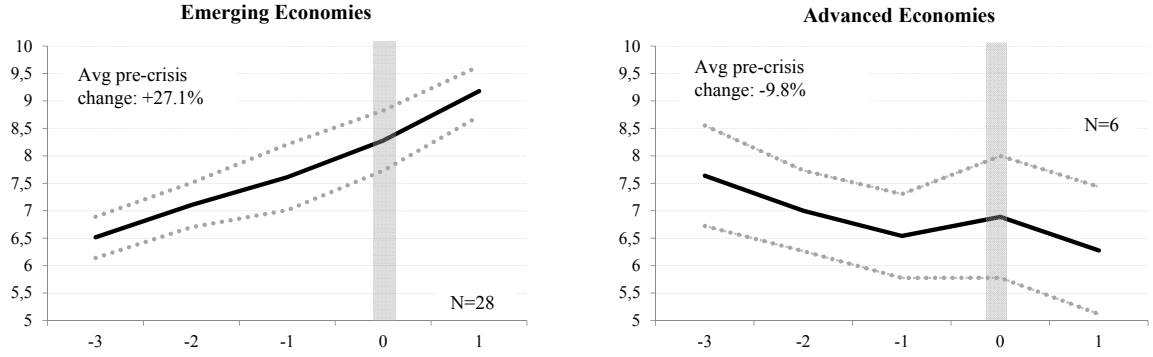


Table B.1: Banking Crises - Additional Economic and Financial Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Random Effects Panel (Interact.)	Time Fixed Effects	Growth Rate (real)	House Prices (change, real)	Stock Prices (change, real)	Expenditures/GDP (change)	Household Consumption/GDP (change)	Inflation (log)	Terms of Trade (change, real)
Country FE	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ΔGovernment Stability (yoy change, lag 1)	-0.006	-0.014	-0.006	-0.006	-0.008	-0.002	-0.006	-0.008	-0.008
	(0.010)	(0.011)	(0.010)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.011)
ΔGovernment Stability (yoy change, lag 2)	-0.000	-0.002	0.001	0.001	0.002	0.001	0.001	-0.000	0.002
	(0.007)	(0.008)	(0.007)	(0.007)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
ΔGovernment Stability (yoy change, lag 3)	-0.010*	-0.006	-0.010*	-0.010	-0.011*	-0.008	-0.010*	-0.008	-0.010
	(0.006)	(0.005)	(0.006)	(0.006)	(0.006)	(0.005)	(0.006)	(0.006)	(0.006)
Interaction ΔGovStab & EME Dummy (lag 1)	0.025**	0.029**	0.025**	0.027**	0.034**	0.011	0.027**	0.026**	0.022*
	(0.012)	(0.013)	(0.012)	(0.013)	(0.014)	(0.013)	(0.012)	(0.013)	(0.013)
Interaction ΔGovStab & EME Dummy (lag 2)	-0.007	-0.004	-0.008	-0.017*	-0.009	-0.008	-0.008	-0.010	-0.007
	(0.009)	(0.010)	(0.009)	(0.010)	(0.010)	(0.011)	(0.009)	(0.010)	(0.010)
Interaction ΔGovStab & EME Dummy (lag 3)	0.021***	0.015**	0.020**	0.020**	0.025***	0.017**	0.020***	0.021**	0.016**
	(0.008)	(0.007)	(0.008)	(0.010)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)
ΔPrivate credit to GDP (3-year moving avg.)	0.004***	0.003***	0.004***	0.005***	0.005***	0.005***	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Additional Controls	EME Dummy	Year fixed effects	Real GDP growth (%)	Δ House Prices (real)	Δ Stock Prices (real)	Change in Expenditures	Δ Household Consumption	Inflation (in %)	Δ Terms of Trade
Observations	1,205	1,205	1,198	747	834	824	1,190	1,008	1,066
R2	0.026	0.124	0.029	0.037	0.036	0.027	0.032	0.029	0.028
Adjusted/Pseudo R2		0.103	0.022	0.026	0.027	0.018	0.025	0.021	0.020

Dependent variable: banking crisis dummy (onset, data from Laeven and Valencia, 2012). Robust standard errors clustered on country in parentheses. Significance levels denoted by *** p<0.01, ** p<0.05, * p<0.10.

Table B.2: Banking Crises - Additional Political and Institutional Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Only Developed Democracies (Polity>5)	Control for Political System	Quality of Institutions	Central Bank Indepen-dence	New Executive	Left Govern-ment	Wars: Internal & External Conflicts	Major Political Events and Turmoil
Country FE	Yes	No	No	No	Yes	Yes	Yes	Yes
ΔGovernment Stability (yoy change, lag 1)	-0.008	-0.009	-0.009	-0.006	-0.005	-0.006	-0.006	-0.004
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.008)
ΔGovernment Stability (yoy change, lag 2)	0.002	0.001	0.001	-0.000	0.001	0.001	0.001	0.001
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.003)
ΔGovernment Stability (yoy change, lag 3)	-0.011*	-0.011**	-0.011*	-0.010*	-0.010*	-0.010*	-0.010*	-0.006
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.005)	(0.006)	(0.004)
Interaction ΔGovStab & EME Dummy (lag 1)	0.022*	0.029**	0.028**	0.026**	0.026**	0.021*	0.025**	0.028***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.013)	(0.012)	(0.010)
Interaction ΔGovStab & EME Dummy (lag 2)	-0.010	-0.009	-0.009	-0.007	-0.009	-0.003	-0.008	-0.007
	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	(0.011)	(0.009)	(0.007)
Interaction ΔGovStab & EME Dummy (lag 3)	0.027***	0.023***	0.022***	0.021***	0.021**	0.024**	0.020***	0.015**
	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)	(0.010)	(0.008)	(0.007)
ΔPrivate credit to GDP (3-year moving avg.)	0.005***	0.004***	0.004***	0.004***	0.004***	0.005***	0.004***	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Additional Controls		Polity2 & Presidential System	Executive Constraints, Rule of Law, Bureaucratic Quality	Index of CB Indep-endence	Dummy for New Executive	Dummy for Left-wing Governm.	External or Internal Conflicts	Strikes, Riots, Gov. Crises, Elections, Cabinet Change
Observations	906	1,152	1,152	1,183	1,175	877	1,202	999
R2	0.03	0.027	0.027	0.019	0.029	0.031	0.028	0.044
Adjusted/Pseudo R2	0.02				0.022	0.022	0.020	0.032

Dependent variable: banking crisis dummy (onset, data from Laeven and Valencia, 2012). Robust standard errors clustered on country in parentheses. Significance levels denoted by *** p<0.01, ** p<0.05, * p<0.10.

Table B.3: Results for Sudden Stops

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Advanced Economies Only	Emerging Economies Only	Main Model (Panel FE)	Main Model (Probit)	Random Effects Panel (Interact.)	Only Developed Democracies (Polity>5)	Growth, Consum-ption, Current Account	House Prices (change, real)	Stock Prices (change, real)	New Executive, Institutions, Wars
	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se	coef/se
Country Sample	AE only	EME only	Full	Full	Full	Full	Full	Full	Full	Full
Country FE	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
ΔGovernment Stability (yoy change, lag 1)	-0.008	0.012	-0.006	-0.331	-0.007	-0.006	-0.009	-0.006	-0.007	-0.006
	(0.006)	(0.009)	(0.006)	(0.293)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.006)
ΔGovernment Stability (yoy change, lag 2)	-0.006	0.011	-0.006	-0.328	-0.007	-0.006	-0.008	-0.007	-0.006	-0.004
	(0.007)	(0.007)	(0.007)	(0.321)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
ΔGovernment Stability (yoy change, lag 3)	-0.012*	0.019***	-0.013*	-0.710*	-0.013*	-0.013*	-0.016**	-0.007**	-0.014*	-0.010
	(0.007)	(0.007)	(0.007)	(0.383)	(0.007)	(0.007)	(0.008)	(0.003)	(0.008)	(0.007)
Interaction ΔGovStab & EME Dummy (lag 1)			0.018*	0.481	0.018*	0.019	0.016	0.022	0.014	0.014
			(0.010)	(0.310)	(0.010)	(0.013)	(0.010)	(0.024)	(0.012)	(0.010)
Interaction ΔGovStab & EME Dummy (lag 2)			0.017*	0.471	0.018*	0.018*	0.016	0.012	0.010	0.013
			(0.010)	(0.333)	(0.010)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)
Interaction ΔGovStab & EME Dummy (lag 3)			0.032***	0.965**	0.032***	0.037***	0.036***	0.017**	0.036***	0.028***
			(0.010)	(0.393)	(0.010)	(0.012)	(0.011)	(0.008)	(0.011)	(0.010)
ΔPrivate credit to GDP (3-year moving avg.)	0.000	0.005***	0.003***	0.052***	0.002*	0.003**	0.002*	0.002	0.003**	0.003***
	(0.001)	(0.001)	(0.001)	(0.017)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Additional Controls					EME Dummy		Growth, Consumption, Current Account	Δ House Prices (real)	Δ Stock Prices (real)	New Executive, Wars, Rule of Law, and Bureaucratic Quality
Observations	310	493	803	373	803	634	752	463	591	762
R2	0.018	0.034	0.027		0.029	0.029	0.044	0.023	0.025	0.042
Adjusted/Pseudo R2	0.005	0.026	0.018	0.135		0.018	0.031	0.006	0.012	0.027

The dependent variable is a binary indicator for the onset of systemic sudden stops taken from Calvo et al. (2008). Our main explanatory variable is the change in government stability as measured by the continuous ICRG indicator (ranging from 1 to 12). All regressions (except in column 5) include country fixed effects. Robust standard errors clustered on country in parentheses. Significance levels denoted by *** p<0.01, ** p<0.05, * p<0.10.

APPENDIX C. GOVERNMENT APPROVAL: A NEW DATASET

C.1. **The dataset: overview, sources and definitions.** This appendix summarizes the sources, data coverage and definitions for each country in our dataset on government approval that directly captures popularity. As a general rule, we target the leading political polling organizations in each country, which are often local subsidiaries of Gallup, Ipsos or TNS. In al cases these polls feature prominently in domestic news. In case multiple series were available we chose the one closest to the concept of "government approval", in particular series on leader/presidential/government approval or series on the evaluation of the government's work. In case no such series were available, which was sometimes the case in parliamentary democracies, we use voter support for the government. This is measured by adding up the total share of vote intentions for the governing parties.

Argentina
Series: Trust in Government Index. *Coverage*: 2002 - 2012.
Polling Organization: Poliarquía Consultores.
Source: ICG Trust in Government Index by UTDT. Retrieved from `http://www.utdt.edu/ver_contenido.php?id_contenido=1351&id_item_menu=2970` on 11/12/2015.
Question/Answers: Five questions regarding the government, answer scale from 0 (low) to 5 (high): "Evaluacion general del gobierno; Interes en el beneficio general; Eficiencia en la administracion del gasto público; Honestidad de los funcionarios; y capacidad para resolver problemas". We use the mean average. Translation: "overall assessment of government; interest in the general welfare; efficiency in public expenditure management; honesty of officials; and ability to solve problems."
Sample: Nationwide, representative of major urban areas.

Brazil
Series: Presidential Approval. *Coverage:* 1990 - 2015.
Polling Organization: Datafolha.
Source: Retrieved from Universo Online (UOL) and Fernando Rodrigues. Retrieved on 01/28/2016 from `http://noticias.uol.com.br/fernandorodrigues/arquivos/pesquisas/`.
Question/Answers: "Na sua opinião, a presidente ... está fazendo um governo ótimo, bom, regular, ruim ou péssimo?" (Translation: "In your opinion, is president ... doing a great, good, regular, poor or very poor job"). We use the share of respondents who answered with "ótimo" or "bom" ("great" and "good")
Sample: Surveys in 10 major cities for 1987 - 1990, nation-wide surveys in 1995 - 2002. No information for other years.

Bulgaria
Series: Attitude towards the Government. *Coverage*: 1998 - 2015.
Polling Organization: Alpha Research.
Source: Alpha Research. Data received via email on 11/09/2015.
Question/Answers: "What is your assessment of the Government's work?". We use the share of respondents who answered with "positive".
Sample: Nationally representative sample.
Acknowledgements: We are very thankful to Genoveva Petrova (Alpha Research) for sending us the data.

Canada
Series: Government Approval. *Coverage*: 1980 - 1995.
Polling Organization: Decima Research.
Source: Retrieved from Canadian Opinion Research Archive (CORA). Retrieved from `http://130.15.161.246:82/webview/` on 01/28/2016.
Question/Answers: "Generally speaking, how satisfied are you with the performance of the federal government? Would you say you are very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?". We use the share of respondents who answered with "very satisfied" or "somewhat satisfied".
Sample: Nationwide sample.

Denmark
Series: Voter Support / Vote Intentions. *Coverage*: 1983 - 1993.
Polling Organization: Gallup A/S Denmark.
Source: Mattila, Mikko, 1996. "Economic Changes and Government Popularity in Scandinavian Countries". British Journal of Political Science 26 (4), 583 - 595; and the Danish Social Science Data Archive. Received via email on 11/11/2015.
Question/Answers: Survey on federal vote intentions. We use the aggregate share of responses in support of member parties in the governing coalition.
Sample: Nationally representative.
Acknowledgements: We are very thankful to Mikko Mattila for sending us the data.

Finland
Series: Voter Support / Vote Intentions. *Coverage*: 1983 - 1993.
Polling Organization: Taloustutkimus Oy.
Source: Mattila, Mikko, 1996. "Economic Changes and Government Popularity in Scandinavian Countries". British Journal of Political Science 26 (4), 583 - 595; and Taloustutkimus Oy. Received via email on 11/11/2015.
Question/Answers: Survey on federal vote intentions. We use the aggregate share of responses in support of member parties in the governing coalition.
Sample: Nationally representative.

Acknowledgements: We are very thankful to Mikko Mattila for sending us the data.

Germany
Series: Government Performance Approval. *Coverage*: 1998 - 2015.
Polling Organization: Infratest dimap.
Source: Infratest dimap and ARD-DeutschlandTrend. Received via email on 11/11/2015.
Question/Answers: "Wie zufrieden sind Sie mit der Arbeit der Bundesregierung?" Translation: "How satisfied are you with the work of the federal government?". We use the share of respondents who answered with "sehr zufrieden" ("very satisfied") and "zufrieden" ("satisfied").
Sample: Nationally representative.
Acknowledgements: We are very thankful to Heiko Gothe (Infratest dimap) for sending us the data.

Hong Kong
Series: Trust in Government. *Coverage*: 1992 - 2015.
Polling Organization: Public Opinion Programme at the Hong Kong University.
Source: Public Opinion Programme at the Hong Kong University. Retrieved from `https://www.hkupop.hku.hk/english/popexpress/trust/trusthkgov/poll/datatables.html` on 01/28/2016.
Question/Answers: "On the whole, do you trust the HKSAR/Hong Kong Government?". We use the share of respondents who answered with "Very much trust" and "Quite trust"
Sample: No information available.

Hungary
Series: Prime Minister Popularity. *Coverage*: 1998 - 2014.
Polling Organization: IPSOS Hungary.
Source: IPSOS. Retrieved from `http://ipsos.hu/en/partpref#` on 01/28/2016)
Question/Answers: no information available (we contacted IPSOS)
Sample: Nationally representative.

Iceland
Series: Approval Rating of Government. *Coverage*: 1994 - 2015.
Polling Organization: Gallup Iceland.
Source: Received via email on 10/16/2015
Question/Answers: No information available (we contacted Gallup)
Sample: Nationally representative.
Acknowledgements: We are very thankful to Matthias Thorvaldsson (Gallup) for sending us the data.

Ireland - before 2003
Series: Prime Minister Satisfaction. *Coverage*: 1982 - 2001.
Polling Organization: MRBI in cooperation with Irish Times.
Source: Jones, Jack. *In Your Opinion: Political and Social Trends in Ireland Through the Eyes of the Electorate*. Dublin: TownHouse and CountryHouse Ltd, 2001. Print.
Question/Answers: No information available.
Sample: Nationally representative.
Acknowledgements: We are very thankful to Hazel Scully (IPSOS) for helping us locating the data.

Ireland - after 2003
Series: Government Approval. *Coverage*: 2003 - 2015.
Polling Organization: IPSOS.
Source: IPSOS. Received via email on 11/23/2015.
Question/Answers: "Would you say you are satisfied or dissatisfied with the manner in which the Government is running the country?" We use the share of respondents who answered with "satisfied".
Sample: Nationally representative
Acknowledgements: We are very thankful to Hazel Scully (IPSOS) for sending us the data.

Japan
Series: Government Approval. *Coverage*: 1998 - 2015.
Polling Organization: NHK Japan.
Source: NHK Japan. Retrieved from `http://www.nhk.or.jp/bunken/yoron/political/index.html` on 01/28/2016.
Question/Answers: No information available (we contacted NHK).
Sample: Nationally representative sample.

Malaysia
Series: Prime Minister Performance Approval. *Coverage*: 2006 - 2015.
Polling Organization: MERDEKA Center for Opinion Research.
Source: MERDEKA Center for Opinion Research. Retrieved from `http://merdeka.org/` on 01/28/2016.
Question/Answers:"How satisfied or dissatisfied are you with the performance of Ĕ as Prime Minister?" We use the share of respondents who answered with "very satisfied", or "somewhat satisfied".
Sample: Nationally representative sample. Partially excludes Chin region (1% of population).
Acknowledgements: We are very thankful to Katharine Davis (IPSOS Malaysia) for helping us with locating data sources.

Mexico
Series: Presidential Job Approval. *Coverage*: 1989 - 2006.
Polling Organization: Surveys conducted by the Mexican Presidential Office.
Source: Banco de Informacion para la investigacion aplicada en ciencias sociales (BIIACS). Retrieved from `http://biiacs-dspace.cide.edu/handle/10089/1` on 01/28/2016.
Question/Answers: "En general, esta usted de acuerdo o en desacuerdo con la manera de gobernar del Ĕ Presidente de la Republica?" Translation: "In general, do you agree or disagree with the way ... governs as the President of the Republic?". We use the share of respondents who answered with "acuerdo" ("agree").
Sample: Nationwide.

Netherlands
Series: Trust in Government. *Coverage*: 1999 - 2013.
Polling Organization: TNS NIPO.
Source: TNS NIPO. Received via email on 11/23/2015.
Question/Answers: "Hoeveel vertrouwen heeft u in de regering ..?" We use the share of respondents who answered with "Veel vertrouwen". Translation: "How confident are you in the government?". We use the share of respondents who answered with "very confident".
Sample: Nationally representative.
Acknowledgements: We are very thankful to Tim de Beer (TNS NIPO) for sending us the data.

Norway
Series: Voter Support / Vote Intentions. *Coverage*: 1983 - 1993.
Polling Organization: Norsk Gallup Institutt A/S.
Source: Mattila, Mikko, 1996. "Economic Changes and Government Popularity in Scandinavian Countries." *British Journal of Political Science* 26 (4), 583 - 595; and the Norwegian Social Science Data Services. Received via email on 11/11/2015.
Question/Answers: Survey on federal vote intentions. We use the aggregate share of responses in support of member parties in the governing coalition.
Sample: No information available.
Acknowledgements: We are very thankful to Mikko Mattila for sending us the data.

Peru
Series: Presidential Approval. *Coverage*: 1990 - 2015.
Polling Organization: IPSOS Peru.
Source: IPSOS Peru.
Question/Answers: "En general, £diría usted que aprueba o desaprueba la gestión del Presidente ...?" We use the share of respondents who answered with "aprueb" ("approve"). Translation: "In general, do you approve or disapprove of the administration of President ...?").
Sample: Lima only, not nationally representative.

Acknowledgements: We are very thankful to Carlos Ponce (IPSOS) for sending us the data.

Philippines
Series: Net Satisfaction Ratings with President. *Coverage*: 1986 - 2015.
Polling Organization: Social Weather Station (SWS).
Source: SWS. Accessed via `https://www.sws.org.ph/pr20150921a.htm`, on 11/28/2015.
Question/Answers: "Please tell me how satisfied or dissatisfied you are in the performance of ... as President of the Philippines. Are you very satisfied, somewhat satisfied, undecided if satisfied or dissatisfied, somewhat dissatisfied, or very dissatisfied?" Following the SWS approach and data, we use the balance of positive ("very satisfied", "somewhat satisfied") and negative ("somewhat dissatisfied" and "very dissatisfied?") responses.
Sample: Nationally representative.

Russia - before 2000
Series: Presidential Approval Rating. *Coverage*: 1993 - 1999.
Polling Organization: Russian Center for Public Opinion Research (VCIOM).
Source: Treisman, Daniel (2011). "Presidential Popularity in a Hybrid Regime: Russia under Yeltsin and Putin." *American Journal of Political Science* 55 (3), 590 - 609. Retrieved from `http://www.sscnet.ucla.edu/polisci/faculty/treisman/PAPERS_NEW/AJPS20dataset.xlsx` on 02/15/2016.
Question/Answers: Translation: "On the whole do you approve or disapprove of the performance of [the presidentŚs name]?"
Sample: Nationally representative.

Russia - after 2000
Series: Presidential Performance Approval. *Coverage*: 2000 - 2015.
Polling Organization: Levada Center.
Source: Levada Center. Retrieved from `http://www.levada.ru/eng/indexes-0` on 01/28/2016.
Question/Answers: "Do you approve the activities of ... as the President of Russia?" We use the share of respondents who answered with "Yes"
Sample: Nationally representative sample.

Slovenia
Series: Government Approval. *Coverage*: 2000 - 2015
Polling Organization: Ninamedia
Source: Ninamedia. Retreived from `http://www.ninamedia.si/arhiv.php` on 01/28/2016.
Question/Answers: "Kako ocenjujete delo vlade, kot uspesno ali neuspesno?" Translation: "How do you assess the work of the government as successful or unsuccessful?" We use the share of respondents who answered with "Yes".
Sample: Nationally representative

Spain
Series: Government Approval. *Coverage*: 1992 - 2015.
Polling Organization: Centro de Investigaciones Sociologicas.
Source: Centro de Investigaciones Sociologicas. Retrieved from `http://www.analisis.cis.es/cisdb.jsp` on 01/28/2016.
Question/Answers: "How satisfied are you with the national government?" We use the share of respondents who answered with "Very well" and "well"
Sample: Nationwide sample (including Ceuta and Melilla).
Acknowledgements: We are very thankful to Eva Aranda (TNS) for helping us with locating data sources.

Sweden
Series: Voter Support / Vote Intentions. *Coverage*: 1983 - 1993.
Polling Organization: SIFO Ab. Today: TNS SIFO, Sweden.
Source: Mattila, Mikko, 1996. "Economic Changes and Government Popularity in Scandinavian Countries." *British Journal of Political Science* 26 (4), 583 - 595; and SIFO Ab. Received via email on 11/11/2015.
Question/Answers: Survey on federal vote intentions. We use the aggregate share of responses in support of member parties in the governing coalition.
Sample: Nationally representative.
Acknowledgements: We are very thankful to Mikko Mattila for sending us the data.

Switzerland
Series: Trust in Government. *Coverage*: 1981 - 2010
Polling Organization: gfs.bern
Source: Retrieved via FORS from `http://forscenter.ch/de/daris-daten-und-forschungsinformationsservice/datenservice/datenzugang/spezialprojekte/vox-voxit/` on 01/30/2016.
Question/Answers: "Ich lese Ihnen jetzt zwei Ansichten vor, die man recht oft über unsere Regierung hören kann. Welcher stimmen Sie am ehesten zu? 1) Ich kann mich meistens auf die Regierung im Bundeshaus verlassen. Sie handelt nach bestem Wissen und Gewissen, zum Wohle aller. 2) Im Bundeshaus wird immer mehr gegen und immer weniger für das Volk entschieden. Die Regierung kennt unsere Sorgen und Wünsche nicht mehr." Translation: "I will now read to you two views that you can hear about our government quite often. Which do you agree with most? 1) I can usually rely on the government at the Federal Palace. It acts in all conscience for the good of all. 2) In the Federal House decisions are more and more taken against and less and less for the people. The government no longer knows our concerns and desires." We use the share of respondents who answered with option 1.
Sample: Nationally representative.
Acknowledgements: We are very thankful to Martina Mousson (gfs.bern) and Annick Michot

(M.I.S. Trend) for helping us with locating data sources.

United Kingdom
Series: Government Performance Approval. *Coverage*: 1977 - 2015.
Polling Organization: IPSOS Mori.
Source: IPSOS Mori. Retrieved from `https://www.ipsos-mori.com/researchpublications/researcharchive/poll.aspx?oItemId=2437\&view=wide` on 01/30/2016.
Question/Answers: Question: "Are you satisfied or dissatisfied with the way the Government is running the country?" We use the share of respondents who answered with "satisfied."
Sample: Nationally representative sample.

United States
Series: Presidential Approval. *Coverage*: 1977 - 2015.
Polling Organization: Gallup US.
Source: The American Presidency Project/Gerhard Peters. Retrieved from `http://www.presidency.ucsb.edu/data/popularity.php` on 01/30/2016)
Question/Answers: "Do you approve or disapprove of the way ... is handling his job as President?" We use the share of respondents who answered with "approve".
Sample: Nationally representative.

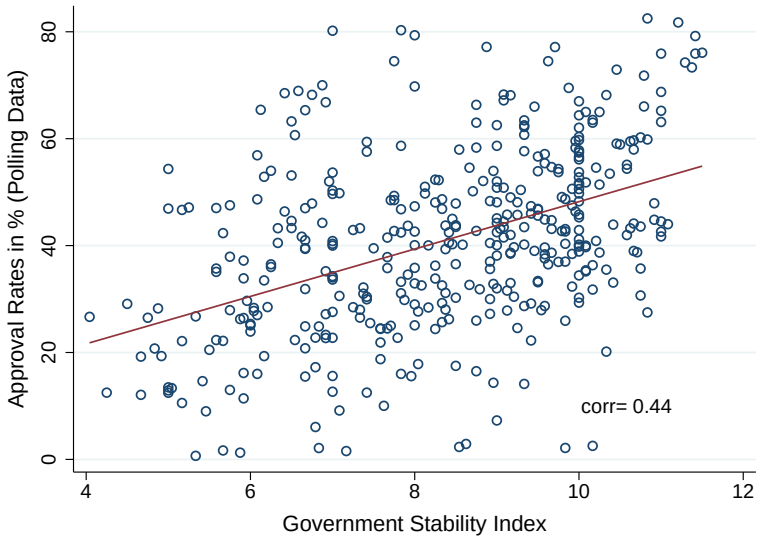
Uruguay
Series: Presidential Approval. *Coverage*: 1990 - 2015. *Polling Organization*: Equipos Mori in cooperation with Diario El Pais.
Source: Received via email on 11/11/2015.
Question/Answers: "£Ud. aprueba o desaprueba la forma en que ... esta desempenandose como Presidente?" Translation: "Do you approve or disapprove of the way ... is serving as President?" We use the share of respondents who answered with "aprueba" ("agree").
Sample: Nationwide sample.
Acknowledgements: We are very thankful to Daniela Vairo (Universidad de la Republica) for sending us the data.

APPENDIX D. STABILITY INDEX AS A MEASURE OF POPULARITY

This appendix examines the link between the stability index that we use in the main text with our new polling dataset and with actual political outcomes.

D.1. **Government stability versus polling data: supplementary evidence.** First, we complement the finding in the main text of a positive cross-sectional correlation between the stability index and our newly gathered government approval by showing a scatter plot in levels (instead of first differences). Figure D.1 clearly illustrates that this correlation persists in levels as well.

FIGURE D.1. ICRG index and government approval: levels



Second, we show four examples on the time series correlation between the stability index and the government approval polling data. Even though the ICRG series is less volatile, it tracks the overall evolution in government approval well (note: changes in government are indicated by vertical lines).

FIGURE D.2. Stability index and government approval in the **US**

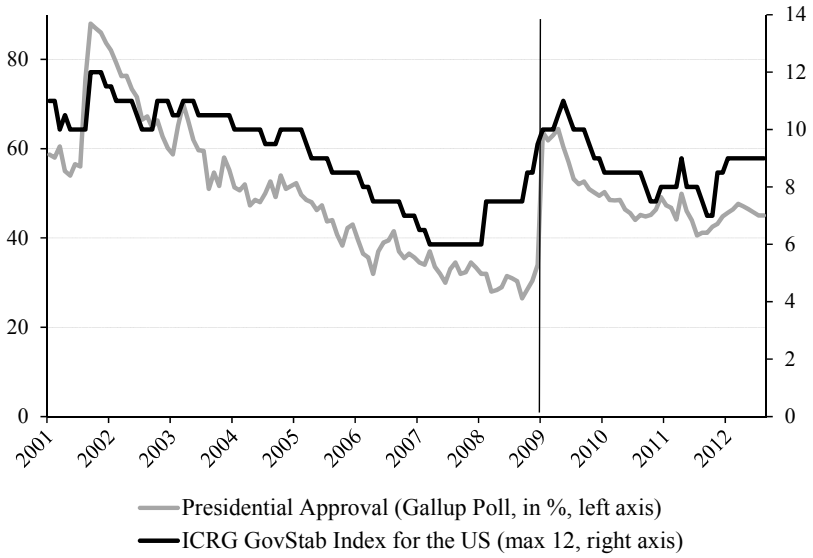


FIGURE D.3. Stability index and government approval in **Germany**

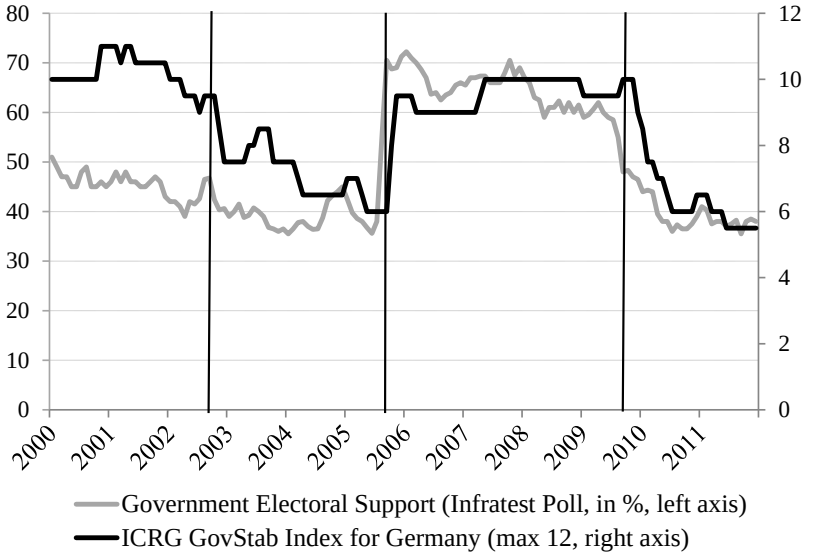


FIGURE D.4. Stability index and government approval in **Argentina**

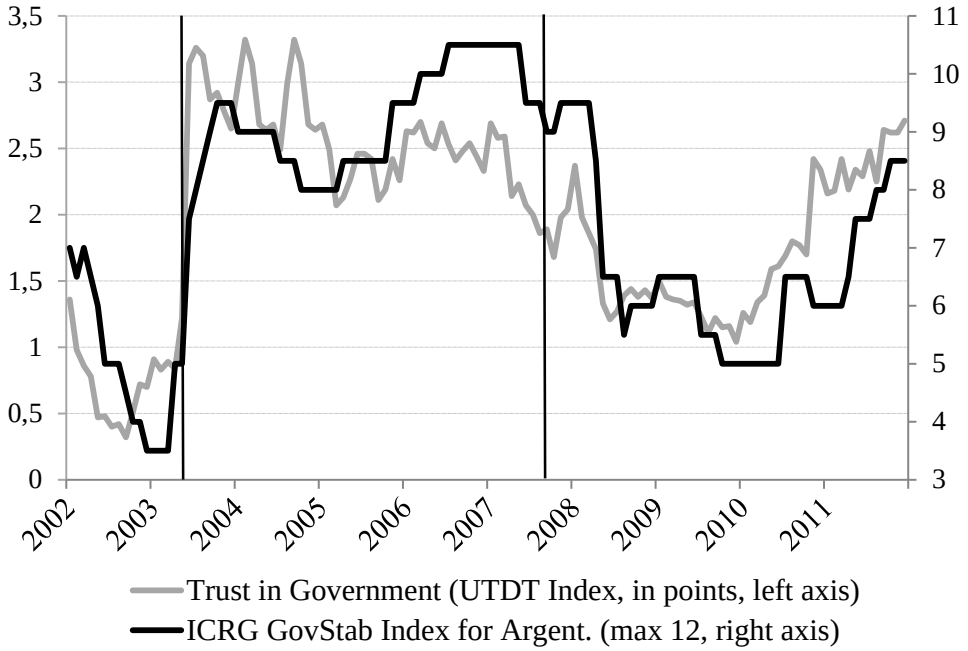
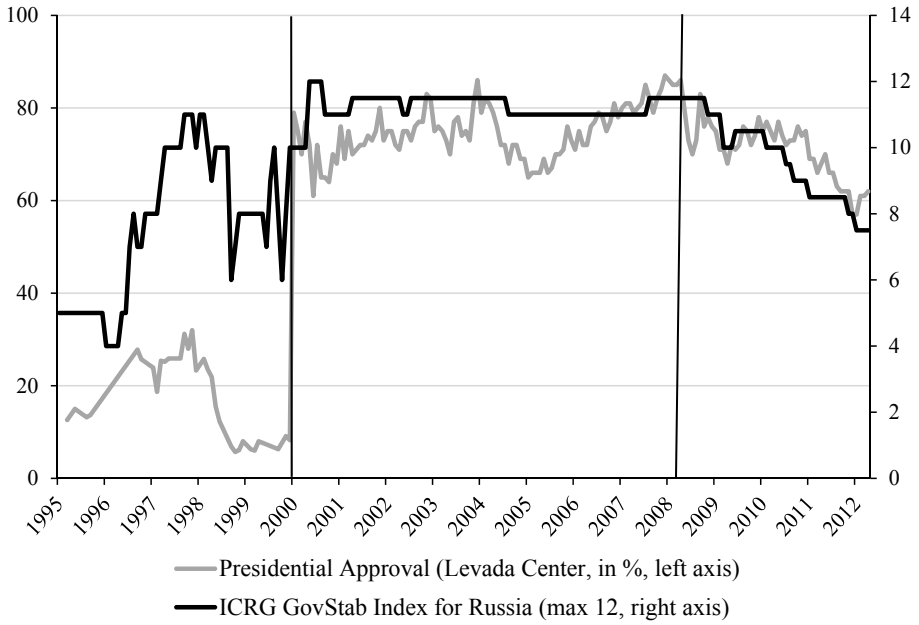


FIGURE D.5. Stability index and government approval in **Russia**



D.2. **Stability index and executive turnover.** Here we show that the lagged stability index used in the main text is a good predictor for re-elections and government turnover, after controlling for country fixed effects, real growth and inflation. This is relevant as one of the model's premises is that governments care about popularity to remain in power.

Column 1 in Table D.1 uses a reelection dummy coded by Brender and Drazen (2008) for 157 election events in our sample (62 countries, since 1984). The resulting coefficient for the stability index is statistically significant and large: a one standard deviation increase in the level of the stability index (1.88) is associated with a 10 percentage point higher reelection probability.[35] The second and third columns of Table D.1 report a similar finding, but using data on executive turnover from Banks and Wilson (2013) and Crespo-Tenorio et al. (2014).[36] The stability index is significant for both turnover measures and has a similar coefficient: a 2 point increase in the indicator is associated with an approximately 3 percentage point lower probability of a change in the ruling party/executive in any given year.

The last column of Table D.1 shows that government stability is correlated with the occurrence of major government crises using data from Banks and Wilson (2013).[37] All of these regressions include lagged real growth and lagged inflation (logs) as controls. The results are very similar when keeping only developed democracies or observations after 1995.

[35]This calculation follows from multiplying the standard deviation by the corresponding coefficient, 1.88*0.054=0.10.

[36]The data by Crespo-Tenorio et al. (2014) ends in 2004, but has the main advantage of tracking party affiliation of leaders: a change in the president or prime minister within the same party or political grouping is not coded as a turnover event, since the incumbent government de facto stays in power. In contrast, Banks and Wilson (2013) simply code any change in the executive, irrespective of party affiliation. Their dataset, however, has the advantage of being available annually for the entire sample 1984-2010.

[37]According to Banks and Wilson (2013), government crises are defined as "any rapidly developing situation that threatens to bring the downfall of the present regime - excluding situations of revolt aimed at such overthrow."

Table D.1: Stability Index and executive turnover

	(1)	(2)	(3)	(4)
	Reelection (Brender and Drazen 2008)	Change in Ruling Party (Crespo-Tenorio et al. 2014)	Executive Turnover (Banks and Wilson 2013)	Major Government Crises
Government Stability (lag 1)	0.054**	-0.017**	-0.014**	-0.020**
	(0.026)	(0.008)	(0.007)	(0.009)
Growth and inflation controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Observations	157	795	1,413	1,390
R2	0.052	0.009	0.008	0.022
Adjusted R2	0.033	0.005	0.006	0.020

The table shows results from a fixed effects panel regression using political events as dependent variables. Column 1 uses a dummy for reelection coded for 157 election events in advanced and developing countries by Brender and Drazen (2008), covering the period between 1984 and 2003. Column 2 uses a yearly dummy for changes in the ruling party from Crespo-Tenorio et al. (2014) for 1990-2004. Columns 3 and 4 use data from Banks and Wilson (2013) on executive turnover (yearly dummy) and on the number of major government crises, for 1984-2010. The main explanatory variable is the ICRG index of government stability in levels, lagged by one year. All regressions include country fixed effects as well as annual real GDP growth and log(inflation) as controls. Robust standard errors clustered on the country in parentheses. Significance levels denoted by *** p<0.01, ** p<0.05, * p<0.10.

D.3. **Government approval surrounding financial crises.** This appendix shows case studies on government approval surrounding main financial crises, using the new polling dataset we constructed. First we analyze five emerging market crises for which we could find sufficient polling data. The grey vertical bar indicates the start of each crisis. In all cases popularity increases pre-crisis, sometimes strongly. Once the crisis breaks out popularity declines and/or the government looses power. This evidence is in line with our findings in the main paper based on the stability index and with the narrative from the model. The figures also provide support to the idea of "political booms gone bust" in emerging markets. Then, we show seven advanced economies crises. The overall pattern also resembles strongly the stylized facts in the main paper using stability data. Government approval does *not* increase during the pre-crisis (declining in some cases such as Spain, Sweden or the United States).

Part 1: Case Studies in Emerging Markets

FIGURE D.6. Executive approval surrounding crises: **Mexico 1995**

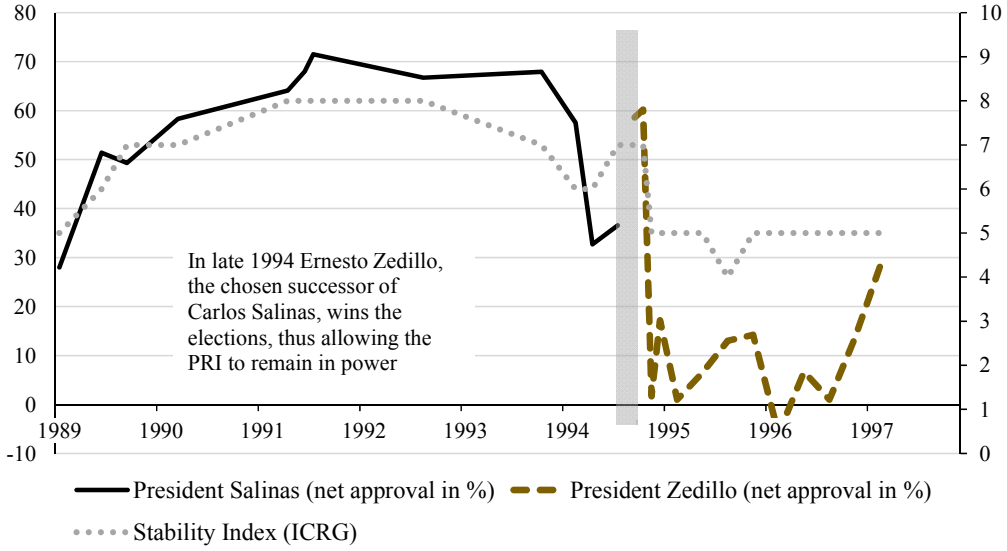


FIGURE D.7. Executive approval surrounding crises: **Hong Kong 1997**

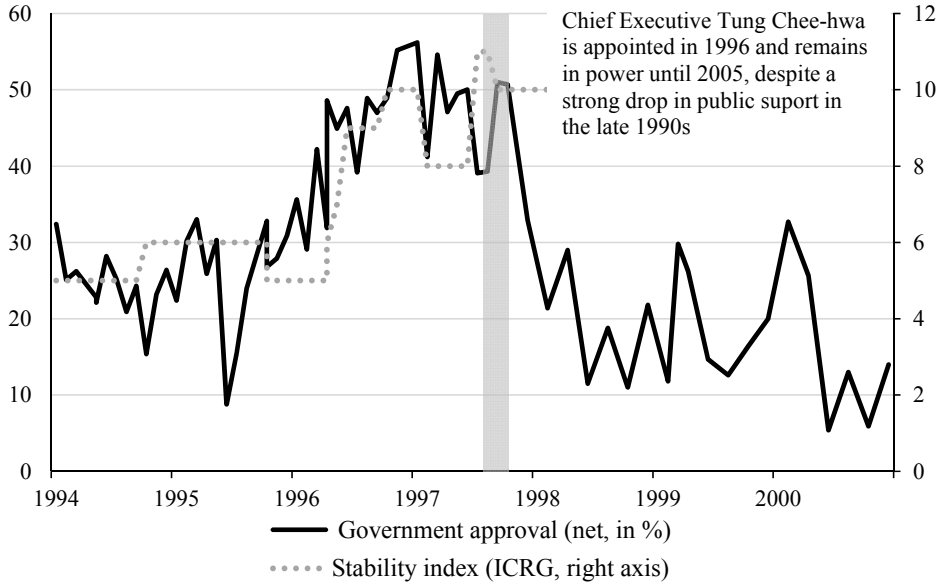


FIGURE D.8. Executive approval surrounding crises: **Russia 1998**

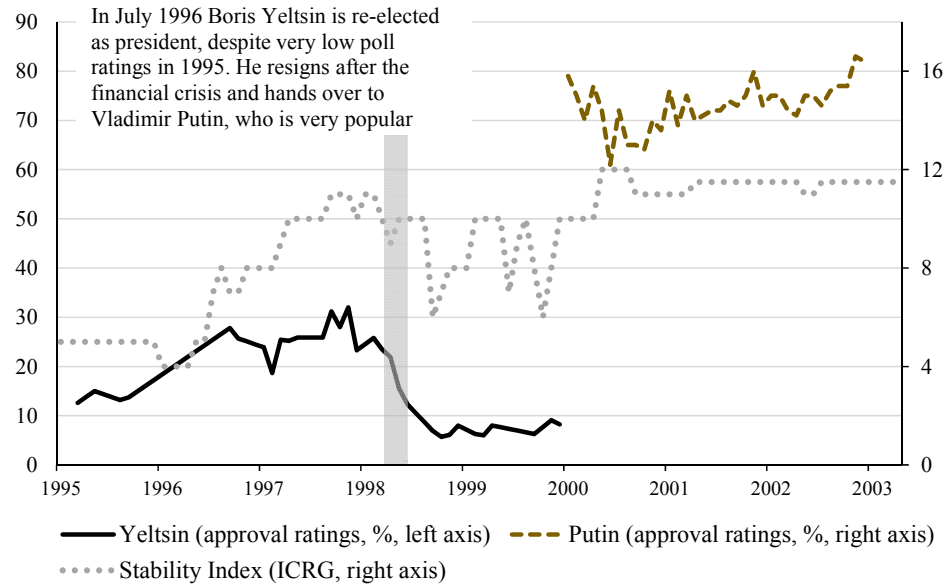
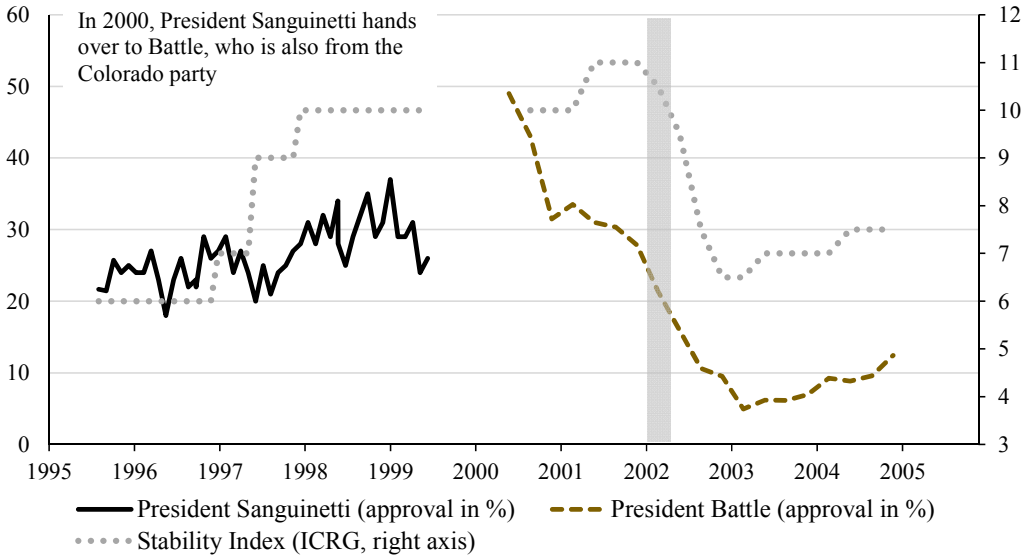


FIGURE D.9. Executive approval surrounding crises: **Uruguay 2002**



Part 2: Case Studies in Advanced Economies

FIGURE D.10. Executive approval surrounding crises: **Norway 1987**

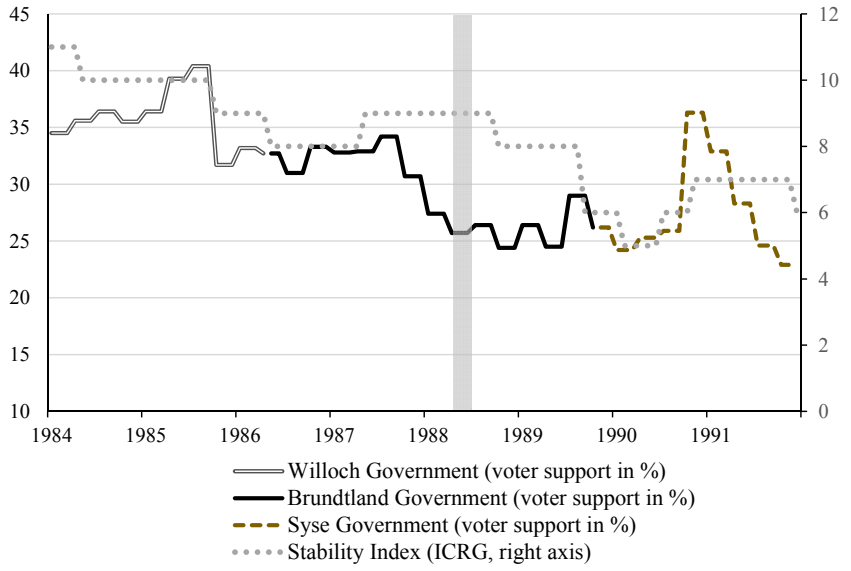


FIGURE D.11. Executive approval surrounding crises: **Finland 1991**

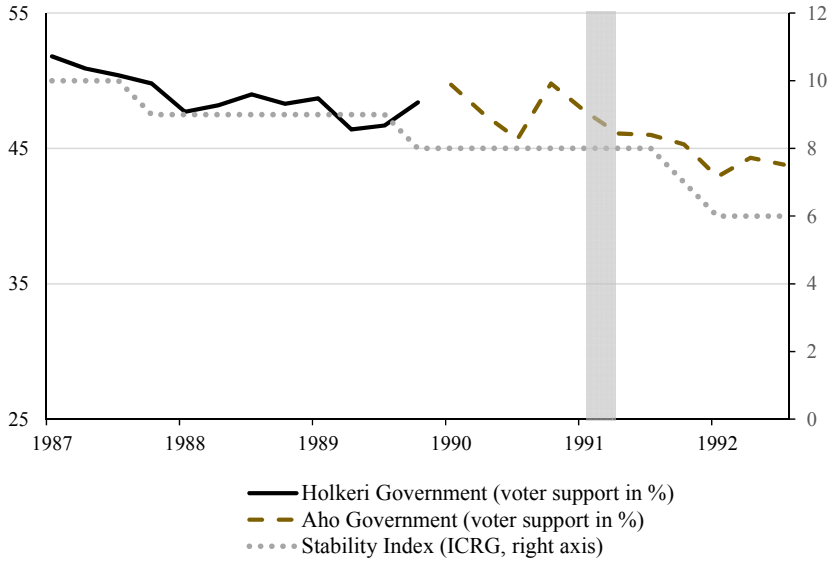


FIGURE D.12. Executive approval surrounding crises: **Ireland 2007**

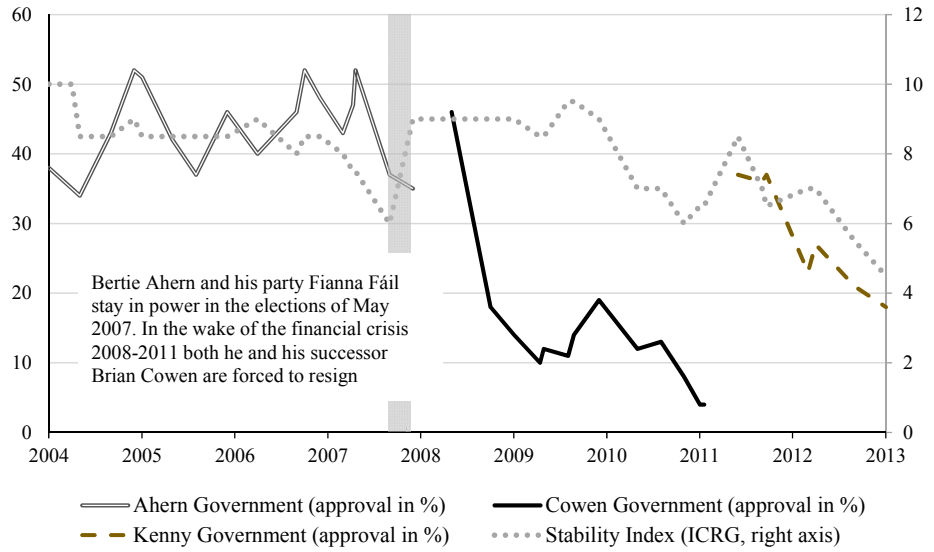


FIGURE D.13. Executive approval surrounding crises: **United Kingdom 2007**

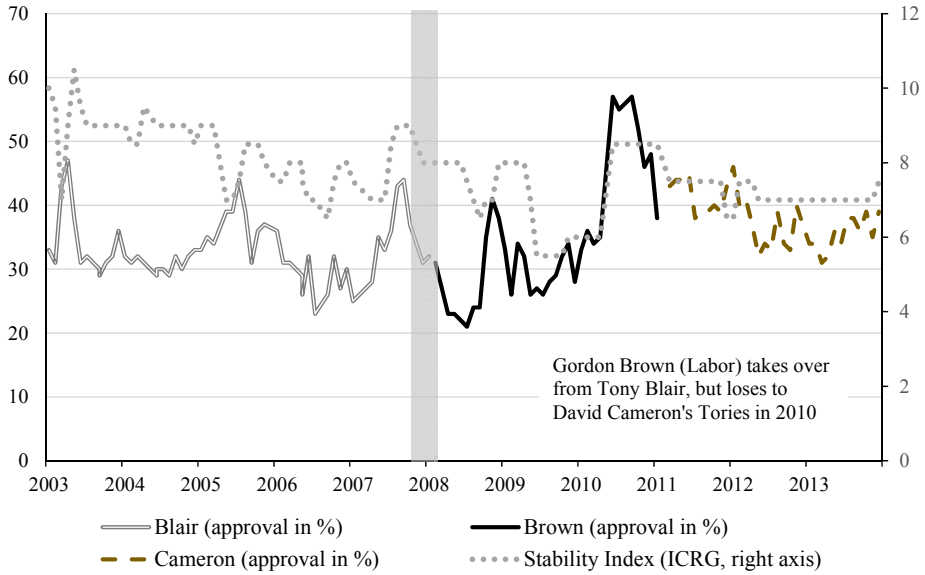


FIGURE D.14. Executive approval surrounding crises: **United States 2008**

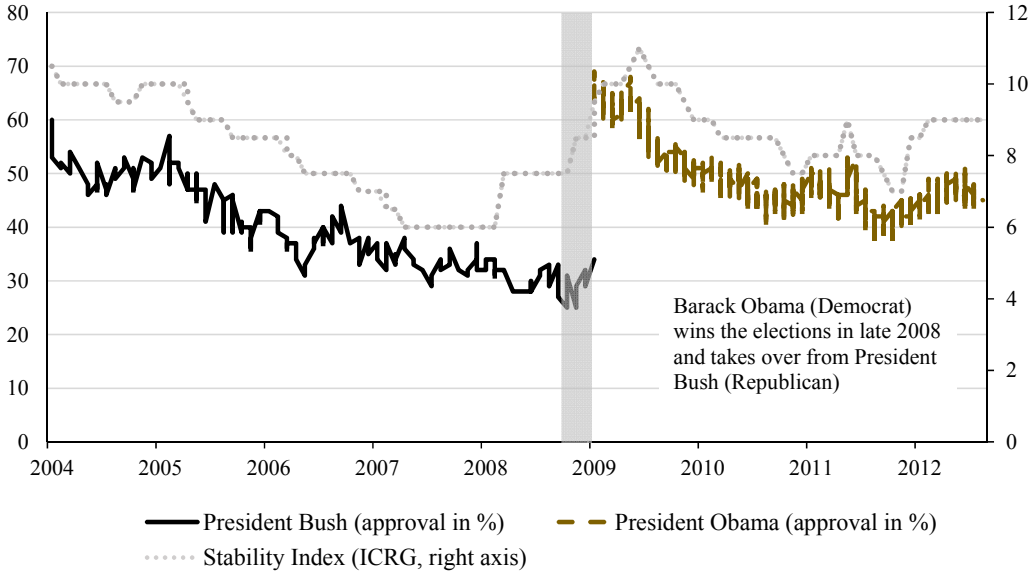
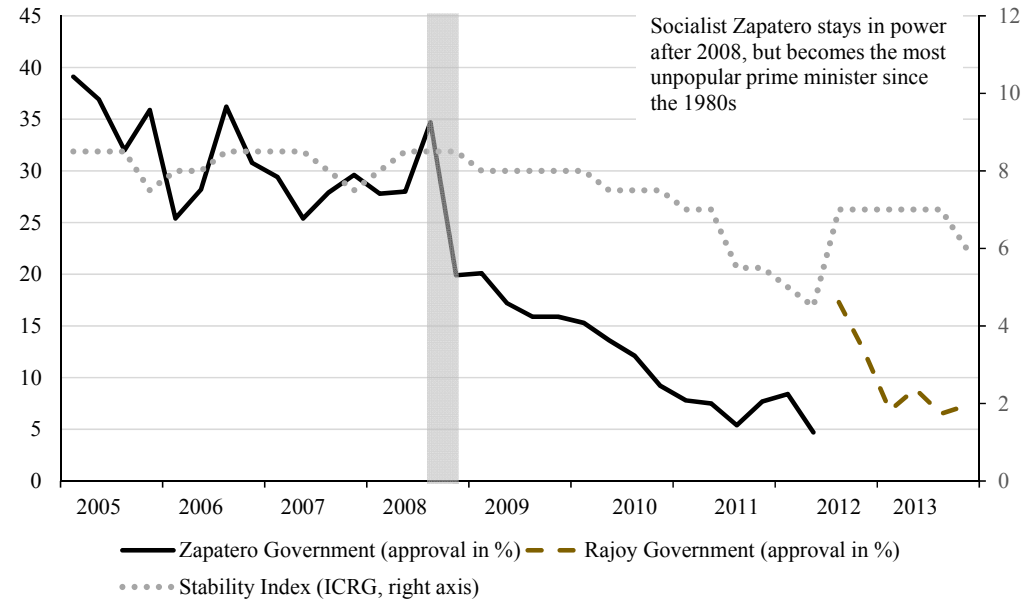


FIGURE D.15. Executive approval surrounding crises: **Spain 2008**



APPENDIX E. PROOFS

E.1. **Proof Proposition 1 (No distortion in good booms).** The net gains for bad governments from enacting the "right policy" given the observed state is given by the difference between the expected gains from enacting the "right policy" versus the expected gains from enacting the "wrong policy". From equation (1), the net expected profits from taking the right policy and not regulating a good boom (that is $\sigma_B(\hat{g}|g) = 1$) are

$$\Delta u\,(g) = \rho + [E(\phi_{\hat{g}}|g) - \phi_{\hat{b}}]. \tag{5}$$

where $E(\phi_{\hat{g}}|g)$ is the expected reputation from not regulating a good boom and $\phi_{\hat{b}}$ is the (expected) reputation from regulating a good boom.[38] From equation (2), the net expected profits from taking the right policy and regulating a bad boom (this is $\sigma_B(\hat{b}|b) = 1$) are

$$\Delta u\,(b) = \rho + [\phi_{\hat{b}} - E(\phi_{\hat{g}}|b)]. \tag{6}$$

We need to show that $E(\phi_{\hat{g}}|g) > \phi_{\hat{b}}$, since otherwise is inconsistent with an equilibrium. This implies that $\Delta u\,(g) > 0$, hence that $\sigma_B(\hat{g}|g) = 1$. The Bayesian updates of government's reputation, where $\phi_{r,cr}$ is the updated probability the government is good conditional on observing regulation $r = \{\hat{b}, \hat{g}\}$ and crisis variable $\{C, NC\}$ are

$$\phi_{\hat{g},NC} = \frac{p_G\phi}{p_G\phi + [p_B\sigma_B(\hat{g}|g) + (1-q)\,(1-p_B)\sigma_B(\hat{g}|b)](1-\phi)}, \tag{7}$$

$$\phi_{\hat{g},C} = \frac{p_G\phi}{p_G\phi + [p_B\sigma_B(\hat{g}|g) + (1-q+\frac{q}{\eta})(1-p_B)\sigma_B(\hat{g}|b)](1-\phi)}, \tag{8}$$

$$\phi_{\hat{b}} = \frac{(1-p_G)\phi}{(1-p_G)\phi + (1-p_B\sigma_B(\hat{g}|g) - (1-p_B)\sigma_B(\hat{g}|b))(1-\phi)}, \tag{9}$$

[38]The expectation is taken over the probability of facing a crisis or not. Since conditional on regulation there is no further updating conditional on crisis, the expectation term does not apply in this case. This is just a special result from assuming that upon regulation both booms have the same probability η of ending up in a crisis.

and

$$\phi_{\hat{b},C} = \phi_{\hat{b},NC} = \phi_{\hat{b}} \tag{10}$$

such that

$$E(\phi_{\hat{g}}|g) = \eta\phi_{\hat{g},C} + (1-\eta)\phi_{\hat{g},NC} \tag{11}$$

$$E(\phi_{\hat{g}}|b) = \widehat{\eta}\phi_{\hat{g},C} + (1-\widehat{\eta})\phi_{\hat{g},NC} \tag{12}$$

where $E(\phi_{\hat{g}}|s)$ is the reputation governments expect to obtain from choosing $\hat{g}$ when the true state is s.

If $E(\phi_{\hat{g}}|g) = \phi_{\hat{b}}$, equations (5) and (6) are both positive ($E(\phi_{\hat{g}}|g) > E(\phi_{\hat{g}}|b)$ as $\eta < \widehat{\eta}$,). Hence $\sigma_B(\hat{g}|g) = 1$ and $\sigma_B(\hat{g}|b) = 0$. From equations (7)-(12), these strategies imply $E(\phi_{\hat{g}}|g) > \phi_{\hat{b}}$, a contradiction.

If $E(\phi_{\hat{g}}|g) < \phi_{\hat{b}}$, equation (6) is positive, hence $\sigma_B(\hat{g}|b) = 0$ (recall $E(\phi_{\hat{g}}|g) > E(\phi_{\hat{g}}|b)$). Then we have three cases. If (5) is positive $\sigma_B(\hat{g}|g) = 1$. Again, from equations (7)-(12), these strategies imply that $E(\phi_{\hat{g}}|g) > \phi_{\hat{b}}$, which is a contradiction. If (5) is negative, then $\sigma_B(\hat{g}|g) = 0$: the bad government always regulates ($\hat{b}$), which means that, if households do not observe regulation ($\hat{g}$) believes for sure the government is good, hence $E(\phi_{\hat{g}}|g) = 1$, which is a contradiction. If (5) is zero $\sigma_B(\hat{g}|g) \in [0,1]$, which implies $E(\phi_{\hat{g}}|g) > \phi_{\hat{b}}$, a contradiction. ■

E.2. **Proof Proposition 2 (Existence, uniqueness and distortion in bad booms).** Given the graphic argument for existence and uniqueness provided in the text, it suffices to prove the following properties of the function Z

(*i*) For $\phi \in \{0,1\}$, $Z(\sigma,0) = Z(\sigma,1) = 0$ for all σ.

(*ii*) For $\phi \in (0,1)$, $Z(\sigma,\phi)$ is strictly decreasing in σ, with $Z(0,\phi) > 0$ and $Z(1,\phi) < 0$.

These properties of Z follow from $p_G > p_B$ and from

$$\begin{aligned} Z(\sigma,\phi) &= E(\phi_{\hat{g}}|b)(\sigma) - \phi_{\hat{b}}(\sigma) \\ &= \left(\begin{array}{c} \frac{\widehat{\eta} p_G \phi}{p_G\phi + [p_B + (1-p_B)\sigma(1-q+\frac{q}{\eta})](1-\phi)} \\ + \frac{(1-\widehat{\eta}) p_G \phi}{p_G\phi + [p_B + (1-q)(1-p_B)\sigma](1-\phi)} - \frac{(1-p_G)\phi}{(1-p_G)\phi + [(1-p_B)(1-\sigma)](1-\phi)} \end{array} \right) \\ &= \left(\frac{(q+\eta(1-q))}{1+\left[\frac{p_B}{p_G} + \sigma\frac{1-p_B}{p_G}(1-q+\frac{q}{\eta})\right]\frac{1-\phi}{\phi}} + \frac{(1-\eta)(1-q)}{1+\left[\frac{p_B}{p_G} + \sigma\frac{1-p_B}{p_G}(1-q)\right]\frac{1-\phi}{\phi}} - \frac{1}{1+(1-\sigma)\frac{1-p_B}{1-p_G}\frac{1-\phi}{\phi}} \right) \end{aligned}$$

It follows that $Z(\sigma,0) = Z(\sigma,1) = 0$ for all σ.

For $\phi \in (0,1)$ $Z(\sigma,\phi)$ is strictly decreasing in σ, and:

$$Z(0,\phi) = \frac{1}{1+\frac{p_B}{p_G}\frac{1-\phi}{\phi}} - \frac{1}{1+\frac{1-p_B}{1-p_G}\frac{1-\phi}{\phi}} > 0$$

$$\begin{aligned} Z(1,\phi) &= \frac{(q+\eta(1-q))}{1+\left[\frac{p_B}{p_G} + \frac{1-p_B}{p_G}(1-q+\frac{q}{\eta})\right]\frac{1-\phi}{\phi}} + \frac{(1-\eta)(1-q)}{1+\left[\frac{p_B}{p_G} + \frac{1-p_B}{p_G}(1-q)\right]\frac{1-\phi}{\phi}} - 1 \\ &< \frac{1}{1+\left[\frac{p_B}{p_G} + \frac{1-p_B}{p_G}(1-q)\right]\frac{1-\phi}{\phi}} - 1 < 0 \end{aligned}$$

■

E.3. **Comparative Statics for σ^*.**

i) The result hinges on the fact that

$$Z(\sigma,0) = Z(\sigma,1) = 0 < \rho \quad \Longrightarrow \quad \sigma^* = 0$$

ii) The result hinges on the fact that $Z(0,0) = Z(0,1) = 0$ and $Z(0,\phi)$ is increasing up to

$$\phi_{\max} = \frac{\sqrt{\frac{1-p_B}{1-p_G}\frac{p_B}{p_G}}}{1+\sqrt{\frac{1-p_B}{1-p_G}\frac{p_B}{p_G}}} \in (0,1)$$

and then decreasing. Finally

$$Z(0,\phi_{\max}) = 1 - \frac{2}{1+\sqrt{\frac{p_G(1-p_B)}{p_B(1-p_G)}}}$$

For any $\rho \in \left(0, 1 - \frac{2}{1+\sqrt{\frac{p_G}{1-p_G}/\frac{p_B}{1-p_B}}}\right)$ there exists a pair $\left(\underline{\phi}, \overline{\phi}\right) \in (0,1)^2$ which solves

$$Z(0,\phi) = \frac{1}{1+\frac{p_B}{p_G}\frac{1-\phi}{\phi}} - \frac{1}{1+\frac{1-p_B}{1-p_G}\frac{1-\phi}{\phi}} = \rho.$$

iii) For any $\rho \in (0,1)$ and $\phi \in (0,1)$ there exists a couple $(\overline{p}_B, \overline{p}_A) \in (0,1)^2$ which solves: $Z(0,\phi) = \frac{1}{1+\frac{p_B}{p_G}\frac{1-\phi}{\phi}} - \frac{1}{1+\frac{1-p_B}{1-p_G}\frac{1-\phi}{\phi}} = \rho$, because for $p_B \to 0$ and $p_G \to 1$ we have: $Z(0,\phi) \to 1$. Given the monotonicity of $Z(0,\phi)$ with respect to p_B and p_G for all $p_B < \overline{p}_B$ and $\overline{p}_G < p_G$,

$$Z(0,\phi) > \rho \quad \Longrightarrow \quad \sigma^* > 0$$

■

E.4. **Proof of Proposition 3 (Evolution of reputation).**

Define $\overline{\sigma}$ as

$$\overline{\sigma} : \phi_{\hat{g}}(\overline{\sigma}) = \phi_{\hat{b}}(\overline{\sigma}) = \phi \quad \Longleftrightarrow \quad \overline{\sigma} = \frac{p_G - p_B}{1 - p_B}$$

Since $\phi_{\hat{g}}$ decreases in σ while $\phi_{\hat{b}}$ increases in σ, we need to show

$$\sigma < \overline{\sigma} \quad \Longleftrightarrow \quad \phi_{\hat{g}} > \phi > \phi_{\hat{b}}$$

Given the equilibrium for $\rho = 0$:

$$\sigma^*(0) : Z(\sigma^*, \phi) = 0$$

and given that for $\rho > 0$, $\sigma^*(\rho) \leq \sigma^*(0)$, it suffices to prove that $\sigma^*(0) < \overline{\sigma}$, so we show that

$$Z(\overline{\sigma}, \phi) < 0 \quad \Longrightarrow \quad \sigma^*(0) < \overline{\sigma}$$

From the expression

$$Z(\overline{\sigma},\phi)=\frac{(q+\eta(1-q))}{1+[\frac{p_B}{p_G}+\left(1-\frac{p_B}{p_G}\right)(1-q+\frac{q}{\eta})]\frac{1-\phi}{\phi}}+\frac{(1-\eta)(1-q)}{1+[\frac{p_B}{p_G}+\left(1-\frac{p_B}{p_G}\right)(1-q)]\frac{1-\phi}{\phi}}-\frac{1}{1+\frac{1-\phi}{\phi}}$$

renaming the variables, $p:=\frac{p_B}{p_G}$ and $f:=\frac{1-\phi}{\phi}$, we need to show:

$$\frac{(\eta)\left(\frac{q}{\eta}+(1-q)\right)}{1+[p+(1-p)(1-q+\frac{q}{\eta})]f}+\frac{(1-\eta)(1-q)}{1+[p+(1-p)(1-q)]f}-\frac{1}{1+f}<0$$

The common denominator is positive, so by looking at the numerator, we have:

$$\begin{array}{rcl}\left(\begin{array}{c}\left((1+f)(\eta)\left(\frac{q}{\eta}+(1-q)\right)\right)(1+(p+(1-p)(1-q))f)-\\(1+(p+(1-p)(1-q))f-(1+f)(1-\eta)(1-q))\left(1+(p+(1-p)(1-q+\frac{q}{\eta}))f\right)\end{array}\right) & < & 0\\ -f\frac{q^2}{\eta}(1-\eta)(fp+1)(1-p) & < & 0\end{array}$$

■

APPENDIX F. EVIDENCE ON THE REPUTATION MECHANISM

This Appendix provides further empirical support for our argument that the reputation channel is a plausible explanation for the link between political booms and financial crises in emerging markets. First, we show that, even among emerging markets, political booms predict financial crises better in countries with higher reputation concerns. Second, we document a negative correlation between regulation and reputation, this is less regulation improves reputation. Finally, we show that less regulation is indeed associated with a higher probability of crises.

F.1. **Low popularity predicts financial crises, even among emerging markets.** Through the lens of our model, political booms predict financial crises in emerging markets mainly because their governments have high reputation concerns (intermediate reputation levels), corrupting their incentives to regulate. Table F.1 shows that the *initial level* of government stability (not only its change, as in previous regressions) is a good predictor of financial crises. When popularity four years before the crisis is low, crises are more likely to occur. This result holds for all countries but also when restricting the sample to emerging economies. Furthermore, it is robust to including controls, country and year fixed effects. The magnitude of the estimated coefficient is also large: a one standard deviation increase in the level of the government stability lagged by 4 years (3.98 index points) can be associated with a 5.6 percentage point lower crisis probability (the calculation is -0.014*3.98=0.056 from column 3). Importantly, by adding country fixed effects we can rule out other potential explanations for this finding, in particular deep-rooted differences in institutional quality or time-invariant characteristics of the political system (e.g. parliamentary vs. presidential).

Table F.1: Initial popularity and banking crises

	(1)	(2)	(3)	(4)
	Full Sample	Emerging Economies Only	Main Model (levels)	Country and year FE
Country FE	Yes	Yes	Yes	Yes
Year FE	No	No	No	Yes
Government Stability (level, lag 4)	-0.005**	-0.009***	0.005	0.013*
	(0.002)	(0.003)	(0.005)	(0.007)
Interaction GovStab Level & EME Dummy (lag 4)			-0.014***	-0.018***
			(0.005)	(0.006)
Observations	1,278	794	1,278	1,278
Adjusted R2	0.001	0.007	0.004	0.088

The dependent variable is a binary indicator for the onset of banking crises taken from Laeven and Valencia (2010). The main explanatory variable is the *level* of government stability (lagged by 4 years) as measured by the continuous ICRG indicator. All regressions include country fixed effects and standard errors are clustered on country. Significance levels denoted by *** p<0.01, ** p<0.05, * p<0.10.

F.2. **Regulation as a link between popularity and crises.** The theoretical model interprets the evidence that links popularity during booms and subsequent crises as coming from governments avoiding or delaying regulation. Here we provide supportive evidence for this notion, by showing that (i) there is a negative correlation between regulation and government popularity, especially in emerging markets and that (ii) prior to crises there is a tendency to relax regulatory constraints in emerging markets.

For data on regulation we follow Abiad et al. (2010), who constructed a database of financial regulations and reforms between 1973 and 2005. The aggregate index of financial reforms, ranges from 0 to 21 and consists of seven sub-indicators covering credit controls, interest rate controls, entry barriers in the financial sector, state ownership of banks, restrictions on international capital flows, banking supervision and securities markets regulation. We also place special attention on sub-indicators that capture financial sector regulation in a narrow

sense, namely (i) the indicator of credit controls and and reserve requirements, (ii) the sub-indicators of banking supervision and securities market regulation (we sum the latter two), as well as (iii) the sub-indicator on credit ceilings (limiting the expansion of bank credit). The index (and each indicator) is inverted so that high values stand for stricter regulation. Table F.3 shows this information for emerging economies.

F.2.1. *Negative correlation between regulation and government popularity.* The data confirm that regulation and government popularity are negatively correlated in emerging markets: the correlation between the aggregate index and the ICRG government stability measure is -0.44, suggesting that emerging markets with tightly regulated financial systems have less popular governments. In first differences, the correlation is still negative (-0.08), indicating that regulatory action is associated with a drop in popularity in EMEs. For advanced economies, we find the opposite: the correlation between regulatory changes (tightening) and popularity changes is positive (0.06).

Table F.2 shows more systematic evidence based on fixed effects panel regressions in the subsample of EMEs. The dependent variable is the index of government stability in levels (Column 1) and year on year changes (Columns 2-4), respectively. The explanatory variables are the proxies for regulation, in particular the aggregate index of financial regulation, in levels (Column 1) and in first differences, using the three-year moving average of annual changes (Column 2). We also use changes in the sub-indicator of credit restrictions and reserve requirements (Column 3), changes in banking and securities market regulation (Column 4) and a sub-indicator capturing whether the regulator imposed a credit ceiling on some or all banks (dummy variable). In each case, we find regulation to have significant, negative correlation.[39] According to Column 2, a one point increase in overall regulatory intensity (ranging from 0 to 21) is associated with a decline in government popularity index of 0.16. A one point increase in the credit restrictions indicator (ranging from 0 to 3) is associated with a popularity decline of 0.64 in the ICRG index (which ranges from 1 to 12).

[39]When we account for global trends by adding year fixed effects, we still find a negative correlation throughout, but the coefficient only remains significant with regard to the sub-indicator of credit controls.

Table F.2: Regulation and Government Popularity in Emerging Markets

	(1)	(2)	(3)	(4)	(5)
	Stability index (level)	Stability index (change)	Stability index (change)	Stability index (change)	Stability index (change)
	EMEs only	EMEs only	EMEs only	EMEs only	EMEs only
Financial Regulation Index (in levels, lagged)	-0.250***				
	(0.026)				
ΔFinancial Regulation Index (yoy change, 3-year mov.avg.)		-0.162**			
		(0.069)			
ΔCredit Controls & Reserv. Req. - sub-indicator (yoy change, 3-year mov.avg.)			-0.642***		
			(0.231)		
ΔRegulation of Banking/ Securities markets (yoy change, 3-year mov.avg.)				-0.621***	
				(0.206)	
ΔCredit Ceiling (yoy change, 3-year mov.avg.)					-1.406**
					(0.593)
Observations	781	695	695	695	338
R2	0.308	0.010	0.012	0.014	0.013
Adjusted R2	0.307	0.008	0.010	0.013	0.010

The table shows results from a fixed effects panel regression using government popularity as dependent variable (i.e. the ICRG index of government stability - in levels, column 4, as well as in first differences, columns 2-4. The explanatory variable in columns 1 and 2 is based on the aggregate IMF index of financial reform (Abiad et al. 2010), which we invert and therefore call "Financial Regulation Index". It ranges from 0 (full liberalization) to 21 (very tight regulation and restrictions). The sub-indicator of credit controls in column (3) ranges from 0 (no credit controls) to 3 (full credit controls). The sub-indicator of banking and securities market regulation in column 4 ranges from 0 (full liberalization) to 6 (strict regulation of both banks and securities markets). The sub-indicator of credit ceilings is a dummy with 1 indicating if ceilings on the expansion of bank credit are in place. All regressions include country fixed effects and standard errors are clustered on the country level.

In line with our model these findings suggest that regulation has a negative reputational impact only for governments in emerging markets: in advanced economies the coefficient for regulatory action is either positive and/or insignificant.

F.2.2. *Emerging market crises are preceded by loose regulation.* Here we assess regulatory action in the run-up to financial crises in emerging markets. We find that the aggregate regulation index drops from an average of 7.3 to only 5.9 during the 5 years before the 9 major crisis events in our sample. Similarly, in the full sample of EME banking crises for which we have regulation data, the index drops from an average of 12.5 three year prior to the crisis to 11.7 at the outbreak of the crisis. This suggests that regulation was typically loosened prior to EME crises. In contrast, in advanced economies, the index increases in the run up to crises, suggesting that regulation is typically tightened.

The picture is confirmed when looking at changes in the aggregate regulation index country by country. Of the 36 banking crises and 28 sudden stop events of emerging markets for which we have regulation data, there is not a single case that was preceded by significant regulation tightening (an index increase of more than 1 in the three pre-crisis years). As shown in Table F.3 in the Appendix, the large majority of EME crises saw either no change in regulation pre-crisis or a loosening of regulation. Indeed, more than one third of banking crises and sudden stops occurred after a period of significant *de*regulation, defined as a loosening of 2 index points or more.[40]

Finally, case study evidence supports the view that governments in emerging markets tend to delay necessary regulatory action during most pre-crisis booms. The Asian crisis of the 1990s is an example. The economies of the "Asian tigers" boomed by the mid-1990s, with governments gaining strong popular support while financial systems were liberalized and little regulatory action was taken. An IMF (2000) paper on the Asian crisis concludes that "prudential regulations were weak or poorly enforced" and "those indicators of trouble that were available seem to have been largely ignored". Similarly, Corsetti et al. (1999) show that banking and financial systems were in general fragile "poorly supervised, poorly regulated and in shaky condition even before the onset of the crisis". This corresponds to the assessment of Radelet and Sachs (1998) that "financial sector deregulation was not accompanied by adequate supervision", which "allowed banks to take on substantial foreign currency and maturity risks". When vulnerabilities became visible, "little action was taken to strengthen the banks, and some policy changes [...] actually weakened the system further". It is beyond the scope of the paper to review anecdotical evidence on case studies, but similar evidence seems ubiquitous across many other crisis events. [41] Overall, this evidence supports the reputation mechanism we propose in this paper.

[40]This is finding is in line with Mendoza and Terrones (2012), who show that credit booms in emerging markets are frequently preceded by episodes of financial liberalization (regulatory loosening).

[41]Turkey introduced a new banking law and supervisory framework only after the first IMF bailout in 1999, see http://www.imf.org/external/np/loi/1999/120999.htm. Russia witnessed a largely unregulated boom in private credit and securities markets in the mid-1990s, before the 1998 crisis. Examples like

Table F.3: Regulation Prior to Crises in EMEs

Regulation prior to banking crises (EMEs)			
Country	Banking crisis	Pre-crisis change in regulation index	Significant deregulation?
Argentina	1988	-1	
Argentina	1994	-2	yes
Argentina	2000	1	
Bulgaria	1995	-1.5	
Brazil	1989	-5	yes
Chile	1980	-3	yes
China	1997	-1	
Colombia	1981	-1	
Colombia	1997	0	
Costa Rica	1986	-2	yes
Costa Rica	1993	-2	yes
Czech Republic	1995	1	
Algeria	1989	-0.25	
Ecuador	1981	-1	
Ecuador	1997	0	
Indonesia	1996	-1	
India	1992	-1	
Jordan	1988	1	
South Korea	1996	-2	yes
Lithuania	1994	-7.75	yes
Latvia	1994	-9.5	yes
Mexico	1980	-1	
Mexico	1993	0	
Malaysia	1996	1	
Nigeria	1990	-2	yes
Peru	1982	-2	yes
Philippines	1982	-2.75	yes
Philippines	1996	0	
Russia	1997	-2	yes
Thailand	1982	0	
Thailand	1996	-1	
Turkey	1981	-4	yes
Turkey	1999	1	
Uruguay	1980	-3	yes
Uruguay	2001	0	
Venezuela	1993	-0.75	
Average change 3 years pre-crisis:		-1.51	

Regulation prior to sudden stops (EMEs)			
Country	Sudden Stop	Pre-crisis change in regulation index	Significant deregulation?
Argentina	1995	-2	yes
Argentina	1999	0	
Bulgaria	1995	-2.25	yes
Brazil	1995	-1	
Brazil	1998	-2	yes
Chile	1995	0	
Colombia	1997	-1	
Costa Rica	1998	-2	yes
Ecuador	1995	-5	yes
Ecuador	1999	1	
Estonia	1998	-1	
Hong Kong	1998	0	
Indonesia	1997	-1	
Jordan	1994	0	
Jordan	1998	-1.75	
South Korea	1997	-2	yes
Lithuania	1999	-2.75	yes
Latvia	1999	0	
Mexico	1994	0	
Malaysia	1994	0	
Pakistan	1995	-1	
Peru	1997	-3	yes
Philippines	1995	-4.75	yes
Poland	1999	-3	yes
Thailand	1996	0	
Turkey	1994	0	
Turkey	1998	-1	
Uruguay	1999	-1	
Average change 3 years pre-crisis:		-1.30	

The table shows changes in the financial regulation using the (inverted) regulation index by Abiad et al. (2010). Higher index values indicate stricter regulation. The pre-crisis change in regulation is computed from year 3 to year 1 pre-crisis, i.e. changes in the three years before the crisis onset. An index reduction of 2 or more is considered as "significant deregulation". The sample of banking crises and sudden stops is listed in Table B.1. (note that regulation data is only available until 2005).

APPENDIX G. SIMULATED ILLUSTRATION OF THE MODEL

This paper proposes a reputation mechanism to explain how an increase in popularity predicts crises in emerging economies, but not in developed economies. Even though a reputation mechanism relies on a repeated game, we have focused on the decisions of a government in a single period. As the government starts with a reputation level that is updated based on government actions, we have used this single period change in reputation as the measure of popularity change and have shown analytically that an increase in reputation is correlated with the likelihood of a crisis only for intermediate initial reputation levels.

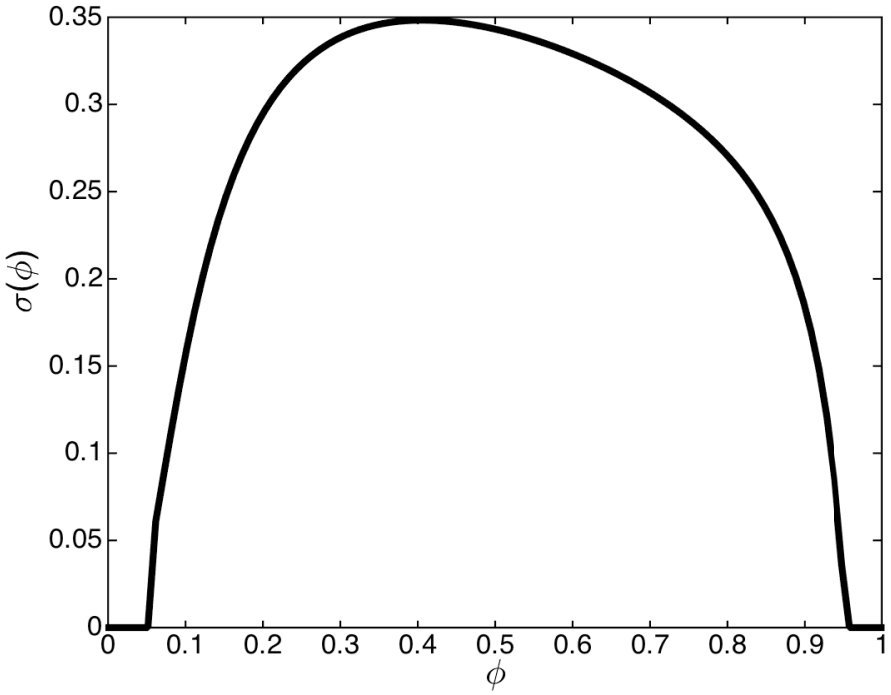
We argue that one potential difference between emerging and developed economies is the quality of the pool of politicians. Our conjecture is that developed economies have a higher fraction of good governments (political institutional differences, institutional quality of check and balances, long history of democracy, etc). In a single period setting the initial reputation of a government coincides with the fraction of good governments in the pool. In a repeated game economy, the fraction of good governments in the pool only determines the initial reputation of new governments, but may not have an overall effect for the predictability of popularity changes that we identified in the data.

Here we simulate a full fledged repeated game version of the model for two reasons. First, by simulating shocks to fundamentals over time we can illustrate the evolution of government decisions and the evolution of popularity leading to crises in an economy. Second, we can obtain a correlation between changes in popularity and the likelihood of crisis in a dynamic setting, giving an answer to the previous concern. Even though we are not performing a calibration exercise to match our empirical results quantitatively, we show that the model is successful in capturing the signs and statistical significance of our main regression coefficients. In particular, by characterizing emerging economies as countries with a lower fraction of good governments, we show that popularity tends to increase in emerging economies leading to a crisis, but not in developed economies.

G.1. **Parameters.** We normalize the per period benefits of a boom to $\Pi = 1$ and assume the cost of a crisis is $X = 1.5$. We assume a "good boom" ends in a crisis with probability $\eta = 0.1$ and a "bad boom" ends in a crisis (in absence of regulation) with probability $\widehat{\eta} = 0.55$ (hence $q = 0.5$).[42] We assume that good governments generate good booms with probability $p_G = 0.7$ and bad booms with probability $p_B = 0.2$. As in the text, regulation reduces the probability a bad boom ends in a crisis to $\eta = 0.1$, but reduces the gains of any credit boom by $\varepsilon = 0.3$. Finally, we assume the reward parameter that measures the policy motivation is $\rho = 0.1$. To avoid an absorbing state in which a government is known to be good we also assume that governments exogenously die with a probability δ.

Based on these parameters, following the analysis in a single period in the text, the Markovian probability a bad government raids a bad boom, σ, is the same in all periods and is depicted in the figure below for all reputation levels ϕ, which is a numerical version of Figure 9 in the text.

FIGURE G.1. Distortion Probabilities



[42]Notice that these parameters imply the condition: $\varepsilon < (\widehat{\eta} - \eta)X$.

G.2. **Repeated Game Computation.**

(1) Period 0
   (a) A government's type is realized (the government is good with probability ϕ_0).
   (b) A boom's type is realized (the boom is good with probability p_G if the government is good and with probability p_B if the government is bad).
   (c) The government chooses to regulate or not. Conditional on the government's type and the boom's type, the government follows the strategy $\sigma(\phi_0)$ above.
   (d) Based on regulation, or lack thereof, individuals update reputation to ϕ_0^I.
   (e) A crisis, or lack thereof, is realized (the probability of a crisis depends on the boom's type and regulation).
   (f) Based on crisis, or lack thereof, individuals update reputation to ϕ_1.

(2) Period $t \in \{1, ...\}$
   (a) If the government exogenously die or its updated reputation is such that $\phi_t < \phi_0$, there is a new realization of the government's type, which is good with probability ϕ_0, and we go back to the process described above for period 0. If not, the government's type remains as in the previous period with reputation ϕ_t.
   (b) If the government is replaced there is a new boom realization. If the previous government continues and there was no crisis, the previous boom's type remains.
   (c) The government chooses to regulate or not (following the strategy $\sigma(\phi_t)$ above).
   (d) Based on regulation, or lack thereof, individuals update reputation to ϕ_t^I.
   (e) A crisis, or lack thereof, is realized (the probability of a crisis depends on the boom's type and regulation).
   (f) Based on crisis, or lack thereof, individuals update reputation to ϕ_{t+1}.

G.3. **Popularity Increases Predicts Crises.** We run the previous simulation for 1,000 periods. Then we run 50,000 simulations. For each simulation we can compute the correlation between the change in popularity and the breakout of crises. Then we can average this correlation across simulations and compute the "Montecarlo" standard deviation, providing the

Table G.1: Predictability of Popularity Changes on Crises

Fraction of G Gov. (ϕ_0)	0.1	0.3	0.5	0.7	0.9
Reputational Concerns					
Mean (Corr)	0.059	0.079	0.056	0.025	0.004
St. Dev. (Corr)	0.032	0.035	0.035	0.032	0.034
No Reputational Concerns					
Mean (Corr)	-0.001	0.000	0.000	0.000	0.001
St. Dev. (Corr)	0.032	0.033	0.032	0.034	0.033

simulation counterpart of the lagged political boom coefficient (and its standard errors) from the main empirical findings. We perform this exercise for different fractions of good governments in the pool of potential governments, ϕ_0. In Table G.1, this correlation follows a similar non-monotonic pattern as σ, which is consistent with our analytical analysis in the main text. The standard deviation, however, does not depend on ϕ_0. This implies that, given our parameters, a country with a low fraction of good governments has a positive significant correlation between the increase in popularity and the likelihood of a crisis. This correlation is significantly positive (more than two standard deviations above zero) for countries with a low fraction of good governments and not significantly positive for countries with a relatively high fraction of good governments.

Notice that, absent strategic behavior by the government, there is no correlation between the change in popularity and the probability of a crises, regardless of the fraction of good governments, ϕ_0. As in the text, without reputational concerns, the probability of observing a crisis conditional on observing an increase in popularity is the same. We confirm this also on Table G.1.