



# Risky Signals: The Political Costs of Exchange Rate Policy in Post-Communist Countries

TANYA BAGASHKA  
*University of Houston*

AND

RANDALL W. STONE  
*University of Rochester*

It can be risky for governments to renege on exchange rate commitments, but it is misleading to characterize the costs as audience costs. While an audience costs approach assumes that the punishment for renegeing is automatic, we model the choice of exchange rate policy in the shadow of elections as a signaling game between voters and governments, where governments have private information and voters are rational. We find that voters draw different inferences when they see renegeing by different actors, and only Left governments are punished for breaking their promises. We test this hypothesis in the context of the post-Communist countries from 1990 to 2007 and find that Left governments were more likely to fall if they renegeed on exchange rate commitments, but Right governments were not.

In the 1990s, many post-Communist countries publicly committed to fixed exchange rates or to various forms of exchange rate targeting, such as bands and crawling pegs, in order to gain credibility with voters and investors. These commitments were particularly attractive to the Left, which suffered from a reputation for inflationary policies (Bodea 2010). There is some evidence that these commitments promoted capital inflows and, in some cases, foreign direct investment. Exchange rate commitments were frequently abandoned, however. This empirical pattern of frequent commitments and frequent renegeing poses several questions. If commitments are frequently broken, do they nevertheless convey information about a government's policy intentions? If so, what makes them informative? Do voters punish governments for breaking their public commitments, and if they do, why do they? Is it appropriate to model this as automatic audience costs (Frankel 2005; Leblang 2005), or do we learn something important by analyzing voters' strategic incentives?

Audience costs are nonstrategic, automatic penalties imposed on the leader by the public when a particular action is taken. They have no microfoundations: The analyst does not attempt to model why it is rational for the public to impose them (Fearon 1994; Schultz 2001; Ramsay 2004 criticizes this approach). Rational public may not automatically impose audience costs; they should draw inferences from what they observe and act appropriately.

We argue that, if voters are rational and exchange rate commitments are tools for governments to signal their preferences for sound macroeconomic policies, the political costs of breaking such commitments should be conditional on government partisanship. It is generally believed that Left governments suffer from greater credibility problems in macroeconomic policymaking than Right governments. If this is the case, voters should interpret renegeing on commitments differently depending on whether it is done by Left or Right governments. Voters have different priors about Left and Right governments,

so they draw different inferences from the policies that they observe. As the Left is more prone to inflationary policies, voters, uncertain about both economic fundamentals and the government's policy preferences, should attribute renegeing by a Left government to its traditional policy preference rather than to exogenous shocks. On the other hand, when a Right government breaks an exchange rate commitment, voters are likely to conclude that the policy change was due to something they did not know about the policy environment, rather than infer that the government is soft on inflation. As a result, a government of the Left should suffer disproportionate political costs when it renegees. If, conversely, the costs of breaking exchange rate commitments are automatic audience costs, policymakers should be punished regardless of partisanship.

We develop a model of exchange rate policy, examining the problem of incomplete information about government preferences over economic outcomes and the signaling effects of exchange rate choices. Our key assumptions are that the government has better information about the state of the economy than the voters, so a principal-agent problem exists, and that the preferences of Left and Right governments are drawn from different known distributions. The game begins with an exchange rate commitment in place, which the government may uphold or violate after it observes an economic shock. Policy is set in two periods with an election in between. Voters have single-peaked preferences over the optimal level of inflation (which implies they make different trade-offs between inflation and unemployment), and voting is rational and probabilistic. Our results rationalize the observation that governments that are known to be left-leaning often adopt orthodox economic policies. According to our results, Left governments are less likely to break exchange rate commitments, but are punished disproportionately when they do so. When a Left government breaks an exchange rate commitment, voters update their beliefs to place the government further to the left. Since Left governments

are already expected to be to the left of the median voter, this increases their probability of losing office. Conversely, Right governments are perceived by voters as more concerned with inflation than with unemployment, so devaluations move beliefs about Right governments closer to the median voter, which decreases the probability that they lose office. We test the empirical implications of the model in the context of the post-Communist countries in the 1990–2007 period. Our results support the signaling hypothesis.

### Partisanship and Exchange Rate Policy

Exchange rate commitments were frequently adopted and frequently broken in post-Communist countries in the 1990s. Commitments were broken by devaluing the announced parity, by moving from a peg to a crawl or by widening the fluctuation band of the currency. A similar empirical pattern is observed in other developing countries (Klein and Marion 1994). Within the group of countries that had pegged their exchange rates against any currency for at least 5 years as of June 1995, "...aside from some small tourism economies, oil sheikhdoms, and highly dependent principalities, there is literally only a handful of countries that have continuously maintained tightly fixed exchange rates..." (Obstfeld and Rogoff 1995). Reneging on commitments to maintain fixed exchange rates is common, despite growing evidence of its high political costs (Cooper 1971; Frankel 2005; Leblang 2005).

Several studies have found that breaking *de jure* exchange rate commitments is politically risky. According to Bernhard and Leblang (2002), British incumbents suffered large losses in public opinion after unanticipated devaluations. Cooper (1971) finds that governments that devalued were twice as likely to fall within 12 months as those in a contemporaneous control group. In a sample including 103 countries in the 1971–2003 period, Frankel (2005) finds that in developing countries, devaluations that broke public promises increased the likelihood that an executive loses office within 1 year by 45%. The effect was even stronger within 6 months of the devaluation episode: A currency crash doubled the likelihood that an executive loses office (Frankel 2005). Leblang (2005) studies the effect of breaking a *de jure* exchange rate commitment on the duration of leaders across 124 countries in the period 1973–1999 and finds that abandonment of an exchange rate peg decreases the probability of re-election by 60%.

These observations raise several related questions. Why do governments adopt exchange rate commitments, if it is not optimal to keep such promises and breaking promises is politically costly? On the other hand, why do voters punish governments for breaking their promises, if breaking the exchange rate commitment could be the optimal economic policy *ex post*? A possible explanation is that voters punish governments for poor economic performance: Devaluations and currency crashes are often accompanied by sharp recessions. However, in many cases, devaluations increase production and exports of tradable goods, reduce imports, and boost the trade balance, GDP, and employment. The alternative of defending an overvalued exchange rate in the face of declining competitiveness, increasing risks of a financial crisis, and rising risk premia for borrowers is much less attractive. Furthermore, contraction, recession, declining reserves, and job losses have not had the severe political consequences that have followed breaking public exchange rate commitments (Frankel 2005). What is it about breaking

public exchange rate commitments that is so politically costly? Our model provides rational microfoundations for the strategies of governments and voters.

A key piece of the puzzle is the rational policymaker's credibility problem. Although a substantial literature has focused on optimal exchange rate regimes as a function of the structural features of the economy (Wickham 1985; Bosco 1987; Savvides 1990; Dreyer 1992), the introduction of exchange rate commitments is usually driven by the need to build monetary credibility (Giavazzi and Pagano 1998). Under such circumstances, it is optimal for policymakers to import credibility from an inflation-averse foreign central banker through the delegation of monetary policy. Fixed exchange rates are public and visible commitments that tie domestic monetary policy to that of a less inflation-prone country.<sup>1</sup> They severely restrict the options available to policymakers for achieving domestic political and economic objectives. Under fixed rates, governments cannot use monetary policy for external adjustment through devaluation of the exchange rate and thus insulate the real economy from supply and demand shocks. While this reduces policymakers' room to maneuver, fixed rates can resolve the government's credibility problems arising from time-inconsistent preferences and asymmetric information.

Absent the exchange rate commitment, policymakers have an incentive to introduce surprise inflation after wages have been locked in, thus benefiting from increased output and employment (Barro and Gordon 1983; Rogoff 1985). In a rational expectations framework, the public understands that the government's optimal *ex post* strategy might differ from its optimal *ex-ante* strategy and discounts the government's inflation announcements accordingly (Kydlund and Prescott 1977). As a result, inflation is higher than the government would have adopted absent the credibility problem, without the benefit of increased output. By reducing the incentives for policymakers to engage in inflationary policies, fixed exchange rates solve the policymaker's time-consistency problem and avoid inefficient equilibria (Milesi-Feretti 1995; Giavazzi and Pagano 1998).

Fixed exchange rates could also be a solution to credibility problems arising from asymmetric information. While in the previous case the government lacks credibility because the public understands its time-inconsistent objectives, in this case the public is unable to tell what the government's true motivations or preferences are: Is the government more concerned with inflation or with fluctuations in unemployment? As policymakers have superior information about economic fundamentals, the public cannot tell whether deviations from announced policies reveal information about the government's true preferences or are simply driven by exogenous shocks. Fixed exchange rates could allow a "true stabilizer" to reveal herself. Under adverse economic circumstances such as high unemployment, a fixed exchange rate regime might be a signal too costly for a government that is "soft" on inflation to implement (Backus and Driffil 1985; Flood and Isard 1989; Lohmann 1990; Drazen and Masson 1994; Cukierman and Tommasi 1998).

<sup>1</sup> An alternative to fixed exchange rates that generally has better welfare implications is delegating policymaking to an independent central bank with conservative policy preferences (Rogoff 1985). This assumes the ability to credibly delegate policy, however, which can be problematic. A practical advantage of fixed exchange rates is that violations of commitments are impossible to hide, so exchange rate commitments can provide informational shortcuts for voters, which enhances the credibility of the underlying policy commitments.

A natural corollary to the credibility argument is that a government's credibility gains from fixing should depend on its partisanship. Theory and empirical evidence have highlighted the different priorities of the Left and the Right, namely the Left's preference for low unemployment and the Right's concern for maintaining low inflation (Hibbs 1977a; Alvarez, Garrett, and Lange 1985; Garrett 1995; Garrett and Lange 1995; Iversen 1999; Oatley 1999; Franzese 2002). Recognizing these different priorities, Simmons (1994) argues that governments of the Left should give up fixed exchange rates more frequently as markets tend to mistrust them disproportionately. However, as Bodea (2010) notes, if Left governments enjoy disproportionate credibility gains from fixed rates, they may be more loath to abandon them in bad times than the Right. It is not obvious which way the relationship ought to run, which suggests a need to model this interaction formally.

There are several ways in which partisanship might interact with exchange rate policies. Pegged rates could be a device to "tie the hands" of subsequent governments and thus allow policymakers to affect future economic policies (Persson and Svensson 1989; Alesina and Tabellini 1995). This would imply that right-leaning governments choose exchange rate commitments in order to constrain their left-leaning successors. To the contrary, Milesi-Feretti (1995) shows that if fixed exchange commitments are irrevocable and voters expect inflation to be higher for Left governments than for Right governments when the exchange rate floats, a Left incumbent government would reap electoral gains from fixing. On the other hand, a Right government would prefer not to fix the exchange rate if there is an electoral bias in favor of the Right under flexible exchange rates, because committing to fixed exchange rates would solve the Left's greater time-consistency problem and thus benefit its political rival. In a broader framework, Canavan and Tommasi (1997a) show that if the uncertainty about the state of the world is greater than the uncertainty about changes in the government's policy preferences, an incumbent might improve her re-election prospects by proposing a policy that contradicts her traditional policy position. In the context of exchange rate policy, a fixed exchange rate commitment would benefit only a Left incumbent, as such a policy is inconsistent with its emphasis on keeping unemployment low. According to both of these arguments, an irrevocable commitment to a fixed exchange rate would move the expected policy of a Left government closer to the preferences of the median voter and improve its re-election chances.

While these formal arguments imply that the Left should choose fixed exchange rates, they do so by assuming that such commitments are irrevocable and solve the time-consistency problem (Milesi-Feretti 1995). It remains to be seen why the Left's preference for expansionary policy does not render such commitments incredible, however. Coming at the puzzle from the opposite direction, empirical work has uncovered evidence that Left

governments are, in fact, less willing than their Right counterparts to abandon exchange rate commitments. The successors to the Communist parties in Eastern Europe realigned less frequently following a public commitment to fixed exchange rates, even when markets tested their resolve (Bodea 2010; see also Table 1). Similarly, using a different data set and a different sample of countries, Leblang (2005:548) finds that during electoral periods, Right governments were more likely to devalue, while Left governments were more likely to defend the exchange rate parity when there was a speculative attack. This suggests that, if exchange rate commitments are rendered credible by the political costs of renegeing, these costs must vary systematically according to government partisanship.

Our model seeks to rationalize these findings by exploring the effects of partisanship on the political penalty for renegeing. Studies that conceptualize the political costs of breaking exchange rate commitments as audience costs fail to account for these partisan patterns. If the political costs of breaking exchange rate commitments were automatic audience costs (Fearon 1994), the Left and the Right should be equally likely to be punished by voters, as previous studies have assumed (Frankel 2005; Leblang 2005). In a rational voting framework, on the other hand, if governments use exchange rates to build credibility as theory suggests, we should expect voters to use the publicly available information about Left and Right governments to treat them differently. If voters recognize the different macroeconomic priorities of the Left and the Right, they should interpret their defections from fixed exchange rate commitments differently. As the Left's priority is to maintain low unemployment, the public should expect Left governments to be more likely to be of the inflationary type than Right governments. While both Left and Right governments might break commitments under adverse economic circumstances, when the incumbent is Left, voters should put a higher weight on the probability that renegeing was due to inflationary preferences rather than to exogenous shocks.

Our model simplifies the policy environment by assuming that purchasing power parity holds, so inflation implies a corresponding rate of devaluation. An unanticipated shock provides an opportunity for monetary policy to affect output, and voters have a range of preferences over the trade-off between inflation and unemployment. Voters do not observe the government's preferences over this trade-off or the size of the shock and choose whether to re-elect the party in power based on updated beliefs about the incumbent's type. The median voter has preferences between the expected positions of a Right and a Left government. By the logic in the paragraph above, however, a rational voter will only punish a Left government for unexpected inflation. Hence, we argue that Left governments have stronger incentives to avoid breaking commitments because they are punished more than Right governments if they renege under the same conditions.<sup>2</sup> A preliminary empirical analysis is consistent with our

**Table 1.** Exchange Rate Commitments, Partisanship, and Government Fall in Post-Communist Europe, 1990–2007

	<i>Left</i>	<i>Center</i>	<i>Right</i>
Governments (%)	53	23	24
Broken Commitments (%)	14	0	42
Government Fall after Broken Commitments (%)	33	0	21

<sup>2</sup> We focus on electoral pressure on incumbent governments exerted through voting as opposed to pressure group activity. Due to the broad distributional effects and the nonexcludability of exchange rate policy, compared to trade policy, for example, examples of successful collective action in the context of exchange rate policy are rare (Broz and Frieden 2001). For instance, a stable currency benefits all industries in the export sector, while trade protection can be targeted to particular industries (Gowa 1998). Free-riding problems related to group size and the distribution of costs and benefits that render political activity associated with interest groups less effective are less relevant to voting, however, which is the mechanism we emphasize.

claims: While left governments broke their commitments less frequently, they were disproportionately punished (Table 1). The model that follows illustrates this logic, and subsequent statistical analysis tests it more rigorously.

### The Model

Our model is a two-period game of incomplete information whose players are an incumbent government, a challenger, and voters. The government chooses an economic policy in the first period, an election is held, and the winner chooses a policy for the second period. Voters have a range of economic policy preferences, and voting is probabilistic. The government places value  $b$  on holding office and has policy preferences that depend on its type and a short-term shock. The government's type is  $\omega_J \sim N(\mu_J, \sigma_\omega^2)$  where  $\mu_L > \mu_R$ , which implies that the Left ( $J = L$ ) has lower aversion to inflation than the Right in expectation (Alesina and Roubini 1992).<sup>3</sup> The random shock,  $\varepsilon_I \sim N(0, \sigma_\varepsilon^2)$ , where  $i$  denotes the time period, represents exogenous economic events that affect the attractiveness of alternative economic policies. For convenience, we denote  $p_\omega$  and  $p_\varepsilon$  as the precision of  $\omega_J$  and  $\varepsilon_I$ , respectively, or the inverse of the variance. We postulate that the equilibrium exchange rate policy is the following linear function of  $\omega_J$  and  $\varepsilon_I$ :

$$\pi_{JI} = h_{JI} + k_{\omega_{JI}}\omega_J + k_{\varepsilon_{JI}}\varepsilon_I$$

where  $h_{JI}$ ,  $k_{\omega_{JI}}$  and,  $k_{\varepsilon_{JI}}$  are coefficients to be determined.

The sequence of events is as follows:

1. Nature selects a government of type  $\omega_J$  and the shock  $\varepsilon_I$ .
2. The government chooses a rate of devaluation  $\pi_{JI}$ .
3. The public updates its beliefs about the government's type and decides whether to re-elect the incumbent or elect the challenger. If the incumbent is Left, the challenger is Right and vice versa.
4. The elected government chooses  $\pi_{J2}$ . With this move the game ends.

The stage-game utility for the government is as follows:

$$-(\pi_{JI} - (\omega_J + \varepsilon_I))^2 + b$$

An incumbent who is not re-elected receives a second stage-game utility of  $-l$ , which is strictly negative.

In the first period, a Left incumbent chooses  $\pi_{L1}$  to maximize:

$$-(\pi_{L1} - (\omega_L + \varepsilon_1))^2 + b + \delta P_L(\pi_{L1}) \cdot (-(\pi_{L2} - \omega_L)^2 + b) + \delta(1 - P_L(\pi_{L1})) \cdot (-l)$$

where  $\delta$  is the discount factor,  $\pi_{L1}$  is the devaluation rate in the first period, and  $P_L$  is the probability of re-electing a Left incumbent given the policy she chooses in the first period.

The utility of a type  $n$  voter is given by  $-(\pi_{JI}^e - c_n)^2$  where  $c_n$  is the ideal point of voter  $n$  and  $\pi_{JI}^e$  is the expected policy in the second period. A random sample

of voters cast votes, so the ideal point of the median voter is drawn from a distribution  $c_m \sim U(\underline{c}, \bar{c})$ .

### Solution Concept

The solution concept is perfect Bayesian equilibrium (PBE). PBE requires that (i) each player's choices be sequentially rational given her beliefs at the time of choice and the other player's strategy and (ii) beliefs about the other player's type be consistent with prior beliefs, equilibrium strategies, and Bayes Rule on the path of play.

#### Proposition 1

The following strategies form a Perfect Bayesian Equilibrium:

1. The incumbent chooses policy in the first period:

$$\pi_{L1} = \omega_L + \varepsilon_1 - \delta \frac{p_\varepsilon}{4(\bar{c} - \underline{c})(p_\omega + p_\varepsilon)(b + l)}$$

$$\pi_{R1} = \omega_R + \varepsilon_1 + \delta \frac{p_\varepsilon}{4(\bar{c} - \underline{c})(p_\omega + p_\varepsilon)(b + l)}$$

2. Voters re-elect the incumbent with probability:

$$P_L(\pi_{L1}) = \frac{1}{2(\bar{c} - \underline{c})} \left[ 2\bar{c} - \frac{p_\omega}{p_\omega + p_\varepsilon} \left( \mu_L - \frac{\pi_{L1} - h_{L1}}{k_{L1}} \right) - \mu_R \right]$$

$$P_R(\pi_{R1}) = \frac{1}{2(\bar{c} - \underline{c})} \left[ \frac{p_\omega}{p_\omega + p_\varepsilon} \left( \mu_R + \frac{\pi_{L1} - h_{L1}}{k_{L1}} \right) + \mu_L - 2\underline{c} \right]$$

3. The elected government chooses policy in the second period:

$$\pi_{J2} = \omega_J + \varepsilon_2$$

**Proof:** See Appendix S1.

### Discussion

Our analysis generates results about equilibrium economic policies, re-election probabilities, and voter expectations.

#### Devaluation

Equilibrium devaluation is lower for a Left incumbent. For a given government type and exogenous shock, equilibrium devaluation will be lower for a left-wing incumbent because  $k_{L1} = k_{R1} = 1$ , but  $h_{L1} < h_{R1}$ .

$$h_{L1} = -\delta \frac{p_\varepsilon}{4(\bar{c} - \underline{c})(p_\omega + p_\varepsilon)(b + l)}$$

$$h_{R1} = \delta \frac{p_\varepsilon}{4(\bar{c} - \underline{c})(p_\omega + p_\varepsilon)(b + l)}$$

This result is driven by strategic considerations. While the preferences of the Left are more inflationary than those of the Right, the desire for re-election restrains the Left.

#### Re-election

The probability of re-election is decreasing in the first-period policy for the Left government and increasing in the first-period policy for the Right government. Voters have different priors about the inflationary preferences of the Left and the Right, so they draw different inferences from the policies they observe. Devaluing moves a Left

<sup>3</sup> The assumption of normality implies that some values of devaluation and the government's type are negative. We think of the normal distribution as an approximation to a distribution over the positive real line and truncated at zero, an approximation relatively accurate if  $\mu_J$  is a large positive number and the probability that  $\omega_J$  is negative is small (see Canavan and Tommasi 1997a).

government away from the median voter in expectation, but moves a Right government closer to the median voter in expectation. Consequently, voters are less likely to re-elect a Left government after it devalues and more likely to re-elect a Right government after it devalues. This follows from Proposition 1, part 2.

#### *Implications for credibility*

For any observed policy  $\pi_{jt}$ , voters infer that the type of the government is further to the left if it is a Left government, and further to the Right if it is a Right government.

Voters use the fact that Left governments have electoral incentives to moderate their policies when they form their expectations, so for any given set of policies, voters place Left governments further to the left than they would place Right governments. Voters observe the first-period policy  $\pi_{L1}$ , and because they know the government's equilibrium strategy, this is equivalent to observing  $\omega_L + \varepsilon_1$ , because  $\omega_L + \varepsilon_1 = \pi_{L1} - k_{L1}$ . The voters' problem is to draw inferences about the unknown value of the government's type,  $\omega_L$ , from the observation of the sum of the government's type and the stochastic shock ( $\omega_L + \varepsilon_1$ ). This observation is a random draw from a normal distribution with an unknown mean  $\omega_L$  and precision  $p_e$ . The prior distribution over that unknown mean is  $N(\mu_L, p_\omega)$ . Using Theorem 1 of Section 9.5 of De Groot (1970:167), the posterior distribution of  $\omega_L$ ,  $f(\omega_L, \pi_{L1})$  is  $N(\hat{\omega}_L, \hat{p}_\omega)$  where

$$\hat{\omega}_L = \frac{\hat{p}_\omega}{p_\omega + \hat{p}_e} \mu_L + \frac{\hat{p}_e}{(p_\omega + \hat{p}_e)(\pi_{L1} - k_{L1})} \text{ and } \hat{p}_e = p_\omega + p_e$$

Recalling that  $h_{L1} < h_{R1}$ , it is possible to show that  $\hat{\omega}_L > \omega_R$  for any positive  $\pi_{L1}$ . This means that any observed rate of devaluation  $\pi_{jt}$  is interpreted by voters as associated with a stronger (posterior) type if the incumbent is Right than when the incumbent is Left.

Our model builds on Canavan and Tommasi (1997b) and Cukierman and Tommasi (1998), but our results differ from both. In contrast to Canavan and Tommasi (1997b) and the standard Barro–Gordon framework (1983), which focus on the ability of the government to introduce surprise inflation, in our model and in Cukierman and Tommasi (1998), voters have policy preferences over the rate of inflation, and the probability of re-election depends on how close the chosen policy is to the ideal point of the median voter. Similarly to Canavan and Tommasi (1997a), we find that weak types tend to devalue (inflate) more in equilibrium, but our two-party probabilistic voting model provides us with the additional implications that equilibrium policy, re-election, and credibility are conditional on partisanship.

In contrast to Cukierman and Tommasi (1998), our model includes no learning about exogenous economic shocks, and this is not important in our model because the shocks do not persist. Consequently, policy choice affects the government's re-election chances only through its effect on voters' beliefs about the government's type. Another important distinction is that Cukierman and Tommasi (1998) assume away the problem of commitment. In their model, a policy proposal that is announced is implemented. We focus instead on the possibility that a commitment to a fixed exchange rate will be broken and how this will depend on partisanship. Consequently, in our model, a government cannot commit to carrying out a policy that it does not prefer in the

second period. These distinctions in the setup lead to important differences in the results. In our model, voters use the expected second-period policy to choose whether to re-elect the incumbent, so the relevant question for voters is inferring the type of the incumbent government.<sup>4</sup> This creates incentives for moderate Left governments to signal their type by defending the exchange parity, even when exogenous shocks might dictate abandoning it. In contrast, Right governments abandon their exchange rate commitments whenever they become inconsistent with the state of the economy.

#### **Empirical Tests**

We test the empirical implications of the model using data for the 1990–2007 period that cover 26 countries in Eastern Europe and the former Soviet Union. This choice of sample solves two potential inference problems. First, our theoretical argument applies only when voters have substantially different priors about the policy preferences of Left and Right governments. The model makes strong predictions in this sample, however, because the Left's credibility problem was particularly acute during the post-Communist transition. The socialist parties in Eastern Europe suffered from serious reputation problems as successors to the Communist parties, so they faced incentives to adopt fixed exchange rates in order to convince investors that they would adhere to sound economic policies (Bodea 2010). The information environment during the transition was scarce, and a fixed exchange rate served as a visible and public commitment to buy credibility and gain access to international capital markets. In addition to anecdotal evidence, the lower credibility of the left-wing politicians is apparent from the higher cost of government debt for left-wing governments. Bodea (2010) compares the real yield on 3 month T-bills and finds that in Eastern Europe and the former Soviet Union, left-wing governments paid an interest rate premium compared to right-wing governments: Even after controlling for inflation, the right had a mean rate of 1.68%, while the left had a mean rate of 8.4% (median rates are 1.8% for the right and 8.8% for the left, respectively). Second, restricting the sample allows us to minimize measurement error on the key independent variable, partisanship. Our main analysis covers the 1990–2001 period, because Stone (2002) provides detailed coding of partisanship during that period. As a robustness check, we have extended the analysis to 2007 using partisanship coding from the Database of Political Institutions, which distinguish only left, right, and center parties. Studies of partisan politics have established that voters are able to rank parties on a left-right scale that has cross-national validity, but these rankings become imprecise when they are extended across regions and time periods. It is doubtful that socialism had the same meaning in Latin America in the 1980s and Eastern Europe in the 1990s, for example, and there is

<sup>4</sup> In Cukierman and Tommasi's model, a right policy will move beliefs about the Left closer to the median voter ("Hotelling effect"), but it could also signal to voters that right policies have become better from the point of view of social welfare (due to exogenous shocks) and make the Right challenger more attractive ("expectations effect"). Which effect will prevail depends on uncertainty: Greater uncertainty about exogenous shocks will make the "Hotelling" effect stronger (Cukierman and Tommasi 1998). In contrast, in our model, Right policies benefit Left governments electorally and vice versa because the "expectations effect" is not present.

empirical evidence that Left parties behaved differently in these different contexts (Pop-Eleches 2009).<sup>5</sup>

Our empirical analysis tests two competing explanations for the high political costs of breaking exchange rate commitments: the audience costs explanation advanced by Leblang (2005) and the signaling argument developed here.

**Audience Costs Hypothesis:** *Breaking an exchange rate commitment should reduce the expected tenure of Left and Right governments equally.*

**Signaling Hypothesis:** *Only Left governments should be punished for breaking their exchange rate commitments.*

#### *The Dependent Variable: Government Duration*

Government duration is the number of months the current government has been in office. A government is coded as falling when the prime minister or the main party of the ruling coalition changes whereas the departure of a junior partner from a coalition, while the prime minister and the main coalition partner remain the same, is not. In a few cases where the prime minister died unexpectedly in office, the government is coded as continuing.

#### *Main Explanatory Variables*

Breaking an exchange rate commitment. As Kaminski, Lizondo, and Reinhart (1998) show, there are various ways to operationalize the concept of abandoning an exchange rate commitment. Most studies focus on crises such as large changes in the exchange rate (15% or 20%) or speculative attacks (Krugman 1979; Edwards 1989; Edwards and Montiel 1989; Klein and Marion 1994; Eichengreen, Rose, and Wyploz 1996; Frankel and Rose 1996; Bernhard and Leblang 1999). Our interest is not in devaluations *per se*, however, but in whether governments keep whatever commitments they make, because we want to know whether voters use this information to draw inferences about future behavior. Consequently, we code breaking a commitment as a deviation from a pre-announced policy. Following Bodea (2010), we treat all realignments as potentially entailing reputation costs. Even small realignments can signal to markets how much governments value exchange rates as disinflation instruments, and frequent and incremental realignments can be equivalent to devaluation or an outright abandonment of the fixed exchange rate. All of the following events are considered breaking exchange rate commitments when they surprise the public: devaluation of the currency, even if the country remains on a pegged exchange rate regime; transition between currency regimes, such as from pegs to crawls or pegs to bands; devaluation of the

parity within the crawling peg or crawling band regimes; changes in the width of the fluctuation band; and changes in the foreign currency or the basket of currencies to which the domestic currency is pegged. The data set includes only *de jure* exchange rate commitments and changes in the parameters of the arrangement that were not announced and specified when the arrangement was initially adopted. This coding is appropriate for our purposes, as we are concerned with the reputation effects of exchange rate policy. If a government maintains a *de facto* fixed exchange rate regime but does not publicly announce it, there is no reason to expect it to suffer reputation costs from realignments. There are 21 episodes in the data for Left governments and 29 episodes for Right governments that fit our definition of breaking an exchange rate commitment.

The substantive assumption implicit in this coding rule is that the various kinds of promises that governments make about exchange rates are not as important as whether they keep whatever promises they make. This might seem to make excessive demands of voters. Does the median voter really have the sophistication necessary to respond to technical changes in exchange rate regimes, in particular when those involve transitions from pegs to crawls and bands or changes in the currency basket to which the domestic currency is pegged? We argue that voters do not have to understand economics; they just have to be able to observe when interested parties cry “foul!” Investors and the political opposition have incentives to track exchange rate policy, and the press covers their concerns, so breaking a commitment—whatever it was—acts as an effective informational shortcut. In addition, exchange rates in post-Communist countries were the most visible price in the economy. Most post-Communist countries were trying to defend over-valued exchange rates, so shifting the basket of currencies was in effect a way to devalue against the dollar. Voters observed that prices changed, and the press blamed the government for breaking a promise, and it did not really matter what the substance of the promise had been. Most Russian voters were not sophisticated about the fact that Russia had an adjustable band<sup>6</sup> and not a fixed exchange rate in 1998, and they might not have been able to tell what the difference was, but they observed what happened when the exchange rate target was abandoned. Nevertheless, it is a reasonable empirical question whether voters respond in the same way to breaking a promise of devaluing a fixed rate or a peg, on one hand, as they do to seemingly smaller adjustments such as changing the basket of currencies, on the other. To investigate this, we present below versions of our analysis using different definitions of breaking an exchange rate commitment.

#### *Left-right Government Partisanship*

We use an ideology score to capture government partisanship. The theoretical model assumes that Left and Right governments have preferences about the trade-off between inflation and unemployment that are drawn from different distributions, so voters have different prior beliefs about Left and Right incumbents. The coding of government partisanship from Stone (2002) is based on

<sup>5</sup> Similarly, it is an open empirical question whether the salience of the left-right dimension increased or decreased during the time of our analysis. Party systems, voter attachments, and the significance of party labels in the region have been unstable during the post-Communist period. While the struggle between the antireform Left and pro-reform Right dominated political contestation in the early transition, recent empirical studies have shown that the Left has weakened and that the salience of the left-right dimension has diminished in some Eastern European countries (Enyedi 2006; Markowski 2006a,b). In Poland, for example, the post-Communist SLD’s share of the popular vote dropped sharply in the 2005 parliamentary election.

<sup>6</sup> Russia’s official regime was a crawling peg, but the *de facto* regime was a band, which was adjusted a number of times. Russia experienced devaluation, default, and inflation in August 1998, and Reinhart and Rogoff (2004) classify the exchange rate regime as “freely falling” in 1998.

press accounts, interviews for some countries, published sources, and the opinions of country experts. The score reflects the ideological position of the largest party in the government and ranges from  $-10$  (extreme left on economic issues) to  $10$  (extreme right). The measure is well suited to our analysis because it was coded on economic policy only, not on any of the other confounding issues that often divide left- from right-leaning governments. The measure is based on pre-electoral rhetoric rather than policy. For instance, Poland from 1993 to 1997 is coded as having a Left government because of the SLD's populist electoral platform, rather than a moderate government, despite the fact that the SLD did not reverse the key policies of the previous reformist coalitions. Similarly, there are significant differences in the scores of the Chernomyrdin, Kiriyenko, and Primakov governments in Russia, despite their similar economic policies. According to our argument, voters' priors about the government's type affect the way they perceive the government's actions, so the preferred measure captures pre-election expectations. These data range from 1990 to 2001. We also perform robustness checks in which we extend the analysis to 2007, and for these models, we use the cruder coding of partisanship as left-leaning ( $-1$ ), center ( $0$ ), or right-leaning ( $1$ ) from the World Bank's Database of Political Institutions.

For parliamentary systems, the ideology of the prime minister's party is the partisanship of the government; for nonparty coalitions and caretaker governments, the largest pro-government party determines government partisanship. The coding scheme is more complicated for presidential systems. If the prime minister belongs to a parliamentary party, the partisanship score is based on that party's position. Otherwise, Stone (2002:56) uses public statements by the president and prime minister at the time the government was appointed, votes of confidence in the government, public perceptions and expectations gleaned from the press, and cabinet reshufflings that increase or decrease the influence of ministers with known reformist or antireformist policy agendas. We interact government partisanship with broken commitments, because our hypothesis is conditional: The effect of breaking commitments on government duration depends on partisanship.

#### *Control Variables*

Drawing on the literature on government duration,<sup>7</sup> which explains government tenure as a function of coalition and regime characteristics, we control for two measures of political fragmentation: the number of parties in the governing coalition and the seat share of the largest party in the governing coalition. For the 1990s sample, the coding of these two variables is from Stone (2002); for the extended sample, we use the coding from the World Bank Database of Political Institutions. A number of empirical studies have found that politically fragmented governments have lower durability (Taylor and Herman 1971; Sanders and Herman 1977; King, James, and Burns 1990). Following the literature, we expect governments with a large number of coalition partners and governments lacking strong parliamentary support to be less stable. Government fragmentation could also make breaking commitments less costly: When voters cannot attribute responsibility to parties in the governing

coalition, governments may face lower costs for breaking their commitments (Powell and Whitten 1993). The quality of democracy should affect the cost of breaking public commitments, because it determines the ability of voters to punish governments for breaking promises. Our measure for democracy is taken from the Polity IV index. To investigate the effect of economic development, we include GDP per capita and annual economic growth. Przeworski et al. (1996) find that income is an important prerequisite for political stability. Chiozza and Gohmans (2004) also find that leaders of countries experiencing economic growth have longer tenure. We control for the executive powers of the president, as presidentialism might contribute to government instability (Lijphart 1992; Linz 1997; Sartori 1997). According to Linz (1994) and Lijphart (1994), presidentialism undermines the stability of democratic regimes because of the winner-take-all nature of political competition, the rigidity of fixed terms for the executive, and frequent legislative deadlock between the executive and the legislature. On the other hand, the weaker political parties and divided governments typical of presidential systems disperse influence and reduce clarity of responsibility, thus undermining anti-incumbent voting (Powell and Whitten 1993; Powell 2000). While some studies have found empirical support for the greater fragility of presidential systems (Riggs 1993; Przeworski et al. 1996; others have presented evidence that casts doubt on these findings (see, for example, Shugart and Carey 1992; Mainwaring and Shugart 1997; Power and Gasiorowski 1997).<sup>8</sup>

Warwick (1994) finds that leaders become more likely to dissolve the government as elections approach, so we control for the number of months to the next parliamentary election. The shortened government duration could be due to worsening economic conditions rather than to a loss of credibility: Concurrent economic crisis could be the reason for voters' punishment, not devaluations. To control for this possibility, we include unemployment (percentage of unemployed in the labor force) as a proxy for economic crisis using unemployment rates from the World Bank World Development Indicators. Previous studies have found that unemployment and inflation contribute to shorter government duration (see, for example, Robertson 1984).

#### *Estimation Method*

We model the timing of government collapse using a parametric Weibull duration model. The Weibull model allows the probability that a government falls in a particular month to increase or decrease as a function of time,

<sup>8</sup> For the analysis of the 1990s, *Presidentialism* varies between 1 and 21, with higher scores indicating stronger powers of the executive. The measure for presidential powers is based on a modification of the Hellman-Tucker score, modified to reflect coding disagreements and updated from 1996 to 1999 to reflect constitutional and extraconstitutional changes that took place after the original data were gathered. The coding scheme generally follows the one created by Shugart and Carey (1992) but was modified by Joel Hellman and Joshua Tucker. For the 1990–2007 analysis, we had to use a different measure as the Hellman-Tucker score is unavailable. We used a simple binary coding where “1” stands for presidential systems and “0” for parliamentary systems. This coding is based on the SYSTEM variable from the World Bank Database of Political Institutions. Because many post-Communist countries employ mixed presidential-parliamentary systems, we also used an alternative measure for the 1990–2007 analysis, namely Siaroff's (2009) coding on a scale of 1–9, with higher scores indicating stronger presidential powers. Our results are not affected by the use of the alternative measure (see Model 15 in Tables 10 and 11 in Appendix S2).

<sup>7</sup> For a review, see Laver and Schofield 1999 and Warwick 1994.

but restricts the effect of time to be monotonic.<sup>9</sup> Diagnostic tests confirmed the results of earlier studies, which also found the Weibull model to predict the fall of governments better than alternative survival models. The Weibull model performs better (has a smaller Akaike Information Criterion) than the gamma, exponential, log-logistic, log-normal and Gompertz. A similar result is reported in (Warwick and Easton 1992; Warwick 1994). Estimation of the models with gamma frailty rejects the hypothesis that there is residual heterogeneity in the data. Estimation of a Cox proportional hazards model produces results similar to those presented here.

### Results

The estimation results are presented in Tables 2–4. The results are presented in accelerated time (ATF) parameterization of the Weibull model, so a positive coefficient indicates that an increase in the independent variable increases the expected government duration. The first two models use the coding of partisanship from Stone (2002), and Models 3–6 use the coding of government partisanship taken from the Database of Political Institutions (DPI). In all of the tables, we observe the convention of labeling effects with one, two, or three asterisks to indicate statistical significance at the .1, .05, and .01 levels, respectively. We find the same qualitative results, and very similar substantive results, across all specifications. In every case, the coefficient of the Breaking Commitments variable is negative and significant. Government Partisanship is negative and insignificant in all models, and the interaction between the two is positive in all models. Due to the inclusion of interaction terms and the resulting conditionality of estimates, the significance, sign, and magnitude of the effects of our variables of interest are not directly indicated by their coefficients, however (Friedrich 1982). To aid in interpretation, Tables 3 and 4 present first differences in expected Government Duration (in months) for all values of Government Partisanship, while changing the value of the break of commitment variable from 0 to 1. All other explanatory variables are held at their means, or at 0 for the dummy variables.<sup>10</sup> We also depict the effect of breaking commitments on expected government duration in Figure 1, using estimates from Model 2.

These results support the signaling explanation rather than the audience costs explanation of the relationship between exchange rate commitments and government collapse. If the political costs of breaking exchange rate commitments were automatic audience costs, we should observe similar decreases in government duration in the aftermath of realignments for Left and Right governments. To the contrary, we observe that Left and Right governments fare very differently in the aftermath of breaking exchange rate commitments. Our results consistently show that Right governments suffer no significant penalties for breaking commitments, while Left-wing governments are punished for breaking their commitments, which is consistent with a model in which rational voters draw different inferences from similar behavior when they have different priors.

In each of the models estimated, we find a substantial, negative effect of violating exchange rate commitments (talk about exchange rates is not cheap), but this effect depends on whether the government leans to the left. Right-of-center governments can say and do as they please; voters do not vote them out of office when they abandon their exchange rate promises. The substantive effects for the sample restricted to the 1990–2001 period using the DPI indicator for partisanship are reported in Table 4 (Models 3 and 4). In those results, the effects of breaking a commitment are statistically insignificant for Right governments, but significant for Left governments. Furthermore, Left governments suffer penalties that are approximately twice as great as those predicted for Right governments. The effect reduces the expected tenure of Left governments by 8.3 months in model 3 and 6.7 months in model 4, which sacrifices 450 observations to control for unemployment. These effects are substantial compared to the average government tenure by country and partisanship reported in Table 5, which range from 8 months (Bulgaria) to 55 months (Tajikistan) for Left governments and from 8 months (Poland) to 29 months (Czech Republic) for Right governments. These results indicate that Left and Right governments fare quite differently when they break their exchange rate commitments.

The results strengthen if we remain in the same sample and shift to the Stone (2002) measure of partisanship, which, as we indicated above, makes finer distinctions about the partisan orientations of particular governments. The results presented in Table 3 indicate that governments that are right of center are predicted to have longer periods in office when they break commitments, although again, these effects are not statistically significant. They are substantively significant, however, and they strongly reject the hypothesis, using a one-tailed test, that Right governments are punished for violating their commitments. Center governments have insignificant predicted effects using this measure. Left governments, on the other hand, have significantly shorter terms in office if they break an exchange rate commitment, losing on average as much as 10 months to a year of expected duration when they do so. These results provide an explanation for earlier findings (Bodea 2010) that only left-leaning governments appear to be deterred from breaking their exchange rate commitments: Only left-leaning governments are punished by rational voters for doing so.

Moving to the expanded sample for the 1990–2007 period and again using the DPI indicator for partisanship, we find very similar results (Models 5 and 6, Table 4). Right governments are again predicted to last longer in office when they break exchange rate commitments, although these effects are not statistically significant. Center governments are expected to have shorter terms if they break their commitments, although these results are significant only in Model 5. Left governments, on the other hand, are predicted to be substantially more likely to fall when they deviate from their exchange rate commitments. For the 1990–2007 sample, the decrease in expected government duration ranges from 5 to 9 months for Left governments. Although the sample size is substantially larger in the extended data set, the standard errors are larger than in the restricted sample, which may reflect the increasing heterogeneity of the post-Communist countries as the fluidity of the transition period resolved itself into settled institutions. Note,

<sup>9</sup> In general, parametric assumptions like this are more useful than harmful if they are based on theory or substantive knowledge; in this case, there is a substantial empirical literature on government duration.

<sup>10</sup> Expected government duration for substantively interesting values of the explanatory variables is computed with Clarify (King et al. 1990).

**Table 2.** Breaking Exchange Rate Commitments and Government Fall

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
	<i>Stone Measure, 1990s</i>		<i>DPI Measure, 1990s</i>		<i>DPI Measure, 1990–2007</i>	
Break of Exchange Rate Commitment	-1.0887 (0.5227)***	-1.0655 (0.5502)**	-2.1013 (0.5864)***	-2.3026 (0.6811)***	-2.0571 (0.7785)**	-1.6832 (0.8063)**
Government Partisanship	-0.0103 (0.0093)	-0.0066 (0.0109)	-0.0953 (0.0732)	-0.1131 (0.0902)	-0.0166 (0.0839)	0.0432 (0.101)
Break of Commitment* Partisanship	0.1086 (0.0334)***	0.1125 (0.0373)**	0.2788 (0.2574)	0.3326 (0.2889)	0.4898 (0.3356)	0.4103 (0.3322)
Break of Commitment* Democracy	0.1941 (0.0681)**	0.2059 (0.0749)**	0.3058 (0.0888)***	0.3266 (0.0995)***	0.3156 (0.1187)**	0.2689 (0.1217)**
Democracy	-0.0272 (0.017)	-0.029 (0.0228)	-0.0474 (0.0271)*	-0.0444 (0.0302)	-0.1034 (0.0175)***	-0.0871 (0.0231)***
Months to Elections	-0.0166 (0.0043)**	-0.0153 (0.0052)**	-0.0152 (0.0045)***	-0.0146 (0.0053)**	-0.016 (0.0044)***	-0.0143 (0.0049)**
Number of Coalition Members	-0.0667 (0.0484)	-0.0716 (0.0577)	-0.1129 (0.0469)**	-0.1402 (0.0618)**	-0.0143 (0.0502)	0.0374 (0.0564)
Parliamentary Support	0.3865 (0.3865)	0.4605 (0.5674)	0.0546 (0.4585)	-0.0209 (0.615)	0.4435 (0.4218)	1.0317 (0.5753)*
Presidentialism	0.0078 (0.0174)	0.0012 (0.0189)	0.0358 (0.0211)*	0.0385 (0.0234)*	-0.1302 (0.1714)	-0.1754 (0.1794)
Interim Government	-0.8403 (0.1608)***	-0.8431 (0.2042)***	-0.7475 (0.1849)***	-0.7111 (0.1989)***	-1.5144 (0.1938)***	-1.5292 (0.2291)***
War	-0.3979 (0.2572)	-0.3691 (0.3301)	-0.6273 (0.2414)*	-0.548 (0.3224)*	-0.7841 (0.2669)**	-0.6171 (0.3425)*
Log (GDP Per Capita)	0.1309 (0.0701)*	0.1834 (0.0908)*	0.1763 (.0703)*	0.2208 (0.0817)**	0.1815 (0.069)**	0.229 (0.0804)**
Economic Crisis		0.0001 (0.0106)		0.0174 (0.013)		-0.0178 (0.0098)*
Constant	2.7534 (0.7029)***	2.3104 (0.9861)**	2.6861 (0.6174)***	2.1908 (0.9191)**	3.0807 (0.633)***	2.3915 (0.8882)**
Observations	2335	1648	2024	1498	4047	3334
Shape Parameter	1.6041	1.5773	1.7522	1.7311	1.3591	1.3878
95% Confidence Interval	(1.3597–1.8435)	(1.3504–1.8423)	(1.4999–2.0469)	(1.4686–2.0405)	(1.2055–1.5323)	(1.2092–1.5929)
Wald Chi-square	174.15***	130.06***	198.84***	156.14***	209.54***	159.89***
Log-likelihood	-127.4476	-89.1645	-120.2292	-91.5684	-244.7708	-204.9335

\*\*\*Significant at 99% level of confidence; \*\*significant at 95%; \*significant at 90%.

**Table 3.** Effect of Breaking Exchange Rate Commitments on Government Duration (Number of Months), First Differences, 1990s (Stone Partisanship Measure)

	<i>-10</i>	<i>-7</i>	<i>-3</i>	<i>0</i>	<i>3</i>	<i>7</i>	<i>10</i>
Model 1	-13.3 (-42.2, -2.9)***	-11.2 (-34.6, -2.5)***	-7.3 (-23.9, -0.9)**	-3.5 (-13.5, 6.9)	1.7 (-8.1, 26.4)	11.7 (-4.6, 63.8)	22.6 (-2.1, 108.6)
Model 2	-9.9 (-38.2, -0.9)**	-8.3 (-51.8, -0.3)**	-5.1 (-21.9, 0.2)	-1.8 (-12.7, 9.2)	2.7 (-7.8, 29.7)	11.8 (-2.7, 74.4)	22.1 (-6.1, 161.1)

(Note. 95% confidence intervals in parentheses.)

**Table 4.** Effect of Exchange Rate Commitments on Government Duration (Number of Months), First Differences (DPI Partisanship Measure)

<i>Partisanship</i>	<i>-1</i>	<i>0</i>	<i>1</i>
<i>Model 3</i>	-8.3 (-26.2, -1.5)**	-4.7 (-18.5, 1.8)	-4.4 (-17.3, 1.6)
<i>Model 4</i>	-6.7 (-26.5, -0.7)**	-5.3 (-22, -0.5)**	-3.8 (-19.5, 1)
<i>Model 5</i>	-9.4 (-28.6, 0.4)*	-6.6 (-20.6, 0.1)*	-1.2 (-14.5, 13.9)
<i>Model 6</i>	-5.1 (-21.4, 0.9)*	-3.6 (-14.5, 1)	-0.5 (-11.5, 10.7)

(Note. 95% confidence intervals in parentheses.)

however, that when we restrict our definition of exchange rate commitments to fixed rates and pegs, the substantive effect is between 11 and 20 months, with the exception of Model 27, where the substantive effect is 5 months and significant at the .1 level (Appendix S2, Table 14).

To facilitate the interpretation of these results, Figure 2 depicts the impact of breaking commitments on government survival by government partisanship. As the figure makes evident, the probability of remaining in office after breaking a commitment is much lower for a Left government than for a Right government. These results are robust to the inclusion of many variables that have been shown to affect government duration in the existing literature. The economic development indicator (GDP per capita), as expected, has a positive and statisti-

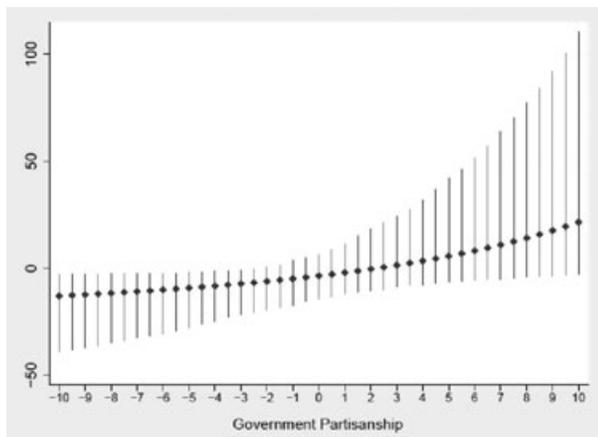


FIG 1. Marginal Effect of Breaking Commitments on Government Duration (Weibull First Difference and 95% Confidence). Dummy Variables (Except Breaking a Commitment) are Set to 0; All other Values are Set to Mean

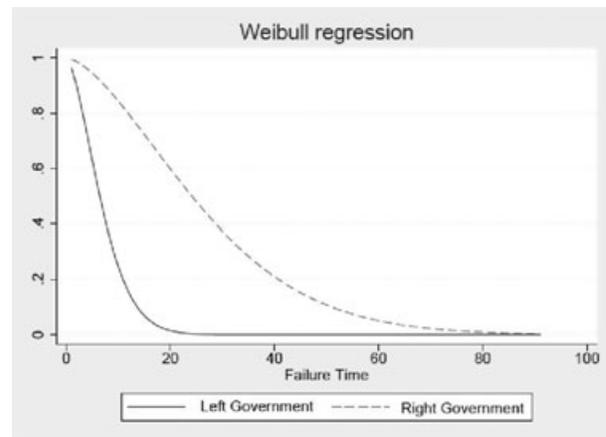


FIG 2. Impact of Breaking Exchange Rate Commitments on Government Survival (Comparison of Survival Function). Survival Functions Indicate the Probability that a Government is Still in Office at a Given Time Given that It has Broken an Exchange Rate Commitment. Dummy Variables (Except Breaking a Commitment) are set to 0; All other Values are set to Mean

**Table 5.** Average Government Tenure by Partisanship (DPI Partisanship Measure), 1990–2007

Country	Left	Center	Right
Albania	12	0	21
Armenia	0	26	0
Azerbaijan	0	29	0
Belarus	30	0	0
Bulgaria	8	33	12
Czech Republic	17	10	29
Croatia	25	0	22
Estonia	0	10	13
Georgia	0	14	0
Hungary	28	0	25
Kazakhstan	19	18	16
Latvia	0	23	12
Lithuania	20	13	19
Macedonia	16	20	0
Moldova	28	9	0
Poland	14	0	8
Romania	21	15	9
Russia	0	21	10
Slovakia	16	46	0
Slovenia	22	20	10
Tajikistan	55	0	0
Turkmenistan	44	0	0
Ukraine	9	9	10
Uzbekistan	38	31	0

cally significant effect. The political fragmentation indicators, the Number of Parties in the Governing Coalition and Parliamentary Support of the Largest Party in the Government, have the expected signs (a greater number of parties decreases expected government duration while stronger parliamentary support increases it), but are not statistically significant (with the exception of Models 3 and 4, where Number of Parties in the Governing Coalition is significant, and Model 6 where Parliamentary Support is significant). Interim governments have a negative sign, as expected, and the coefficient is significant. Presidentialism does not have a strong impact on government duration. It has a positive and statistically significant coefficient in Models 3 and 4, but the effect is substantively insignificant; the coefficient is insignificant in all

other models. A potentially important threat to inference is that the economic crises that typically accompany devaluations could be responsible for the deterioration of the government's fortunes, rather than the signaling effect of the devaluation itself. Consequently, we control for the level of unemployment in Models 2, 4, and 6. We find that unemployment (Economic Crisis) does not have statistically significant effects once we control for the other variables in our model (with the exception of Model 6, where the effect is negative and significant). However, our results are robust to the inclusion of unemployment as a proxy for economic crisis, which supports our interpretation that voters' punishments are motivated not only by worsening economic conditions per se, but also by the fact that governments have broken their promises. We have experimented with several other measures for economic crisis, with similar results.

#### Robustness Checks

We subject our results to a number of robustness checks. We include a dummy variable to capture differences in our sample between successor states of the former Soviet Union and the other post-Communist countries (Models 10–15, 24, 25, and 28, 29 in Appendix S2), which has a significant and negative coefficient in Models 10–15. In Models 10–17, 24, and 25, we include year-fixed effects. The inclusion of these control variables does not affect our results. It is a standard assumption of the political economy literature about partisanship that the Left prefers an inflation–unemployment trade-off that puts more emphasis on avoiding unemployment than the Right would choose (Hibbs 1977b; Havrilesky 1987; Alesina and Sachs 1988). However, an alternative interpretation of our results could be that constituents of the Left are in fact more sensitive to inflation and devaluation than constituents of the Right, because poor segments of the population are unable to hedge against these risks. Consequently, an alternative explanation for the short duration of Left governments that have broken their exchange rate commitments is that their core constituents desert them, rather than that they lose the support of the median voter. We examine this alternative explana-

tion by controlling for devaluation and inflation (Models 10–14 in Tables 7 and 8 in Appendix S2). These models also include interaction terms between breaks of commitments and devaluation and inflation, respectively. We find that our results hold after controlling for the rate of devaluation and inflation, which implies that voters punish governments specifically for breaking their promises, rather than because of the economic effects of doing so or the economic conditions that make the policy change necessary. Devaluation and inflation and their interactions with partisanship and democracy are not significant predictors of the collapse of governments, however, so they are not included in the main models presented in the text.

In addition, we used a number of alternative specifications. As noted above, we used a variety of alternative duration models, which made no substantial difference to our results. Changing the time window over which breaking a commitment is expected to affect duration from 6 months to 1 year does not change the substantive results (See Model 22 in Tables 11 and 12 in Appendix S2). In addition, in order to consider the possibility that our results could be driven by the fact that several authoritarian countries in our sample are ruled by former members of the CPSU, we re-estimated our analyses for the subset of nonauthoritarian countries (see Model 16 in Tables 9 and 10 in Appendix S2). This had no substantial effects on our results. Due to the frequency of mixed parliamentary–presidential systems in the post-Communist countries, in the 1990–2007 sample, some models employ an alternative continuous measure of presidentialism based on Siaroff (2003). Our results are robust to this change (see Model 17 in Tables 9, 10 in Appendix S2).

To consider the possibility that voters do not respond in the same way to breaking a promise of devaluing a fixed rate or a peg as they do to seemingly smaller adjustments such as changing the basket of currencies, we ran several versions of our analysis using different definitions of breaking an exchange rate commitment, and our findings were robust to these variations. In Appendix S2, we present the results of models that coded only fixed exchange rate commitments and pegs as exchange rate commitments that could be broken, to show that our results are not driven by our choice to code breaks of intermediate regimes, surprise transitions from one intermediate regime to another, or changes in the currency basket in the same way we coded breaks of fixed exchange rate commitments (see Model 23 in Tables 11 and 12 and Models 28 and 29 in Tables 13 and 14). The results are consistent with our earlier findings, although the results in the extended data suggest that the narrower definition of a commitment yields sharper estimates.

### Conclusion

Exchange rate commitments pose several linked puzzles. Why is it that governments and markets treat exchange rate commitments as important, when they are so often violated? Why is it that voters appear to punish governments that renege on these promises, in spite of the fact that maintaining exchange rate commitments when they are untenable is usually much more harmful? We reject the conventional notion that voters punish politicians reflexively when they observe that a promise has been broken. Voters are sophisticated enough to draw inferences from government policies, and if they choose to

vote against governments that break promises, there are probably rational calculations that lead them to believe that this strategy is their best response under the circumstances. In a model with rational voters, we find conditions under which it makes sense for voters to punish a government that breaks its promises (but only if their prior belief makes it rational to infer from the signal that the government is too far to the left). If the government is believed to lie to the right of the median voter, devaluation is more likely to indicate that devaluation is necessary than that the government is soft on inflation, so punishing devaluation is not optimal. We test the hypothesis that Left governments and only Left governments are punished when they renege on exchange rate commitments, and we find robust support for it.

This helps to explain prior findings that Left governments are particularly stubborn in their defense of exchange rate targets. Indeed, in our model, Left governments defend exchange rate targets under circumstances when Right governments that are more conservative would abandon them. The need to demonstrate their dedication to sound money, in fact, may drive moderate Left governments to react to economic shocks by embracing economic policies that are more anti-inflationary than it is optimal and that are more conservative than a Right government would have chosen.

### References

- ALESINA, ALBERTO, AND NOURIEL ROUBINI. (1992) Political Cycles in the Macroeconomy. *Review of Economic Studies* 59: 403–414.
- ALESINA, ALBERTO, AND JEFFREY SACHS. (1988) Political Parties and the Business Cycle in the United States. *Journal of Money, Credit, and Banking* 20 (1): 63–82.
- ALESINA, A., AND G. TABELLINI. (1995) A Positive Theory of Fiscal Deficits and Government Debt in a Democracy. *Review of Economic Studies* 59 (2): 663–688.
- ALVAREZ, MICHAEL, GEOFFREY GARETT, AND PETER LANGE. (1985) Government Partisanship, Labor Organization, and Macroeconomic Performance. *American Political Science Review* 85 (2): 539–556.
- BACKUS, DAVID, AND JOHN DRIFFIL. (1985) Inflation and Reputation. *American Economic Review* 75 (3): 550–538.
- BARRO, ROBERT, AND DAVID GORDON. (1983) A Positive Theory of Monetary Policy in a Natural Rate Model. *The Journal of Political Economy* 91 (4): 589–610.
- BERNHARD, WILLIAM, AND DAVID LEBLANG. (1999) Democratic Institutions and Exchange Rate Commitments. *International Organization* 53 (1): 71–97.
- BERNHARD, WILLIAM, AND DAVID LEBLANG. (2002) Political Parties and Monetary Commitments. *International Organization* 56 (4): 71–97.
- BODEA, CRISTINA. (2010) The Political Economy of Fixed Exchange Rate Regimes: The Experience of Post-Communist Countries. *European Journal of Political Economy* 26: 248–264.
- BOSCO, LUIGI. (1987) Determinants of the Exchange Rate Regimes in LDC's: Some Empirical Evidence. *Economic Notes* 1: 119–143.
- BROZ, J. LAWRENCE, AND JEFFREY FRIEDEN. (2001) The Political Economy of International Monetary Relations. *Annual Review of Political Science* 4: 317–343.
- CANAVAN, CHRIS, AND MARIANO TOMMASI. (1997a) On the Credibility of Alternative Exchange Rate Regimes. *Journal of Development Economics* 54 (1): 101–122.
- CANAVAN, CHRIS, AND MARIANO TOMMASI. (1997b) On the Credibility of Alternative Exchange Rate Regimes. *Journal of Development Economics* 54: 101–122.
- CHIOZZA, GIACOMO, AND HEIN GOHMANS. (2004) Avoiding Diversionsary Targets. *Journal of Peace Research* 41 (4): 423–443.
- COOPER, RICHARD. (1971) *Currency Devaluations in Developing Countries. Essays in International Finance* 86 (June), Princeton University.
- COOPER, RICHARD. (2002) *Macroeconomic Policies of Developed Democracies*. Cambridge: Cambridge University Press.

- CUKIERMAN, ALEX, AND MARIANO TOMMASI. (1998) When Does it Take a Nixon to Go to China? *The American Economic Review* 88 (1): 180–197.
- DEGROOT, MORRIS. (1970) *Optimal Statistical Decisions*. New York: McGraw-Hill.
- DRAZEN, ALLEN, AND PAUL MASSON. (1994) Credibility of Policies versus Credibility of Policy-Makers. *The Quarterly Journal of Economics* 109 (3): 735–754.
- DREYER, JACOB. (1992) *The Economics of Monetary Integration*. Cambridge: Cambridge University Press.
- EDWARDS, SEBASTIAN. (1989) *Real Exchange Rates, Devaluation, and Adjustment: Exchange Rate Policy in Developing Countries*. Cambridge: MIT University Press.
- EDWARDS, SEBASTIAN, AND PETER MONTIEL. (1989) Devaluation Crises and Macroeconomic Consequences of Postponed Adjustment in Developing Countries. *IMF Staff Papers* 36 (4): 875–903.
- EICHENGREEN, BARRY, ANDREW ROSE, AND CHARLES WYPLOZS. (1996) Contagious Currency Crises. CEPR Discussion Paper 1453.
- ENYEDI, ZSOLT. (2006) Playing with Europe: The Impact of European Integration on the Hungarian Party System. In *The European Union and Party Politics in East Central Europe*, edited by Paul G. Lewis, and Zdenka Mansfeldova. Houndmills, Basingstoke: Palgrave Macmillan.
- FEARON, JAMES. (1994) Domestic Political Audiences and the Escalation of International Disputes. *American Political Science Review* 88 (3): 577–592.
- FLOOD, R., AND P. ISAARD. (1989) Monetary Policy Strategies. *IMF Staff Papers* 36: 612–632.
- FRANKEL, JEFFREY. (2005) Contractionary Currency Crashes in Developing Countries. *IMF Staff Papers*.
- FRANKEL, JEFFREY, AND ANDREW ROSE. (1996) Currency Crashes in Emerging Markets: An Empirical Treatment. *Journal of International Economics* 41 (3–4): 351–366.
- FRANZESE, ROBERT. (2002) *Macroeconomic Policies of Developed Democracies*. Cambridge: Cambridge University Press.
- FRIEDRICH, ROBERT. (1982) In Defense of Multiplicative Terms in Multiple Regression Equations. *American Journal of Political Science* 26: 797–833.
- GARRETT, GEOFFREY. (1995) Capital Mobility, Trade, and the Domestic Politics of Economic Policy. *International Organization* 49 (4): 657–688.
- GARRETT, GEOFFREY, AND PETER LANGE. (1995) Internationalization, Institutions, and Political Change. *International Organization* 49 (4): 627–656.
- GIAVAZZI, FRANCESCO, AND MARCO PAGANO. (1998) The Advantage of Tying One's Hands: EMS Discipline and Central Bank Credibility. *European Economic Review* 32 (5): 1055–1082.
- GOWA, JOANNE. (1998) Public Goods and Political Institutions: Trade and Monetary Policy Processes. *International Organization* 42: 15–32.
- HAVRILESKY, THOMAS. (1987) A Partisanship Theory of Fiscal and Monetary Regimes. *Journal of Money, Credit, and Banking* 19 (3): 308–325.
- HIBBS, DOUGLAS. (1977a) Political parties and Macroeconomic Policy. *American Political Science Review* 71 (4): 1467–1487.
- HIBBS, DOUGLAS. (1977b) Political Parties and Macroeconomic Policy. *The American Political Science Review* 71: 1467–1487.
- IVERSEN, TORBEN. (1999) *Contested Economic Institutions: The Politics of Macroeconomics and Wage Bargaining in Advanced Democracies*. Cambridge: Cambridge University Press.
- KAMINSKI, GRACIELA, SAUL LIZONDO, AND CARMEN REINHART. (1998) Leading Indicators of Currency Crises. *IMF Staff Papers* 45 (1): 1–48.
- KING, GARRY, ALT JAMES, AND LAVER BURNS. (1990) A Unified Model of Cabinet Dissolution in Parliamentary Democracies. *American Journal of Political Science* 34: 846–871.
- KLEIN, M., AND N. MARION. (1994) Explaining the Duration of Exchange Rate Pegs. NBER Working Paper No. 4651 1.
- KRUGMAN, PAUL. (1979) A Model of Balance of Payments Crisis. *Journal of Monetary Credit and Banking* 11 (3): 311–325.
- KYDLAND, FINN, AND EDWARD PRESCOTT. (1977) Rules Rather Than Discretion: The Inconsistency of Optimal Plans. *Journal of Political Economy* 85 (3): 473–491.
- LAVER, MICHAEL, AND NORMAN SCHOFFIELD. (1999) *Multi-party Government: The Politics of Coalition in Europe*. New York: Oxford University Press.
- LEBLANG, DAVID. (2005) Pegs and Politics. Working Paper.
- LIJPHART, AREND. (1992) *Parliamentary versus Presidential Government*. Oxford and New York: Oxford University Press.
- LIJPHART, AREND. (1994) Presidential and Majoritarian Democracy: Theoretical Observations. In *The Failure of Presidential Democracy*, edited by Juan Linz, and Arturo Valenzuela. Baltimore, MD: The Johns Hopkins Press.
- LINZ, JUAN. (1994) Presidential or Parliamentary Democracy: Does it Make a Difference? In *The Failure of Presidential Democracy*, edited by Juan Linz, and Arturo Valenzuela. Baltimore, MD: The Johns Hopkins Press.
- LINZ, JUAN. (1997) Some Thoughts on Presidentialism in Post-Communist Europe. In *Post-Communist Presidents*, edited by Ray Taras. Cambridge: Cambridge University Press.
- LOHMANN, SUSANNE. (1990) Monetary Policy Strategies: A Correction. *IMF Staff Papers* 37 (2): 440–445.
- MAINWARING, SCOTT, AND MATTHEW S. SHUGART. (1997) *Presidentialism and Democracy in Latin America*. Cambridge: Cambridge University Press.
- MARKOWSKI, RADOSLAW. (2006a) The 2007 Polish Parliamentary Election: Some Structuring, Still a Lot of Chaos. *West European Politics* 29 (1): 37–41.
- MARKOWSKI, RADOSLAW. (2006b) The Polish Elections of 2005. *West European Politics* 29 (4): 814–832.
- MILESI-FERETTI, GIAN MARIA. (1995) The Disadvantage of Tying Their Hands: On the Political Economy of Policy Commitments. *Economic Journal* 105: 1381–1402.
- OATLEY, THOMAS. (1999) How Constraining is Capital Mobility? The Partisan Hypothesis in an Open Economy. *American Journal of Political Science* 43 (4): 1003–1027.
- OBSTFELD, MAURICE, AND KENNETH ROGOFF. (1995) Exchange Rate Dynamics Redux. *Journal of Political Economy* 103 (3): 624–660.
- PERSSON, T., AND L. SVENSSON. (1989) Why a Stubborn Conservative Might Run a Deficit: Policy with Time-Inconsistent Preferences. *Quarterly Journal of Economics* 104: 325–345.
- POP-ELECHES, GRIGORE. (2009) *From Economic Crisis to Reform: IMF Programs in Latin America and Eastern Europe*. Princeton, NJ: Princeton University Press.
- POWELL JR, BINGHAM. (2000) *Elections as Instruments of Democracy: Proportional and Majoritarian Visions*. New Haven, CT: Yale University Press.
- POWELL JR, BINGHAM, AND GUY WHITEN. (1993) A Cross-National Analysis of Economic Voting: Taking Account of the Political Context. *American Journal of Political Science* 37 (2): 391–414.
- POWELL, BINGHAM, AND GUY WHITTEN. (1993) A Cross-National Analysis of Economic Voting: Taking Account of the Political Context. *American Journal of Political Science* 37: 391–414.
- POWER, TIMOTHY, AND MARK GASIOROWSKI. (1997) Institutional Design and Democratic Consolidation in the Third World. *Comparative Political Studies* 30 (2): 123–155.
- PRZEWORSKI, ADAM, MICHAEL ALVAREZ, JOSE ANTONIO CHEIBUB, AND FERNANDO LIMONGI. (1996) What Makes Democracy Endure? *Journal of Democracy* 7 (1): 39–55.
- RAMSAY, KRISTOPHER. (2004) Politics at the Water's Edge. *Journal of Conflict Resolution* 48 (4): 459–486.
- REINHART, CARMEN, AND KENNETH ROGOFF. (2004) The Modern History of Exchange Rate Arrangements: A Reinterpretation. *The Quarterly Journal of Economics*, 119 (1): 1–48.
- RIGGS, FRED. (1993) Fragility of the Third World's Regimes. *International Social Science Journal* 45 (2): 199–243.
- ROBERTSON, JOHN. (1984) Toward a Political-Economic Accounting of the Endurance of Cabinet Administrations: An Empirical Assessment of Eight European Democracies. *American Journal of Political Science* 28 (4): 693–709.
- ROGOFF, KENNETH. (1985) The Optimal Degree of Commitment to an Intermediate Monetary Target. *Quarterly Journal of Economics* 100 (4): 1169–1190.
- SANDERS, D., AND V. HERMAN. (1977) Economic Growth Strategies: The Effects of Ideological Partisanship on Interest Rates and Business Taxation. *Acta Politica* 12: 346–377.
- SARTORI, GIOVANNI. (1997) *Comparative Constitutional Engineering: An Inquiry into Structures, Incentives, and Outcomes*, 2nd edition. New York: New York University Press.
- SAVVIDES, ANDREAS. (1990) Real Exchange Rate Volatility and the Choice of Exchange Rate Regime by Developing Countries. *Journal of Money and Finance* 9 (4): 440–454.
- SCHULTZ, KENNETH. (2001) *Democracy and Coercive Diplomacy*. Cambridge: Cambridge University Press.

- SHUGART, MATTHEW SOBERG, AND JOHN CAREY. (1992) *Presidents and Assemblies: Constitutional Design and Electoral Dynamics*. Cambridge: Cambridge University Press.
- SIAROFF, ALAN. (2003) Comparative Presidencies: The Inadequacy of the Presidential, Semi-presidential and Parliamentary Distinction. *European Journal of Political Research* 42 (3): 287–312.
- SIMMONS, BETH. (1994) *Democracy and Development: Political Institutions and Well-Being in the World*. Princeton, NJ: Princeton University Press.
- STONE, RANDALL. (2002) *Lending Credibility: The International Monetary Fund and the Post-Communist Transition*. Princeton, NJ: Princeton University Press.
- TAYLOR, M., AND V HERMAN. (1971) Party Systems and Government Stability. *American Political Science Review* 65: 28–37.
- WARWICK, PAUL. (1994) *Government Survival in parliamentary Democracies*. New York: Cambridge University Press.
- WARWICK, PAUL, AND STEPHEN EASTON. (1992) Cabinet Stability Controversy: New Perspectives on a Classic Problem. *American Journal of Political Science* 30 (1): 122–146.
- WICKHAM, PETER. (1985) The Choice of Exchange Rate Regime in Developing Countries. *IMF Staff Papers* 32 (2): 248–288.