

# Crises and The Puzzle of Reforms\*

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## Abstract

This paper studies how economic conditions affects the likelihood of reform. Using a novel theory of the electoral process where successful communication of candidates' platforms requires effort from both candidates and a representative voter, we show that candidates' platform choices depend critically on the voter's gain from reform. When her gain from reform is low, no candidate proposes policy change; when it is high, non-competent politicians run on harmful reformist platform. In line with empirical findings, our model rationalizes why reforms occur rarely in good and bad times and why crises can lead to delayed and botched reforms.

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In the aftermath of the Great Recession and the Eurozone Crisis, popular pressures for regulatory, political, and fiscal reform have increased dramatically. A question of prime importance is then whether increased demand for reform actually translates into policy change, especially in times of crisis when economic hardship can often threaten the long term survival of democratic institutions.

Crises have been long thought to be catalysts for reform (Olson, 1982). In particular, it is conventional wisdom that in democracies, where elections supposedly ensure some alignment between politicians' actions and voters' needs (Schumpeter, 1942), crises should trigger reforms (Tommasi and Velasco, 1996). The empirical evidence, however, does not seem to support this claim. Crises tend to be associated with fewer policy changes than less pressing times (Williamson, 1994; Drazen and Easterly, 2001; Pop-Eleches, 2009; Campos et al., 2010; Castanheira et al., 2012; Galasso, 2014; Mian et al., 2014).<sup>1</sup> Moreover, even when crises do produce reforms, their outcomes are often detrimental to voters' welfare (Krueger, 1992 and 1993; Mondino et al., 1996; Sturznegger and Tommasi, 1998; Drazen and Easterly, 2001; Grindle, 2000).

In this paper, we present a theory of the electoral process that can account for this 'puzzle of reforms.' In times of crisis, reform is overall less likely *and*, conditional on happening, more likely to fail. Our theory builds on the premise that the extent to which voters are able to use the electoral process to align politicians' actions to their interest depends on (i) their demand for policy change, and (ii) candidates' strategic platform and communication choices. We show that in times of crisis the electoral process can give the wrong incentives to the wrong type of politicians. When voters' demand for reform is strong, some candidates choose to campaign on a reformist platform even if they do not possess the ability to deliver socially beneficial outcomes. In times of crisis the electoral process endogenously loses its effectiveness as a screening and disciplining device, and its performance worsens significantly. Relative to normal times, the probability of reform—and especially welfare-improving reform—decreases, and the probability of botched reform increases.

We analyze a model where two candidates competing for office can propose a status quo policy or a reform policy. The reform policy is costly to implement for politicians and benefits a representative voter only if implemented by a competent politician.<sup>2</sup> Politicians' competence and their

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<sup>1</sup>Lora and Olivera (2004) and Alesina et al. (2006) find a statistically significant correlation, but the magnitude of the estimated effect is very small.

<sup>2</sup>Henceforth, the term 'gain from reform' refers to the voter's payoff from the reform policy implemented by a competent politician.

platforms are not directly observable by the voter (for whom we reserve the pronoun ‘she’), who is unwilling to act as pure rubber stamp on risky reformist agendas (Rodrik, 1996): A candidate needs to convince the electorate that he will be able to successfully implement his reformist agenda once in office.<sup>3</sup>

Unlike competence, platforms can be communicated to the voter during the electoral campaign. Our paper develops a new approach to electoral communication that builds on the insight, at the core of Downs’ (1957) rational ignorance theory, that paying attention to politics is costly for voters. Our approach formalizes the idea, developed in John Zaller’s seminal work on public opinion (1992, p.42), that “the greater a person’s level of cognitive engagement with an issue, the more likely he or she is to be exposed to and comprehend—in a word, receive—political messages concerning that issue.” (known as the ‘reception axiom’). In our set-up, electoral communication requires effort from both candidates and the voter.<sup>4</sup> Greater communication efforts increase the probability the voter learns a candidate’s platform, which reveals perfectly the candidate’s future behavior in office. However, this information is only an indirect and imperfect signal of the candidate’s policy competence (and consequently, the voter’s payoff from the reform policy). A novel implication of our approach is that the quality of this signal is endogenous to politicians’ equilibrium behaviors *and* the voter’s demand for reform.

For the voter, the electoral process performs best (i.e., her ex-ante expected welfare is maximized) when politicians play a separating strategy: a politician campaigns on a reformist platform only if competent. Despite the fact that commitment to reform entails a cost (it is not cheap talk) and this cost is lower for competent candidates (the single-crossing condition holds), the existence of a separating equilibrium also requires that the gain from reform to the voter (the *receiver*, in our setup) lies in an intermediate range.

We show that when the the gain from reform is high, a separating equilibrium does not exist. If only competent candidates were to propose the reform policy, the voter—having a lot to gain—would exert high communication effort. This would result in a high probability that the voter learns a competent candidate’s platform and, as a consequence, little chance of electoral victory for a non-competent candidate proposing the status quo policy. Therefore, a non-competent candidate would deviate and run on a reformist platform. When welfare-improving reforms are most needed,

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<sup>3</sup>See, for example, the lack of reforms by “reformist” candidates such as Nicolas Sarkozy or Francois Hollande in France, or the early Silvio Berlusconi in Italy.

<sup>4</sup>See Dewatripont and Tirole (2005) for application to other domains.

the voter would pay *too much* attention to politics to sustain the welfare-maximizing separating equilibrium. When the demand for policy change is high, the electoral process endogenously loses its effectiveness as a disciplining and screening device.

What happens when the welfare-maximizing equilibrium cannot be sustained? We show that there exists an asymmetric equilibrium when one candidate runs on a reformist platform independent of his type, whereas his opponent proposes the status quo whether competent or not. An ill-informed voter is unable to distinguish between a competent and non-competent type. Electoral competition no longer protects the voter from politicians who run on a reformist platform despite being unable to generate socially desirable outcomes. The probability of failed policy changes is thus higher in time of crisis, when the voter’s gain from reform is high, than in normal times. Furthermore, the *unconditional* probability of reform decreases when reforms are most needed, as suggested by the empirical literature.

The rest of the paper proceeds as follows. In the next section, we review the literature. In Section 2, we present the model and some general preliminary results. In Section 3, we relate the performance of the electoral process to the voter’s gain from reform. In section 4, we examine their implications. Section 5 discusses the robustness of our results to some of our modeling assumptions, and section 6 concludes. Proofs are collected in Appendix A. In Appendix B, we show that provided the screening problem faced by the voter is serious enough, the separating equilibrium on which this paper focuses (i.e., when only competent candidates commit to the reform policy) is welfare maximizing.

## 1 Related literature

This paper joins a line of research investigating the role of political constraints on the implementation of reform (for empirical evidence, see Castanheira et al., 2012). Failures to implement beneficial reforms have been attributed to lack of technical knowledge (Caselli and Morelli, 2004; Mattozzi and Merlo, 2007) or reputational concerns (Fu and Li, 2013) by decision-makers, lack of human or physical capital (Williamson, 1994), commitment (Dragu and Polborn, 2014), uncertainty regarding timing (Labán and Sturznegger, 1994a and b; Mondino et al., 1996), or uncertainty regarding the identities of the “winners” and “losers” (Fernandez and Rodrik, 1991; Cuckierman and Tommasi, 1998). Reforms might also be blocked by powerful vested interests (Olson, 1982;

Benhabib and Rustichini, 1996; Gehlbach and Malesky, 2010) or by disagreements over the distribution of associated costs (Alesina and Drazen, 1991; Drazen and Grilli, 1993; Hsieh, 2000).<sup>5</sup> However, these papers do not consider how the likelihood of reform depends on economic conditions.<sup>6</sup>

A long tradition in political economy highlights the importance of elections as a screening and disciplining tool (e.g., Downs, 1957; Maskin and Tirole, 2004; Besley, 2006; Besley and Smart, 2007; Ashworth and Bueno de Mesquita, 2006 and 2008). In virtually all of these models, political platforms or policy choices are costlessly observed by voters (Persson and Tabellini, 2000). A few papers assume that it is costly to communicate with voters for candidates (e.g., Grossman and Helpman, 1996, Prat, 2002, Coate, 2004, Ashworth, 2006, Aragonès et al., 2014; Prato and Wolton, 2014). In this literature, it has long been recognized that an increase in information available to voters might reduce their welfare by inducing politicians to be too cautious or too conformist, or by reducing the incentives to acquire expertise (Prat, 2005; Fox, 2007; Levy, 2007; Fox and Van Weelden, 2012; Ashworth and Bueno de Mesquita, 2014; Carrillo and Castanheira, 2008; Castanheira et al., 2010). While these papers all assume that the amount of information provided to the voters is exogenous,<sup>7</sup> the literature on voting behavior has emphasized how voters' information depends on their attention to politics (Zaller, 1992; Alvarez, 1997; Franz, 2011; Murphy, 2011), which entails opportunity costs (Downs, 1957; Key, 1966; Page, 1978).

This paper contributes to the literature on communication by extending Dewatripont and Tirole's (2005) model of communication in several directions. Our model features multiple senders competing for a single prize awarded by the receiver (thereby complementing Persson, 2013, in which senders compete for the receiver's attention). Second, we consider an agency problem where both moral hazard and adverse selection concerns influence the probability of information transmission. When communication is successful, the voter only learns what a politician will do if she elects him, not whether she will benefit from his action.<sup>8</sup> Our setting can then be interpreted as a bridge between models of soft (Crawford and Sobel, 1982; Krishna and Morgan 2001; Battaglini, 2002) and hard (Grossman, 1981; Milgrom, 1981; Bull and Watson, 2004 and 2007) information

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<sup>5</sup>For an excellent review of the literature, see Drazen (2000, Chap. 10 and 13).

<sup>6</sup>Exceptions are Drazen and Grilli (1993), Labán and Sturznegger (1994a and b) and Mondino et al. (1996), who find that crises trigger reforms.

<sup>7</sup>One exception is Hortala-Vallve et al. (2013) where voters need to pay a cost to learn candidates' platforms, but candidates can reach the voters costlessly.

<sup>8</sup>In addition, this paper is (to the best of our knowledge) the first to provide sufficient conditions for the existence and uniqueness of strictly positive communication efforts on the equilibrium path in Dewatripont and Tirole's framework.

transmission.

## 2 The model and some preliminary results

We analyze a one-period, three-player game with two candidates (1 and 2) and a representative voter. The candidates compete for an elected office, which they value. Before the campaign, each candidate  $j \in \{1, 2\}$  privately observes his type  $t \in \{c, n\}$  (where  $c$  denotes competent and  $n$  non-competent politician), and commits to a platform. A candidate either chooses the status quo policy ( $r_j = 0$ ) or the reform policy ( $r_j = 1$ ), which implemented at an additional policy cost. It is common knowledge that the proportion of competent candidates is  $Pr(t = c) = q$ . The reform policy is beneficial to the voter (compared to the status quo policy) only if it is implemented by a competent politician.

Consistent with the evidence (Krueger, 1992; Naím, 1993; and Bresser Pereira, 1994), the voter is uncertain about a candidate’s competence. Moreover, she cannot immediately observe his platform choice. Unlike competence, however, platforms can be learned during the campaign.<sup>9</sup> Specifically, we assume that electoral communication requires effort from both candidates *and* the voter. A player chooses her communication effort privately. We denote candidate  $j$ ’s communication effort  $y_j \in [0, 1]$  and the voter’s communication effort toward candidate  $j$   $x_j \in [0, 1]$ .<sup>10</sup> At the end of the campaign, the voter observes candidate  $j$ ’s platform with probability  $p(y_j, x_j) = y_j x_j$  (Figure 1). After the campaign, the voter elects one of the two candidates by choosing  $e \in \{1, 2\}$ .

Our assumptions on the campaigning technology imply that, holding the voter’s attention constant, greater communication effort by a candidate (e.g., increased number of ads) increases the probability that the voter becomes informed about what the candidate will do if elected. In turn, holding the candidate’s effort constant, greater attention by the voter increases the probability that she learns the candidate’s platform.<sup>11</sup> Our campaigning technology satisfies Zaller (1992)’s reception axiom, and is in line with empirical evidence documenting that voters learn incrementally during campaigns (Neuman et al., 1992).

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<sup>9</sup>For the importance of electoral campaigns on voters’ information, see Norris (2002), Salmore and Salmore (1989), and Holbrook (2011).

<sup>10</sup>The assumption that the communication effort is directed simplifies the analysis without influencing the main results.

<sup>11</sup>The assumption that communication efforts are complementary is not essential to derive our main results. It guarantees that the voter never learns about a candidate’s platform if she pays no attention to the campaign.

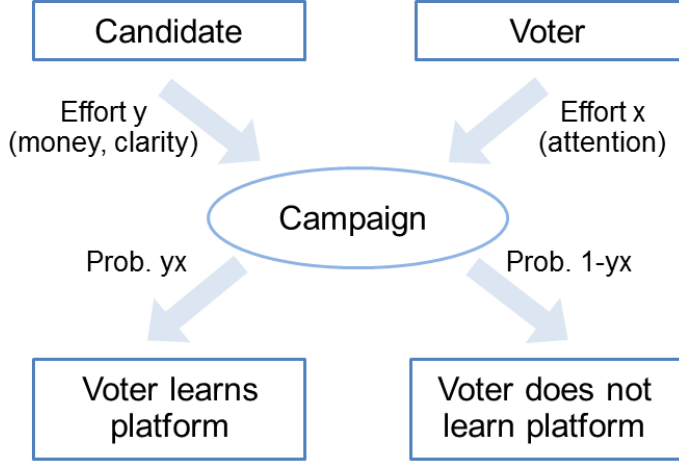


Figure 1: Campaign as a team effort

Communication effort is costly for both voters and candidates.  $C_v(\cdot)$  captures the idea that voters' face cognitive constraints (Body, 2014; Brocas et al., 2014) and opportunity costs (Downs, 1957; Page, 1978) in paying attention to the campaign.  $C(\cdot)$  captures the idea that, while candidates can make broad statements without substance (Dewan and Hortala-Vallve, 2014), defining and disseminating a clear and effective plan of action to the voter in a noisy environment requires relatively more resources. To ensure tractability of the optimal choice of effort, we assume that  $C_v$  and  $C$  are twice continuously differentiable,  $\lim_{x \rightarrow 0} C'_v(x) = \lim_{x \rightarrow 0} C'(y) = 0$ ,  $\lim_{x \rightarrow 1} C'_v(x) = \lim_{x \rightarrow 1} C'(y) = \infty$ , and that  $C''(x), C''(y)$  are bounded.<sup>12</sup> Furthermore, for the sole purpose of guaranteeing *uniqueness* of the optimal communication efforts, we also impose that  $C'''_v \geq 0$  and  $C''' \geq 0$ .

The voter's utility function depends on the policy implemented by the elected candidate. If the elected politician implements the status quo policy, she gets a payoff normalized to 0. When a candidate implements the reform policy, the voter's payoff depends on the politician's competence. When his elected representative is competent, she gets a utility gain of  $G > 0$ . When he is non-competent, she gets a utility loss of  $L < 0$ . A reform can be thought as an experiment where success does not depend on the state of the world (as in Callander 2011a and b), but on a politician's competence.<sup>13</sup> The reform can be a change of economic paradigm, as in Latin America in the

<sup>12</sup>The first two assumptions are analogous to the ones in Dewatripont and Tirole (2005). The third assumption is novel and guarantees that competent candidates and the voter exert strictly positive communication effort when candidates play a separating strategy profile.

<sup>13</sup>For example, competent politicians are more successful at crafting the scope and pacing of reform policies (Haggard and Webb, 1993). Badly engineered reforms impose a large cost on society (Krueger, 1993).

1980's, or a policy overhaul on an important issue such as health care policy (e.g., the Affordable Care Act) or labor market policy (e.g., the reforms in New Zealand in the 1990's). We assume that  $qG + (1 - q)L < 0$ : absent updates on her prior about candidate  $j$ 's type, the voter prefers the status quo policy to the reform policy. The assumption captures the idea that voters are unwilling to simply act a rubber stamp of an ambitious reformist agenda (Rodrik, 1996), but need to be convinced of candidate's ability to successfully carry it out.

The voter's utility function is then:

$$u_v(r_e, x_1, x_2) = \begin{cases} r_e G - C_v(x_1) - C_v(x_2) & \text{if } e \text{ is competent} \\ r_e L - C_v(x_1) - C_v(x_2) & \text{otherwise} \end{cases} \quad (1)$$

Politicians are office-motivated, and we normalize their payoff from being out of office to 0. If elected, a politician gets a payoff of 1 if he implements the status quo policy and  $1 - k_t$ ,  $t \in \{c, n\}$  if he implements the reform policy ( $r = 1$ ). The policy cost of implementing the reform policy depends on the politician's competence:  $0 < k_c < k_n < 1$ . This policy cost relates to a politician's ability to get reform passed: convincing veto players, dealing with bureaucracy, etc. (Hall and Deardoff, 2006). We suppose that a competent politician is more able to undertake these tasks.<sup>14</sup>

The utility function of candidate  $j \in \{1, 2\}$  is then:

$$u_j(r_j, y_j; t) = \begin{cases} 1 - k_t r_j - C(y_j) & \text{if elected} \\ -C(y_j) & \text{otherwise} \end{cases} \quad (2)$$

To summarize, the timing of the game is:

1. Nature draws each candidate's type:  $t_j \in \{c, n\}$ ,  $j \in \{1, 2\}$ .
2. Candidate  $j \in \{1, 2\}$  observes (only) his type and chooses a platform: the status quo policy ( $r_j = 0$ ), or the reform policy ( $r_j = 1$ ).
3. The electoral campaign takes place. Candidates 1 and 2, and the voter exert communication efforts  $y_1$ ,  $y_2$ , and  $\mathbf{x} = (x_1, x_2)$ , respectively. With probability  $y_j x_j$ , communication is

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<sup>14</sup>The lower policy cost for a competent type might also result from politicians' concerns for their place in history books, which depends on the success or failure of reforms (Howell, 2013). Politician could also care about voter's welfare. This complicates the analysis without affecting our main results (as long as its weight in his utility function is less than the gain from being elected).



successful, and the voter observes candidate  $j$ 's platform ( $r_j$ ). Otherwise the voter does not learn  $r_j$ .

4. The voter elects one of the two candidates:  $e \in \{1, 2\}$ .
5. The elected candidate  $e$  implements  $r_j$  and payoffs are realized.

Notice that candidates can only communicate their platform; they cannot reveal their type credibly to the voter directly. Since politicians implement their platform,<sup>15</sup> successful communication influences only candidates' chances of being elected, not their payoff once in office.

The equilibrium concept is Perfect Bayesian Equilibrium (PBE) in pure strategies (with the caveat that the voter tosses a fair coin to decide which candidate to elect when indifferent), and excluding weakly-dominated strategies. A formal definition of the equilibrium can be found in Appendix A (see Definition 1). The term 'equilibrium' refers to this class of equilibria.

As a preliminary, we study some general properties of the voter's and candidates' equilibrium strategies starting with the voter's electoral decision. The voter elects the candidate who gives her the highest expected payoff given her beliefs about the candidates' competence. Successful electoral communication simply reveals a candidate's platform, not his competence. However, it acts as a signal of competence (albeit imperfect). In equilibrium, successful communication always raises the voter's equilibrium posterior that the candidate is competent and as a consequence, his electoral chances.

**Lemma 1.** *In any equilibrium, a candidate's probability of winning the election is (weakly) greater after successful communication.*

Given the voter's election rule, we consider when a candidate chooses to invest in informative communication.

**Lemma 2.** *In any equilibrium, a candidate exerts strictly positive communication effort if and only if he commits to the reform policy ( $r = 1$ ).*

Due to the absence of a policy cost, committing to the status quo policy ( $r = 0$ ) can be understood as a default option for a politician. A candidate has no incentive to pay a cost to reveal that he commits to his default option. When communication is unsuccessful the voter then

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<sup>15</sup>This is a common assumption in the literature justified by the reputational cost of renegeing on campaign promise.

places a higher probability on the candidate promising no change, which in turn implies that a candidate commits to the reform policy must exert strictly positive communication effort. An important consequence of Lemma 2 is that a candidate faces a double cost when he chooses a reformist platform  $r = 1$ . First, he must pay a policy cost ( $k_t$ ), but only if he is elected. Second, he must incur a communication cost  $C(y)$ , borne regardless of the electoral outcome.

Using these preliminary results, it is possible to show that there always exists a 'no reform equilibrium,' where no candidate commits the reform or exerts communication effort, the voter does not pay attention to the campaign, and the election is decided by the flip of a coin. The question is then, under which conditions is it possible to sustain reformist platforms and meaningful electoral communication as part of an equilibrium?

### 3 Equilibrium

In this section, we detail the necessary and sufficient conditions for the existence of an equilibrium (referred to, with a slight abuse of terminology, as separating) in which candidates commit to the reform policy only if competent. For a given gain from reform ( $G$ ), a separating assessment maximizes the voter's ex-ante expected welfare provided that the screening problem faced by the voter is serious enough (i.e., the policy cost of the non-competent candidate is not too large, see Appendix B).<sup>16</sup>

Using Lemmas 1 and 2, a separating equilibrium exists only if a competent candidate's electoral reward for committing to the reform policy is greater than its associated policy cost and communication cost. This is a competent candidate's incentive compatibility constraint. The reverse inequality constitutes a non-competent candidate's incentive compatibility constraint.

The next lemma shows that when candidates play a separating strategy, candidates' and the voter's equilibrium communication strategies exist and are unique.

**Lemma 3.** *Suppose that a separating equilibrium exists. Then the unique equilibrium communication efforts satisfy:*

- i. Non-competent (type  $n$ ) candidates exert no communication effort:  $y_j^*(n) = 0$ ,  $j \in \{1, 2\}$ ;*

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<sup>16</sup>When non-competent politicians' policy cost is large, the screening problem faced by the voter is relatively mild and an asymmetric assessment where a candidate chooses the reform policy independent of his competence and his opponent chooses the new policy only if competent might lead to a better expected welfare for the voter (see Appendix B for more details).

ii. *Competent (type  $c$ ) candidates and the voter exert strictly positive communication efforts:*

$y_1^*(c) = y_2^*(c) \equiv y^*(c) > 0$  and  $x_1^* = x_2^* \equiv x^* > 0$ , where  $y^*(c)$  and  $x^*$  are the solutions of:

$$C'(y^*(c)) = (1 - k_c) \frac{x^*}{2} \quad (3)$$

$$C'_v(x^*) = q(1 - q)G \frac{y^*(c)}{2} \quad (4)$$

A non-competent politician does not invest in communication since he commits to the status quo policy, the default option (see Lemma 2). A competent candidate and the voter, instead, equate the marginal cost of communication effort to its marginal benefit. For a candidate, the marginal benefit corresponds to the increased probability of being elected (times the payoff from being in office net of the policy cost). For the voter, the marginal benefit corresponds to the reduced probability of an electoral mistake (electing a non-competent candidate  $j$  when candidate  $-j$  is competent and commits to the reform policy) times the utility gain from avoiding such a mistake.

The voter's utility gain depends on her gain from reform. As a consequence, when the gain from reform increases, the voter exerts more communication effort. Due to the complementarity in the campaigning technology ( $y_j x_j$ ), a competent candidate's return on communication effort also increases and, as a result, so does his equilibrium communication effort.

**Lemma 4.** *When candidates play a separating strategy, the voter's and competent candidates' communication efforts ( $x^*$  and  $y^*(c)$ , respectively) increase with the voter's gain from reform ( $G$ ).*

Intuitively, an increase in the voter's communication effort should benefit the voter. It increases the probability the voter observes a reformist candidate's platform and thus avoid an electoral mistake. Greater communication effort by the voter also increases the return on communication for competent candidates and thus increase their incentive to commit to the reform policy. However, it is also important to take into account the effect of greater communication effort by the voter on non-competent candidates' incentives. As the voter exerts greater communication platform, a non-competent candidate  $j$  is less likely to be elected by running on the status quo policy, since the voter is more likely to observe his opponent's reformist platform. Because of this electoral pressure, a non-competent candidate  $j$  is less willing to choose the status quo policy. A non-competent candidate  $j$ 's incentive to run on a harmful reformist platform is also magnified by the voter's greater communication effort, which increases the probability of successful communication.

Consequently, through the channel of electoral communication, we find that the existence of a separating equilibrium depends critically on candidates' policy costs (as is common in signaling games), but also on the voter's gain on reform.

**Lemma 5.** *There exists  $\bar{k}_c \in (0, 1)$  such that:*

- i. when  $k_c \geq \bar{k}_c$ , a competent candidate's incentive compatibility constraint is never satisfied;*
- ii. when  $k_c < \bar{k}_c$ , there exist a unique  $\underline{G} > 0$  such that a competent candidate's incentive compatibility constraint is never satisfied when  $G < \underline{G}$ .*
- iii. Furthermore, there exists  $\bar{k}_n : (0, \bar{k}_c) \rightarrow (k_c, 1)$  such that when  $k_n < \bar{k}_n(k_c)$ , there exists  $\bar{G} \in (\underline{G}, \infty)$  such that a non-competent candidate's incentive compatibility constraint is never satisfied when  $G > \bar{G}$ .*

Lemma 5 indicates that when the politician's moral hazard problem is too serious ( $k_c \geq \bar{k}_c$ ), a competent candidate does not have sufficient electoral incentive to commit to the reform policy and a separating equilibrium cannot exist. However, even when the moral hazard problem is not too strong, the gain from reform must be high enough for a separating equilibrium to exist. Furthermore, when the screening problem faced by the voter is severe enough ( $k_n < \bar{k}_n(k_c)$ ), a separating equilibrium cannot exist when the gain from reform is relatively large, as a consequence of the voter's greater communication effort on a non-competent candidate's incentive to choose a reformist platform.<sup>17</sup>

As a consequence, the welfare-maximizing separating equilibrium exists if and only if the gain from reform is in an intermediate range.

**Proposition 1.** *For all  $k_c \in (0, \bar{k}_c)$  and  $k_n \in (k_c, \bar{k}_n(k_c))$ , there exist unique  $\underline{G} > 0$  and  $\bar{G} > \underline{G}$  such that a separating equilibrium exists if and only if  $G \in [\underline{G}, \bar{G}]$ .*

To understand this result, suppose that candidates play a separating strategy and the gain from reform is low. The benefit of avoiding an electoral mistake is low so the voter exerts little communication effort (Lemma 4). This means that the electoral reward for committing to the reform policy is too low to compensate for the communication and policy costs borne by a competent candidate. Consequently, a competent candidate prefers proposing the status quo policy and a separating strategy cannot be an equilibrium. When the voter has little to gain from the reform policy, she would exert *too* little communication effort for a separating equilibrium to exist.

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<sup>17</sup>Notice that the separating equilibrium is welfare-maximizing precisely when the screening problem is serious enough as shown in Appendix B.

Conversely, suppose that candidates play a separating strategy and  $G$  is high. The benefit of avoiding an electoral mistake is high so the voter pays great attention to the campaign (Lemma 4). There is a high probability that the voter learns a candidate’s platform and so a high electoral reward for committing to the reform policy. Consequently, a non-competent candidate runs on a reformist platform and a separating equilibrium cannot exist. When the voter has a lot to gain from the reform policy, she would exert *too* high a communication effort for a separating equilibrium to exist.

A direct consequence of Proposition 1 is that there exists a non-monotonic relationship between the voter’s gain from reform and the voter’s welfare (see Figure 2b below for an illustration). When the gain from reform is very low, voters’ incentive to pay attention to the campaign are too low to provide electoral incentives for candidates to commit to a reformist platform. Conversely, when the gain from reform is very large, voter’s incentive to pay attention to the campaign are so strong that non-competent candidates also choose to run on a reformist platform, thereby making full separation impossible.

**Corollary 1.** *There exists an open, non-empty set of policy costs such that an increase in the voter’s gain from reform can decrease the voter’s expected equilibrium welfare.*

## 4 Crises and the lack of reforms

Using the results from the previous section, we can characterize favorable economic conditions for welfare-improving policy change. In what follows, we assume that the moral hazard problem is not too serious and the screening problem is serious enough:  $k_c < \bar{k}_c$  and  $k_n < \bar{k}_n(k_c)$ . The welfare-maximizing separating equilibrium exists if and only if the voter’s gain from reform is intermediary (Proposition 1).

As in Drazen and Grilli (1993), Labán and Sturzenegger (1994a and b), Mondino et al. (1996), and Drazen and Ilzetzki (2011), we contend that how much the voter would benefit from (successful) reform stems from the economic environment. A favorable economic time (e.g., the economy is growing at a reasonable rate) corresponds to a low gain from reform. A crisis (e.g., a deep recession) corresponds to a high gain from a reform.

This paper shows that when reforms are greatly needed ( $G$  is high), the electoral process hinders, rather than fostering, welfare-improving policy changes. As the analysis below shows,

in critical times both competent and (some) non-competent politicians present themselves as reformists, and a rational, imperfectly informed voter has difficulty distinguishing between the two based on their platforms. Recent elections in Greece (where the far-left party Syriza and the far-right party Golden Dawn experienced important electoral successes) and Italy (where Beppe Grillo’s Five Star Movement and Silvio Berlusconi’s PDL won a (combined) majority of the popular vote and seats in the Italian Senate), as well as the empirical evidence previously discussed, illustrate this phenomenon.

As the next lemma shows, in time of crisis, when a separating equilibrium does not exist, the election can pit a reformist candidate (who commits to the reform policy whether competent or not) against an orthodox candidate (who commits to the status quo policy whether competent or not).<sup>18</sup>

**Lemma 6.** *Suppose  $-L/G < \frac{q(1-k_c)}{(1-q)(1-k_n)}$ . There exists  $\widehat{G} > 0$  such that for all  $G \geq \widehat{G}$ , there exists an asymmetric equilibrium when candidate  $j \in \{c, n\}$  commits to the reform policy for all  $t \in \{c, n\}$  and candidate  $-j$  chooses the status quo policy for all  $t \in \{c, n\}$ .*

In this asymmetric equilibrium, the voter uses electoral campaign as an imperfect screening device. The voter knows one candidate always runs on a reformist platform, however she is uncertain she will benefit from the reform policy if implemented. The voter elects the reformist candidate if and only if her posterior probability of this candidate being competent is sufficiently high. A competent candidate’s return on holding office is higher than a non-competent politician’s (due to our assumption on the policy costs). Consequently, a competent candidate exerts more communication effort. Successful communication raises the voter’s posterior about the reformist candidate’s competence, and prompts her to elect him (the condition on  $-L/G$  guarantees that this is the voter’s best response). When communication is unsuccessful, the orthodox candidate is elected. Even though reforms are needed and the electorate knows that one candidate will bring up change, the reformist candidate is not certain to be elected; reforms are delayed (Alesina and Drazen, 1991).

When the reformist candidate is elected, there is a strictly positive probability that he is non-competent and implements a botched reform, which results in a lower payoff to the voter than the

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<sup>18</sup>This equilibrium is not unique. As previously argued, always exists a welfare-inferior equilibrium in which candidates always propose the status quo policy. When the gain from reform is extremely large—that is, an exceptionally severe crisis—there also exists an equilibrium in which all candidates propose the reform policy regardless of their type. This result suggests that our theory has reasonable ‘limit’ properties: as the demand for change gets larger and larger, the electoral process yield policy convergence with probability 1 on the reform policy.

status quo policy. As a consequence, in the asymmetric equilibrium, the voter is less likely to get welfare-improving reform and more likely to get botched reform than in a separating equilibrium (which can only exist in relatively normal times).

**Proposition 2.** *For all gain from reform such that the asymmetric equilibrium exists, the associated probability of successful reform is lower than in a separating equilibrium when the gain from reform is  $G = \underline{G}$ .<sup>19</sup> The associated probability of botched reform is higher than in any separating equilibrium.*

Botched reforms occurred in Latin America in the 1980s. Periods of high inflation and negative growth led to attempts to reform an inefficient economic system (based on import-substitution industrialization) with stabilization and liberalization packages. But some of these packages turned out to be badly designed, aggravating rather than solving the economic crisis (Krueger, 1992 and 1993; Mondino et al., 1996; Sturznegger and Tommasi, 1998). Some reformist attempts were also misguided, such as Alan Garcia’s populist economic policies in Peru in 1985-1988 (Dornbusch, 1988). More recently, the heterodox policies aimed at improving economic conditions in Argentina seem to have instead triggered an inflationary crisis (Cavallo, 2014).

Crises have a negative effect on the quality of reforms, and can also reduce the *unconditional* probability of reform. A direct implication of Proposition 1 is that a marginal increase in the gain from reform can reduce the unconditional probability of reform. The results from this paper, however, have stronger implications. As the next proposition shows, any *arbitrarily large change* in  $G$  can result in a lower *unconditional* probability of reform.

Denote by  $\underline{\pi}$  the lowest probability of reform in a separating equilibrium, and by  $\pi^p(G, k_n)$  the probability of reform in an asymmetric equilibrium when the gain from reform is  $G$  and a non-competent politician’s policy cost is  $k_n$ .

**Proposition 3.** *For every  $G$ , there exists an open interval  $(k_n^1, k_n^2)$  such that for all  $k_n \in (k_n^1, k_n^2)$ , an asymmetric equilibrium exists and its associated  $\pi^p(G, k_n)$  is lower than  $\underline{\pi}$ .*

In the asymmetric equilibrium described above, successful communication is an imperfect signal of a candidate’s competence. After successful communication, the voter might elect the wrong kind of politician who implements a welfare-reducing reform. This risk induces the voter to exert less communication effort than when candidates play a separating strategy. Proposition 3 shows

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<sup>19</sup>The probability of successful reform is minimized in the unique separating equilibrium at  $G = \underline{G}$  (Lemma 4).

that, starting from a separating equilibrium, any increase in the demand for reform (as long as it is compatible with the asymmetric equilibrium) can be more than offset by a reduction in the equilibrium probability of communication and thus can result in a lower probability of reform.

Existence of a weak link between the depth of crisis and policy change contradicts conventional scholarly wisdom (Tommasi and Velasco, 1996), but accords with empirical evidence (Williamson, 1994; Drazen and Easterly, 2001; Pop-Eleches, 2009; Campos et al., 2010; Castanheira et al., 2012; Pepinsky, 2012; Galasso, 2014; Mian et al., 2014).<sup>20</sup> As Drazen and Easterly (2001) argue, crises do not trigger policy changes when resolution of the crisis requires complex policy intervention and substantial political skills. When the policy response is relatively simple and politicians' competence is less relevant, crises do foster reforms: inflationary crises are empirically associated with large policy shifts (usually devaluation). However, when there is no obvious solution to a crisis such as in the case of an unsustainable budget or a large current account deficit, crises do not correlate with reform.

This paper provides a theoretical foundation for both findings: When the screening problem faced by the voter is mild ( $k_n$  is large), our theory predicts that crises indeed trigger reform (the upper bound  $\bar{G}$  goes to infinity in Proposition 1); conversely, when competence matters and the screening problem is serious, crises can actually reduce the chances of a reform.

Figure 2 summarizes our main findings. Figure 2a illustrates how the probability of reform ( $r_e = 1$ ) varies with economic conditions (the gain from reform  $G$ ).<sup>21</sup> In normal times (low  $G$ ), there is a risk of status quo bias, where no candidate proposes the reform policy. In times of crisis (i.e.,  $G$  is above the threshold  $\bar{G}$  defined in Lemma 5 and Proposition 1), there is a risk that *the wrong candidate* runs on a reformist platform, thereby weakening the screening power of electoral communication. When the election pits a reformist candidate against an orthodox candidate, the probability of reform is lower and the probability of botched reform is higher than in the welfare-maximizing separating equilibrium. When  $G$  is very large, there exists an equilibrium where candidates always choose the reform policy. The probability of reform is then 1. But the probability of botched reform is also very large.

Figure 2b depicts the voters' welfare as a function of her demand for reform. When a separating equilibrium exists, the voter's (ex-ante) welfare is highest. When the demand for reform is low,

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<sup>20</sup>Some papers find a small statistically significant positive correlation between crises and reform (Lora and Olivera, 2004; Alesina et al., 2006).

<sup>21</sup>Figure 2 was obtained using parameter values which guarantee the existence of an equilibrium where both candidates choose  $r = 1$  independent of their type for very high  $G$ .



Figure 2

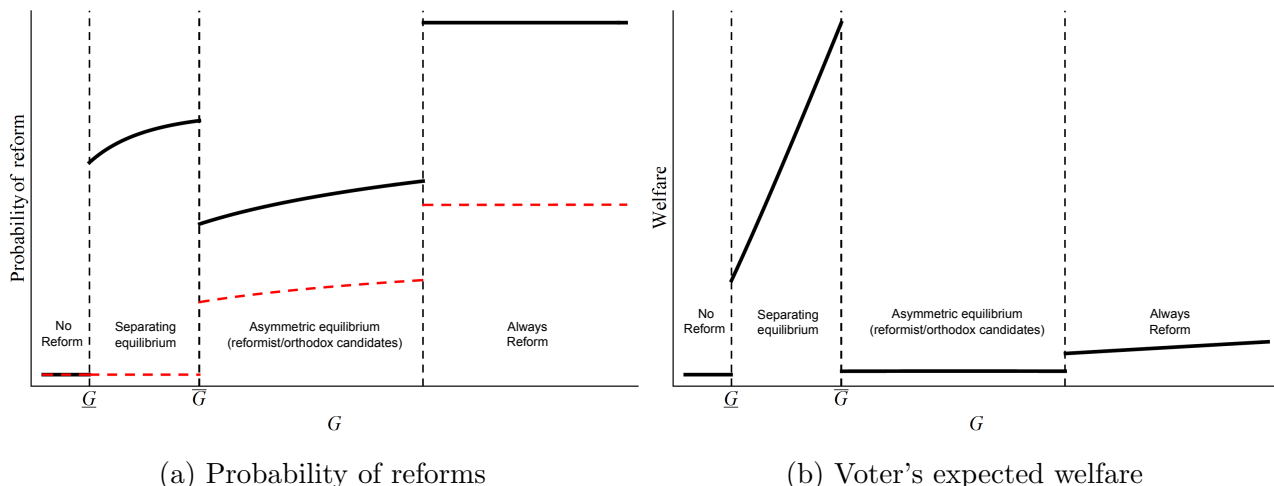


Figure 2a, the dark line is the (ex-ante) probability the reform policy is implemented; the red dashed line is the (ex-ante) probability of botched reform. In figure 2b, the dark line is the voter's (ex-ante) expected welfare.

Parameter values:  $q = 1/2$ ,  $k_c = 1/4$ ,  $k_n = 1/2$ ,  $-L/G = 1.01$ ,

$$C_v(x) = (1/5)(x + (1-x)\log(1-x)), \quad C(y) = (1/10)(y + (1-y)\log(1-y)).$$

a separating equilibrium does not exist and no candidate runs on a reformist platform, the voter gets a payoff of 0. When the demand for reform is high ( $G$  is greater than  $\bar{G}$ ), the separating equilibrium does not exist and one candidate runs on a reformist platform despite his inability to bring about welfare-improving changes and wins the election with strictly positive probability. As a consequence, the voter's welfare decreases substantially (see the discontinuity in the expected welfare).<sup>22</sup>

## 5 Robustness

The main results of this paper (non-existence of a separating equilibrium for large or low values of the gain from reform) still hold in a more general model where the voter can learn a candidate's competence directly, provided that the signal about a candidate's competence is sufficiently noisy. The reason is that the voter does not care about competence per se, but wants to elect a competent candidate *who commits to the reform policy*. Therefore, the voter always has some incentive to exert strictly positive communication effort to learn about a candidate's platform.<sup>23</sup>

<sup>22</sup>Notice, however, that in time of crisis the voter's expected payoff is always positive because competent politicians have a greater chance of being elected. The electoral process is thus an imperfect screening device, and there is a greater probability reform is successful (undertaken by competent politicians) than unsuccessful (implemented by non-competent politicians).

<sup>23</sup>A similar reasoning explains why our results are also robust to the presence of a (sufficiently small) probability that the voter observes the candidates' platforms without exerting effort.

By assuming a representative voter, we also abstract from distributional concerns, informational asymmetries, and coordination problems among citizens. Introducing multiple voters complicates the analysis substantially (given the relative paucity of results in the literature on common agency, as well as the fact that we have multiple agents). However, intuition from the literature on information acquisition in groups suggests that introducing multiple voters increases each citizen's opportunity cost of paying attention to politics (due to free-riding). As such, voters' communication effort should still respond to changes in the gain from reform, and the basic mechanism identified in this paper would be qualitatively unaffected.

Finally, in the present set-up the assumption of perfect symmetry between candidates ensures analytical tractability. However, our model can be extended to include asymmetries between candidates without affecting the main results.<sup>24</sup>

## 6 Conclusion

In this paper, we propose an explanation for why, despite conventional scholarly wisdom, crises do not trigger reform empirically.

Our theory of the electoral process uncovers a novel class of political failure: the voter's incentive to pay attention to the campaign can be too little or too large to sustain the welfare-maximizing equilibrium in which only candidates who can successfully implement change run on a reformist platform. Crucially, the voter's incentive to pay attention to the campaign is too large in times of crisis, when policy change is most needed. As a result, the electoral process endogenously loses its effectiveness as a screening and disciplining device. Crises are thus associated with less reform *and* higher likelihood of botched reform than normal times. This is in line with empirical evidence (e.g., Drazen and Easterly, 2001; Sturznegger and Tommasi, 1998).

One limitation of this framework is the focus on a common-value environment. A promising avenue for future research is to integrate previous explanations for the lack of reforms (such as the presence of heterogeneous groups of voters or special interest groups) within our new theoretical framework.

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<sup>24</sup>For instance, one can introduce unanticipated randomness in the voters' utility (for instance, an 'ideology shock' in favor of one or the other candidate's status quo).

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