The Domestic Politics of International Cooperation: Germany and the European Debt Crisis

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Abstract International cooperation can fail even though governments have no distributional conflicts or incentives to free-ride, face no informational or credibility problems, and even agree on the policies that need to be implemented. Germany's refusal to cooperate with the Eurogroup members on the Greek bailout in 2010 until the crisis threatened to derail the entire Eurozone is puzzling in that regard especially because Germany is the main beneficiary of the euro. It was alleged at the time that this was a dilatory tactic designed to postpone a domestically unpopular decision until after crucial regional elections. But why would voters allow themselves to be misled like that? And why did Merkel agree to the bailout before the elections took place? To analyze how citizen preferences affect international cooperation, we develop a game-theoretic model of the four-way interaction between two governments that must coordinate a response to a crisis affecting both countries but who also must face the polls domestically with an electorate that might be uncertain whether a response is necessary. We find that, paradoxically, governments that stand to receive the greatest benefits from international cooperation face the greatest obstacles to implementing the required policies even when voters would want them to. We show how the model can rationalize Merkel's electoral strategy and why her party suffered at the polls when the strategy went off the rails.

On January 11, 2010 the lie became official: Eurostat – the agency responsible for statistical information in the European Union (EU) – published a report that questioned the figures about national debt and budget deficits that the Greeks had supplied. The subsequent drastic austerity measures the Greek government implemented provoked determined popular resistance and in less than two months the country was engulfed in often violent protests against higher taxes and deep cuts in the public sector. The leaders of the EU scrambled to stem the crisis in cooperation with the International Monetary Fund (IMF) but could only agree on a relatively modest emergency loan. In late April the credit rating agencies downgraded Greek government bonds to junk, and the financial panic began to infect other Eurozone members. The crisis was threatening to turn into a catastrophe that could unravel the entire Eurozone, and an increasingly vocal chorus of politicians, leaders in the banking and financial industry, and economists pressed for an immediate (and very large) bailout package.

Stunningly, the lone holdout that fiddled while Rome burned was none other than Germany — the country that was the primary beneficiary of a stable Eurozone and that correspondingly stood to lose the most from its collapse. As it was German banks that had invested heavily in the debt the Greek government was threatening to repudiate, the dragging of feet by the German government was indeed puzzling. By the time it finally came around in early May, the crisis had deepened and spread: the overall cost of the package had ballooned to more than twice the original estimate; Germany's share alone was nearly as high as the total original amount the EU had been set to provide.

Why was international cooperation on the financial bailout so difficult to achieve even in the usually cooperative context of the EU? Why was it that the main obstacle to this cooperation was the country that was (and still is) among the most keen on the Eurozone? Our existing explanations of international cooperation cannot answer these questions. As we document below, the evidence is not consistent with theories that explain the failure to cooperate as arising from incentives to free-ride in the provision of public goods, the absence of institutions that provide information and enhance coordination or the credibility of commitments, attempts to coerce others into granting more favorable terms, or constraints imposed by more hawkish legislatures. An alternative explanation, popular in the press and among politicians at the time, centers on Merkel's fears about crucial elections that could determine whether her coalition was to keep its federal dominance. It is, however, quite unclear why voters would fail to see through a delaying tactic, and how a domestic conflict over the desirability of a policy affects cooperation at the international level. Somewhat astonishingly, we have no theories of how this mechanism is supposed to work in such a context, even though cooperation failures regularly happen even without serious distributional conflict.

We develop a game-theoretic model of the four-way interaction between two governments that must coordinate a response to a crisis affecting both countries but that also must face the polls domestically with an electorate that might be uncertain about what response is necessary. We analyze how the potential domestic conflict over the desirability of a particular policy interacts with the desire to cooperate among the governments under asymmetric information. We show that the data are consistent with the equilibrium that can rationalize delay for electoral reasons, and that it was precisely *because* the Eurogroup governments were widely known to be quite *supportive* of the Eurozone system that they could not have

acted fast enough and aggressively enough to contain the crisis and instead opted for policies that ended up endangering the very system they benefitted from. Paradoxically, had Germany been less enthusiastic about the Euro, Merkel could not have employed dilatory tactics, and would have been able to persuade the skeptical German voters that a bailout was necessary by the end of April. The model can account for the delay, the sudden change of course, and the subsequent clobbering at the polls.

On the empirical side, we aim to adjudicate among rival explanations of the puzzling behavior by the German government. We offer evidence that supports an interpretation of the German strategy that is firmly rooted in domestic politics. Aside from intellectual curiosity, there are important reasons to get the story right because the policy implications one draws from this episode differ fundamentally depending on one's interpretation. If Merkel had simply made a mistake, then there would be little to learn from this episode. If Merkel had played a traditional war of attrition to obtain better terms from Greece and the Eurozone members, then one could safely ignore domestic politics when it came to international policy. But if she delayed because of elections, then we would need to pay closer attention to the way domestic electoral issues shape international behavior.

On the theoretical side, we specify a mechanism that can explain a strategy of delaying unpopular policies until after the elections without relying on irrational voters or uncertainty over the post-election government policy. This mechanism relies on the voters' uncertainty about the appropriateness of the policy that has already been put in place by the incumbent, and their attempts to make inferences about it. We show how strategic information transmission can occur in a multilateral setting where two governments with somewhat mixed motives for cooperation and potential for collusion have to cope with their respective electoral concerns. We also show that the presence of a second signaling actor can serve as a constraint, and that even when distributional conflicts are minimized, informational problems can translate into serious policy failures.

Our analysis has several broader implications for international relations theory more generally. The emphasis on signaling instead of distributive politics shows how the lack of transparency in international negotiations can create a "democratic deficit" that results in international cooperation that is unwanted by the citizens. However, it also reveals that the presence of a competitive domestic electorate can enable governments to implement policies that the citizens want under circumstances when that would have been impossible had they been unconstrained. In particular, preference heterogeneity among the governments makes credible signaling possible, which allows them to cooperate without suffering a domestic backlash that would otherwise have occurred. While there are clear limits to what voters can achieve with an instrument as blunt as removal from office, there are nevertheless occasions where the threat to do so can be consequential. Whether for good or bad depends on what the citizens already believe, which in turn constrains how much the government can shift their beliefs.

1 Domestic Politics and International Cooperation

How are we to understand situations where international cooperation clearly failed, at least for a while? If the issue is a public good, then our theories say that cooperation might fail because of incentives to free ride, high transaction costs, or inability to coordinate effec-

tively or to commit credibly. If the issue occasions distributional conflict, then cooperation might fail because veto-wielding domestic constituencies could be unhappy with the deal their government has worked out.[1]

Germany's failure to cooperate in the bailout until it was almost too late presents a puzzle to these theories. The Eurozone members worked in the dense institutional environment of the EU, had ongoing frequent interactions that involved multiple issues, faced low transaction costs, and shared information almost compulsively. As we detail in our study, whatever limited use of coercive tactics was made ended well before the crisis escalated, and there was no evidence of attempts to free-ride on the efforts of others. The contributions to the bailout, as most other financial matters in the EU, were tied to the size of the economy of individual members, and there was little room to negotiate deviations from existing European Central Bank (ECB) formulas. There were certainly disagreements among the creditors — participation of the IMF, austerity measures in Greece, and loans on non-concessionary terms — but these were resolved in principle as early as March and in practice by mid April, yet Germany still refused to cooperate for several crucial weeks. Moreover, despite parliamentary debates in the two largest contributors, Germany and France, the legislatures were not a constraint (in fact, the opposition in Germany was pushing the government to introduce the appropriate legislation).

One could focus on the citizens rather than legislators and on elections rather than ratification as the relevant constraint or motivator for governments. For example, a government could persist with a policy it knows to be bad out of fear that trying to alter it would reveal its incompetence and result in electoral defeat.[2] But since this argumentation considers only the domestic aspects of foreign policy, the analysis has no foreign government whose behavior must be taken into account: no problems of international cooperation emerge and no complications arise from that government having to be responsive to its own citizens.[3] What is needed is a mechanism that could connect international cooperation with electoral incentives in an environment where the citizens use cues from the behavior of their own government and its foreign partner to form opinions about the desirability of retaining their incumbents. But we have no such theory, and its absence is made even more glaring by recent studies that demonstrate that public opinion can constrain international cooperation during electoral periods on other issues as well, especially when the issues are salient.[4]

In this way, a particular historical puzzle has identified a theoretical lacuna that we aim to fill. Upon some reflection, it is not hard to see how the need for such a mechanism can arise more generally. Consider any situation where governments must cooperate on some international policy, where the distribution of costs is basically clear (because of existing

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1. Gilligan and Johns (2012) review the literature on international cooperation. Putnam (1988) was the first to propose the "two-level game" metaphor about domestic constraints. Milner (1997) and Tarar (2001) study possible mechanisms that implement it.

2. Slantchev (2006).

3. There is, of course, a well-developed literature on political business cycles that seeks to explain how a national government could implement an economically suboptimal policy in the shadow of elections (Drazen 2001). However, the absence of a foreign actor similarly makes it unsuitable for our purposes (Franzese 2002). Moreover, its approach is to focus on uncertainty over what policies the government that wins the election would pursue rather than on uncertainty over whether the policies the incumbent has implemented are appropriate (a key to explaining strategic delays).

4. Schneider (2013).

agreements or because the policy is governed by the rules of an international organization), and where incumbents face domestic elections but voters are uncertain about the desirability of that policy. Some examples of such policies are peacekeeping missions, multilateral foreign aid, environmental protection, climate change, and financial rescue packages. The government's fundamental problem is not to negotiate a better deal for itself but to persuade its own citizens either that the policy is necessary (when it wishes to implement it) or that it is not (when it wishes to avoid it), and freeing itself for the policy stance it prefers while simultaneously securing its reelection.

The international dimension complicates this calculus because the foreign actor, which is responding to its own domestic concerns, might act in a way that prevents the government from signaling credibly enough to move the beliefs of its voters in the direction it wants. Sometimes, the fear of electoral defeat might lock the government into a policy it did not want and, more importantly, that the voters would not have wanted either. At other times, it might keep the government disciplined enough to implement the policy the citizens prefer even though the policy is contrary to its own wishes. It could also be the case that the behavior of the foreign actor unfetters the government so it could implement its desired policy and retain office even though voters would have opposed the policy had they been sufficiently informed about it.

Disentangling the conditions that give rise to these various outcomes requires one to analyze the incentives of the governments, the motivations of the citizens, and their interaction. In our model, two governments are faced with a situation whose harmful effects might require taking a (potentially cooperative) costly action to ameliorate. The citizens in each country want the action taken only if the situation warrants it but are not sure whether this is the case. They do know that their governments might have proclivities to act in circumstances they would not want them to, and they also know that the governments have better information about the necessity of taking action. The citizens, then, wish to furnish the government with appropriate electoral incentives by threatening to keep in office only an incumbent whose behavior was in line with their preferences. For such an electoral threat to work, the citizens must form some beliefs about the appropriateness of what their government has (or has not) done, and the problem is that citizens do not have much information to work with. All that can observe is whether the government takes the action; the policy effects are not observable until after the elections. For their part, the governments wish to signal that their behavior is appropriate but since they all want to stay in office their ability to signal credibly is severely compromised. Thus, the model incorporates a cooperation problem between the governments, and agency problem between the citizens and their government, and a signaling problem between the government and its citizens.

In what follows we focus on results from the model that are directly relevant to the empirical puzzle we set out to resolve. Space constraints prevent us from exploring the rich set of insights that the full analysis reveals but we have documented them in the online supplements.[5] We show that, generally speaking, it is quite difficult for the citizens to incentivize the governments through an instrument as blunt as elections. For wide ranges of the pa-

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5. In these supplements we also present two applications of the model to other cases: Slovakia's burden-shifting in the summer of 2010, and Germany's supposed delay of the third Greek bailout during the summer of 2013.

rameters, the interaction must involve some sort of policy failure where the governments behave contrary to the wishes of the citizens. At one extreme is the "false-positive" equilibrium where the governments act irrespective of the necessity of doing so. This can happen when the citizen in both countries strongly believe that action is appropriate, which allows the governments to take advantage of the favorable circumstances and (cooperatively) implement the policy they desire (Proposition 2). If only the citizens in one of the countries hold this belief, then a second problem is added to the policy failure: not only does their own government act even when it is not supposed to, but it can be forced to bear the cost of the policy by the other government (Proposition B). In this "burden-shifting" equilibrium, the domestic agency problem gets exported as an international free-rider problem. Finally, if the citizens in both countries strongly believe that action is inappropriate, the electoral incentives become truly perverse because they can end up blocking international action even when it is necessary. In this "false-negative" equilibrium, which can exist only if the costs of inaction are not too high, governments become prisoners of citizen expectations: since they get punished even when they do the right thing, they do the wrong one (Proposition 3).

2 The Model

Two countries, $i \in \{1, 2\}$, are faced with a crisis that can potentially require costly measures to resolve. The timing of the game is as follows: the governments, G_i, observe the severity of the crisis they are dealing with and simultaneously decide whether to act or not. The median voter in each country observes these public actions and the voters simultaneously decide whether to retain the incumbent. Voting is costless. After the elections, the (possibly new) governments again decide whether to implement crisis policy, after which the game ends and payoffs are realized.

2.1 Economic environment

Without a policy to stop it, a crisis can be either *mild*, in which case it inflicts on country i economic damages worth $\theta_i > 0$, or *serious*, in which case it inflicts damages $w_i \theta_i$ with $w_i > 1$. Citizens and governments are equally sensitive to economic damages. The governments know the type of crisis they are dealing with but the citizens in both countries do not: they believe that it is serious with probability $s \in (0, 1)$ and mild with complementary probability. This prior is common knowledge. The results do not depend on the governments being fully informed, just that they have better information than the citizens. Whereas a mild crisis fizzles out without a government action, a serious crisis continues to inflict cumulative damages until someone acts to stop it. If at least one of the governments acts prior to the elections, then the crisis will be resolved regardless of its type. If neither acts, then the mild crisis will resolve itself after the elections but the serious crisis will deepen.

The total financial cost of a crisis policy is $C > 0$. Consistent with our desire to model cooperation under existing distributional rules, if the governments act together, each country pays $\alpha_i \in (0, 1)$ of the total cost, with $\sum \alpha_i = 1$. If G_i acts on its own, the country bears the entire cost, $\alpha_i = 1$.[6] Whereas the citizens of country i pay costs in full, $\alpha_i C$, its government

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6. This represents distributional conflict in reduced form: the governments effectively get to choose whether to pay nothing, pay everything, or pay an intermediate amount set by α_i. It is not necessary to endogenize

could either be as sensitive to these costs as they are or less so. Letting $t_i \in \{1, \delta\}$ denote the type of G_i so that the government pays $t_i \alpha_i C$ when it participates in a bailout, we call a government *nationalist* when $t_i = 1$ and *internationalist* when $t_i = \delta \in (0, 1)$. The government's type is common knowledge.[7]

When it comes to the crisis and the reaction, the different sensitivity to the financial cost of the policy is the sole source of preference divergence between the government and its citizens:[8]

ASSUMPTION 1. Citizens in each country want the governments to intervene if, and only if, the crisis is severe even when there is an agreement to share the financial costs: $\theta_i < \alpha_i C < C < w_i \theta_i$.

This assumption also implies that irrespective of the government's type, both the government and its citizens prefer to have an international cost-sharing agreement in place if that government is going to implement a crisis policy. If they expect the other government to implement the policy, then they have an incentive to shift the entire burden to the other country and reap only the benefits, raising the specter of free-riding.

2.2 Political environment

Governments value being in power, which we represent by adding 1 to their payoffs if they are reelected. Citizens value that their government behaves according to their preferences. Since they are not informed about the nature of the crisis, they can only use the observable behavior of the governments to make inferences about the desirability of that behavior. In particular, they form posterior beliefs about the type of crisis, and then ask whether their government's action was appropriate or not. They then reward or punish the incumbent depending on this inferred behavior.

There are four contingencies in which citizens of the two countries can find themselves when they vote (since they have a common prior and any new information that might be revealed from the governmental actions is symmetric, the posteriors would have to be the same).[9] Let $s_{a_1 a_2}$ be the citizens' common belief that the crisis is severe when they observe

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α_i because once its terms are set, the game would proceed as specified, and we can study its equilibrium comparative statics. Doing so does not alter our substantive conclusions. The reduced form also happens to be appropriate for the EU context, where contributions are preset by existing rules (as with almost any financial matter, they are tied to the size of the economy and calculated with a known ECB formula) and not determined by *ad hoc* negotiations.

7. These labels merely reflect whether, all else equal, a particular government has stronger incentives to act in a crisis than its median citizen.

8. There is little to be gained from assuming that voter preferences differ in their willingness to support a policy. In such a model, the votes would be partitioned into those who support or oppose the policy irrespective of their beliefs about the crisis, and those who support it only if they believe the crisis is serious with high probability. The latter are the only ones the government would need to signal to, and it is the case we examine. While the contours of the parameter sets that support various equilibria will depend on the distribution of preferences in the population, the equilibria themselves — and our substantive insights — will remain.

9. Empirically, Keyser and Peress (2013) show that voters often punish incumbent governments when the economy only in their country contracts but are much less likely to do so when many economies contract. This suggests that voters pay attention to international context and that their assessments of economic performance are consistent across countries.

government i taking action $a_i \in \{0, 1\}$. For example, s_{01} denotes their belief after a unilateral action by G_2. Citizens credit the government that acts in proportion to their belief that the crisis is serious, and the government that does not act in proportion to their belief that the crisis is mild. In our example, G_2 will be credited with s_{01} whereas G_1 will be credited with $1 - s_{01}$.

When citizens apportion credit, they compare their posterior beliefs to what they expect to get from the alternative government they could select, $e_i \in (0, 1)$. This baseline expectation captures how contested the elections in country i are expected to be. Very low values represent cases where the incumbent is favored to win the elections whereas very high values represent cases where the incumbent is compromised and unlikely to win. Intermediate values represent competitive elections where neither has a clear advantage.

2.3 Payoffs

Payoffs are realized at the end of the game, and are as follows.

MULTILATERAL ACTION. The crisis is resolved regardless of type, no economic costs are incurred, the financial costs are shared, and no further action is taken after the elections. The citizens in i obtain a payoff of $s_{11} - \alpha_i C$ if they keep the incumbent and $e_i - \alpha_i C$ if they replace it. The government in country i gets $1 - t_i \alpha_i C$ if it is reelected, and $-t_i \alpha_i C$ if not.

UNILATERAL ACTION BY G_i. The crisis is resolved regardless of type, no economic costs are incurred, the financial costs are borne entirely by country i, and no further action is taken after the elections. The citizens in i get a payoff of $s_{a_1 a_2} - C$ if they keep the incumbent and $e_i - C$ if they replace it, whereas the citizens in $-i$ get a payoff of $1 - s_{a_1 a_2}$ if they keep the incumbent and e_{-i} if they replace it. The government in country i gets $1 - t_i C$ if it is reelected, and $-t_i C$ if it is not. The government in country $-i$ gets 1 if reelected, and 0 if it is not.

NO ACTION. If the crisis is mild, it is resolved, θ_i economic costs are incurred, and no financial costs are incurred. The citizens in i obtain a payoff of $1 - s_{00} - \theta_i$. The government obtains $1 - \theta_i$ if reelected and $-\theta_i$ if it is not.

If the crisis is serious, it deepens, and $w_i \theta_i$ economic costs are incurred. Since the severity is now revealed and citizens always want such crises acted upon, we assume that whatever governments are in place an agreement on multilateral action will be reached, and the costs of such program will be distributed according to the existing fixed rule. The citizens in country i get a payoff of $1 - s_{00} - w_i \theta_i - \alpha_i C$. The government in country i gets a payoff of $1 - w_i \theta_i - t_i \alpha_i C$ if reelected and $-w_i \theta_i - t_i \alpha_i C$ otherwise.

2.4 Preference constraints

We can now define the preferences of the governments more precisely so that elections become meaningful in the model:

ASSUMPTION 2. A nationalist government strictly prefers to cooperate in a multilateral policy if doing so ensures its reelection and if it expects to lose office after unilateral action by the other government: $\alpha_i C < 1$.

ASSUMPTION 3. All else equal, an internationalist government strictly prefers to intervene unilaterally in a mild crisis rather than to allow it to continue, but strictly prefers to allow it to continue if doing so ensures its reelection and if acting unilaterally results in its removal from office: $\delta C < \theta_i < 1 + \delta C$.

Note that (A1) and (A2) together imply that $\theta_i < 1$ as well.

2.5 Equilibrium refinements

The solution concept is weak perfect Bayesian equilibrium, which only requires that strategies are sequentially rational given beliefs and that beliefs are consistent with the strategies and derived by Bayes rule whenever possible. These requirements do not put any meaningful restrictions on admissible beliefs after events that are not supposed to occur when equilibrium strategies are followed, which essentially permits any subsequent behavior to be rationalized. Since expectations about actions after zero-probability events can be crucial in supporting equilibrium behavior, we would like to ensure that these beliefs are at least plausible. To this end, we shall require that the assessment satisfies something analogous to the Intuitive Criterion:[10]

DEFINITION 1. An equilibrium is *intuitive* if (a) there exists no deviation that can profit only the deviating player only when the crisis is of a particular type given that the citizens infer that the crisis is of that type, and (b) for any deviation that can unilaterally induce an outcome with positive probability only when the crisis is of a particular type, the citizens infer that the crisis is of that type.

Weak perfect Bayesian equilibria are merely a subset of Nash equilibria, and as such define rationality in a strictly individualist manner: the equilibrium requirements eliminate strategy profiles vulnerable to unilateral deviations. Although this definition of rationality might be appropriate when it comes to the citizens in the two countries who cannot be expected to coordinate in order to deviate together, it is less persuasive when it comes to the two governments. Since governments can meet in private, they could conceivably conspire to hide information from their citizens. In the model, citizens only have the actions they can observe to go on when making inferences. But what if governments collude to take advantage of this? We shall require that the equilibrium be immune to such collusion:

DEFINITION 2. An equilibrium is *collusion-proof* if there exists no group deviation by the governments such that (a) the payoffs from the deviation Pareto-dominate the equilibrium payoffs, and (b) no government can benefit from deviating from the collusive agreement.

3 Analysis

We begin by establishing our benchmark case: an equilibrium, in which governments agree to a multilateral action only when the crisis is serious and do nothing if it is mild. This is the behavior citizens want, so we shall call this the *citizen-preferred equilibrium* (CPE). In it, the governments are always rewarded with reelection following multilateral action

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10. Cho and Kreps (1987).

because the citizens believe that the action was appropriate. Unfortunately, as the following proposition shows, this happy state of affairs is unlikely to obtain unless both governments are nationalist.

PROPOSITION 1. *The* citizen-preferred equilibrium *can always be supported in a nationalist dyad, but can be supported in internationalist or mixed dyads only when governments are jointly vulnerable electorally ($e_1 + e_2 \geq 1$). It is intuitive in all dyads but collusion-proof only in nationalist and mixed dyads.* □

This result establishes somewhat dim prospects for disciplining governments through electoral sanctions.[11] Internationalist governments cannot be prevented from colluding to act even in mild crises. Governments with heterogeneous preferences can be induced to act in accordance with citizen preferences but only if they are jointly vulnerable electorally. It is only nationalist governments that can be relied upon to do what the citizens want them to irrespective of the electoral vulnerability and despite the possibility for collusive agreements.

When the CPE does not exist, any equilibrium must involve some type of policy failure: either a false positive (governments intervene when they are not supposed to), or a false negative (governments do not intervene even when they are supposed to).

In the context of the EU, the "democratic deficit" is often alleged to arise from the Union being a "distant technocratic superstate run by powerful officials who collude with national governments to circumvent national political processes," presumably with the end result being policies that the citizens do not want.[12] From this perspective, the most interesting false-positive failure is the one where the two governments agree to act in a mild crisis and share the policy burden. As the following proposition shows, one does not need the EU "superstate" to explain such outcomes: electorally-minded national governments are perfectly capable of going against the will of their citizens without any further institutional obfuscation. The central result here is that electoral incentives could drive even nationalist governments to such hyperactive engagement but that the more electorally vulnerable the incumbent gets, the smaller the chances of such policy failure are.

PROPOSITION 2. *The following assessments constitute a* false-positive burden-sharing equilibrium *only if $s \geq \bar{s} = \max(e_1, e_2)$:*

- *Each government acts regardless of the nature of the crisis.*

- *The citizens in each country reelect the incumbent when they observe multilateral action. When they observe any other outcome, they infer that the crisis is serious, reelect any government that acts, and replace any government that does not.*

This equilibrium is collusion-proof and intuitive. □

When citizens are quite certain that the crisis is serious, they are going to reward action and punish inaction even if they are still unsure about the precise nature of the crisis. Internationalist governments obviously benefit from this because they get to have their cake

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11. All formal statements of propositions and their proofs are in Appendix A.

12. Moravcsik (2008) encapsulates this notion while offering a potent critique of its empirical foundations.

(they act) and eat it too (they get reelected) even though they are, in fact, acting against the wishes of the citizens when the crisis is mild. The electoral threat forces even nationalist governments to fall in line and participate when neither they nor, ironically, their citizens actually want to.

Citizens are, of course, quite aware that they might be precipitating the very behavior they are trying to prevent and they are only willing to do so if they believe that the probability of such a mistake is low. This is why a necessary condition for this equilibrium is for them to think that it is very likely that the crisis is serious and requires action (s is high enough). With such a belief they are willing to reelect their government even though there is a chance that it has acted contrary to their wishes. When the incumbent is more vulnerable electorally, their tolerance for such a mistake becomes lower (because the replacement they can elect is more attractive), which pushes the required initial beliefs further up.

False-positive failures are not restricted to burden-sharing arrangements. As the somewhat tedious analysis in Appendix A shows, when at least one of the governments is internationalist, equilibria with distributional conflict exist, in which a internationalist government ends up paying the entire cost on its own (the burden-shifting equilibrium in Proposition B), or is at least forced to assume that burden disproportionately often (the limited burden-sharing equilibrium in Proposition C). Aside from showing that nationalist governments cannot be induced to carry more than their share, these cases do not add much of substantive significance to our present analysis although the extreme burden-shifting scenario could be useful in understanding Slovakia's behavior (Appendix C).

It is the false-negative failure, however, that is of special relevance to the puzzle we set out to resolve, which is why we shall focus on it for the rest of the article. We now investigate the possibility that governments do too little; namely, that they fail to act not only when the crisis is mild — as their citizens want them to — but also when the crisis is serious. This is a particularly egregious type of policy failure because it saddles the citizens with a deepening crisis that they will eventually have to pay to resolve. The central result is that electoral concerns could keep even internationalist governments from acting when the crisis is serious but the more vulnerable the incumbent, the less likely such policy failure becomes.

PROPOSITION 3. *The following assessments constitute a* false-negative equilibrium *only if* $s \leq \underline{s} = \min(1 - e_1, 1 - e_2)$ *and* $w_i \leq \overline{w}_i = [1 + t_i(1 - \alpha_i)C]/\theta_i$:

- *No government acts regardless of the nature of the crisis.*

- *The citizens in each country reelect the incumbent when they observe inaction. When they observe any other outcome, they infer that the crisis is mild, reelect any government that does not act, and replace any government that does.*

The equilibrium is collusion-proof, but it is intuitive only for internationalist dyads. ☐

This result should be jarring for it states that while internationalist dyads can experience this type of policy failure, dyads where at least one of the governments is nationalist cannot. To put it differently, it is only when both governments are internationalist — and thus very interested in acting regardless of the nature of the crisis — that a serious crisis might

remain unattended with both governments remaining passive for electoral reasons. Ironically, this sort of massive policy failure that will saddle the hapless voters with the costs of a rescue from a wider and deeper crisis cannot occur when at least one of the governments is nationalist.

How do we explain this puzzling behavior? The answer lies in the underlying incentives of internationalist and nationalist governments. As long as it is rewarded for inaction, a nationalist government does not have an incentive to act when the crisis is mild even if doing so would also result in reelection. When voters observe such a government acting unexpectedly, they can safely infer that the crisis is serious, in which case they can also reelect it for doing the right thing, which, in turn, rationalizes its unexpected deviation. Unlike the nationalist government, a internationalist government cannot credibly signal that the crisis is serious in this way. If it expects to be rewarded for deviating, it will have incentive to do so even if the crisis is mild, which means that when voters observe such a government acting unexpectedly, they cannot safely infer that the crisis is serious, so they will not reelect the government. This, in turn, prevents the internationalist government from acting even in a serious crisis. In other words, since the internationalist government cannot credibly signal what it knows, the citizens cannot be induced to remove the electoral threat that is preventing the government from acting. Internationalist governments are prisoners of voter expectations: because they are known to want to do too much, they are condemned to do too little.

It is worth asking why this equilibrium is not susceptible to internationalist governments colluding to act even when they know that the crisis is serious. It is not really the threat to punish them both if they engage in multilateral action that is preventing collusion. It is the lack of incentives to abide by the collusive agreement that is destroying its viability. In this equilibrium voters always reward the inaction of their own government regardless of what the other government does. This means that if governments agree to act in a serious crisis, each of them can do better by breaking their promise and doing nothing: whoever does this will both get reelected and saddle its erstwhile co-conspirator with the full cost of the action. The collusive agreement cannot be sustained, and internationalist governments end up doing nothing.

We now show how the model can rationalize Merkel's dithering strategy and explain both its sudden collapse and the electoral disaster that followed.

4   The German Politics of the Greek Bailout

The problems with Greece began in earnest shortly after the snap elections, which brought to power a new Socialist government in 2009. The Greek prime minister George Papandreou revealed that the previous governments had seriously mismanaged the economy saddling the country with a crushing debt of 129.7% of GDP and a massive deficit of 12.7% of GDP. The debt was more than twice the size Eurozone members were allowed to incur, and the budget deficit was more than four times the agreed limits. The markets reacted immediately. Rating agencies began downgrading the Greek debt, and by the early spring of 2010, the government was effectively shut out of the international financial markets. Rumors about a potential agreement on a bailout for Greece spread through the Eurozone

despite the clear "no bailout clause" in Article 125 of the EU Treaties.[13] Any impetus for a concerted international action, however, foundered on Germany's stiff, if unexpected, opposition.

How are we to understand the behavior of the German government? Three explanations for Merkel's dithering have been advanced by scholars, politicians, and the media. The first was a policy blunder: Merkel had made a huge mistake in believing that the crisis would not affect the Eurozone, and by the time markets proved her wrong, the crisis had nearly gotten out of hand. The second, argued by the Chancellor herself (albeit only in retrospect), was that the delay had been a strategy designed to coerce other governments to implement the right policies. As we detail in Section 5, these explanations are not consistent with the evidence during the critical months of March and April.

A third explanation turns on electoral motivations: Merkel tried to postpone what she knew would be a highly unpopular, but necessary, decision until after the elections in the country's most populous state, Nordrhein-Westfalen (NRW), on May 9. These elections were critical to Merkel's governing coalition because a defeat for the CDU in NRW would lead to loss of control in the *Bundesrat*. This would jeopardize her government's plans for a radical overhaul of the tax and health systems, and an extension of the nuclear power program. These plans were opposed by the Social Democratic Party (SPD). Public opinion polls in NRW indicated a close race between the SPD and the CDU, and opinion poll experts predicted that the bailout debate could have a strong impact on voters.[14] These elections were so important that some analysts argued that all federal politics had come to a standstill because decisions had been either made or postponed because of them. Not only that, but NRW was "historically speaking, a seismograph for national politics."[15]

There was no shortage of speculation about an electoral motivation behind Merkel's delay, both in Germany and abroad.[16] The opposition was especially vocal in its allegations that a bailout was a foregone conclusion.[17] But it is one thing to assert that a political leader postponed the implementation of an unpopular decision until after an election, and it is quite another to explain why this strategy should work. How could citizens not see through this such a transparent ploy? If a bailout was inevitable, putting it off would be, in the prescient words of the EU Green Party Leader Cohn-Bendit, "incomprehensible and politically very stupid."[18] Our model can help explain why Merkel's electoral strategy made sense.

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13. *The Guardian.* 2010. "The euro's darkest hour. European leaders gather in Brussels amid rumors that struggling Greece will be bailed out."

14. *RP Online.* 2010. "Griechenland entscheidet die Wahl: Umfragen zeigen Kopf-an-Kopf-Rennen."

15. *Der Spiegel Online.* 2010. "The World from Berlin: 'Merkel's Coalition Remains in Stand-By Mode'"; *AFP.* 2010. "German voters poised to punish Merkel party over Greece."

16. *Badische Zeitung.* 2010. "Die Bundeskanzlerin versucht, Zeit zu gewinnen"; *The New York Times.* 2010. "Merkel Tested as Escalating Greek Crisis Hurts Euro"; *EUbusiness.* 2010. "Germany has 'right' to block Greek loans: EU."

17. *Frankfurter Allgemeine Zeitung.* 2010. "Steinmeier kritisiert Merkels Griechenland-Politik"; *The Guardian.* 2010. "Greek debt crisis: IMF chief to woo Germany over bailout deal"; *Reuters.* 2010. "Merkel tries to sell Greek bailout to Germans."

18. *AFP.* 2010. "Germany policy toward Greece 'very stupid': Cohn-Bendit."

4.1 Equilibrium Selection

The first step in applying the model is to select among its several equilibria on the basis of the parameters necessary for their existence. From the vantage point of the German government, the situation between January 11 (when Eurostat officially questioned the Greek debt and deficit figures) and April 27 (when S&P downgraded Greek and Portuguese bonds) is consistent with parameter values that map onto the *false-negative equilibrium*. Recall that this equilibrium requires (1) an internationalist dyad, (2) citizens believing that the crisis does not require a bailout, and (3) costs of a serious crisis not being excessive.

First, given the express concerns of the other important Eurozone members and their ready willingness to participate in a common bailout early on, we can regard them as internationalist. Moreover, both the CDU and Angela Merkel were also regarded as internationalist. In fact, in party manifestos and expert evaluations, German governments tend to come out as more internationalist than other EU governments in general.[19] Merkel in particular had earned the nickname "Mrs. Europe" for her exceptional handling of the previously gridlocked negotiations for the 2007–13 financial framework.

Second, German voters did not believe that the Greek crisis was serious enough to affect their own well-being, and were consequently opposed to a bailout. Most of them believed that bailing out the Greeks was both unfair and unnecessary. While their Chancellor was telling them that Greece would solve its own problems, the media was regaling them with stories of astounding Greek government largesse and endemic corruption.[20] The examples of this are too numerous to cite, but one egregious example provides a useful encapsulation of the issues and a glimpse at the tenor. On the day of Papandreou's March 5 visit to Berlin, *Bild* published an inflammatory "Dear prime minister" open letter full of assorted accusations:

> If you're reading this, you've entered a country different from yours. You're in Germany. Here, people work until they are 67 and there is no 14th-month salary for civil servants. Here, nobody needs to pay a €1,000 bribe to get a hospital bed in time. Our petrol stations have cash registers, taxi drivers give receipts and farmers don't swindle EU subsidies with millions of non-existent olive trees. Germany also has high debts but we can settle them. That's because we get up early and work all day. We want to be friends with the Greeks. That's why since joining the euro, Germany has given your country €50bn.[21]

Given these sentiments, most Germans instinctively approved of the *schwäbische Hausfrau* strategy that Merkel had debuted in 2008 when she warned that doling out credit to rescue the American finance sector would exacerbate the meltdown caused by the bursting of the real estate bubble. For wide swaths of the population, fear of inflation and aversion to debt had become part of a culture that emphasized frugality and solvency.[22] Many Germans believed that a bailout would endanger the stability of the Euro rather than support it.[23]

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19. Warntjen, Hix, and Crombez (2008).

20. Mylonas (2012) and Tzogopoulos (2013).

21. Translated in *The Guardian*. 2010. "Get up earlier, Germans tell Greeks."

22. Lynn (2011). *The New York Times*. 2010. "In Greek Debt Crisis, a Window to the German Psyche."

23. In light of the enormous exposure of German banks in Greece, it is possible to argue that the bailout was about saving these banks rather than helping the Greeks. However, the German voters were even less disposed to bail out their banks because of the billions already spent since 2008 on doing just that and because of the

It should, therefore, come as no surprise that the Germans were dead set against a bailout, in part because of austerity measures that had been necessary to meet fiscal consolidation targets in Germany.[24] Polls consistently showed that only 20-25% supported helping Greece, and Germans tended to be distant outliers compared to other Europeans on the causes and consequences of the crisis.[25] In March, an IFOP survey reported that 78% of Germans believed that the Greek government was responsible for the crisis rather that it being part of a global crisis or a result of financial speculation. The average of those who shared that sentiment among those surveyed in Spain, France, Italy, and the UK was only 54%. The majority of Germans also did not think that the crisis was significant either personally or to those around them: 55% compared to an average of 36% among the other Europeans. Germans were also far more confident that their country could not suffer the same fate as Greece: 66% compared to an average of only 41% for the others. Since they blamed the Greeks for the crisis and did not believe it would affect them, 76% did not want to help Greece. Majorities in Italy (67%), Spain (55%), and France (53%) thought that their governments should help Greece in the interests of European solidarity. The only citizens the Germans resembled in their hawkishness on the bailout were the British (78% opposed), but the U.K. was not a member of the Eurozone.[26] In fact, about a third of the Germans would rather see Greece expelled from the Eurozone than pay to bail out its government, and in this sentiment they again exceeded everyone else.[27]

Third, the costs of continuing a serious crisis were not seen as excessive by political elites and publics alike. By March, the other Eurozone members and the IMF had reached a consensus that the crisis was serious, but in their initial bailout agreement from April 11 they estimated that only about €45 billion in loans would be sufficient to rescue Greece. The €15 billion IMF share was comparable to its loans to Brazil 1999 and Mexico in 1994, and the overall package was akin to the bailout for Argentina in 2001. In other words, while the crisis was clearly serious from a Eurozone perspective, it was perceived as manageable. The economic costs were also not expected to be grievous — the Greeks did not even request the activation of the emergency loans under this agreement until April 23, and the credit ratings on government bonds in Greece itself but also in Portugal, Ireland, Italy, and Spain (the PIIGS countries where the crisis was most likely to spill into) remained at investment-grade levels until April 27–8.

4.2 The *Schwäbische Hausfrau* Policy

In line with the equilibrium logic, Merkel adopted an a *laissez-faire* policy. This position was not difficult to sustain in the early months while the crisis seemed localized and within Athens' ability to stem. Members of the government, the coalition parties, and lead-

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widespread perception of corruption in the banking sector. This might also help explain why Merkel never mentioned the German banks when discussing the bailout and instead focused entirely on Greece. *The New York Times*. 2013. "In Germany, Little Appetite to Change Troubled Banks."

24. Bechtel, Hainmueller, and Margalit (2014).

25. *Die Welt*. 2010. "Mehrheit der Deutschen lehnt Griechen-Hilfe ab"; *AFP*. 2010. "Poll finds 57% of Germans oppose Greek aid"; *Die Zeit*. 2010. "Deutsche sehen Banken in der Verantwortung."

26. IFOP (2010).

27. *Financial Times*. 2010. "Athens crisis highlights pressure on Merkel."

ing newspapers all insisted that Greece should cope alone.[28] The EU Council meeting on February 11 limited itself to assurances of political support for Greek reforms while emphasizing the need to abide by the rules. As Merkel put it, "The rules must be obeyed — but Greece is one of us".[29] Even when the situation in Greece took a turn to the worse amid nationwide protests against the austerity program of March 5, the Eurogroup refused to commit to any financial help and instead pressed for further austerity measures.

In exasperation, Papandreou warned that Greece might have no choice but turn to the IMF for help if the Eurogroup did not put together a rescue package at the EU summit scheduled for March 25. His particular concern was that the waffling EU response had fanned the flames of speculation, causing Greek bond yields to top 6%. At such an exorbitant rate, Athens had no hope of financing itself via the markets out of the crisis. The only way to stop the betting against Greek debt was through a firm commitment to a bailout by the Eurogroup or, failing that, assurances of loans from the IMF.[30] Everyone — markets, Eurogroup finance ministers, the head of the OECD, and the President of the European Commission — agreed with him. Everyone, that is, except the Germans.[31]

Reflecting both the moral hazard perspective and the widespread popular opposition to a bailout, Merkel told the *Bundestag* on March 17 that rushing aid to Greece in "a quick act of solidarity" was wrong, and that a fundamental solution has to be devised; a solution that would allow for the expulsion from the eurozone of countries that persistently break its financial rules.[32] When the inevitable hue and cry arose over breeching the expulsion taboo, Merkel reminded everyone that Greece had yet to ask for financial aid, insisted that she did not believe the country was facing imminent insolvency, and flatly stated that any discussion of a bailout was off the table for the upcoming EU summit.[33]

Consequently, the statement released at the March 25 summit harped, much like its February 11 predecessor, on the need to follow the rules, but went further by promising "a package involving substantial IMF financing and a majority of European financing." This seemed to have committed the Eurogroup to a bailout and satisfied Germany's demand to get the IMF involved. On the other hand, the statement also insisted that since Greece had not requested any financial help, the rescue mechanism was not being activated. It also emphasized that the loans would be at non-concessionary rates, that they would only be provided as an absolutely last resort, and that their provision would require the unanimous consent of the euro area members after assessments by the Commission and the Central Bank.[34] The official statement from the Chancellor's Office, however, chose to emphasize just how hedged that promise was. In only thirteen sentences of text, it managed to say that the package was a 'last resort", "very last resort," and "absolutely last resort". After professing a commitment to the common currency, it clarified that any disbursements would

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28. Meiers (2015, 18).

29. Bundeskanzlerin (2010b).

30. *The Guardian.* 2010. "Greek PM gives European leaders a week to produce rescue plan."

31. *Der Spiegel Online.* 2010. "Barroso Demands Solidarity: Europe Increases Pressure on Chancellor Merkel."

32. *EurActiv.* 2010. "Merkel wants scope to expel eurozone troublemakers."

33. *The Guardian.* 2010. "Angela Merkel: EU summit should not discuss bailout for Greece"; *Financial Times.* 2010. "Merkel damps bail-out expectations."

34. European Union (2010).

involve "strict criteria" and had to be "authorized unanimously", and that the loans would be priced "in line with the de facto risks".[35]
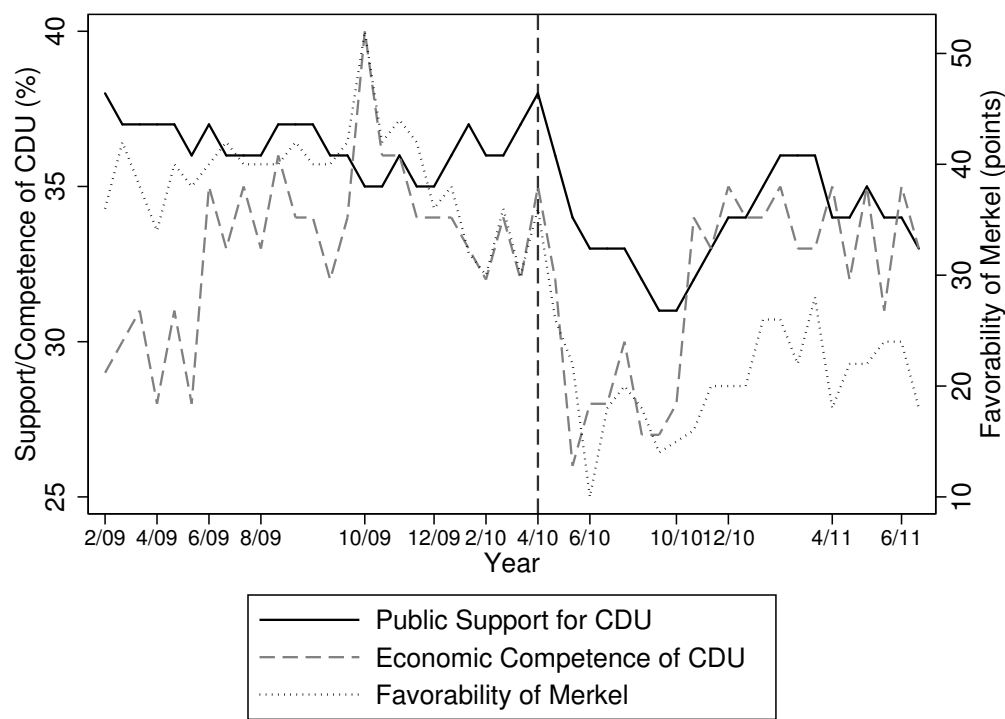

Figure 1: Public opinion in Germany during the Eurozone crisis. Dashed line indicates the timing of the agreement on Greek bailout. *Source:* Forschungsgruppe Wahlen: Politbarometer.

Merkel's tough talk on Greece brought her political gains domestically. Figure 1 shows that initial rumors of a bailout at the end of 2009 led to declining support for Merkel. However, after her staunch opposition to the Greek bailout, support increased and stabilized in March and April of 2010. We can see the same, even slightly stronger, pattern in support for the CDU. This period also saw a stabilization in the share of voters that believed that the CDU government had competently handled the economy. Merkel's actions were largely supported by the German media. *Bild* gloated, "By taking on our chancellor, Europe has bit off more than it can chew," and "Our Chancellor is forcing the rest of Europe to bite its teeth out!"[36]

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35. Bundeskanzlerin (2010a).

36. *Der Spiegel Online.* 2010. "The Greek Bailout Plan: Merkel's Risky Hand of Brussels Poker"; *Independent.* 2010. "The iron Frau: Angela Merkel."

4.3 Fiddling While Rome Burns

The financial support mechanism that the Eurozone heads of state had committed to on March 25 became fully operational on April 11 when the finance ministers provided the details along with the requirement that Greece implement further austerity measures and report frequently on the status of their implementation. Athens immediately began negotiations on the extent and severity of these additional measures. On April 22, Eurostat revised Greece's estimated deficit to 13.6% of GDP (up from 12.7%).[37] This caused the rating agency Moody's to cut Greek bond rating to A3, citing "significant risk" and warning that the rating would slide further "unless the government's actions can restore confidence in the markets and counteract the prevailing headwinds of high interest rates and low growth."[38] The 10-year bond yield surged to an astonishing 8.8%, and the spread from Germany's bond widened by 5.75%. Schäuble still clung to the established narrative, claiming in an interview in *Deutschlandfunk* the very same day, that the Greeks would not ask for help for weeks, perhaps until mid May.[39] The Greek government formally requested financial assistance under the new mechanism on the following day.

By the end of April, the economic and financial situation in Greece had worsened so much that experts no longer thought that the bailout package – even if were to come – would suffice to stem the crisis. Greece's debt had reached almost €300 billion, and after the 4% interest rate hike, its borrowing costs were 67% higher than they had been in February 2010.[40] It was unlikely that Greece would be able to service the €8.2 billion that were about to mature on May 19 at such prohibitive rates.[41] With the country headed toward almost certain default and financial markets in turmoil, experts predicted that a restructuring of Greek sovereign debt was unavoidable although Schäuble denied it.[42] The yields on two-year Greek government bonds had increased to over 13%: it was now safer to lend money to Iraq or Venezuela than to Greece.[43]

4.4 On the Road to Damascus

In this heated atmosphere, S&P's April 27th downgrade of Greek government debt to junk ($BB+$ for long-term and B for short-term bonds) and Portugal's to low investment grade ($A-$, closing on the territory previously occupied by the Greek bonds) unleashed a veritable panic. As the downgrade was accompanied by a warning that the agency expected investors to lose between 50% and 75% if Greece defaulted, the fallout was immediate and severe.[44] European stock markets plummeted as investors voiced fears over the crisis and the risk of contagion.[45] On April 28, S&P downgraded the Spanish long-term debt to AA, and an Italian bond issue failed to garner expected support. The borrowing costs for Ireland, Italy

37. *The Wall Street Journal.* 2010. "EU Sees Wider Greek Deficit, Roiling Markets."

38. *CNN Money.* 2010. "Another bad day for Greece."

39. *Deutschlandfunk.* 2010. "Griechenland muss zu "soliden finanzpolitischen Verhältnissen zurückkehren."

40. *The Guardian.* 2010. "Markets tremble while Merkel plays for time over Greek rescue deal."

41. *AFP.* 2010. "Pressure mounts for swift Greek bailout."

42. *The Guardian.* 2010. "EU can't afford to let Greece fail"; *AFP.* 2010. "Greece warns speculators as it races for bailout."

43. *BBC News.* 2010. "The bitter taste of a Greek bail-out."

44. *The New York Times.* 2010. "Cuts to Debt Rating Stir Anxiety in Europe."

45. *AFP.* 2010. "Desperate Greece presses EU for quick debt rescue."

and Portugal climbed as experts became increasingly convinced that a Greek default would unleash a series of defaults in the other PIIGS countries.[46] The crisis threatened to engulf the entire Eurozone, not just its weakest members. Sales of the euro accelerated, leading the common currency to plunge to its lowest value against the dollar in over a year and, since the yuan was tracking the dollar, against the Chinese currency as well.[47]

The Herald succinctly summarized the panic that the crisis will likely go global:

> Greece's economic problems are on the point of triggering an economic avalanche that will engulf other eurozone countries with high borrowing levels (Spain, Portugal, Italy and Ireland), roll relentlessly on through the eurozone and its trading partners (notably Britain) and push the struggling global economy into the second dip of the recession triggered by the collapse of Lehman Brothers in 2008.[48]

The heads of the IMF and the ECB turned the screws on Germany to act, emphasizing the "absolute necessity to decide very rapidly" and "to act swiftly and strongly."[49] Astonishingly, even now Merkel insisted that Greece had to implement an "ambitious" austerity program, and while she believed that the negotiations had to be "accelerated", it would only after they had concluded that Germany would "make its decisions" on whether to grant aid.[50] A source close to the EU Spanish presidency indicated that the summit to discuss aid would be held on May 10, a day after the NRW vote.[51] The peculiar scheduling would not be surprising to anyone who was aware that the latest polls found 57% of Germans adamantly opposed to a bailout (and only 33% in favor).[52] In fact, the level of support for the bailout could have been as low as 16%.[53]

With the ship rapidly sinking, however, political action was unavoidable. On May 3, the German government introduced the "Act on Financial Stability within the Monetary Union" that would clear the way for Germany's contribution to the bailout. The act passed on May 7 after heated debate, and became effective on the following day. On May 9, the EU finance ministers assembled for an emergency meeting approved the rescue package totaling €500bn, of which Germany's guarantees were €123bn (with a possible additional €24.6bn). The IMF also approved Greece's request for a Stand-by-Arrangement of €30bn, with an immediate release of its first tranche of €5.5bn to refinance the Greek bonds maturing in ten days.

4.5   The Equilibrium Cost Condition Violated

The *false-negative equilibrium* can rationalize Merkel's opposition to a bailout despite her knowledge that the crisis was serious. However, the strategy required her to delay all the way until after the elections and she did not. The German bailout agreement passed in

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46. *BBC News.* 2010. "Greece crisis: Fears grow that it could spread."

47. *Reuters.* 2010. "Greece bailout will block spillover – EU's Barroso."

48. *The Herald.* 2010. "Debt crisis in Greece is a warning to us all."

49. *AFP.* 2010. "IMF, ECB pressure Germany to help Greece."

50. *AFP.* 2010. "Merkel says Greek rescue talks must be 'accelerated'."

51. *The New York Times.* 2010. "Cuts to Debt Rating Stir Anxiety in Europe"; *EUbusiness.* 2010. "Euro leaders to debate Greek aid on May 10."

52. *AFP.* 2010. "Poll finds 57% of Germans oppose Greek aid."

53. *BBC News.* 2010. "Germany finds bailing out is hard to do."

the *Bundestag* two days before the elections in NRW. These elections were an unmitigated disaster for the CDU, which lost by 10.2% relative to its 2005 performance, making this its worst electoral defeat in NRW ever.[54] The government was replaced with a coalition of SPD and Greens, and Merkel lost the majority in the *Bundesrat*.[55] On May 10, Merkel announced that the long-promised tax cuts were off the table for at least two years, and on the following day the German cabinet approved €123bn for the rescue fund. The media erupted with outrage. *Bild* screamed, "Yet again, we are the idiots of Europe" for paying so much for "bankrupt neighbors" without money for tax cuts at home.[56] The political ramification of the NRW loss were not merely temporary setbacks; they proved as costly and persistent as the gloomy forecasts had predicted. As Figure 1 illustrates, public support for Merkel fell by more than 18% to an all-time low, and support for the CDU fell to a low of 31%. Support for Merkel would not recover to the (uncharacteristically low) levels of the immediate pre-crisis months for two years, and support for the CDU would take even longer. The *Tagesspiegel* editorialized,

> Never before has a federal government's fear of a state election had such a disastrous impact on the EU and the stability of the euro. Merkel played tactical games for weeks before having to make promises after all, and what is the end result? Black-yellow bankruptcy in North Rhine-Westphalia and a crisis for Europe.[57]

But if Merkel's dilatory tactics were motivated by domestic political considerations, why did she reverse course when she did, and why did she fail to persuade voters that this had been the right decision?

To understand the abrupt *volte-face* of May 2, we need to recall that one of the necessary conditions for this equilibrium is that the expected costs of a serious crisis that is allowed to deepen are not excessive. When this condition is not met, then the government will have an incentive to deviate in a serious crisis and agree to a bailout even if doing so would cost it the elections. The unexpected downgrades on April 27–28, with their devastating implications for the Eurozone, were catalytic. They convinced Merkel not only that the costs of the crisis would be significantly worse than expected but that the situation was deteriorating much more rapidly than she had anticipated. This made further delay tantamount to permitting the Eurozone go to ruin. Merkel's original dilatory strategy was thus no longer optimal.

It is crucial to realize that Merkel's tactic was predicated on there being no drastic changes in Greece's position.[58] Had the downgrade been anticipated, it would have been incorporated into the expectations, and the false-negative equilibrium would have been unsustainable, implying no delay for the bailout. The S&P actions, however, caught everyone by surprise. The IMF chief went so far as to say that the rating agencies should not be "believed too much."[59] The French Minister of Finance, Christine Lagarde, demanded "closer supervision of credit rating agencies to ensure that they respected the rules."[60] EC President Barroso said that the Commission had "already taken action to put in place a regulatory

54. *Der Spiegel Online.* 2010. "Elections in North Rhine-Westphalia: Key State Vote Handicaps Merkel."
55. *AFP.* 2010. "Merkel government sees 'double debacle' in pivotal poll."
56. *AFP.* 2010. "German cabinet approves euro crisis fund."
57. Translated in *AFP.* 2010. "Merkel under fire after 'double debacle' election defeat."
58. *Der Spiegel Online.* 2010. "Streit über Griechen-Hilfen: Merkel fürchtet die Rache der Stammtische."
59. *AFP.* 2010. "IMF warns against rating agencies after Spain downgrade."
60. *AFP.* 2010. "Merkel says European rating agency 'could be useful'."

framework on credit-rating agencies".[61] Merkel promised to "press for the creation of a ratings agency in Europe so that European financial markets become more stable and reactive."[62]. As this official annoyance at S&P's actions shows, the downgrade had not been anticipated by policy-makers.[63]

The unexpected downgrade put the Chancellor in a quandary. She had spent the last few months telling the Germans that the Greek crisis was not their problem, that the Greeks had to get their act together, and that German taxpayers would not be held liable for the excesses of the Greek government. By all accounts, she had succeeded marvelously. The problem Merkel now confronted was that while *she* was convinced that the crisis was serious for Germany, the *voters* clung to their original beliefs.[64] With these beliefs, they would treat a bailout as a deviation and punish it accordingly. The only way to avoid this would be persuade them to revise their beliefs. Given the parameter configuration (all else equal except much higher costs, w_i), if voters were to believe that the crisis is serious with a higher probability, s, the equilibrium would be the burden-sharing one, in which the governments act and get reelected.

4.6 The Unsuccessful Attempt to Coordinate on a New Equilibrium

With everything that was at stake domestically, Merkel tried very hard to persuade German voters that the bailout was crucial for the German economy.[65] The German government switched to damage-control mode almost immediately after the second downgrade. Schäuble now insisted that loans for Greece were good for Germany.[66] It was, he argued, about the Eurozone: "It is our mission to defend the stability of the euro zone in its entirety. The better we do that, the better it is for all Europeans and for Germans."[67] Merkel doubled down, "It does not just mean we are helping Greece but also that we are stabilising the euro as a whole, thereby helping people in Germany, for whom a stable European currency is of extraordinary value."[68] She even managed to defend the delay in her policy statement, when she insisted that

> It is about nothing more and nothing less than the future of Europe, and therefore the future of Germany in Europe. [...] A good European is not necessarily the one who helps quickly. A good European is the one who respects the European treaties and the relevant national law, and helps accordingly to ensure the stability of the Eurozone.[69]

Merkel also contrived to present the bailout as a potentially profitable enterprise because the loans would be provided through a state-owned bank, which would make money if the

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61. European Commission (2010).

62. *AFP*. 2010. "Merkel backs Greece but demands change."

63. *The New York Times*. 2010. "E.U. Officials Irked by Greek Downgrade."

64. *BBC News*. 2010. "Germany finds bailing out is hard to do"; *Independent*. 2010. "As size of Greek bailout soars, supply of German sympathy runs short."

65. *The New York Times*. 2010. "Germany Approves Assistance for Greece."

66. *DW*. 2010. "Aid for Greece won't put squeeze on Germany, says Schaeuble."

67. *Der Spiegel Online*. 2010. "110 Billion Euro Package: EU Agrees to Prop Up Greece."

68. *AFP*. 2010. "Merkel backs Greece but demands change."

69. Bundesregierung. 2010. "Regierungserklärung von Bundeskanzlerin Merkel zu den Hilfen für Griechenland." Accessed May 23, 2016. `https : / / www . bundesregierung . de / ContentArchiv / DE / Archiv17 / Regierungserklaerung / 2010 / 2010 - 05 - 05 - merkel - erklaerung - griechenland.html`.

Greeks paid back.[70] Merkel went on a veritable media blitz with news conferences and interviews on the day the Eurozone members approved the bailout package.[71] She made 15 personal appearances in NRW alone and spent the week before the election giving numerous interviews on TV.[72]

The voters were not buying it. Since June 2009, the fraction of Germans who thought that the current economic situation was good or very good had been steadily increasing. The same trend obtained for the expectations about the future.[73] Compared to January 2010, when 64% of Germans thought that the worst of the crisis was still to come, by May only 56% thought so.[74] In mid April, 78% of Germans believed that their own economic situation would either not be affected by the crisis or improve over the next few years; 59% believed that the unemployment would either remain stable or decline; and 71% believed that the economy would either remain as is or improve.[75] Even after the rating downgrade, the majority (59%) considered the Greeks responsible for the crisis, as opposed to the banks (13%), politicians (11%), or speculators (9%). Moreover, the vast majority (76%) were convinced that the Greeks would not repay their debts.[76] With 61% now fearing that helping the Greeks would only be the first step in a never-ending series of bailouts for other heavily indebted Eurozone members, 65% opposed a bailout (only 16% were in favor). In fact, while 42% believed the government claim that the delay was necessary to extract more austerity measures, 23% suspected that it had always planned to provide the aid. More worryingly, only 20% thought that membership in the EU was economically beneficial to the country (28% thought it disadvantageous), which further undermined calls to stabilize the euro in the name of that membership.[77] Even after the bailout 56% of Germans continued to believe that aid to Greece was wrong (only 39% were in favor), and that despite 67% thinking that the euro would destabilize over the next year.[78]

Recognizing the inherent weakness of the Chancellor's new position, the opposition now pounced on it, making it the most important topic in the electoral campaign in NRW.[79] As Klaus-Peter Schöpener, head of the polling institute Emnid, said, "The issue has electrified people as seldom before and is going to play a determining role" in the election.[80] The last poll published by *Bild* on the eve of the elections showed that 20% of NRW voters said

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70. *Reuters.* 2010. "Merkel tries to sell Greek bailout to Germans."

71. *Der Spiegel Online.* 2010. "Wahlkampf in letzter Minute: Rüttgers kämpft gegen Griechenland-Effekt"; *RP Online.* 2010. "Griechenland entscheidet die Wahl: Umfragen zeigen Kopf-an-Kopf-Rennen."

72. *AFP.* 2010. "German voters poised to punish Merkel party over Greece."

73. See the figures "Gegenwärtige wirtschaftliche Lage: Zeitverlauf" and "Zukünftige wirtschaftliche Lage: Zeitverlauf" in Infratest Dimap (2010).

74. See the figure "Aussagen zur Krise: Der schlimmste Teil der Krise steht uns noch bevor" in Infratest Dimap (2011).

75. *Presseportal.* 2010. "N24-EMNID-UMFRAGE: Deutsche vorsichtig optimistisch – Wirtschaftliche Lage wird weitgehend stabil eingeschätzt."

76. *Presseportal.* 2010. "N24-EMNID-UMFRAGE Deutsche bewerten Griechenlandkrise als hausgemacht – Mehrheit glaubt nicht an Kreditrückzahlung."

77. *Frankfurter Allgemeine Zeitung.* 2010. "Allensbach-Analyse Vertrauensverlust für den Euro."

78. *Bild.* 2010. "Der Schicksalstag des Euro."

79. *Handelsblatt.* 2010. "SPD nutzt die Griechenland-Krise"; *Der Spiegel Online.* 2010. "Wahlkampf in letzter Minute: Rüttgers kämpft gegen Griechenland-Effekt"; *RP Online.* 2010. "Griechenland entscheidet die Wahl: Umfragen zeigen Kopf-an-Kopf-Rennen."

80. *AFP.* 2010. "German voters poised to punish Merkel party over Greece."

that the bailout would affect their decision.[81] Discontent was so deep that when Merkel appeared at a rally near Wuppertal, the police had to step in to contain protests that were about to turn into a riot.[82]

At the end of the day, German voters had no reason — in evidence or logic — to believe Merkel's sudden conversion. And so they did not, treating the bailout as a deviation in the false-negative equilibrium that required a punishment at the polls.

5 Two Alternative Explanations

We have now made the case that Merkel's decisions during the Greek debt crisis were motivated by electoral considerations. There are, however, two common alternative explanations of her behavior that we would like to address.

5.1 A Policy Blunder?

One possible explanation interprets the delay as a failure of German politicians to see past the cultural and ideological commitment to austerity, and a failure to understand how financial markets could spread the Greek malady to other vulnerable members of the Eurozone. Whereas the cultural affinity to austerity policies and the popular fear of inflation certainly did not make it easier for the German government to commit to a bailout, there are two problems with this explanation.

First, it requires one to maintain that Merkel had been singularly deluded when other governments, the EU Commission, and the IMF were all in agreement that the Greeks needed a bailout. European leaders urged Merkel not to delay the bailout to Greece, but to act in solidarity with other members of the Eurozone. Italian Foreign Minister, Franco Frattini, pointedly stated that there was a "moral duty to intervene as soon as possible."[83] It is difficult to see how Merkel and her ministers could have been so out of touch with market reality, especially in late April when they still maintained that Germany could refuse to aid Greece. In a highly critical article, Professor Horn argued that it had been foreseeable that the failure to provide unambiguously a backstop for Greece would incite further speculation, which would drive up the price of government bonds, making it impossible for the country to refinance itself through the markets despite the austerity measures.[84]

Moreover, if the German government did not care about Greeks, it presumably did care about the investments of German banks, whose exposure to Greece in the first quarter of 2010 was, at $44.2bn (24% of the total exposure of European banks), second only to France's $71.1bn.[85] As Alessandro Leipold, former acting director of IMF European department, noted, there were "intrinsically strong German interests" at stake.[86] There is no

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81. *AFP.* 2010. "Merkel's party braces for electoral backlash over Greece."

82. *The Sunday Times.* 2010. "Angela Merkel faces voter revolt over generous Greece bailout."

83. *Agence France Presse.* March 22, 2010. "EU ups pressure on Merkel to aid Greece."

84. *Spiegel,* "Hesitation and Patronizing Advice: How Germany Made the Greek Crisis Worse", April 27, 2010.

85. Buiter and Rahbari (2010, Figure 4), http://willembuiter.com/Greece.pdf, accessed May 9, 2016.

86. *New York Times,* "Already Holding Junk, Germany Hesitates", April 28, 2010. The German Hypo Real Estate Holding held $10.5bn of Greek debt, and since it was owned by the public after its own bailout in 2009,

doubt that the German government was aware of these highly risky entanglements.[87] It is very implausible that it would not have acted upon this knowledge to prevent an almost certain spillover of the crisis to Germany just because of its cultural commitment to austerity; especially since this would have almost inevitably created the inflationary pressures that the government was determined to prevent.

Second, and crucially, the explanation cannot account for the clobbering the voters in NRW delivered to Merkel's party. Suppose that the Chancellor had been just as convinced as the voters of the wisdom of the *schwäbische Hausfrau* strategy until the end of April but then underwent a rapid conversion. If Merkel had such a "road to Damascus" moment, then it is by no means clear why she could not have persuaded the voters of the wisdom of her new policy. After all, she had been the most hawkish Eurozone leader on Greece, and if she had suddenly come to the realization that a bailout was necessary to save the euro, the voters should have believed her. Only Nixon could go to China, and only Merkel could go to Greece. But the voters did not believer her... or else how does one explain CDU's abysmal performance at the polls?

One might be tempted to argue that the German voters punished the CDU because Merkel was inconsistent — first opposing the bailout, but then flip-flopping — or because her Machiavellian tactics had worsened the crisis, saddling Germany with six times the costs. This, however, was not how the Germans voters interpreted it. As we document in Section 4.6, they remained unconvinced about the seriousness of the crisis. Polls in late April and early May showed that the majority of Germans opposed the bailout because they believed it was wrong to aid Greece. Surveys also revealed that they did not consider the crisis a top priority for Germany, and did not expect it to affect them adversely personally. These data point to a failure to carry the voters on the new policy, not to a punishment for not dealing with a serious crisis promptly.

5.2   A War of Attrition?

A second possible explanation centers around a potential distributional conflict as the source for the delay. Accordingly, Merkel was holding out for better terms, both from the Greek government and from the fellow Eurozone members. The former had to commit to even more drastic austerity measures, while the latter had to agree to terms that would not prejudice the credibility of the threat to let future spendthrifts sort out their own problems. The peculiar insistence on IMF participation — long opposed by other Eurozone members — must be seen in that light, as that organization had a lot of experience of imposing unpopular reforms on recipient countries.[88]

The war of attrition logic can certainly contribute to explain the initial phase of negotiations. As the crisis worsened in early 2010, Greece was increasingly willing to accept tougher austerity measures as demanded by the German government. The problem with this explanation is that Germany had already achieved all of its stated goals in principle

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it was German taxpayers whose money was on the line.

87. Not only did the German government know; it had already secretly acted upon these risks by providing bailouts to its entangled banks in 2008 and 2009 (Bastasin 2012).

88. The was *not* about the distribution of costs amongst the creditors. Each EU member's contribution to a bailout were pre-determined by the ECB key.

with the March 25 agreement, and in practice with the April 11 decision to make the rescue mechanism fully operational.[89] The IMF had been involved since the March agreement, and Schäuble himself had indicated in an interview that the outline of the austerity program had been decided in mid March.[90] Moreover, Merkel had already dropped the insistence on market rates for the loans in the April 11 agreement. As Frank Schäffler, the deputy finance spokesman for Merkel's coalition partner FDP, characterized it at the time, "Germany buckled under the pressure – we shouldn't kid ourselves that such loans are anything but subsidies."[91] Finally, the "shallow text" of the February 11 agreement, with its emphasis on the defense of the stability of the monetary union, was a "crucial strategic coup for Merkel" because it allowed her to deflect a potential bailout challenge by the Constitutional Court.[92]

While it is true that the Greek government announced a third wave of cuts in conjunction with the May 2 deal, one cannot argue that Merkel had delayed to obtain its formal commitment. The Chancellor herself claimed to have done so because without Athens announcing new austerity measures, giving aid "would have had the opposite effect" to calming markets.[93] The irony of this statement in light of the reason the markets had gone berserk cannot be overstated.

In fact, it was because of this that the press and the opposition had speculated that Merkel's tough line had been a domestic kabuki theater at least since March.[94] That is also why Steinmeier, accused Merkel of playing a double game between Brussels and Berlin, "Madame No – that was a huge hoax."[95] He also dismissed the notion that the delay had been a part of some coherent plan to create a better policy. As he told Merkel, "You drifted around like a windsock. Then in retrospect you call that your strategy. Your double game has cost us an enormous amount of trust and respect in Europe."[96] The allegation of *ex post* rationalization is also supported by the fact that the German government only belatedly (after April 28) started to insist on the importance of the crisis for Germany itself. (We discuss this in the Section 4.6)

This explanation also has a flaw in the logic of the strategy itself given that it was being played in an electoral shadow. Merkel *could* have denied that the Greek crisis posed a problem for Germany in an attempt to signal that her government had little incentive to act unless all its stringent conditions had been met. This might have increased the credibility of the threat, but since she had done it so publicly, it also signaled to the German electorate that a bailout was unnecessary. Judging from the opinion surveys and the prevalent opinion in the press, the voters seem to have believed her. But if Merkel knew a bailout was coming and was merely stalling for terms, this would have been a silly thing to do because the bailout would certainly upset the voters. A more profitable strategy would have been to indicate that a bailout was necessary and outline the conditions Athens had to satisfy to obtain it. Of course, Merkel later claimed that this had been precisely what she had done,

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89. *Spiegel Online,* " The Greek Bailout Plan: Merkel's Risky Hand of Brussels Poker", March 26, 2010. *Spiegel,* "An Aid Package in the Billions: Merkel's Bluff Called in Poker over Greece," April 12, 2010.

90. Deutschlandfunk April 22, 2010.

91. *Bloomberg,* "Germany Says Greek Aid Probably Needs Parliament Vote," April 14, 2010.

92. Bastasin (2012, 70).

93. *Agence France Presse,* "Merkel defends foot-dragging over Greece," May 5, 2010

94. *Rheinische Post*, "Heute geht es auch um Merkels Zukunft," May 8, 2010.

95. *XN Press,* "Steinmeier: Nur Geld überweisen, reicht nicht," May 3, 2010.

96. *Agence France Presse,* "Merkel defends taking time over Greece," May 5, 2010.

except that somehow nobody had understood her that way: not the IMF, not her fellow European heads of state, not the domestic opposition, not the press, and not the voters.[97]

6 Conclusion

We wondered why cooperation on the first Eurozone bailout was so difficult to achieve despite strong pressures to do so. In particular, we were puzzled by the fact that the most important holdout was the country that stood to lose most if the crisis got out of hand. Our answer is that inter-governmental actions take place in front of domestic audiences who might use the actions they can observe to form opinions about their appropriateness and condition their electoral choices on the inferences they make. Strong domestic opinions can lead to suboptimal foreign policies although the threat of electoral sanction and the promise of electoral reward can also induce governments to cooperate only when their citizens want them to.

Our model has broader implications for international relations theory. Consider the interaction between governments and their citizens. By bringing in the electoral motivation, we immediately raise the familiar principal-agent problem of how citizens can get governments with divergent preferences to behave.[98] The context we study, however, is novel because we incorporate a crucial feature of international politics: the presence of other governments who are agents of different principals but whose actions are observable and therefore potentially informative as well.

Although this setting will be familiar to anyone who studies two-level games, our emphasis on signaling (as opposed to distributive conflict) is new. Consider the difference between a mixed and a internationalist dyad. Whereas the presence of the nationalist government ensures that signaling will be credible and as a result international action will not occur in a mild crisis, a combination of internationalist preferences ensures that signaling will be unreliable: these governments would collude and as a result the CPE cannot be sustained (Proposition 1). The "democratic deficit" can occur because the lack of transparency in international negotiations provides governments with opportunities to collude in pursuit of their preferences to the disadvantage of the voters. In this context, international cooperation can become domestically abusive.

The electoral control mechanism can be further weakened by the beliefs of the citizens themselves: whenever they hold strong priors about the desirability of some particular foreign policy, governments might not be able to signal the need for a different policy even when this need might be real and the citizens would want to know it. As shown in Propositions 2 and 3, such circumstances can produce various international cooperative behaviors that fail the domestic normative test. Government efforts to influence citizen beliefs can become self-fulfilling prophecies and, as the German example demonstrates, turn into serious obstacles to implementing policies the voters would actually prefer.

The model also yields a different take on how the diversity of preferences among members of an international organization affects the prospects for cooperation. It is commonly

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97. *Spiegel,* " German Finance Minister Wolfgang Schäuble: 'We Cannot Allow Greece to Turn into a Second Lehman Brothers'," April 19, 2010.

98. Ferejohn (1986), Austen-Smith and Banks (1989), and Przeworski (1999).

accepted in the literature that the more heterogenous the membership, the "shallower" the cooperation.[99] When scholars argue to the contrary, they point to heterogeneity increasing the opportunities for issue linkages and coalition formation.[100] In contrast, we find that heterogeneity can have a positive effect on the prospects for international cooperation because the presence of diverse governments can enable credible information transmission to the voters. In an environment plagued by informational asymmetries credible signaling by governments can be crucial in securing their cooperation on international issues by helping them avoid adverse domestic reactions to such behavior. When it comes to working agreements, the breadth and the depth might be mutually reinforcing.

It is uncontroversial that domestic politics matter for foreign policy. Far more important is *how* they matter, and here there has been a distinct tendency to use domestic-political arguments to explain why states choose foreign policies that are suboptimal from some normative perspective. Our approach explicitly rejects the notion of a normative standard that is defined without reference to the preferences of the citizens. "International cooperation" must be understood not in terms of whether governments abide by their agreements or agree to bear costs when benefits diffuse to other governments, but also in relation to the domestic preferences these governments are supposed to represent.

This normative perspective allows us to go beyond treating domestic politics as a foil for foreign policy or a last-resort explanation of some shortcoming it is supposed to have, and explore how foreign policy actions — cooperative or not — can inform citizens and perhaps enable them to implement electoral strategies that provide incentives to their government to choose policies in line with their preferences. In this light, our finding that the CPE can be supported in mixed or internationalist dyads only when the governments are jointly vulnerable electorally is illustrative as an instance of international cooperation that produces outcomes to the citizens' liking that would not be achievable by governments that are unconstrained domestically. "Domestic politics" need not be dirty words when it comes to foreign policy.

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99. See, *inter alia*, Moravcsik (1991), Kahler (1992), Koremenos, Lipson, and Snidal (2001), König (2007), and Schneider and Urpelainen (2014), or Keleman, Menon, and Slapin (2014) for a dissenting view.
100. Martin (1994) and Golub (2007).

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A Proofs

Let σ_i be the probability with which G_i acts when the crisis is serious, and μ_i be the probability with which G_i acts when the crisis is mild. Let $p_i(s_{a_1 a_2})$ be the probability of retaining G_i when the game has reached information set $s_{a_1 a_2}$, where $a_i \in \{0, 1\}$ denotes whether G_i has acted or not.

A.1 Preliminaries

The payoff structure of the model allows us to reduce electoral expectations to direct comparisons of retrospective beliefs and candidate prospects. This makes the equilibrium probability of reelection a simple function of these beliefs:

LEMMA A. *By subgame perfection,*

$$p_i(s_{11}) = \begin{cases} 1 & \text{if } s_{11} > e_i \\ 0 & \text{if } s_{11} < e_i \\ [0,1] & \text{otherwise} \end{cases} \qquad p_i(s_{00}) = \begin{cases} 1 & \text{if } s_{00} < 1 - e_i \\ 0 & \text{if } s_{00} > 1 - e_i \\ [0,1] & \text{otherwise} \end{cases}$$

$$p_1(s_{10}) = \begin{cases} 1 & \text{if } s_{10} > e_1 \\ 0 & \text{if } s_{10} < e_1 \\ [0,1] & \text{otherwise} \end{cases} \qquad p_2(s_{10}) = \begin{cases} 1 & \text{if } s_{10} < 1 - e_2 \\ 0 & \text{if } s_{10} > 1 - e_2 \\ [0,1] & \text{otherwise} \end{cases}$$

$$p_1(s_{01}) = \begin{cases} 1 & \text{if } s_{01} < 1 - e_1 \\ 0 & \text{if } s_{01} > 1 - e_1 \\ [0,1] & \text{otherwise} \end{cases} \qquad p_2(s_{01}) = \begin{cases} 1 & \text{if } s_{01} > e_2 \\ 0 & \text{if } s_{01} < e_2 \\ [0,1] & \text{otherwise} \end{cases} \qquad \square$$

Proof.   Follows immediately from sequential rationality.   ∎

We now establish some general results without reference to the type of governments in the dyad. These help limit the type of strategy profiles that can be supported as equilibria. In any generic equilibrium, if citizens in i act probabilistically in any given contingency, the citizens in $-i$ must either retain their government or remove it with certainty:

LEMMA B. *Citizens cannot generically act probabilistically in both countries for any given contingency.*   □

Proof.   Pick any contingency, say s_{11}, and recall that citizens in i will only act probabilistically if $s_{11} = e_i$. If citizens in both countries were to act probabilistically, the necessary condition is $s_{11} = e_1 = e_2$, but $e_1 = e_2$ is not generic.   ∎

If both players are mixing in one type of crisis, they must both be mixing in the other:

LEMMA C. *There exists no equilibrium where both players mix in one type of crisis but do not both mix in the other type of crisis:* $\sigma_i \in (0, 1) \ \forall i \Leftrightarrow \mu_i \in (0, 1) \ \forall i$.   □

Proof. We first show that if both players mix when the crisis is serious, then they must both mix when the crisis is mild. Consider the general case where $\sigma_i \in (0, 1)$, so both mix when the crisis is serious, not necessarily with the same probabilities. Consider the strategies when the crisis is mild:

Case I: $\mu_i = 0$: by Lemma F, either $\sigma_i = 1$ or $\sigma_i = 0$, so no equilibrium where they mix when the crisis is serious.

CASE II: $\mu_i = 1$: since inaction occurs with positive probability only when the crisis is serious, $s_{00} = 1$, both governments must be removed in that case: $p_i(s_{00}) = 0$. Since governments prefer to act when the crisis is mild, $U_1(a, a|m) \geq U_1(\sim a, a|m)$, or

$$p_1(s_{11}) - t_1\alpha_1 C \geq p_1(s_{01}).$$

But since G_1 must also be indifferent when the crisis is serious, $U_1(a, \sigma_2) = U_1(\sim a, \sigma_2)$, or:

$$\sigma_2(p_1(s_{11}) - t_1\alpha_1 C) + (1 - \sigma_2)(p_1(s_{10}) - t_1 C)$$
$$= \sigma_2 p_1(s_{01}) + (1 - \sigma_2)(-w_1\theta_1 - t_1\alpha_1 C).$$

This equality cannot be satisfied given the inequality above. To see this, it is sufficient to establish that $p_1(s_{10}) - t_1 C > -w_1\theta_1 - t_1\alpha_1 C$. This inequality will certainly hold if it is satisfied at $p_1(s_{10}) = 0$. But then we can re-write it as $w_1\theta_1 > t_1(1 - \alpha_1)C$, which holds by (A3) because $w_1\theta_1 > C > t_1(1 - \alpha_1)C$. It then follows that $U_1(a, \sigma_2) > U_1(\sim a, \sigma_2)$, so G_1 will not mix when the crisis is serious.

CASE III: only one of the players mixes when the crisis is mild. WLOG, let $\mu_2 \in (0, 1)$. There are two possibilities. Suppose first that $\mu_1 = 1$, in which case Bayes rule pins down $s_{00} = s_{01} = 1$, which imply that $p_1(s_{00}) = p_1(s_{01}) = 0$, so G_1 is always removed for failing to act. But then acting in a serious crisis is strictly better than not acting:

$$U_1(a, \sigma_2) = \sigma_2(p_1(s_{11}) - t_1\alpha_1 C) + (1 - \sigma_2)(p_1(s_{10}) - t_1 C)$$
$$> -t_1 C > -w_1\theta_1 - t_1\alpha_1 C = U_1(\sim a, \sigma_2),$$

a contradiction of the supposition that G_1 is willing to mix in a serious crisis.

Suppose now that $\mu_1 = 0$, in which case Bayes rule pins down $s_{11} = s_{10} = 1$, which imply that $p_2(s_{11}) = 1$ and $p_2(s_{10}) = 0$. Since G_1 does not act when the crisis is mild but G_2 is willing to mix, it follows that $U_2(\sim a, a|m) = U_2(\sim a, \sim a|m)$ must obtain, so $p_2(s_{01}) - t_2 C = p_2(s_{00}) - \theta_2$. But now

$$U_2(\sigma_1, a) = \sigma_1(1 - t_2\alpha_2 C) + (1 - \sigma_1)(p_2(s_{01}) - t_2 C)$$
$$= \sigma_1(1 - t_2\alpha_2 C) + (1 - \sigma_1)(p_2(s_{00}) - \theta_2)$$
$$> \sigma_1(0) + (1 - \sigma_1)(p_2(s_{00}) - w_2\theta_2 - t_2\alpha_2 C) = U_2(\sigma_1, \sim a),$$

which contradicts the supposition that G_2 mixes in a serious crisis.

This exhausts the possibilities, so it cannot be the case that only one player mixes in a mild crisis when both mix in a serious one. The sole remaining possibility, of course, is that they both mix when the crisis is mild.

We now show that if both players mix when the crisis is mild, then they must both mix when the crisis is serious. Suppose $\mu_i \in (0, 1)$, and consider the three possibilities for a serious crisis.

CASE I: $\sigma_i = 1$, in which case Lemma E implies that either $\mu_i = 0$ or $\mu_i = 1$, a contradiction.

CASE II: $\sigma_i = 0$, in which case Bayes rule pins down $s_{11} = s_{10} = s_{01} = 0$. This means that $p_1(s_{11}) = p_1(s_{10}) = 0$ and that $p_1(s_{01}) = 1$. Since G_1 is willing to mix when the crisis is mild,

$$U_1(a, \mu_2) = \mu_2(-t_1\alpha_1 C) + (1 - \mu_2)(-t_1 C) = \mu_2 + (1 - \mu_2)(p_1(s_{00}) - \theta_1),$$

so a necessary condition for this to be satisfied is $-t_1 C > p_1(s_{00}) - \theta_1$. But since G_1 prefers not to act in a serious crisis when G_2 does not act either, it follows that

$$U_1(a, \sim a|s) = -t_1 C \leq U_1(\sim a, \sim a|s) = p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C < p_1(s_{00}) - \theta_1,$$

a contradiction with the necessary requirement we derived above.

CASE III: only one of the players mixes when the crisis is serious. WLOG, let $\sigma_2 \in (0, 1)$, so we have two possibilities to consider. Suppose first that $\sigma_1 = 1$, in which case Bayes rule pins down $s_{00} = s_{01} = 0$, which imply that $p_2(s_{00}) = 1$ and that $p_2(s_{01}) = 0$. Since G_2 mixes in a serious crisis when G_1 acts, it follows that $U_2(a, a|s) = U_2(a, \sim a|s)$, and so $p_2(s_{11}) - t_2\alpha_2 C = p_2(s_{10})$. But now

$$
\begin{aligned}
U_2(\mu_1, a|m) &= \mu_1(p_2(s_{11}) - t_2\alpha_2 C) + (1 - \mu_1)(-t_2 C) \\
&< \mu_1 p_2(s_{10}) + (1 - \mu_1)(1 - \theta_2) = U_2(\mu_1, \sim a|m),
\end{aligned}
$$

where the inequality follows from the implication above and the fact that $-t_2 C < 0 < 1 - \theta_2$. This contradicts the supposition that G_2 is willing to mix in a mild crisis.

Suppose now that $\sigma_1 = 0$, in which case Bayes rule pins down $s_{11} = s_{10} = 0$, so $p_2(s_{11}) = 0$ and $p_2(s_{10}) = 1$. Since G_2 is willing to mix in a mild crisis, it must be that

$$U_2(\mu_1, a|m) = \mu_1(-t_2\alpha_2 C) + (1 - \mu_1)(p_2(s_{01}) - t_2 C) = \mu_1(1) + (1 - \mu_1)(p_2(s_{00}) - \theta_2),$$

and a necessary condition for this to hold is that $p_2(s_{00}) - \theta_2 < p_2(s_{01}) - t_2 C$. But since G_1 does not act in a serious crisis,

$$U_2(\sim a, \sim a|s) = p_2(s_{00}) - w_2\theta_2 - t_2\alpha_2 C < p_2(s_{00}) - \theta_2 < p_2(s_{01}) - t_2 C = U_2(\sim a, a|s),$$

contradicting the supposition that G_2 mixes when the crisis is serious.

This exhausts the possibilities, so it cannot be the case that only one player mixes in a serious crisis when both mix in a mild one. The sole remaining possibility, of course, is that they both mix when the crisis is serious. ∎

There can be no equilibrium, in which both governments do nothing in a serious crisis but one or both of them do something in a mild crisis:

LEMMA D. *If neither government acts when the crisis is serious, then neither government acts when the crisis is mild either:* $\sigma_i = 0 \ \forall i \Rightarrow \mu_i = 0 \ \forall i$. □

Proof.   Suppose neither player acts when the crisis is serious, $\sigma_i = 0$, but one of them, say G_1, acts with positive probability when the crisis is mild, $\mu_1 \in (0, 1]$. Suppose first that $\mu_2 = 0$, in which case Bayes rule pins down $s_{10} = 0$, so $p_1(s_{10}) = 0$. Since G_1 prefers not to act in a serious crisis, $U_1(\sim a, \sim a|s) \geq U_1(a, \sim a|s)$, or $p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C \geq -t_1 C$. But since G_1 cannot fail to act with positive probability in a mild crisis while G_2 does not act, $U_1(a, \sim a|m) \geq U_1(\sim a, \sim a|m)$, or $-t_1 C \geq p_1(s_{00}) - \theta_1 > p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C$, a contradiction.

Suppose now that $\mu_2 = 1$, so Bayes rule pins down $s_{11} = 0$, so $p_1(s_{11}) = 0$. But then $U_1(\sim a, a|m) = p_1(s_{01}) \geq 0 > -t_1\alpha_1 C = U_1(a, a|m)$, so G_1 would not mix when the crisis is mild, a contradiction.

Suppose now that $\mu_2 \in (0, 1)$. But then Lemma C implies that $\sigma_i \in (0, 1)$, a contradiction. ∎

The following two lemmata establish that if governments pool on action in a serious crisis, they must pool on a pure strategy in a mild one; and that if they pool on inaction in a mild crisis, they must pool on a pure strategy in a serious one.

LEMMA E. *If both governments act when the crisis is serious, then in any equilibrium either (1) neither government acts when the crisis is mild or (2) both do, in which case $s \geq \bar{s} = \max(e_1, e_2)$ is required.* ☐

Proof.   Assume that both governments act when the crisis is serious: $\sigma_i = 1$.

Suppose $\mu_i \in (0, 1)$. Bayes rule then pins down $s_{00} = s_{10} = s_{01} = 0$, which means that governments are removed for acting unilaterally, $p_1(s_{10}) = p_2(s_{01}) = 0$, retained when the other government acts unilaterally, $p_1(s_{01}) = p_2(s_{10}) = 1$, and retained if they do not act at all $p_i(s_{00}) = 1$. But since

$$
\begin{aligned}
U_1(\sim a, \mu_2) - U_1(a, \mu_2) &= 1 + t_1 C - \theta_1 - \mu_2 [p_1(s_{11}) + t_1 C - \theta_1 - t_1\alpha_1 C] \\
&\geq 1 + t_1 C - \theta_1 - \mu_2 [1 + t_1 C - \theta_1 - t_1\alpha_1 C] \\
&= (1 - \mu_2) [1 + t_1 C - \theta_1] + \mu_2 t_1 \alpha_1 C \\
&> 0,
\end{aligned}
$$

where the last inequality follows from (A3), G_1 has a strict incentive not to act, contradicting the assumption that it mixes. Thus, if one government mixes, the other must be doing nothing when the crisis is mild.

Suppose that $\mu_1 = 0$ and $\mu_2 \in (0, 1)$. Bayes rule pins down $s_{11} = 1$ and $s_{01} = s_{00} = 0$, which means that both governments are retained after a multilateral bailout and after inaction, $p_i(s_{11}) = p_i(s_{00}) = 1$, and only G_1 is retained after a unilateral bailout by G_2: $p_1(s_{01}) = 1$ and $p_2(s_{01}) = 0$. But in this case, $U_2(\mu_1, \sim a) = 1 - \theta_2 > -t_2 C = U_2(\mu_1, a)$, so G_2 strictly prefers not to act as well. The case with $\mu_1 \in (0, 1)$ and $\mu_2 = 0$ is equivalent, *mutatis mutandis*.

Suppose that $\mu_i = 0$. We have already analyzed this in Proposition 1.

Suppose finally that $\mu_i = 1$. Bayes rule pins down only $s_{11} = s$. If $s < e_i$, then $p_i(s_{11}) = 0$, but then G_i expects $-t_i\alpha_i C$ if it acts and at least 0 if it does not act, so it strictly prefers not to act. Thus, $\mu_i = 1$ can only be supported in equilibrium if $p_i(s_{11}) = 1$, so a necessary condition is that $s \geq \bar{s}$. ∎

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LEMMA F. *If both governments do not act when the crisis is mild, then in any equilibrium either (1) they both act when the crisis is serious or (2) neither does, in which case*

$$s \leq \underline{s} = \min(1 - e_1, 1 - e_2) \quad and \quad w_i \leq \frac{1 + t_i(1 - \alpha_i)C}{\theta_i} \equiv \overline{w}_i.$$

are required.   □

Proof.   Consider a dyad that never acts when the crisis is mild: $\mu_i = 0$.

Suppose first that $\sigma_i \in (0, 1)$. Bayes rule pins down $s_{11} = s_{10} = s_{01} = 1$, so both are retained after a multilateral bailout, $p_i(s_{11}) = 1$, and only the one that acts unilaterally is retained, $p_1(s_{10}) = p_2(s_{01}) = 1$ and $p_1(s_{01}) = p_2(s_{10}) = 0$. But now

$$\begin{aligned} U_1(a, \sigma_2) &= \sigma_2(1 - t_1\alpha_1 C) + (1 - \sigma_2)(1 - t_1 C) \\ &\geq 1 - t_1 C \\ &> 1 - w_1\theta_1 - t_1\alpha_1 C \\ &\geq \sigma_2(0) + (1 - \sigma_2)(p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C) = U_1(\sim a, \sigma_2), \end{aligned}$$

where the second inequality follows from (A1). Thus, G_1 strictly prefers to act in a serious crisis, a contradiction.

Suppose that $\sigma_1 = 1$ while $\sigma_2 \in (0, 1)$. Bayes rule pins down $s_{11} = s_{10} = 1$, so $p_i(s_{11}) = 1$ but $p_1(s_{10}) = 1$ and $p_2(s_{10}) = 0$; that is, both governments are retained after a multilateral bailout but only G_1 is when it acts unilaterally. But this implies that G_2 will be unwilling to mix because it strictly prefers to act as well: $U_2(a, a) = 1 - t_2\alpha_2 C \geq 1 - \alpha_2 C > 0 = U_2(a, \sim a)$, where the second inequality follows from (A2). The case with $\sigma_1 \in (0, 1)$ and $\sigma_2 = 1$ is the same, *mutatis mutandis*.

Suppose that $\sigma_1 = 0$ while $\sigma_2 \in (0, 1)$. Bayes rule pins down $s_{01} = 1$, so $p_1(s_{01}) = 0$ and $p_2(s_{01}) = 1$; that is, only G_2 is retained after it acts unilaterally. But then G_2's payoff from acting when the crisis is serious is $U_2(\sim a, a) = 1 - t_2 C > 1 - w_2\theta_2 - t_2\alpha_2 C \geq U_2(\sim a, \sim a)$, where the inequality follows from (A1). Thus, G_2 would strictly prefer to act. The case with $\sigma_1 \in (0, 1)$ and $\sigma_2 = 0$ is the same, *mutatis mutandis*.

Suppose that $\sigma_i = 1$. We have already analyzed this in Proposition 1.

Suppose finally that $\sigma_i = 0$. Bayes rule pins down $s_{00} = s$. If $s > 1 - e_i$, then $p_i(s_{00}) = 0$, so G_i's payoff from inaction is $-w_i\theta_i - t_i\alpha_i C$, which is strictly worse than the minimum payoff from unilateral action, $-t_i C$ (where the inequality follows from (A1)), so G_i strictly prefers to act. Thus, $\sigma_i = 0$ can only be supported in equilibrium when $p_i(s_{00}) = 1$, so a necessary condition is that $s \leq \underline{s}$.

Finally, it must be the case that reelection for inaction is sufficient to prevent unilateral action: $1 - w_1\theta_1 - t_1\alpha_1 C \geq p_1(s_{10}) - t_1 C$, which requires that $p_1(s_{10})$ be sufficiently low (the inequality is violated at $p_1(s_{10}) = 1$ by (A1)). Since we can write this as

$$w_1 \leq \frac{1 - p_1(s_{10}) + t_1(1 - \alpha_1)C}{\theta_1},$$

another necessary condition is that it is satisfied at $p_1(s_{10}) = 0$, or that $w_1 \leq \overline{w}_1$. Since this applies to G_2 as well, we obtain the requirement stated in the lemma.   ■

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A.2   The Citizen-Preferred Equilibrium

PROPOSITION A. *The following constitute the essentially unique* citizen-preferred equilibrium:[101]

- *Each government acts when the crisis is serious and does not act when the crisis is mild;*

- *When citizens in each country observe a multilateral bailout, they infer that the crisis is serious and retain both governments. When they observe inaction, they infer that the crisis is mild and retain both governments as well.*

- *When citizens in each country observe a unilateral bailout,*

  - *if the dyad is nationalist, citizens infer that the crisis is serious, retain the government that acts and remove the one that does not;*

  - *if the dyad is internationalist or mixed, citizens remain uncertain about the nature of the crisis with some $s_{10} \in [1-e_2, e_1]$ and some $s_{01} \in [1-e_1, e_2]$, and remove both governments.*

This equilibrium can always be supported in a nationalist dyad, but can be supported in internationalist or mixed dyads only when governments are jointly vulnerable electorally $(e_1 + e_2 \geq 1)$. It is intuitive in all dyads but collusion-proof only in nationalist and mixed dyads. □

Proof.   If this is an equilibrium, Bayes rule tells us that $s_{11} = 1$ and $s_{00} = 0$, and since $e_i \in (0, 1)$, by Lemma A the citizens will retain the governments in both countries along the path of play. Unilateral deviations will be unprofitable when the following four conditions are satisfied:

serious crisis: mild crisis:

$$1 - t_1\alpha_1 C \geq p_1(s_{01}) \qquad\qquad 1 - \theta_1 \geq p_1(s_{10}) - t_1 C \quad (1)$$
$$1 - t_2\alpha_2 C \geq p_2(s_{10}) \qquad\qquad 1 - \theta_2 \geq p_2(s_{01}) - t_2 C. \quad (2)$$

NATIONALIST DYAD. Since G_1 would stick to inaction in a mild crisis whenever $1 - \theta_1 \geq p_1(s_{10}) - C$, (A1) implies that it will do so for any $p_1(s_{10})$. The situation with G_2 is analogous. Nationalist governments need no additional incentives to remain inactive in a mild crisis when they are reelected for doing so.

In a serious crisis, G_1 would stick to the multilateral bailout as long as $1 - \alpha_1 C \geq p_1(s_{01})$, and since $1 - \alpha_1 C > 0$ by (A2), $p_1(s_{01}) = 0$ is sufficient to guarantee that this condition is satisfied. By the same token, $p_2(s_{10}) = 0$ is sufficient for G_2. When one of the governments is expected to take action in a serious crisis, the other needs an additional incentive to stick with the cooperative strategy and not attempt to shift the entire bailout burden on its counterpart. This incentive is provided by the electoral threat to remove

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101. Because of the latitude in specifying off-the-path beliefs, there is a continuum of equilibria of this type, but they are all substantively the same and they induce the same probability distribution over outcomes.

any government that fails to act when the other does. The citizens' electoral strategies after unilateral bailouts can be rationalized by them believing that the crisis is serious, $s_{10} = s_{01} = 1$, in which case they remove any government that fails to act and keep any government that does. We now check whether these beliefs are intuitive.

A unilateral bailout by G_i can be observed either when G_{-i} fails to act when the crisis is serious or when G_i acts when the crisis is mild. This means that the second requirement for an intuitive equilibrium imposes no restrictions on these beliefs. Consider now an unexpected unilateral bailout by, say, G_1. The required off-the-path beliefs are $p_1(s_{10}) = 1$ and $p_2(s_{10}) = 0$. The outcome s_{10} can be induced by G_1 by deviating to action when the crisis is mild, but since it gets reelected at s_{00}, a nationalist government cannot profit by such a deviation. The outcome s_{10} can also be induced by G_2 by deviating to inaction when the crisis is serious. But for this to be profitable, G_2 would have to be reelected with positive probability, which would require the inference that the crisis is mild, a contradiction to the assumption that the outcome was induced by G_2. The equilibrium is intuitive in a nationalist dyad.

Finally, the equilibrium is also collusion-proof because nationalist governments have no incentive to provide a multilateral bailout in a mild crisis ($1 - \alpha_i C < 1 - \theta_i$) or do nothing in a serious one ($1 - w_i \theta_i - \alpha_i C < 1 - \alpha_i C$).

Thus, if the dyad is nationalist, the assessments constitute an equilibrium that is both intuitive and collusion-proof.

MIXED DYAD. Consider a dyad where G_1 is nationalist and G_2 is internationalist. As before, since a nationalist government requires no additional incentive to remain inactive when the crisis is mild, only the internationalist one is a concern in this case. If citizens were to infer that the crisis is mild when they observe unilateral action by G_2, $s_{01} = 0$, then they would remove G_2 (and retain G_1), which would be sufficient to ensure that inaction in a mild crisis is optimal for both. However, citizens cannot make this inference because their subsequent strategy would destroy the incentives for the nationalist government to participate in a multilateral bailout when the crisis is serious. To see this, recall that both types of governments must have an extra incentive to overcome international distributional conflict. If citizens were to retain G_1 after unilateral action by G_2 on the presumption that the crisis is mild, then G_1 would fail to act when the crisis is serious as well. This implies that citizens must remove both governments after unilateral action by either one. In this sense, a mixed dyad is strategically equivalent to a internationalist one, so the same conditions apply: the governments have to be jointly vulnerable.

Are these beliefs intuitive in a mixed dyad? Consider an unexpected unilateral bailout by G_1, the nationalist government. The only way G_1 can induce s_{10} is by acting when the crisis is mild but since it is reelected for not acting, this deviation is equilibrium-dominated. Thus, citizens cannot put positive probability on the outcome being induced in a mild crisis. The only other possibility is that G_2 has failed to act when the crisis is serious, but then the citizens would have to infer that the crisis is serious and remove G_2 for not acting, making such a deviation unprofitable. Consider now an unexpected unilateral bailout by G_2, the internationalist government. The only way G_2 can induce s_{01} is by acting when the crisis is mild. Since it is reelected for not acting, the deviation can only be profitable if G_2 is also reelected for acting unilaterally, so $s_{01} > e_2$, which further implies that $s_{01} > 1 - e_1$, and so it must be the case that G_1 is removed after unilateral action by G_2. But then G_1 has no

incentive to induce the unilateral bailout by G_2 by failing to act when the crisis is serious, which means that citizens must assign zero probability to this event. Thus, the only way a unilateral bailout by G_2 could be profitable is when it is induced by G_2 itself in a mild crisis, which means that citizens cannot believe that it is serious with a high enough probability to retain G_2 for acting unilaterally. In other words, the equilibrium is also intuitive in mixed dyads.

Finally, observe that no collusive agreement can be had in this dyad. Either government would refuse a group deviation to inaction in a serious crisis: $1 - w_i \theta_i - t_i \alpha_i C < 1 - t_i \alpha_i C$, and the nationalist government would refuse to collude in a mild crisis: $1 - \alpha_i C < 1 - \theta_i$, which holds by (A1).

INTERNATIONALIST DYAD. Even though internationalist governments have stronger incentives to act than nationalist ones, the international distributional conflict among them will prevent them from engaging in a multilateral bailout without some additional electoral incentives. We shall use the strongest electoral threat for failing to act when the other does, $p_1(s_{01}) = p_2(s_{10}) = 0$, even though somewhat weaker threats can work as well. As we shall see shortly, citizens cannot safely infer that the crisis is serious when they observe a unilateral bailout. This means that they would need to remove the incumbent that fails to act despite being uncertain about the extent of the crisis. They would do so here as long as $s_{01} \geq 1 - e_1$ and $s_{10} \geq 1 - e_2$, or when G_2 is vulnerable electorally.

Internationalist governments must also be prevented from being too pro-active. Since neither government is supposed to act when the crisis is mild, each knows that inaction means that the crisis will continue if it does not act. Since they get reelected for doing nothing in this case, (A3) implies that if they were to also get reelected for acting unilaterally, they would strictly prefer to act. This can be seen easily be rewriting the mild crisis condition for G_1 from (1) as $1 + \delta C \geq p_1(s_{10}) + \theta_1$ and noting that it must fail if $p_1(s_{10})$ is too high because $\delta C < \theta_1$. The strongest disincentive is provided by a threat to remove any government that acts unilaterally with certainty: $p_1(s_{10}) = p_2(s_{01}) = 0$. This strategy will be optimal as long as $s_{10} \leq e_1$ and $s_{01} \leq e_2$; that is, G_1 must be vulnerable electorally as well.

Although it sounds straightforward, the requirement that a government that acts unilaterally is removed can be tricky to satisfy simultaneously with the requirement that a government that does not act when the other does is removed as well. This is because when they observe an (unexpected) unilateral bailout, citizens do not know which government did what it was not supposed to do and so cannot infer what the nature of the crisis might be. For example, a unilateral bailout by G_1 can happen either because the crisis is serious but G_2 failed to cooperate, or because the crisis is mild but G_1 acted anyway. If they knew which government deviated, citizens could tailor their punishment accordingly. In the first instance, citizens would infer that the crisis is serious and punish G_2. In the second instance, they would infer that the crisis is mild and punish G_1. To provide appropriate disincentives to internationalist governments, citizens must remove both of them after a unilateral bailout. But in our example, G_1 is removed under the presumption that the crisis is mild whereas G_2 is removed under the presumption that the crisis is serious. Thus, the citizens in country 1 must believe that the crisis is serious with sufficiently high probability simultaneously with the citizens in country 2 who must believe that it is mild with sufficiently high probability. Since their posterior beliefs about the crisis are the same, citizens in both countries must

remain at least somewhat uncertain about the nature of the crisis. Putting the two belief requirements together establishes the necessary degrees of uncertainty: $s_{01} \in [1 - e_1, e_2]$ and $s_{10} \in [1 - e_2, e_1]$. Clearly, no such beliefs can exist unless governments are jointly vulnerable.

To understand the necessity of joint vulnerability, consider the citizens problem of simultaneously having to think that the crisis could be mild and that it could be serious. They can act appropriately only when there is sufficient unresolved uncertainty. How uncertain they must be to have the required incentive to remove the incumbent depends, of course, on how serious the other candidate for office is. The more attractive that candidate (the more vulnerable the incumbent), the more certain citizens can be that the incumbent did the right thing and yet be willing to remove it. Thus the electoral vulnerability of the incumbent enlarges the region of uncertainty that can sustain the citizen strategy, making it possible to maintain the citizen-preferred equilibrium. Conversely when the domestic alternative is unpalatable, citizens would need to be quite certain of wrong-doing before they remove the incumbent. But the more certain they are of the wrong-doing of one of the governments, the more certain they have to be of the right-doing of the other, which decreases the incentive to punish the other government. Thus, lower electoral vulnerability of the incumbent makes it harder (or impossible) to sustain the citizen-preferred equilibrium.

Are beliefs that make the two governments jointly vulnerable also intuitive? As before, the second requirement has no bite, so we only analyze the first. Consider an unexpected unilateral bailout by, say, G_1. This outcome can be induced either by G_1 deviating in a mild crisis or G_2 deviating in a serious one. Observe now that in either case, the deviating government can only profit if citizens infer that the other one is responsible for the deviation. That is, when G_1 acts in a mild crisis, it can only profit from doing so if it gets reelected after its unilateral bailout, which requires that voters infer that the crisis is serious (and so G_2 has deviated). Conversely, when G_2 fails to act in a serious crisis, it can only profit from doing so if it gets reelected with sufficiently high probability after G_1's unilateral bailout, which can only happen if the voters infer that the crisis is mild (and so G_1 has deviated). Not surprisingly, these requirements cannot be satisfied because whenever a government induces a deviation it can only profit if citizens infer that it has not done so. For example, for G_1's deviation to be profitable, $s_{10} > e_1$ is required so that it gets reelected. But since the beliefs make the governments jointly vulnerable, this implies that $s_{10} > 1 - e_2$, so G_2 has to be removed. But then G_2 has no incentive to deviate in a serious crisis, which means that the only plausible inference after a unilateral bailout by G_1 is that the crisis is mild, which cannot make the deviation profitable. A similar argument establishes the case for G_2's deviation, so the equilibrium is intuitive in a internationalist dyad.

Finally, we need to ask whether the equilibrium is vulnerable to collusion. The obvious possible candidate is an agreement to deviate jointly to a multilateral bailout when the crisis is serious. Since going so would result in reelection of both governments, the payoffs from the group deviation Pareto-dominate the equilibrium payoffs: $1 - \delta \alpha_i C > 1 - \theta_i$, which obtains by (A3). Moreover, since deviating from the collusive agreement results in the removal of both governments, the agreement is credible: $1 - \delta \alpha_i C > 0$, which obtains by (A3) as well. The equilibrium is not collusion-proof.

Thus, if the dyad is internationalist, the equilibrium exists only if the governments are jointly vulnerable and while it is intuitive, it is not collusion-proof. ∎

A.3 False-Positive Policy Failure

We now investigate the possibility that governments do too much; namely, that they act not only when the crisis is serious — as their citizens wish them to — but also when the crisis is mild.

A.3.1 Burden-Sharing

We can restrict our attention to two types of equilibria when both governments act in a serious crisis (Lemma E). We have already seen the one where they do not act when the crisis is mild — the citizen-preferred equilibrium from Proposition 1. The other involves false-positive policy failure because governments always act regardless of the nature of the crisis. Since both governments act, they share the costs of the bailout.

Proof of Proposition 2 By Lemma E, we know that this equilibrium can only exist when $s \geq \bar{s}$. Since both governments act, neither government should have an incentive to shift the burden onto the other. For G_1, this means that $U_1(a, a) = 1 - t_1 \alpha_1 C \geq p_1(s_{01}) = U_1(\sim a, a)$, which certainly obtains for $p_1(s_{01}) = 0$. Thus, the equilibrium requires that both governments are removed with sufficiently high probability when their counterpart acts unilaterally: $p_1(s_{01}) = p_2(s_{10}) = 0$.

Consider now collusion-proofness. Since a multilateral bailout results in reelection, acting in a serious crisis is strictly preferable than colluding on inaction regardless of the probability of reelection after inaction: $U_i(a, a|s) = 1 - t_i \alpha_i C > 1 - w_i \theta_i - t_i \alpha_i C \geq U_i(\sim a, \sim a|s)$. The only possibly profitable collusion would be to not act in a mild crisis. However, not even a nationalist government would be interested in inaction if it expects to lose the elections: $U_i(a, a|m) = 1 - t_i \alpha_i C > -\theta_i$, so $p_i(s_{00}) = 0$ is sufficient to ensure that the equilibrium is collusion-proof.

Since both governments always act, unilateral bailouts can be induced by either government failing to act regardless of the nature of the crisis. The second requirement for an intuitive equilibrium has no bite. Is there a deviation that can profit a government only in one type of crisis so that citizens could infer the type of crisis from that deviation? If G_i deviated and failed to act but the citizens inferred that the crisis is mild and retained G_i, then the deviation would be profitable: $1 > 1 - t_i \alpha_i C$. However, if voters reacted in this way to a unilateral bailout by G_{-i}, then G_i would also have an incentive not to act even when the crisis is serious. Thus, citizens cannot make such an inference, which means that the assessments forming the equilibrium are intuitive. ∎

A.3.2 Burden-Shifting

We now consider the possibility that one government acts while the other either acts some of the time or never does. We shall establish the equilibrium for the case when only one of the governments acts in a serious crisis. The characterization of the equilibrium when the other government sometimes joins it in a bilateral bailout is involved and we relegate it to Appendix B (it adds nothing of substantive importance for the cases we are going to discuss). If burden-sharing represents the cooperative end of the false-positive failure spectrum, then this burden-shifting represents the non-cooperative end.

LEMMA G. *If one government does not act in a serious crisis, then the other cannot mix:*
$\sigma_i = 0 \Rightarrow \sigma_{-i} \in \{0, 1\}$. □

Proof. Assume $\sigma_1 = 0$ and $\sigma_2 \in (0, 1)$. Since G_2 is willing to mix in a serious crisis,

$$U_2(\sim a, a|\cdot) = p_2(s_{01}) - t_2 C = p_2(s_{00}) - w_2\theta_2 - t_2\alpha_2 C = U_2(\sim a, \sim a|s)$$
$$> p_2(s_{00}) - \theta_2 = U_2(\sim a, \sim a|m),$$

so $\mu_2 = 1$ in any equilibrium. Bayes rule then pins down $s_{00} = 1$, so $p_2(s_{00}) = 0$. But then G_2 will not be willing to mix because $p_2(s_{01}) - t_2 C \geq t_2 C > -w_2\theta_2 - t_2\alpha_2 C$. Thus, there exists not equilibrium of this type. ∎

By Lemma G, if G_i does not act when the crisis is serious, only two possible equilibria exist: either G_{-i} also does not in a serious crisis or it acts with certainty. If neither acts in a serious crisis, then Lemma D tells us that neither would act in a mild crisis. The only equilibrium then is the false-negative one from Proposition 3. If only G_{-i} acts in a serious crisis, then the equilibrium is one of complete burden-shifting, a limiting case of the more general class of equilibria in which one of the actors assumes a disproportionate burden of the bailout. The following result shows that this type of equilibrium requires that the government assuming the burden is internationalist, and that this government necessarily assumes the burden even in a mild crisis.

LEMMA H. *If $\sigma_i = 1$ and $\sigma_{-i} = 0$, any intuitive and collusion-proof equilibrium requires that $\mu_i = 1$ and $\mu_{-i} = 0$, and it can exist only if G_i is internationalist, and if $w_i \leq \overline{w}_i$ whenever $s < e_i$.* □

Proof. Assume that $\sigma_1 = 1$ and $\sigma_2 = 0$. We have three cases to consider.

CASE I: $\mu_1 = 1$. Suppose that $\mu_2 \in (0, 1]$, in which case $s_{11} = 0$, so $p_2(s_{11}) = 0$. But then $U_2(a, a|m) = -t_2\alpha_2 C < 0 \leq p_2(s_{10}) = U_2(a, \sim a|m)$, so G_2 strictly prefers not to act in mild crisis, a contradiction.

Suppose now that $\mu_2 = 0$, so $s_{10} = s$. Since G_2 can induce s_{11} and G_1 can induce s_{00} regardless of the crisis type, the second intuitive requirement has no bite for these off-the-path beliefs. Since G_1 prefers to act in a mild crisis, $p_1(s_{10}) - t_1 C \geq p_1(s_{00}) - \theta_1$. We now have two cases to consider.

First, if $s_{10} = s < e_1$, then $p_1(s_{10}) = 0$, so the condition is $p_1(s_{00}) \leq \theta_1 - t_1 C$. If G_1 is nationalist, $\theta_1 - C < 0$, so the condition cannot be satisfied. If G_1 is internationalist, then $p_1(s_{00}) \leq \theta_1 - \delta C < 1$. If this belief intuitive? Suppose G_1 were to deviate to inaction when the crisis is mild. If doing so convinced citizens to reelect it, the deviation would be strictly profitable. This inference would be valid (and the equilibrium belief non-intuitive) if G_1 does not have an incentive to deviate if the crisis is serious even though doing so would get it reelected. For this, $1 - w_1\theta_1 - \delta\alpha_1 C < -\delta C$, or $w_1 > \overline{w}_1$ is required. In other words, the equilibrium is intuitive when $s < e_1$ only if G_1 is internationalist and $w_1 \leq \overline{w}_1$.

If $s_{10} = s > e_1$, then $p_1(s_{10}) = 1$, and the requirement is $1 - t_1 C \geq p_1(s_{00}) - \theta_1$. This is always satisfied if G_1 is internationalist. If G_1 is nationalist, however, the requirement is that $p_1(s_{00}) \leq 1 - (C - \theta_1) < 1$. Is this belief intuitive? If G_1 were to deviate to inaction in a mild crisis and if doing so got it reelected, then such a deviation would be profitable.

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But since $1 - C > 1 - w_1\theta_1 - \alpha_1 C$, such a deviation would not be profitable if the crisis is serious even if it resulted in reelection. This means that citizens can safely infer that the deviation had taken place in a mild crisis, so the belief is not intuitive. In other words, the equilibrium is intuitive when $s > e_1$ only if G_1 is internationalist.

CASE II: $\mu_1 = 0$. Suppose that $\mu_2 \in (0, 1)$, in which case $s_{00} = s_{01} = 0$, so $p_2(s_{00}) = 1$ and $p_2(s_{01}) = 0$. But then $U_2(\sim a, \sim a | m) = 1 - \theta_2 > 0 > -t_2 C = U_2(\sim a, a | m)$, so G_2 strictly prefers to not act, a contradiction.

Suppose now that $\mu_2 = 1$, in which case $s_{10} = 1$ and $s_{01} = 0$ so that $p_2(s_{10}) = p_2(s_{01}) = 0$. Since G_2 must prefer to act in a mild crisis, $U_2(\sim a, a | m) = -t_2 C \geq p_2(s_{00}) - \theta_2 = U_2(\sim a, \sim a | m)$ must obtain. Thus, $p_2(s_{00}) \leq \theta_2 - t_2 C$ is required. If G_2 is nationalist, $\theta_2 - C < 0$ by (A1), so this requirement cannot be satisfied. If G_2 is internationalist, then $p_2(s_{00}) \in (0, 1)$, so $s_{00} = 1 - e_2$.

This belief, however, is not intuitive. To see this, suppose G_2 were to deviate to inaction when the crisis is mild and the citizens correctly inferred at s_{00} that the crisis is mild so that $p_2(s_{00}) = 1$. Given then strategies, the only other way this outcome can be induced if by G_1 not acting when the crisis is serious, but then G_1's best possible payoff from this deviation would be $U_1(\sim a, \sim a | s) = 1 - w_1\theta_1 - t_1\alpha_1 C < 1 - t_1 C = U_1(a, \sim a | s)$, making it unprofitable. Thus, citizens can safely infer $s_{00} = 0$, making the inference $s_{00} = 1 - e_2$ nonintuitive.

Suppose finally that $\mu_2 = 0$, in which case $s_{10} = 1$ and $s_{00} = 0$, so that $p_1(s_{10}) = 1$, $p_2(s_{10}) = 0$, and $p_i(s_{00}) = 1$. Since G_1 prefers not to act in a mild crisis, $U_1(\sim a, \sim a | m) = 1 - \theta_1 \geq 1 - t_1 C = U_1(a, \sim a | m)$ must obtain, so $t_1 C \geq \theta_1$ is required. By (A1) and (A3), this inequality is only satisfied if G_1 is nationalist. We now show, however, that in this case the equilibrium is not intuitive. Since G_2 is supposed not to act in a serious crisis, it must be that $U_2(a, \sim a | s) = 0 \geq p_2(s_{11}) - t_2\alpha_2 C = U_2(a, a | s)$, which requires that $p_2(s_{11}) < 1$. But since G_2 is the only one who can induce s_{11} with a unilateral deviation and can do so only when the crisis is serious, the intuitive requirement is that $s_{11} = 1$ so $p_2(s_{11}) = 1$, a contradiction.

CASE III: $\mu_1 \in (0, 1)$. Suppose that $\mu_2 \in (0, 1)$. But then Lemma C tells us that $\sigma_i \in (0, 1)$ for both players, a contradiction.

Suppose now that $\mu_2 = 1$, in which case $s_{11} = s_{01} = 0$ and $s_{10} = 1$ so that $p_i(s_{11}) = 0$, $p_1(s_{10}) = p_1(s_{01}) = 1$, and $p_2(s_{10}) = p_2(s_{01}) = 0$. But now $U_1(a, a | m) = p_1(s_{11}) - t_1\alpha_1 C = -t_1\alpha_1 C < 1 = p_1(s_{01}) = U_1(\sim a, a | m)$, which means that G_1 strictly prefers not to act in a mild crisis, a contradiction.

Finally, suppose that $\mu_2 = 0$, in which case $s_{00} = 0$ and $s_{10} = s/[s + \mu_1(1 - s)]$, so $p_i(s_{00}) = 1$. Observe that s_{01} can only be induced with positive probability by G_2 acting when the crisis is mild, so the intuitive requirement pins down $s_{01} = 0$, so that $p_1(s_{01}) = 1$ and $p_2(s_{01}) = 0$. (In contrast, s_{11} could be induced by G_2 irrespective of the nature of the crisis, so this requirement places no restrictions there.)

Since G_1 is willing to mix in a mild crisis, $U_1(a, \sim a | m) = p_1(s_{10}) - t_1 C = 1 - \theta_1 = U_1(\sim a, \sim a | m)$, so $p_1(s_{10}) = 1 + t_1 C - \theta_1$. By (A1), $1 + C - \theta_1 > 1$, so this requirement cannot be satisfied if G_1 is nationalist. If, on the other hand, G_1 is internationalist, then $1 + \delta C - \theta_1 \in (0, 1)$ because $1 + \delta C > \theta_1 > \delta C$ by (A3). Since $p_1(s_{10}) \in (0, 1)$ requires $s_{10} = e_1$, we obtain $\mu_1 = (1 - e_1)s/[e_1(1 - s)]$, which is only valid if $s < e_1$.

We now show that this supposed equilibrium is not collusion-proof. Since G_2 prefers not to act in a serious crisis, $U_2(a, \sim a|s) \geq U_2(a, a|s)$, or

$$p_2(s_{10}) \geq p_2(s_{11}) - t_2 \alpha_2 C. \tag{3}$$

Recall that G_2's expected payoff when the crisis is mild is $\mu_1 p_2(s_{10}) + (1 - \mu_1)(1 - \theta_2)$.

Since $s_{10} = e_1$, we have only two generic possibilities to consider. If $s_{10} < 1 - e_2$ (i.e., governments are not jointly vulnerable), then $p_2(s_{10}) = 1$. But then G_2 can strictly benefit if G_1 were to provide a unilateral bailout with certainty while G_1 will continue to be indifferent. This agreement is Pareto-improving and will be credible as long as G_2 does not want to break it. When G_1 acts with certainty, $U_2(a, \sim a|m) = p_2(s_{10}) \geq p_2(s_{11}) - t_2 \alpha_2 C = U_2(a, a|m)$, where the inequality holds by (3), so G_2 will not be willing to break it. Thus, the equilibrium is not collusion-proof when governments are not jointly vulnerable.

If $s_{10} > 1 - e_2$ (i.e., governments are jointly vulnerable), then $p_2(s_{10}) = 0$. Since $1 - \theta_2 > 0$, G_2 can strictly benefit if G_1 were not to act at all, and since G_1 will continue to be indifferent, this agreement is Pareto-improving. It would also be credible if G_2 is unwilling to break it by deviating to a unilateral bailout. If $U_2(\sim a, a|m) = p_2(s_{01}) - t_2 C \leq 1 - \theta_2$, then the agreement would be credible, and the equilibrium will not be collusion-proof. Suppose, then, that $p_2(s_{01}) - t_2 C > 1 - \theta_2$, or $p_2(s_{01}) > 1 + t_2 C - \theta_2$. This inequality can only be satisfied if G_2 is internationalist because otherwise $1 + C - \theta_2 > 1$ by (A1). When G_2 is internationalist, $p_2(s_{01}) \in (0, 1)$ by (A3), which contradicts the requirement that the only intuitive belief is $s_{01} = 0$, which means that $p_2(s_{01}) = 0$. Thus, even a internationalist government will not want to break the collusive agreement, which means that the equilibrium is not collusion-proof when governments are jointly vulnerable either. ∎

We are now ready to establish the main result for this section. Consider a situation in which one of the governments does not act when the crisis is serious. When this happens, the other government must either fail to act as well — which we have already analyzed in Proposition 3 — or must act with certainty (Lemma G). In the latter case, if one of the governments carries the entire bailout burden in a serious crisis, then it must also carry the entire bailout burden in a mild crisis (Lemma H). Moreover, such complete shifting of the burden to one of the governments is only possible when that government is internationalist. This immediately suggests, perhaps not surprisingly, that internationalist governments can be saddled with the entire burden of a bailout irrespective of the crisis type. The following proposition establishes the expectations that are required for such an equilibrium.

PROPOSITION B. *The following assessments constitute a generically unique collusion-proof* burden-shifting equilibrium *only when G_i is internationalist: G_i acts regardless of the nature of the crisis, G_{-i} never does, and*

- *$s < \min(e_i, 1 - e_{-i})$: on the path, only G_i is removed; off the path, G_i is removed when neither acts;*

- *$e_i < s < 1 - e_{-i}$ (no joint vulnerability): on the path, both governments are retained;*

- $1 - e_{-i} < s < e_i$ (*joint vulnerability*): *on the path, both governments are removed; off the path, G_i is removed when neither acts and G_{-i} is removed whenever it acts;*

- $s > \max(e_i, 1 - e_{-i})$: *on the path, only G_i is retained; off the path, G_{-i} is removed after a bilateral bailout, and at least one of the governments is removed after a unilateral bailout by G_{-i}.*

The equilibrium is intuitive when $s > e_i$, and intuitive when $s < e_i$ only if $w_i \leq \overline{w}_i$.   □

Proof.   Assume that G_1 is internationalist and $\sigma_1 = \mu_1 = 1$ while $\sigma_2 = \mu_2 = 0$. Since $s_{10} = s$, we need to consider two generic cases.

CASE I: $s > e_1$, so $p_1(s_{10}) = 1$. This implies that G_1's strategy is optimal regardless of the off-the-path beliefs: $U_1(a, \sim a|\cdot) = 1 - \delta C > 1 - \theta_1 = \max U_1(\sim a, \sim a|m) > 1 - w_1 \theta_1 - \delta \alpha_1 C = \max U_1(\sim a, \sim a|s)$.

Consider now G_2's strategy. Again, there are two generic possibilities. If $s < 1 - e_2$, then $p_2(s_{10}) = 1$, so G_2's strategy yields the highest possible payoff in both contingencies (reelection after a bailout by the other player). This means that G_2 would have no incentive to participate in any collusive agreement. Moreover, since G_1's strategy is optimal regardless of the off-the-path beliefs, this further implies that the equilibrium is intuitive. This equilibrium requires that $e_1 < s < 1 - e_2$.

The other possibility is that $s > 1 - e_2$, so $p_2(s_{10}) = 0$; that is, G_2 is always removed in equilibrium. To refrain from acting in this case, it must be that there is not sufficient benefit from a bilateral bailout $U_2(a, \sim a|\cdot) = 0 \geq p_2(s_{11}) - t_2 \alpha_2 C = U_2(a, a|\cdot)$, which means that $p_2(s_{11}) \leq t_2 \alpha_2 C < 1$, so $s_{11} \leq e_2$ is required. This belief is intuitive because if G_2 were to get reelected at s_{11}, then it would have an incentive to deviate irrespective of the nature of the crisis.

The only potentially beneficial collusive agreement is to a unilateral bailout by G_2. This collusion can be prevented as long as either $p_1(s_{01}) \leq 1 - \delta C$ or $p_2(s_{01}) - \delta C \leq 0$; that is, as long as at least one of the governments does not get reelected with high probability after a unilateral bailout by G_2. Thus, either $s_{01} \geq 1 - e_1$ or $s_{01} \leq e_2$ would work.

To summarize, when $s > e_1$, then the equilibrium requires nothing further when governments are not jointly vulnerable, and requires that $s_{11} \leq e_2$ and either $s_{01} \geq 1 - e_1$ or $s_{01} \leq e_2$ when $s > \max(e_1, 1 - e_2)$.

CASE II: $s < e_1$, so $p_1(s_{10}) = 0$, so G_1 is always removed in equilibrium. This requires that G_1 act when the crisis is mild, so $-\delta C \geq p_1(s_{00}) - \theta_1$, or $p_1(s_{00}) \leq \theta_1 - \delta C < 1$; that is, it cannot be reelected with high probability after inaction, or $s_{00} \geq 1 - e_1$. (This also ensures the optimality of acting in a serious crisis.)

Consider now G_2's strategy. Again, there are two generic possibilities. If $s > 1 - e_2$, so $p_2(s_{10}) = 0$; that is, G_2 is also always removed in equilibrium. As before, this means that there is not enough benefit from a bilateral bailout, so $p_2(s_{11}) \leq \delta \alpha_2 C$, so $s_{11} \leq e_2$ is required. The only potentially beneficial collusive agreement is to deviate to a unilateral bailout by G_2. Although G_1 always wants to collude regardless of the probability of reelection in that contingency, G_2 would not agree to collude as long as $p_2(s_{01}) - \delta C < 0$, which requires $s_{01} \leq e_2$. This equilibrium will be intuitive as long as no player can induce citizens to reelect it. Consider G_1: if it deviated to inaction in a mild crisis and doing so persuaded the citizens to reelect it, this deviation would be profitable in a serious crisis

as well as long as $w_1 \leq \overline{w}_1$. Analogously, reelection would give G_2 the same incentive to deviate to a bilateral bailout in both contingencies. Thus, the equilibrium is also intuitive. This equilibrium requires that $1 - e_2 < s < e_1$.

If $s < 1 - e_2$, then $p_2(s_{10}) = 1$, so G_2's strategy yields the highest possible payoff in both contingencies (reelection after a bailout by the other player). This means that G_2 would have no incentive to participate in any collusive agreement. The equilibrium will also be intuitive if there is no way for G_1 to persuade citizens to retain it after inaction. Suppose G_1 deviated in a mild crisis and got reelected. Citizens would do this only if G_1 has no incentive to deviate in a serious crisis as well. This requires that $1 - w_1\theta_1 - \delta\alpha_1 C \leq -\delta C$, or $w_1 > \overline{w}_1$. In other words, this equilibrium is also intuitive provided $w_1 \leq \overline{w}_1$. This equilibrium requires that $s < \min(e_1, 1 - e_2)$.

The necessary conditions on s partition the possibilities into the four cases listed in the proposition. ∎

Proposition B shows that the bailout burden can be shifted entirely on one of the governments, but only if it is internationalist. The important implication is that a nationalist government cannot be induced to carry a disproportionate share of the bailout regardless of what type the other government is; not even in a serious crisis. It is perhaps worth asking why this is so: after all, failing to act in a serious crisis has very costly consequences.

The answer can be seen in the proof of Lemma H. First, the equilibrium requires that the unilateral bailout also occur when the crisis is mild. Roughly, the reason for this has to do with the inferences that voters would be making otherwise. For instance, if neither were not to act when the crisis is mild, then G_i must be retained after a unilateral bailout because this outcome could only occur when the crisis is serious. By the same token, G_{-i} would have to be removed for failing to act. But then if G_i is internationalist, it would strictly prefer to act unilaterally in a mild crisis too. If G_i is nationalist, then G_{-i} must be induced not to act in a serious crisis, which means it must be penalized for engaging in a bilateral bailout. But since G_{-i} is the only one that can induce this outcome unilaterally and can only do so when the crisis is serious, such a penalty is not intuitive: voters would have to infer that the crisis is serious and reelect G_{-i}.

Second, when G_i is the only one that acts (with certainty) irrespective of the crisis, there are two possibilities. When $s < e_i$, the unilateral bailout by G_i must end with it being removed from office. This means that G_i cannot be induced to act in a mild crisis when it is nationalist. When $s > e_i$, then G_i must be retained after a unilateral bailout, but then the nationalist government would have to be penalized for doing nothing. Since G_i can only profit from reelection after inaction if the crisis is mild, the only inference voters can make is that when nobody acts, the crisis must be mild, which gives G_i incentives to deviate.

Thus, because of the inferences voters will be making after unexpected bilateral bailouts or inaction, only a internationalist government can be induced to carry the bailout burden unilaterally.

A.4 False-Negative Policy Failure

Proof of Proposition 3 We know from Lemma F that the probability of reelection after unilateral action should be sufficiently low, so if the equilibrium does not exist with $p_1(s_{10}) =$

$p_2(s_{01}) = 0$, it will not exist with any other beliefs. With these beliefs and the conditions in the proposition, no government has an incentive to act regardless of the crisis.

Consider now collusion-proofness. Since inaction has worse consequences when the crisis is serious, it will be sufficient to show that governments have no incentives to collude on acting in such a crisis. Suppose that collusion is profitable in a serious crisis: $p_i(s_{11}) - t_i \alpha_i C > 1 - w_i \theta_i - t_i \alpha_i C$ (this would be true even if $p_i(s_{11}) = 0$ as long as $1/\theta_i < w_i \leq \overline{w}_i$). Such a collusive agreement cannot be sustained because each government has an incentive to renege from it given that the other will provide the bailout. For instance, under our assessment, G_1's payoff from reneging on the collusive agreement is $p_1(s_{01}) = 1$. Since the collusive agreement is not credible, the equilibrium is always collusion-proof.

Since neither government is supposed to act, unilateral bailouts can be induced by either government acting regardless of the nature of the crisis, so the second intuitive requirement has no bite.

The only deviation is for a government to act, which might be profitable if voters were to infer that the crisis is serious and retained the acting government. If G_i were to act in a serious crisis in the expectation that the voters retain it, the payoff would be $1 - t_i C > 1 - w_i \theta_i - \delta \alpha_i C$, where the inequality follows from (A1).

Would this provide an incentive to G_i to deviate in a mild crisis? If G_i is internationalist, the answer is yes: $1 - \delta C > 1 - \theta_i$, where the inequality follows from (A3). Thus, a government in a internationalist dyad cannot credibly induce the profitable beliefs by deviating, which means that the equilibrium is intuitive.

If G_i is nationalist, however, the answer is no: $1 - C < 1 - \theta_i$, where the inequality follows from (A1). Thus, the nationalist government in a mixed dyad can credibly induce the profitable beliefs because it would only engage in a unilateral bailout when the crisis is serious. Thus, the equilibrium is not intuitive for mixed dyads. ∎

B Limited Burden-Sharing

We have examined the two polar cases of false-positive policy failures – burden sharing (Proposition 2) and burden shifting (Proposition B). We now turn to intermediate cases where some limited burden-sharing occurs. We first show that when some such limited cooperation occurs, one of the governments must carry most of the burden regardless of the nature of the crisis (in this the result is equivalent to burden-shifting), and that the other must also be cooperating irrespective of the crisis.

LEMMA I. *If $\sigma_i = 1$ and $\sigma_{-i} \in (0, 1)$, then $\mu_i = 1$ and $\mu_{-i} \in (0, 1)$ in any intuitive collusion-proof equilibrium.*

$\square$

Proof. Assume $\sigma_1 = 1$ and $\sigma_2 \in (0, 1)$. There are three cases to consider.

CASE I: Suppose that $\mu_1 = 0$, in which case $s_{11} = 1$ and $s_{10} = 1$, so $p_i(s_{11}) = 1$ and $p_2(s_{10}) = 0$. But then $U_2(a, a|s) = 1 - t_2\alpha_2 C > 0 = p_2(s_{10}) = U_2(a, \sim a|s)$, so G_2 strictly prefers to act when the crisis is serious, a contradiction.

CASE II: Suppose that $\mu_1 \in (0, 1)$. By Lemma C, we need only consider $\mu_2 = 1$ or $\mu_2 = 0$ (because if $\mu_2 \in (0, 1)$, then both must mix in a serious crisis).

Consider first $\mu_2 = 0$, in which case $s_{11} = 1$ and $s_{00} = 0$, so $p_i(s_{11}) = p_i(s_{00}) = 1$. The indifference condition for G_1 in a mild crisis then becomes $U_1(a, \sim a|m) = p_1(s_{10}) - t_1 C = 1 - \theta_1 = U_1(\sim a, \sim a|m)$. If G_1 is nationalist, this condition cannot be satisfied because $p_1(s_{10}) - C \leq 1 - C < 1 - \theta_1$ by (A1). If G_1 is pro-EU, the condition is $p_1(s_{10}) = 1 + \delta C - \theta_1 \in (0, 1)$, because $\delta C < \theta_1 < 1 + \delta C$ by (A3). This requires that $s_{10} = e_1$. The indifference condition for G_2 in a serious crisis is $1 - t_2\alpha_2 C = p_2(s_{10})$. By (A2), this implies that $p_2(s_{10}) \in (0, 1)$, so $s_{10} = 1 - e_2$. By Lemma B, this is not a generic solution, so no such equilibrium exists.

Consider now $\mu_2 = 1$, in which case $s_{10} = 1$, and $s_{01} = 0$, so $p_1(s_{10}) = p_1(s_{01}) = 1$. But then $U_1(a, a|m) = p_1(s_{11}) - t_1\alpha_1 C < 1 = p_1(s_{01}) = U_1(\sim a, a|m)$, so G_1 strictly prefers not to act in a mild crisis, a contradiction.

CASE III: Suppose that $\mu_1 = 1$. We have three subcases to consider.

Consider first $\mu_2 = 1$, in which case $s_{10} = 1$, so $p_1(s_{10}) = 1$ and $p_2(s_{10}) = 0$. Since G_2 mixes in a serious crisis, $U_2(a, a|s) = p_2(s_{11}) - t_2\alpha_2 C = 0 = p_2(s_{10}) = U_2(a, \sim a|s)$. Thus, $p_2(s_{11}) \in (0, 1)$, so $s_{11} = e_2$ is required. Since G_1 prefers to act in a mild crisis, $U_1(a, a|m) = p_1(s_{11}) - t_1\alpha_1 C \geq p_1(s_{01}) = U_1(\sim a, a|m)$. Since $p_1(s_{01}) \geq 0$, this implies that $p_1(s_{11}) > 0$, which requires $s_{11} \geq e_1$. Since $s_{11} = e_2$, only $s_{11} > e_1$ is generic, so $p_1(s_{11}) = 1$. But then the equilibrium cannot be collusion-proof. Consider an agreement to always act in a serious crisis. This is strictly beneficial to G_1 because $1 - t_1\alpha_1 C > \sigma_2(1 - t_1\alpha_1 C) + (1 - \sigma_2)(1 - t_1 C)$. Since G_2 is indifferent whenever G_1 acts, this agreement is Pareto-superior. It will be credible if G_1 does not want to break it; if G_1 fails to act when G_2 does, then its payoff will be $p_1(s_{01}) \leq 1 - t_1\alpha_1 C$, where the inequality follows from the requirement for the optimality of G_1's strategy in a mild crisis. Thus, G_1 has no incentive to break the agreement, which means that this equilibrium is not collusion-proof.

Consider now $\mu_2 = 0$, in which case $s_{11} = 1$, so $p_i(s_{11}) = 1$. Given the strategies, only G_1 can induce s_{01} and it can only do so in a serious crisis. This means that the only

intuitive off-the-path belief must be $s_{01} = 1$, so $p_1(s_{01}) = 0$. Consider now an agreement to always act in a serious crisis. Since G_2 is indifferent whenever G_1 acts, we only need to show that G_1 strictly benefits from this agreement and that it would not want to break it. But then $U_1(a, a|s) = 1 - t_1\alpha_1 C > \sigma_2(1 - t_1\alpha_1 C) + (1 - \sigma_2)(p_1(s_{10}) - t_1 C) = U_1(a, \sigma_2|s)$ because $1 - t_1\alpha_1 C > 1 - t_1 C \geq p_1(s_{10}) - t_1 C$, which implies that the agreement is Pareto-superior. If G_1 were to break it, $U_1(\sim a, a|s) = p_1(s_{01}) = 0 < 1 - t_1\alpha_1 C = U_1(a, a|s)$, so G_1 would not want to do so. This means that this equilibrium is not collusion-proof.

This leaves $m_2 \in (0, 1)$ as the sole remaining possibility. ∎

We shall state the following result for the case where G_1 carries the larger share of the burden but the analogous result can be derived for the case where G_2 does it.

PROPOSITION C. *If $e_1 < \min(e_2, 1 - e_2) \leq s$ and G_1 is pro-EU, then there exists an intuitive collusion-proof* limited burden-sharing *equilibrium in which G_1 always acts, $\sigma_1 = \mu_1 = 1$, and G_2 sometimes does, with probabilities specified below. Define:*

$$\hat{\sigma}_2 = \frac{w_1\theta_1 - (1 - \alpha_1)\delta C}{w_1\theta_1 - (1 - 2\alpha_1)\delta C} \qquad \hat{\mu}_2 = \frac{\theta_1 - \delta C}{\theta_1 - (1 - \alpha_1)\delta C}$$

$$\widetilde{\sigma}_2 = \frac{e_2}{s} \cdot \frac{s - (1 - e_2)}{2e_2 - 1} \qquad \widetilde{\mu}_2 = \frac{1 - e_2}{1 - s} \cdot \frac{s - (1 - e_2)}{2e_2 - 1}$$

$$\underline{\sigma}_2(\mu_2) = \mu_2 \cdot \frac{e_2(1 - s)}{(1 - e_2)s} \qquad \overline{\sigma}_2(\mu_2) = 1 - (1 - \mu_2) \cdot \frac{(1 - e_2)(1 - s)}{e_2 s}$$

$$\underline{\mu}_2(\sigma_2) = \sigma_2 \cdot \frac{(1 - e_2)s}{e_2(1 - s)} \qquad \overline{\mu}_2(\sigma_2) = \frac{1 - s - e_2 + se_2\sigma_2}{(1 - e_2)(1 - s)}.$$

- $s > \max(e_2, 1 - e_2)$: *the strategies and retention probabilities are:*

$$(\sigma_2^*, \mu_2^*; p_2(s_{11}), p_2(s_{10})) = \begin{cases} (\overline{\sigma}_2(\hat{\mu}_2), \hat{\mu}_2; 1, 1 - t_2\alpha_2 C) & \text{if } \hat{\sigma}_2 > \overline{\sigma}_2(\hat{\mu}_2) \\ (\hat{\sigma}_2, \underline{\mu}_2(\hat{\sigma}_2); t_2\alpha_2 C, 0) & \text{if } \hat{\sigma}_2 < \underline{\sigma}_2(\hat{\mu}_2) \\ (\underline{\sigma}_2(\hat{\mu}_2), \hat{\mu}_2; t_2\alpha_2 C, 0) & \text{if } s < \frac{1}{2} \text{ or } \hat{\sigma}_2 < \overline{\sigma}_2(0) \\ (\hat{\sigma}_2, \overline{\mu}_2(\hat{\sigma}_2); 1, 1 - t_2\alpha_2 C) & \text{otherwise} \end{cases}$$

(4)

- $e_2 < s < 1 - e_2$: *if $\hat{\sigma}_2 \geq \widetilde{\sigma}_2$ and $\hat{\mu}_2 \geq \widetilde{\mu}_2$, then the strategies are given by (4); otherwise the equilibrium does not exist.*

- $1 - e_2 < s < e_2$: *if $\hat{\sigma}_2 > \widetilde{\sigma}_2$ and $\hat{\mu}_2 > \widetilde{\mu}_2$, then the strategies are $(\widetilde{\sigma}_2, \widetilde{\mu}_2)$, with any probabilities that satisfy $p_2(s_{11}) - t_2\alpha_2 C = p_2(s_{10})$; otherwise they are given by (4).*

In this equilibrium, G_1 is retained in all contingencies, whereas G_2 is retained with higher probability for cooperating in a bilateral bailout (and sometimes removed altogether for failing to act when G_1 does). □

Proof. Assume that $\sigma_1 = \mu_1 = 1$, $\sigma_2 \in (0, 1)$, and $\mu_2 \in (0, 1)$. The off-the-path beliefs s_{00} and s_{01} can be induced unilaterally by G_1 regardless of the nature of the crisis, so the second intuitive requirement has no bite. The on-the-path beliefs are:

$$s_{11} = \frac{\sigma_2 s}{\sigma_2 s + \mu_2(1 - s)} \quad \text{and} \quad s_{10} = \frac{(1 - \sigma_2)s}{(1 - \sigma_2)s + (1 - \mu_2)(1 - s)},$$

Since G_2 mixes, $p_2(s_{11}) - t_2\alpha_2 C = p_2(s_{10})$. This implies that $p_2(s_{11}) > 0$ and $p_2(s_{10}) < 1$, so

$$s_{11} \geq e_2 \quad \text{and} \quad s_{10} \geq 1 - e_2 \tag{5}$$

are required. Moreover, it also implies that if $p_2(s_{11}) = 1$, then $p_2(s_{10}) > 0$, which then means that $p_2(s_{10}) \in (0, 1)$, so $s_{10} = 1 - e_2$. Finally, if $p_2(s_{10}) = 0$, then $p_2(s_{11}) < 1$, which then means that $p_2(s_{11}) \in (0, 1)$, so $s_{11} = e_2$ must hold. Collectively, these imply that at the voters in G_2 must be indifferent at least one, and possibly both, of the on-the-path information sets. Thus, the three possible configurations are $(s_{11} > e_2, s_{10} = 1 - e_2)$, $(s_{11} = e_2, s_{10} > 1 - e_2)$, and $(s_{11} = e_2, s_{10} = 1 - e_2)$.[102]

From (5), we can infer that

$$\underline{\sigma}_2(\mu_2) \equiv \mu_2 \cdot \frac{e_2(1 - s)}{(1 - e_2)s} \leq \sigma_2 \leq 1 - (1 - \mu_2) \cdot \frac{(1 - e_2)(1 - s)}{e_2 s} \equiv \overline{\sigma}_2(\mu_2).$$

Observe now that since $\underline{\sigma}_2(0) = 0$ and $\overline{\sigma}_2(1) = 1$, and because both $\underline{\sigma}_2(\cdot)$ and $\overline{\sigma}_2(\cdot)$ are linear and strictly increasing, if $\overline{\sigma}_2(0) < 0$ and $\underline{\sigma}_2(1) > 1$, it will be the case that $\underline{\sigma}_2(\mu_2) > \overline{\sigma}_2(\mu_2)$ for all μ_2; i.e., there will be no mixing probabilities that can satisfy the necessary conditions. Since $\underline{\sigma}_2(1) > 1 \Leftrightarrow s < e_2$ and $\overline{\sigma}_2(0) < 0 \Leftrightarrow s < 1 - e_2$, this equilibrium can only exist when $s \geq \min(e_2, 1 - e_2)$.

Observe now that $\underline{\sigma}_2(\mu_2) = \overline{\sigma}_2(\mu_2)$ yields, when it exists, $\widetilde{\sigma}_2$ and $\widetilde{\mu}_2$ as specified in the proposition. These are obviously the mixing probabilities that result in $(s_{11} = e_2, s_{10} = 1 - e_2)$. Note further that from our inferences about the admissible configurations, we can conclude that any equilibrium requires that the mixing probabilities lie along either $\underline{\sigma}_2(\cdot)$ only, $\overline{\sigma}_2(\cdot)$ only, or both (i.e., be at the intersection as the probabilities we just derived).

There are three possible configurations then:

- $s \geq \max(e_2, 1 - e_2)$, in which case $\underline{\sigma}_2(\mu_2) < \overline{\sigma}_2(\mu_2)$ for all μ_2;

- $e_2 < s < 1 - e_2$, in which case $\underline{\sigma}_2(\mu_2) < \overline{\sigma}_2(\mu_2)$ only if $\mu_2 > \widetilde{\mu}_2$;

- $1 - e_2 < s < e_2$, in which case $\underline{\sigma}_2(\mu_2) < \overline{\sigma}_2(\mu_2)$ only if $\mu_2 < \widetilde{\mu}_2$.

Since G_1 must prefer to act, $U_1(a, \sigma_2) \geq U_1(\sim a, \sigma_2)$ and $U_1(a, \mu_2) \geq U_1(\sim a, \mu_2)$, or:

$$\sigma_2(p_1(s_{11}) - t_1\alpha_1 C) + (1 - \sigma_2)(p_1(s_{10}) - t_1 C) \tag{6}$$
$$\geq \sigma_2 p_1(s_{01}) + (1 - \sigma_2)(p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C)$$
$$\mu_2(p_1(s_{11}) - t_1\alpha_1 C) + (1 - \mu_2)(p_1(s_{10}) - t_1 C) \tag{7}$$
$$\geq \mu_2 p_1(s_{01}) + (1 - \mu_2)(p_1(s_{00}) - \theta_1)$$

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102. This is because $p_1(s_{11}) = 1 \Rightarrow p_1(s_{10}) \in (0, 1)$, $p_1(s_{11}) = 0$ is not admissible, and $p_1(s_{11}) \in (0, 1) \Rightarrow \{p_2(s_{10}) = 0 \text{ or } p_2(s_{10}) \in (0, 1)\}$ because $p_2(s_{10}) = 1$ is not admissible.

CASE I: Suppose that $p_1(s_{11}) - t_1\alpha_1 C < p_1(s_{10}) - t_1 C$, which can only be satisfied if $p_1(s_{10}) > 0$ and $p_1(s_{11}) < 1$. This makes colluding to a unilateral bailout by G_1 Pareto-dominant. We now show that if this equilibrium is collusion-proof, then it must be non-generic.

Observe that the equilibrium will be collusion-proof only when the agreement is not credible in a serious crisis. Since G_2 is indifferent when G_1 acts, we only need to consider a deviation by G_1 to inaction when G_2 is not acting with certainty. The agreement will not be credible only if $U_1(\sim a, \sim a | s) = p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C > p_1(s_{10}) - t_1 C = U_1(a, \sim a | s)$, which can only be satisfied if $p_1(s_{10}) < 1$. Recalling that $p_1(s_{10}) > 0$, this implies that $p_1(s_{10}) \in (0, 1)$, so $s_{10} = e_1$ is required.

Observe further that if $p_1(s_{01}) \geq p_1(s_{11}) - t_1\alpha_1 C$, then the other conditions, $p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C > p_1(s_{10}) - t_1 C > p_1(s_{11}) - t_1\alpha_1 C$, would imply that (6) cannot be satisfied. It must be the case, then, that $p_1(s_{11}) - t_1\alpha_1 C > p_1(s_{01}) \geq 0$. Recalling that $p_1(s_{11}) < 1$, we conclude that $p_1(s_{11}) \in (0, 1)$, so $s_{11} = e_1$ is also required.

But if $s_{10} = s_{11} = e_1$, then $\sigma_2 = \mu_2$, which in turn implies that $s_{10} = s_{11} = s$. But then the collusion-proof equilibrium can only exist if $s = e_1$, which is non-generic.

CASE II: Consider $p_1(s_{11}) - t_1\alpha_1 C > p_1(s_{10}) - t_1 C$. This means that G_1 strictly prefers a bilateral bailout to a unilateral one, so it provides incentives for collusion to such a bailout (because G_2 is indifferent whenever G_1 acts). For the equilibrium to be collusion-proof, this agreement must not be credible. Since G_2 is indifferent, it must be G_1 that would not want to abide by it. Thus, the equilibrium requires that $U_1(\sim a, a) = p_1(s_{01}) > p_1(s_{11}) - t_1\alpha_1 C = U_1(a, a)$. This now requires that $p_1(s_{00}) - \theta_1 < p_1(s_{10}) - t_1 C$ or else (7) cannot be satisfied. We conclude that the preference ordering for G_1 in this equilibrium must be

$$p_1(s_{01}) > p_1(s_{11}) - t_1\alpha_1 C > p_1(s_{10}) - t_1 C > p_1(s_{00}) - \theta_1 \tag{8}$$

Although there is an infinite number of ways that (8) can be satisfied, it does place some limits on the admissible probabilities. Observe now that this ordering ensures that at $\sigma_2 = \mu_2 = 0$ both (6) and (7) are satisfied with strict inequality, whereas at $\sigma_2 = \mu_2 = 1$ neither one is satisfied. Since the expected utilities are linear in the probabilities, it follows that there exist unique values that satisfy the conditions with equality:

$$\hat{\sigma}_2 = \frac{p_1(s_{10}) - t_1 C - [p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C]}{p_1(s_{10}) - t_1 C - [p_1(s_{00}) - w_1\theta_1 - t_1\alpha_1 C] + p_1(s_{01}) - [p_1(s_{11}) - t_1\alpha_1 C]}$$

$$\hat{\mu}_2 = \frac{p_1(s_{10}) - t_1 C - [p_1(s_{00}) - \theta_1]}{p_1(s_{10}) - t_1 C - [p_1(s_{00}) - \theta_1] + p_1(s_{01}) - [p_1(s_{11}) - t_1\alpha_1 C]}$$

such that (6) is satisfied if, and only if, $\sigma_2 \leq \hat{\sigma}_2$ and (7) is satisfied if, and only if, $\mu_2 \leq \hat{\mu}_2$. These establish upper bounds on the equilibrium probabilities for G_2's strategy.

Since G_1's expected payoffs are strictly increasing in G_2's mixing probabilities and because G_2 is indifferent among mixtures, any equilibrium of this type is Pareto-inferior to any other equilibrium of this type with higher mixing probabilities. Since there is no reason to expect that governments not to coordinate on a Pareto-super equilibrium in this set, we shall now derive the appropriate mixtures.

To understand the following, note that the definitions in the propositions are such that

$$\underline{\mu}_2(\sigma_2) \equiv \underline{\sigma}_2^{-1}(\sigma_2) \quad \text{and} \quad \overline{\mu}_2(\sigma_2) \equiv \overline{\sigma}_2^{-1}(\sigma_2).$$

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In other words, just like $\underline{\sigma}_2(\mu_2)$ and $\overline{\sigma}_2(\mu_2)$ return the values of σ_2 such that (σ_2, μ_2) satisfies $s_{11} = e_2$ and $s_{10} = 1 - e_2$, respectively for any given value of μ_2, so do $\underline{\mu}_2(\sigma_2)$ and $\overline{\mu}_2(\sigma_2)$ for any given value of σ_2.

Recalling the three possible configurations that restrict the sets of admissible mixing probabilities, we observe that there are six cases to consider, depending on where $(\hat{\sigma}_2, \hat{\mu}_2)$ is located with respect to these sets. The first three cases can occur under each of the configurations:

(i) $\hat{\sigma}_2 \in [\underline{\sigma}_2(\hat{\mu}_2), \overline{\sigma}_2(\hat{\mu}_2)]$. Since this means that $\underline{\sigma}_2(\hat{\mu}_2) < \hat{\sigma}_2 < \overline{\sigma}_2(\hat{\mu}_2)$, it follows that $s_{11} > e_2$ and $s_{10} > 1 - e_2$, but we know that this cannot occur in this equilibrium. One possible reduction is to the admissible probabilities $(\hat{\sigma}_2, \overline{\mu}_2(\hat{\sigma}_2))$, which makes the smallest admissible decrease in μ_2, and so dominates all other pairs that involve $\overline{\sigma}_2(\cdot)$ since they require not only further reductions in μ_2 but also lowering σ_2. The other possible reduction is to $(\underline{\sigma}_2(\hat{\mu}_2), \hat{\mu}_2)$, which dominates all other pairs that involve $\underline{\sigma}_2(\cdot)$.

Which of these would be Pareto-superior? Obviously, conditional on knowing that the crisis is serious, G_1 would have a strict preference to the equilibrium with $\hat{\sigma}_2$, but on knowing that the crisis is mild, it will strictly prefer the equilibrium with $\hat{\mu}_2$. In expectation, therefore, his preference depends on his priors: if $s > \frac{1}{2}$, the former equilibrium is superior, otherwise, the latter is. We conclude that the Pareto-dominant equilibrium in this case must involve the strategies $(\hat{\sigma}_2, \overline{\mu}_2(\hat{\sigma}_2))$ if $s > \frac{1}{2}$, and the strategies $(\underline{\sigma}_2(\hat{\mu}_2), \hat{\mu}_2)$ otherwise.

We should note that when $\overline{\sigma}_2(0) > \hat{\sigma}_2 > 0$, then $\overline{\mu}_2(\hat{\mu}_2)$ does not exist. Since $(\hat{\sigma}_2, 0)$ cannot occur in equilibrium by Lemma I and since $\underline{\sigma}_2(0) = 0$, so $(0, 0)$ is the other candidate profile, which is an altogether different form of equilibrium (that we studied in Proposition B), it follows that the only equilibrium of this type must be $(\underline{\sigma}_2(\hat{\mu}_2), \hat{\mu}_2)$.

(ii) $\hat{\sigma}_2 > \overline{\sigma}_2(\hat{\mu}_2) > \underline{\sigma}_2(\hat{\mu}_2)$. In this case, $\hat{\sigma}_2$ is not admissible, and the smallest reduction that admits an equilibrium is to $\overline{\sigma}_2(\hat{\mu}_2)$. This is because $\overline{\sigma}_2(\cdot)$ is increasing, which means that any other reduction to an admissible pair would require both σ_2 and μ_2 to decrease. This means that G_2's strategy in the Pareto-dominant equilibrium is $(\overline{\sigma}_2(\hat{\mu}_2), \hat{\mu}_2)$.

(iii) $\hat{\sigma}_2 < \underline{\sigma}_2(\hat{\mu}_2) < \overline{\sigma}_2(\hat{\mu}_2)$. In this case, $\hat{\mu}_2$ is not admissible, and the smallest reduction that admits an equilibrium is to μ_2 that solves $\underline{\sigma}_2(\mu_2) = \hat{\sigma}_2$, which we can write compactly as $(\hat{\sigma}_2, \underline{\mu}_2(\hat{\sigma}_2))$.

If $e_2 < s < 1 - e_2$, then any solution requires $\sigma_2 \geq \widetilde{\sigma}_2$ and $\mu_2 \geq \widetilde{\mu}_2$. By definition of this case, $\hat{\mu}_2 > \widetilde{\mu}_2$ (because otherwise $\underline{\sigma}_2(\hat{\mu}_2) < \overline{\sigma}_2(\hat{\mu}_2)$ would not be satisfied). If $\hat{\sigma}_2 \leq \widetilde{\sigma}_2$, then there can be no equilibrium: since $\underline{\sigma}_2(\cdot)$ is decreasing, any reduction of $\hat{\mu}_2$ to the required μ_2 would result in $\underline{\sigma}_2(\mu_2) < \widetilde{\sigma}_2$, which violates the requirement that $\sigma_2 \geq \widetilde{\sigma}_2$. Thus, if $e_2 < s < 1 - e_2$ this equilibrium can only exist if $\hat{\sigma}_2 > \widetilde{\sigma}_2$. It is readily verified that the other two configurations do not need additional restrictions.

The last three cases can only occur if $(\widetilde{\sigma}_2, \widetilde{\mu}_2)$ exists; i.e., if $\underline{\sigma}_2(\cdot)$ and $\overline{\sigma}_2(\cdot)$ intersect, which means that either $e_2 < s < 1 - e_2$ or $1 - e_2 < s < e_2$ obtains:

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(iv) When $e_2 < s < 1 - e_2$, and either $\hat{\sigma}_2 < \widetilde{\sigma}_2$ or $\hat{\mu}_2 < \widetilde{\mu}_2$ obtains. In this case, the equilibrium does not exist because $(\widetilde{\sigma}_2, \widetilde{\mu}_2)$ are the smallest mixing probabilities that admit existence, and these exceed the limits that rationalize G_1's strategy. (This case overlaps with the exception in (iii) above.)

(v) When $1 - e_2 < s < e_2$ and both $\hat{\sigma}_2 > \widetilde{\sigma}_2$ and $\hat{\mu}_2 > \widetilde{\mu}_2$ obtain. The smallest reduction that admits an equilibrium is to the Pareto-dominant one: $(\widetilde{\sigma}_2, \widetilde{\mu}_2)$.

(vi) When $1 - e_2 < s < e_2$ and both $\hat{\sigma}_2 \leq \widetilde{\sigma}_2$ and $\hat{\mu}_2 > \widetilde{\mu}_2$ obtain. The smallest reduction is to the equilibrium where G_2's strategy is $(\hat{\sigma}_2, \underline{\mu}_2(\hat{\sigma}_2))$. (This is analogous to the solution we derived in (ii) above.)

This exhausts the possibilities and completes the description of the Pareto-dominant equilibrium. It is important to realize that these solutions all ensure that the pair of mixing probabilities will satisfy at least one, and possibly both, of the constraints in (5) with equality, as required.

Moreover, since the equilibrium mixing probabilities always lie on either $\underline{\sigma}_2(\cdot)$ or $\overline{\sigma}_2(\cdot)$ with the precise location dependent all exogenous parameters except e_1, any solution where the resulting posterior beliefs s_{11} and s_{10} happen to equal some precise value of e_1 cannot be generic. In other words, $s_{11} \neq e_1$ and $s_{10} \neq e_1$ in any generic equilibrium.

Selecting the Pareto-dominant equilibrium is not particularly constraining because the preference ordering in (8) can be satisfied in infinite ways (as can the indifference condition for G_2), and they determine the crucial limiting probabilities $\hat{\sigma}_2$ and $\hat{\mu}_2$. Consider first the off-the-path beliefs s_{01} and s_{00}. Since G_2 is mixing, a deviation by G_1 is going to result in inaction with positive probability. Unless G_2's probability of inaction in a serious crisis is significantly smaller than its probability of inaction in a mild crisis, this deviation would be worse for G_1 when the crisis is serious. If so, G_1 should be less likely to deviate when the crisis is serious: $\sigma_1 > \mu_1$. Since

$$\sigma_1 > \mu_1 \quad \Rightarrow \quad \lim_{\sigma_1 \to 1, \mu_1 \to 1} s_{01} = \lim_{\sigma_1 \to 1, \mu_1 \to 1} s_{00} = 0,$$

we can consider $p_i(s_{00}) = p_1(s_{01}) = 1$ and $p_2(s_{01}) = 0$ as reasonable off-the-path expectations regardless of the values of e_i. In that case, (8) cannot be satisfied for a nationalist G_1: $p_1(s_{10}) - C \leq 1 - C < 1 - \theta_1 = p_1(s_{00}) - \theta_1$. Thus, with these reasonable off-the-path expectations, the equilibrium can only exist if G_1 is pro-EU.

For the rest of the proof, assume that G_1 is pro-EU. Since $1 - \theta_1 > 0$, it must be that $p_1(s_{11}) > p_1(s_{10}) > 0$ as well, so $s_{10} \geq e_1$ and $s_{11} \geq e_1$ are both necessary. Since no equilibrium with $s_{11} = e_1$ or $s_{10} = e_1$ is generic (by the argument above), we conclude that in any equilibrium it must be that $s_{11} > e_1$ and $s_{10} > e_1$, so $p_1(s_{11}) = p_1(s_{10}) = 1$. In other words, this equilibrium requires not only that G_1 is pro-EU but also that it gets reelected regardless of the contingency.

Consider now the three admissible configurations of mixing probabilities for G_2. If $(s_{11} > e_2, s_{10} = 1 - e_2)$, then a necessary condition for $s_{11} > e_1$ and $s_{10} > e_1$ is $e_1 < 1 - e_2$, that is, non-competitive elections. The three orderings that admit possible values for the posterior beliefs to solve them while preserving necessary inequalities

are: (i) $1 - e_2 > e_1 > e_2$: $s_{11} > e_1$ is not guaranteed; (ii) $e_2 > 1 - e_2 > e_1$: sufficient to guarantee both $s_{11} > e_1$ and $s_{10} > e_1$; (iii) $1 - e_2 > e_2 > e_1$: sufficient. If $(s_{11} = e_2, s_{10} > 1 - e_2)$, then a necessary condition for $s_{11} > e_1$ and $s_{10} > e_1$ is $e_2 > e_1$. If $1 - e_2 > e_2$, then this condition is also sufficient. If $1 - e_2 < e_2$, then $e_1 < e_2$ is sufficient. The three orderings that admit possible values for the posterior beliefs to solve them while preserving necessary inequalities are: (i) $e_2 > e_1 > 1 - e_2$: $s_{10} > e_1$ is not guaranteed; (ii) $e_2 > 1 - e_2 > e_1$: sufficient; (iii) $1 - e_2 > e_2 > e_1$: sufficient. If $(s_{11} = e_2, s_{10} = 1 - e_2)$, then the necessary conditions are $e_2 > e_1$ and $1 - e_2 > e_1$. The two orderings that admit possible values for the posterior beliefs are: (i) $e_2 > 1 - e_2 > e_1$: sufficient; (ii) $1 - e_2 > e_2 > e_1$: sufficient. To summarize these results, $e_1 < \min(e_2, 1 - e_2)$ is sufficient to guarantee that on-the-path posterior beliefs will satisfy the requirements that ensure that G_1 is reelected with certainty and the probabilities of reelection for G_2 are sequentially rational. ∎

C   Slovakia's Burden-Shifting, Summer 2010

After the Eurozone members officially agreed to the bailout on May 2, the Slovakian government – the newest member in the Eurozone – proved unwilling to ratify the agreement domestically, thereby scuttling its promise to provide its share of 1.02% (€150 per Slovak citizen) to the Greek bailout package. The domestic ratification was delayed until after the elections. The government was ousted and the new government refused to sign the deal. Slovakia never paid its share of the bailout. Why did the Slovakian government agree to the bailout before the elections, but then decided to delay it until after the elections? And why did the new government not sign the deal after the elections?

From the vantage point of the Slovakian government, the situation maps onto the burden-shifting equilibrium (see Proposition B).[103] Recall that the burden-shifting equilibrium requires (1) that the governments who provide the bailout are pro-EU (with no restriction on the government who decides to shift the burden), and (2) that the citizens are relatively certain that the crisis is serious. Both requirements were satisfied after May 2. First, it had become obvious that governments were expecting for the Eurozone to fall apart without a serious intervention by the IMF and the Eurozone members. Second, all other Eurozone governments had committed to the bailout package (i.e., they are pro-EU). Initially, the Slovak government expected to win the elections hands down. Fico's Smer party was at the top of the polls and had pledged to boost social spending after elections.[104] Since the citizens were more or less convinced that the crisis was serious (despite lingering skepticism about whether the Greeks deserved help), providing the bailout should not have hurt the government's electoral prospects. With e_{-i} relatively low but s high, the situation resembles the second parameter configuration of the equilibrium, $e_i < s < 1 - e_i$, where both governments expect to be retained for acting.

Before the Slovak government could act, however, its domestic prospects worsened considerably. The opposition parties had opposed the Greek bailout, and now they managed to make it a key electoral problem. The largest opposition party, the liberal SDKY, announced that it would try to block the loan. Even Smer's coalition partner, the nationalist SNS, declared itself against the loan.[105] In addition to the public's unhappiness about helping people they perceived as having lived beyond their means, the Slovak government would have to borrow to pay their share of the loan. Experts were worried that Slovakia would not receive that money back.[106] The Greek bailout became increasingly important as a campaign issue. In mid May, opposition parties attempted to hold a parliamentary debate on Slovakia's participation in the Greek bailout and the government used various tactics to block that initiative. The debate was eventually cancelled after four unsuccessful attempts to reach the quorum necessary to open it (when members of the government party did not show up). Fico was criticized for not allowing a debate and for negotiating a deal that was highly disadvantageous for the Slovak population. The opposition argued that the only reason why the government had agreed to the loan was because it was leading Slovakia down the same path and that it expected Slovakia itself to need European financial support

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103. Slovakia is G_{-i} and the other Eurozone members are G_i.

104. *Agence France Presse*. May 8, 2010. "Greek aid riles eurozone newcomer Slovakia."

105. *Agence France Presse*. May 3, 2010. "Slovak PM wants Greece to act before borrowing.

106. *The Slovak Spectator*. June 28, 2010. "Slovakia stalls on euro bailout."

soon.[107]

The coalescence of the opposition on the Greek bailout lowered Smer's electoral chances (increased e_{-i}). Since it is unlikely that in the interim the voters had also lowered their estimate about the seriousness of the crisis, the resulting situation resembles the fourth parameter configuration of the equilibrium, $s > \max(e_i, 1 - e_i)$, where the government that fails to act is removed. In other words, whereas the government initially thought it would win the election because the opposition was not very attractive and voters thought the crisis was serious enough to reward the government for acting, the increasing support for the opposition resulted in a situation where the uncertainty about the seriousness of the crisis was no longer sufficient to make voters reward the government for providing the bailout. In such unpleasant circumstances, the government could at least save itself the cost of the action by shifting the entire burden on the other members of the Eurozone.

Interestingly, the equilibrium indicates that at this point Smer was doomed: it would be removed both on and off the path of play (i.e., irrespective of its actions with respect to the bailout). This does not mean, of course, that the government took it lying down. In fact, Smer attempted to deflect some of the criticism by... agreeing with it. As the elections approached, Fico grew increasingly hostile to a bailout package. Although he said that the Slovak government would not block the package itself, he insisted that any loan would have to be approved by whichever government won from the elections. No money would be transferred before that.[108] The last-ditch effort did not work: the government was ousted in June, and replaced by a different coalition controlling a slim majority (79 out of 150 seats). In fulfillment of campaign promises, the new government completed the burden-shifting by refusing to ratify the Greek bailout package.[109] Ivan Kuhn, member of the Conservative Institute think tank, justified the decision by the government:

> The European Financial and Stabilisation mechanism can work in terms of [its] legal and economic aspects without Slovakia. Slovakia's contribution is only a small fragment of the financial package. Yet the rescue package was created de facto beyond the legislative framework of the EU, so the presence of all the EU members is not necessary.[110]

In other words, the Slovak government had successfully shifted the burden onto its Eurozone colleagues.

One might wonder whether the Eurozone members could punish Slovakia for this blatant instance of free-riding. Since ours is a simple two-period model that does not allow for conditional strategies that could, in principle, admit sanctions designed to deter such behavior, we cannot speak to that except to say that if, for some reason, such punishment were not credible, the behavior should emerge even in a repeated setting. In fact, the Slovak government was *not* at all concerned about possible sanctions from the European Union and its

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107. *The Slovak Spectator.* May 17, 2010. "Slovakia's new election issue: Greece."

108. The delay could not be attributed to the length of the legislative process; Fico's government had repeatedly used a shortened legislative procedure to approve different bills.

109. The new coalition comprised the liberal SDKU-DS, Freedom and Solidarity, the Christian Democrat KDH, and the ethnic Hungarian party Most-Hid) under prospective prime minister, Iveta Radicova. *Agence France Presse.* June 13, 2010. "Slovakia's emerging coalition plans austerity drive."; *The Slovak Spectator.* June 28, 2010. "Slovakia stalls on euro bailout."

110. *The Slovak Spectator.* June 28, 2010. "Slovakia stalls on the euro bailout."

refusal to participate came despite fierce pressure from the other Eurozone members. With startling, but refreshing, frankness, Kuhn summarized the problem with potential sanctions:

> But in no way do I agree that Slovakia in such a case would find itself rejected by the rest of the EU and that we would be punished. This is something that the EU and its member countries cannot afford to do to another member country.

Thus, whereas it was electoral problems that prompted the Slovak government to backtrack on its initial agreement to participate in the bailout, its refusal to participate was not an attempt to win the elections: it was a simple matter of saving the financing costs once it was clear that others will pick up the tab.

D Merkel's "Electoral Delay", Summer 2013

The first bailout did not solve the financial crisis. A second bailout was provided to Greece in July 2011, and after some up and downs, rumors about a third bailout surfaced in 2013. In August, barely a month before the federal elections, finance minister Wolfgang Schäuble announced that a third package for Greece might be in the offing.[111] Why had the German government not been more forthcoming about a third bailout earlier in 2013? Why had it been silent until the German Central Bank's statement forced its hand?[112] And why did it then agree to the bailout before the elections?

Some observers – the political opposition in particular – explained that this was merely a repeat of the failed 2010 strategy; that Merkel was delaying the bailout decision until after the elections. Gerhard Schröder, former chancellor and member of the SPD, claimed at rallies that Merkel had lied to the electorate earlier when she had claimed that she had not expected any more aid for Greece: "You cannot win the trust of the population if you conceal and disguise the truth. You can only win the trust of the population if you speak out clearly, and truthful."[113] Peer Steinbrück, front-runner for the SPD opposition party, warned Merkel not to present the German population with the bill after the election: "It is time that Mrs. Merkel speaks the truth about the costs of the Greek bailout."[114]

Some media outlets also perceived differences in sensitivity to German domestic politics in the other Eurozone members and the European Commission. Whereas in 2010 these other actors had made it impossible to conceal the bailout debate even temporarily — in fact, they had even publicly tried to shame Merkel for delaying the bailout until after the NRW elections — they were now suspiciously quiescent even after the need for further action on Greece and Portugal had become fairly obvious in July. "Conspiracy of silence" theories alleged that the other EU members had learnt not to force the German government into action before important elections, and were now collaborating with it in delaying bailout discussions until after the federal elections in September.[115]

This sort of reasoning seems to suggest that the hypoactive equilibrium is in play again. However, the parameter configuration in 2013 does not map onto the requirements for this equilibrium because (i) German voters were quite confident that the crisis was very serious, and (ii) the opposition was electorally weak.

Ironically, it might haven been the first bailout debacle and the subsequent inability to end the crisis that had shifted the beliefs of the German voters. By 2013, the German public was firm in its conviction that the crisis was indeed extremely serious for the country. Public opinion polls conducted by *Forschungsgruppe Wahlen* revealed that the Eurocrisis was seen as the second most important problem in Germany, just behind domestic unemployment and ahead of the economic situation, education, and retirement benefits.

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111. *Der Spiegel*. August 20, 2013. "Schäble hält neues Griechenland-Programm für nötig."; *Agence France Presse*. August 20, 2013. "Germany's Schäble says Greece will need more aid."; *The Times*. August 21, 2013. "The Greek cat's out of the bag."

112. *Der Spiegel*. August 11, 2013. "Schuldenkrise in Europa: Bundesbank recent 2014 mit neuem Hilfspaket für Griechen."

113. *Der Spiegel*. August 20, 2013. "Schröder macht Griechenland zum Wahlkampfthema."; *The Times*. August 14, 2013. "Merkel accused of lying over Greek bailout."

114. *Der Spiegel*. August 20, 2013. "Schröder wetter gegen "Lügen" bei der Griechen-Rettung."

115. *The Financial Times*. July 10, 2013. "Code of silence seeks to avert bailout revolt in German poll."

Strong economic growth and very low unemployment had contributed to the high support for the incumbent government. The boost came just as the electoral campaign began: GDP grew by 0.7% in the second quarter of 2013, following a stagnant first quarter and contraction in the last quarter of 2012. German growth helped to achieve a Eurozone average growth of 0.3%.[116] Unemployment at 6.8% was also only slightly above the natural rate of unemployment and near the lowest levels since reunification in 1990. The CDU expected up to 42% of the vote, whereas the SPD trailed far behind with only 24%.[117] Merkel had also recovered her standing and "gained a reputation as a safe pair of hands, a cautious and skilled operator throughout the eurozone crisis."[118] Her approval ratings were at 70%.

These data suggest that the conditions in late summer 2013 satisfied the parameter configuration for the burden-sharing equilibrium, $s \geq \max(e_1, e_2)$. In this equilibrium, voters reelect governments that participate in a bilateral bailout even when they know a government to be pro-EU. From the electoral perspective, there is no surprise that the German government would announce the bailout before the election. In the event, and unlike the 2010 fiasco, there was no punishment: support for the CDU/CSU remained at 41%, the SPD at 25%, and the FDP at 6%.[119] During the elections, the CDU received 41.5% of the vote (the SPD got 25.7%) and remained in power.[120]

The burden-sharing equilibrium logic suggest that there should have been no electoral reason to delay decision on a bailout given the importance the German voters already attached to the crisis. Such strong priors could have allowed Merkel to pour more money into Greece even if the crisis had, in fact, abated, and do so without fear of domestic punishment. Schäuble made a point of presenting his revelation as "old news" and very much in line with expectations: "the public was always told so."[121] Merkel was surprised by Schröder's attack: "Everyone knew what Schäuble said about Greece."[122] Schäuble, in fact, had already said in February 2012 that a third bailout could not be ruled out.[123] This was also when a report by the EU and the IMF had indicated that a bailout might be needed.[124] Thus, whatever had caused the delay in announcing the third bailout, it could not have been concern about a possible fallout during the September federal elections.[125]

What could account for the alleged "conspiracy of silence"? In our model, the bailout

116. *The Business Times*. August 16, 2013. "Merkel approaches poll on rocky eurozone boat."

117. *The Financial Times*. August 23, 2013. "German growth figures set to offer election boost to Merkel."

118. *Daily Mail*. August 26, 2013. "German election could be a 'game-changer'."

119. *The Financial Times*. August 23, 2013. "German growth figures set to offer election boost to Merkel."

120. Greece received its third bailout package worth €8.3 billion in April of 2014. A week later, Greece returned to the financial markets 'triumphantly' with a €3bn bond sale (*Financial Times*. April 1, 2014. "Eurozone signs off on delayed €8.3bn bailout for Greece.").

121. *Der Spiegel*. August 21, 2013. "Schämbles Grichenland-Beichte. Endlich ehrlich."; *Agence France Presse*. August 20, 2013. "Germany's Schäble says Greece will need more aid."

122. *Associated Press Archive*. August 22, 2013. "Greek bailout talk ruffles German election."

123. *Irish Times*. February 25, 2012. "Schäuble concedes third Greek bailout on the cards."

124. *New York Times*. February 20, 2012. "Europe agrees on new bailout to help Greece avoid default."

125. Schröder's claims were so out of step with the voters that the CDU went on the offensive and blamed the need for a bailout on the SPD. They attacked Schröder who, in his capacity as chancellor at the time, had been instrumental in letting Greece join the Eurozone even though it had not been ready. It had also been his economic policies that had led to Germany's violation of the Stability and Growth Pact (*Der Spiegel*. August 21, 2013. "Union contort Schrdoers Griechenland-Attacke."). Merkel simply asserted that Greece should never have been allowed to join the Euro. (*CNN Wire*. August 28, 2013. "Greece joining euro was a mistake.").

package is implemented successfully whenever someone acts on it. This abstracts from the much more complex reality where financial aid is conditional on economic and fiscal reforms in recipient countries. Since we have a wealth of models that deal with contingent disbursements, we saw no need to introduce these considerations in our model, which is focused on the interaction between donors and their domestic audiences. In this particular case, however, it seems that it was the Greek government that was the intended recipient of these delaying tactics. The Eurozone members seem to have agreed not to discuss a third bailout in order to pressure the Greek government into implementing the required reforms.

This interpretation is supported by several facts. First, the Greek government had been relatively slow in implementing the conditions imposed with the second bailout. The inability to form a new coalition in May after the elections had created a political crisis and renewed speculation about a Greek exit from the Eurozone and a run on Greek banks. A new round of elections in June had brought in a governing coalition but even though it had agreed in principle to the conditionality of the bailout program, it had also asked for an extension until 2017.[126] In August, the IMF revealed that Greece's bailout program was widely off track and the Troika withheld the scheduled disbursement of €31.5 billion.[127] There were widespread fears that a clear commitment to a third bailout would further erode the incentives of the Greek government to pursue painful reforms. In August, the Eurozone governments publicly committed to delay any decision on further bailout money for Greece until after the Troika was satisfied with the progress of Greek reforms.[128]

Seen in this light, the "conspiracy of silence" was not designed to allow the German government to win the federal elections but to keep the reform pressure on the Greek government. This is why criticism of Merkel by other Eurozone members, so vocal in 2010, was now conspicuous by its absence. Instead, the European Commission supported Merkel and accused the German opposition of pursuing unrealistic campaign strategies. It plainly stated that it had been necessary to keep discussion of a third bailout under wraps in order to motivate Greece to pursue the required reforms.[129] Given the logic of the burden-shifting equilibrium, one is hard pressed not to agree with this reasoning.

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126. *Financial Times*. August 14, 2012. "Greece seeks 2-year austerity extension."

127. *Ekathimerini*

128. *Financial Times*. August 22, 2012. "Eurozone leaders delay Greece aid decision."

129. *Die Welt*. August 26, 2013. "German EU Commissioner: New Greek aid to be in lower double-digit billion range."