When do special interests run rampant? Disentangling the role of elections, incomplete information and checks and balances in banking crises

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Abstract: This paper investigates the political determinants of government decisions that benefit special interests, and specifically government decisions to deal with banking crises. I find that governments make smaller fiscal transfers to the financial sector and are less likely to exercise forbearance in dealing with insolvent financial institutions the more informed are voters, the closer are elections, and the larger the number of political veto players (conditional on the costs to voters of these policy decisions). The results suggest that policies that might be appropriate in the U.S. context for mitigating the magnitude of banking crises may be less efficacious in settings with other institutional arrangements.

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It has been well-recognized since Olson’s work of the 1960s that the organizational advantages of narrow interest groups give them special influence on government policy, and since Bates’ work of the 1980s that this influence can have damaging effects on economic development. More recent efforts have turned to the question of why some governments are more receptive to the concerns of well-organized narrow interest groups than others. These efforts have not yet yielded an abundance of testable predictions about the conditions under which special interests are more influential in government decision making.1

Still, some testable generalizations have emerged. Baron (1994) and Grossman and Helpman (1996) show that incomplete information on the part of voters encourages government decision makers to support special interests at the expense of voters generally. These effects have not been systematically tested, however. Another body of research, heavily weighted to the United States, is grounded in the observation that policy outcomes depend on the identity and preferences of the veto players in the policy making process. These in turn are determined by such fine-grained institutional details as the committee structure in legislatures and the rules governing agenda-setting. This literature traces the effects on policy of changes in these “small” institutions, holding constant the larger institutional framework (a bicameral, presidential system with plurality elections and two parties). However, to explain large differences in special interest access across countries, the larger institutional environment is likely to be most relevant.

In this paper an attempt is made to further understanding about the determinants of special interest influence in two ways. The first is to present a new argument about the role of institutions, suggesting that as the number of veto players increases, independent of their preferences, their incentives to offer favors to special interests diminishes. While simple, the model has testable implications that are examined in the last half of the paper.

1 For example, one important line of research analyzes when lobbyists will succeed in shifting policy away from that preferred by the median voter. Besley and Coate (1999) suggest that electoral competition can completely offset the effect of lobbyists. Felli and Merlo (2000) argue that lobbyists always affect either policy outcomes or the identity of the policy maker. They also show that the effect of lobbyists remains even when electoral rules are changed in important ways. In both papers, the key parameter is the number of citizens of each preference
The second contribution of the paper is to take advantage of cross-country data on banking crises to test empirically the political determinants of special interest influence. The empirical analysis tests the propositions that incomplete information, the prospect of elections and the number of veto players are significant determinants of special interests influence over government oversight of the financial sector. These tests offer some support for both informational and institutional explanations of special interest influence, and have significant implications for the design of policy interventions in the financial sector.

**Information and special interests**

Substantial theoretical research has found that if the electorate is uninformed about veto player actions or characteristics, veto players are more likely to pursue the preferences of narrow interests. Key contributors to this literature argue that when voters are less informed, or more susceptible to campaign persuasion, candidates have a greater incentive to promise policy concessions to special interests in exchange for campaign contributions (Baron, 1994 and Grossman and Helpman, 1996). There is, however, limited empirical work exploring the effect of voter information on policy outcomes.

In Brunetti and Weder (1998) the presence of a free press is inversely associated with corruption, which can be viewed as an extreme form of special interest favoritism in which the special interests are government officials themselves. Besley and Burgess (2000) have shown that Indian states in which there is greater penetration of print media in vernacular languages exhibit faster responses to food calamities.\(^2\) Although they are not concerned with the political dynamics of financial sector policy, Mehrez and Kaufmann (1999) do show that two variables, one tracking corruption and the other based on responses by company executives to the question, “does the government communicate its policy intentions clearly?” significantly increase the probability of banking crises, conditional on financial liberalization.

\(^{2}\) In a revealing case study, Johnson and Libecap (1999) have also extensively documented the efforts to which...
The empirical tests below extends this line of research both by using several indicators of voter information and, more importantly, by taking into account the institutional environment. For example, the theoretical literature assumes competitive elections in order to generate its predictions, an assumption examined in the analysis below. In addition, legal changes meant to enhance citizen access to information about government activities, such as the U.S. Freedom of Information Act, are often a direct response by one branch of government (the legislature) to behavior by another (the executive). In the same way, just as it is more difficult for governments with multiple veto players to override independent agencies such as central banks (see Keefer and Stasavage 2000), it is also likely to be more difficult for them to curb media outlets. That is, the level of citizen information can also depend on the structure of government and, specifically, on the number of veto players. This variable is also taken into account in the empirical work below.

**Elections and special interests**

In the absence of elections, special interests are less restrained in their ability to make deals with government officials to secure their preferred policies at the expense of the median voter.\(^3\) One would therefore predict that in comparing countries with and without competitive elections, those without are more likely to exhibit policies that favor special interests at the expense of voters at large.

A large literature also suggests that the timing of elections should matter, for at least two reasons. The further in the future are elections, the more heavily that elected officials discount the benefits of re-election and the less of a constraint the election imposes on current decisions. In addition, Rogoff (1990) suggests that politicians use policy to signal their “competence”. If voters constantly update their judgements about candidate competence, as elections draw nearer politicians should be increasingly reluctant to approve policies that have high social costs, since these would

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\(^3\) This is implicit, for example, in Besley and Coates (1999). There are certainly subtle issues related to the paradox of voting and the relationship between special interests and voters. However, as long as the median voter has preferences closer to that of the median citizen than the prevailing special interests, the conclusion
signal “incompetence.” Consistent with these arguments, Poterba (1994) finds that both tax increases and spending cuts are much lower in gubernatorial election years in US states.

**The number of veto players and special interests**

The policy consequences of the number of veto players in a country have been the focus of a growing body of research, which generally focuses on the credibility or stability of government policies (see North and Weingast (1994), Tsebelis (1999), Keefer and Stasavage (2000)). The cornerstone of this research is the argument that multiple veto players with divergent preferences make policy change more difficult. Credibility problems cannot fully explain the drastic differences in policy outcomes that one observes across countries, however. There are at least two additional reasons, independent of the credibility effect, for which the number of veto players can also affect the extent to which governments favor special interests.

The first reason is simple, if generally overlooked: the absence of multiple veto players in countries often means that some groups in society are less represented than they otherwise would be. For example, it is possible that in a country with only a president, that president has encompassing interests and is responsive to the policy preferences of the “median citizen”. Often, though, such a president is chiefly concerned with the welfare of a narrow interest, such as the branch of the armed forces that ensures that he remains in power. The introduction of a new veto player in a country with such a president often signifies that citizens who had been previously disenfranchised have gained an institutional voice. That is, if the number of veto players tracks the extent to which all citizens are represented, government officials are more likely to grant special interest favors where there are few veto players.

This discussion begs the question of whether an increase in the number of veto players reduces incentives to cater to special interests even when it leaves unaffected the social groups that are represented in government decision making. The model below examines this case. It establishes that an increase in the number of veto players reduces favors to special interests under the following
assumptions. First, veto players value “status” or “prestige”, as well as payoffs from special interests, and “status” declines as favors to special interests increase. Second, although status falls with the number of veto players, it falls relatively slowly: the status that members of the US House of Representatives (with 435 members) obtain from their office is at least 100/435 of the status obtained by members of the US Senate (100 members). Third, potential veto players are of two types, one of which is more sensitive than the other to the negative effects on status of favors to special interests. Fourth, voters confront a fixed cost of expelling incumbents. This cost might be the loss of the incumbents’ knowledge and control of the bureaucracy, inside knowledge of ongoing negotiations with foreign partners, or better understanding of economic policy generally. Alternatively, the cost could be seen as the replacement of incumbents with new veto players whose preferences on policy dimensions outside the model are less preferred by voters. The fifth assumption is that all veto players are each elected by the same constituency – for example, all voters in a single electoral district that encompasses the entire country. The literature focuses extensively on how different electoral rules lead candidates to pursue different constituencies, abstracting from the effect of these rules on the number of veto players. This paper takes the opposite tack, abstracting from constituency effects of institutional changes while focusing on the number of veto players.

Given these assumptions, the analysis that follows reaches two conclusions. First, as the transfers from special interests are spread over a larger number of decision makers, the attractiveness of authorizing large benefits to special interests dwindles relative to the loss of status veto players incur as a consequence. Favors to special interests rise as the number of veto players fall. The

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4 The status interpretation of this assumption is convenient, but not necessary. One can as easily substitute “disutility of venality”, or the “competence” notion of Rogoff, as long as perceived competence declines with favors to special interests.

5 This is similar to the assumption in Besley and Coates (1999) that candidates confront a fixed cost of entry into a political race.

6 For example, prior to 1993, Peru had a presidential system where the president was elected by the entire country and the electoral district for members of the Senate was also the entire country.

7 Congleton (1984) also shows that a committee deciding by majority rule will attract fewer rent-seeking
second conclusion is less obvious: the effect of the number of veto players is attenuated the greater are the costs that favors to special interests impose on voters.

**The actors and payoffs**

There are 2n veto players and potential veto players who are of two types, L and H, depending on whether the rewards they derive from the status of holding office are more or less sensitive to special interest concessions (this characterization is made more precise below). There are n veto gates that political actors compete to control. Each incumbent veto player i, i ∈ {1 . . . n} is opposed by one challenger veto player j, j ∈ {1 . . . n}.

Veto players make only one decision: they decide to what extent special interests should benefit from government favors. The special interest policies approved by veto players are drawn from the policy space \( x, x \in [0, 1] \), where \( x \) is a normalized subset of the real line assumed closed, bounded and connected.\(^8\) For clarity, \( x = 0 \) is a policy of no favors to special interests and the policy most preferred by special interests is \( x^* \in [0, 1] \). The magnitude of favors to special interests is given simply by \( q = d(x - 0) \), where \( d \) is a distance function and \( q \) is the extent to which policies authorized by veto players diverge from \( x = 0 \), the outcome most preferred by voters.

Special interests earn profits \( \pi(q) \) in each period that the favors are authorized. The profit function is concave, with \( \pi \geq 0 \) and \( \pi_q < 0 \). On the other hand, voters bear costs \( c(q) \) from the favors authorized by veto players. Costs increase at an increasing rate in the level of favors authorized, \( c_q > 0, c_{qq} > 0 \).\(^9\)

Incumbent veto players receive two kinds of payoffs. First, in exchange for the favors they authorize, veto players receive \( R_i \) from special interests. As, for example, in Besley and Coate (1999),

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\(^8\) These are common assumptions in such a model, where the stability of decision equilibria are not a focus of attention. See, for example, Segal, Cameron and Cover (1992).

\(^9\) The assumptions on costs would hold even if favors to special interests were simply lump sum transfers from the population if the marginal utility of income is diminishing in income. We would then expect the utility losses to the rest of the population to rise at an increasing rate with the size of the transfers.
the transfers $R$ to politicians directly enhance their utility and are not campaign contributions that increase re-election chances. The bargaining problem between veto players and special interests is assumed away in the model. The share of rents that veto players receive from special interests is assumed exogenous, so $R = \alpha \pi(q), 0 < \alpha \leq 1$.\(^{10}\)

Veto players also derive utility from the stature and influence they obtain from tenure in office. However, stature is negatively correlated with favors to special interests. Incumbent veto players of type $L$ receive payoffs $T_{L,i}(q)$ from holding office and those of type $H$ receive payoffs $T_{H,i}(q)$, and $T'(q) < 0$. Type $L$ veto players are assumed to be more sensitive to the status costs of increasing favors to special interests, such that $\left| T'_{L,i}(q) \right| > \left| T'_{H,i}(q) \right|$. The assumption that some veto players view their status or prestige as being more sensitive to payoffs from special interests is certainly plausible if one compares Corey Aquino relative to Joseph Estrada in the Philippines or Chuan Leekpai relative to his newly elected successor, Thaksin Shinawatra, in Thailand.

The bargaining problem between veto players is also simplified. In particular, veto players are not permitted to hold out for the entire transfer of rents from the special interest, $R_i = \alpha \pi(q)$.\(^{11}\) Instead, they operate under two rules. First, if veto players are of the same type, they each receive equal shares in $R$, $\pi R_i = R$. If veto players are of both types, those of type $L$, whose utility from holding office is most sensitive to payments from special interests, can demand side payments in exchange for deviating from their most preferred position, but those of type $H$ cannot. In particular, veto players of type $H$ must use a share of their rents to compensate veto players of type $L$ for any level of favors above that which veto players of type $L$ would choose if they occupied all veto gates. The logic is the following: in the absence of any veto player action, no favors to special interests are

\(^{10}\) This is a benign simplification. The conclusion of the model is that as the number of veto players rises, concessions to special interests are less likely. This conclusion would be strengthened if the simplification were not made, since bargaining between veto players and special interests would likely become more difficult as the number of veto players grew.

\(^{11}\) To the extent that holdup problems are not solved, there is no problem of special interests – each veto player demands the full value of favors granted, and special interests therefore never find it worthwhile to purchase favors from government officials.
authorized. It is reasonable to assume that the veto players that prefer the smallest favors to special interests are less averse to the no-favor outcome than are veto players of type $H$, giving them extra leverage. The distributional rule is a simple way to operationalize this leverage.\textsuperscript{12}

**The order of play**

The model runs over an infinite number of periods. In the first period, there are $g \leq n$ incumbents of type $L$ (those less tolerant of favors to special interests) and $n - g$ incumbents of type $H$. Incumbents calculate two levels of favors. One is the level of favors that maximizes their utility in $R$ and $T$ conditional on ensuring their re-election. This is $q_{1}^{\text{re-elect}}$, where the subscript indicates the choice of period 1 incumbents. Incumbents also calculate the highest level of favors that maximizes their utility when they do not intend to be re-elected, conditional only on special interests earning positive profits from the favors. This is $q_{1}^{\text{expel}}$.

At the end of period 1, voters decide whether to replace incumbents with challengers. Voters can replace any combination of incumbents with any combination of challengers. However, if voters decide to change the composition of the legislature, they can never do better than to replace all incumbents of type $H$, who are particularly willing to support special interests, and replace them with challengers of type $L$, who are particularly reluctant to do so, yielding a set of veto players in the second comprised entirely of members of group $L$. Veto players in the second period then decide on the level of favors they will authorize to special interests.

When voters replace veto players from group $H$ with those from group $L$, they incur a fixed cost $c$ that reflects the costs of expelling incumbent veto players from group $H$. If there are no incumbency advantages, and voters have no way of credibly promising to re-elect incumbents who adopt $q_{1}^{\text{re-elect}}$, $q_{1}^{\text{expel}}$ is always chosen by incumbents.

\textsuperscript{12} It is also worth noting that since every veto player can prevent the favor to the special interest from occurring, special interests cannot play one veto player off against another. If they could, this would drive payments for favors down to negligible levels (as in a model developed by Ramseyer and Rasmussen).
Strategies

Although the model has an infinite number of periods, voters never have an incentive to change veto players after the second period. There are two possibilities in the second period. One is that all incumbents are re-elected, because they have selected $q_1^{\text{re-elect}}$. However, if it is optimal for them to select $q_1^{\text{re-elect}}$ in the first period, then it is optimal for them to pursue the same strategy in every subsequent period, since the composition of the opposition does not change.

The second case is that first period incumbents choose $q_1^{\text{expel}}$ and all incumbents of type $H$ are replaced by challengers of type $L$. Once a set of veto players comprised only of members of type $L$ is in power, however, voters will never replace them: no other combination of incumbents can promise a lower level of favors to special interests.

Given these two cases, the model can therefore be solved backwards beginning in period 2. First, one calculates what new veto players would do in period 2 if they replaced incumbent veto players from period 1. This information is then used to establish the strategies that veto players pursue in the first period. Five results emerge from the analysis. The first three are that under each of the three strategies that veto players could pursue, concessions to special interests decline in the number of veto players. The fourth is that, given certain parameter assumptions, veto players are not more likely to shift from low concession to high concession strategies as the number of veto players increase. Finally, the fifth result is that the number of veto players reduces concessions to special interests by less, the larger are the costs to voters of those concessions.

From the introduction above, the second period veto players are different from the first period’s only if all the type $H$ veto players have been replaced by type $L$. Since type $L$ veto players will never be expelled, the only constraint on their selection of $q$ is that increments to $q$ have a positive effect on the profits of special interests. Each veto player in period 2 (in the case where challengers from group $L$ have replaced incumbents from group $H$) therefore solves the following maximization problem:
The maximand is the stream of payoffs from the strategy \( q \) over an infinite number of periods, discounted by \( \rho \). Since all veto players are identical, they arrive at the same answer, \( q_{L,2} \). The existence of a solution is guaranteed by the concavity assumptions on \( \pi \) and \( T \). For \( \left| \pi'_{L,1}(q) \right| \) sufficiently small, the constraint binds \( (\pi'(q_{L,2}) = 0) \) and these veto players choose the level of favors most preferred by special interests. If, though, \( \left| \pi'_{L,1}(q) \right| \) is sufficiently large such that the rents from larger favors are offset more rapidly by losses in status payoffs, the constraint does not bind, and some lower level of favors is selected. It is easily shown that that \( q_{L,2} \) falls as the number of veto players, \( n \), increases.

**Result 1**: If governments are formed only of veto players from group \( L \), the group of veto players who are most harmed by favors to special interests, the larger the number of veto players, the lower are favors to special interests.

**Proof**: See Appendix.

The idea behind Result 1 is simply that as the number of veto players rises, the marginal payoff to each veto player of additional favors falls, and with it the optimal level of favors approved by the veto players.

Incumbents in period 1 calculate the highest level of favors that they can offer and still be re-elected, \( q_{1}^{\text{re-elect}} \), and the highest level of favors that they would offer if they did not intend to be re-elected, \( q_{1}^{\text{expel}} \), knowing that if they are replaced, their replacements will choose \( q_{L,2} \). They compare their stream of payoffs from choosing one or the other, and pick the level of favors for which those payoffs are highest.
The incumbent problem is complicated by the fact that incumbents of type \( H \) must compensate type \( L \) incumbents for any level of favors higher than \( q_{L,2} \), the favors chosen by type \( L \) incumbents if they controlled all veto gates. The total compensation is a function of the number, \( q \), of type \( L \) veto players and of the difference in payoffs between their preferred outcome \( q_{L,2} \) and the outcome \( q \) to which they are asked to agree, or:

\[
(2) \quad g[R_1(q_1) + T_{L,i}(q_1) - R_1(q_{L,2}) - T_{L,i}(q_{L,2})]
\]

To calculate \( q_{1,\text{expel}} \), therefore, type \( H \) veto players take into account their share of the compensation to members of group \( L \), \( 1/(n-g) \) of the amount given by (2)) and undertake the maximization problem (3). Since type \( H \) incumbents are never re-elected if they choose \( q_{1,\text{expel}} \), they maximize their returns only over one period when determining \( q_{1,\text{expel}} \), conditional, first, on additional favors producing positive additional profits to special interests and, second, on the value of the \( q \) they choose being greater than that preferred by incumbents of type \( L \) (if this second constraint is binding, the problem collapses to (1)).

\[
(3) \quad \max \ R_i(q) + T_{H,i}(q) - \frac{g}{n-g} \left[ R_i(q) + T_{L,i}(q) - R_i(q_{L,2}) - T_{L,i}(q_{L,2}) \right] \quad \text{s.t.} \quad \pi'(q) \geq 0 \text{ and } q \geq q_{L,2}
\]

The existence of \( q_{1,\text{expel}} \) is again guaranteed by concavity conditions on \( \pi \) and \( T \).

Result 2 documents that \( q_{1,\text{expel}} \), like \( q_{L,2} \), also falls as the number of veto players increases.

**Result 2:** The larger the number of veto players, the lower is \( q_{1,\text{expel}} \), provided \( n > 2g \). Otherwise, \( q_{1,\text{expel}} \) rises in the number of veto players.

**Proof:** See Appendix.
Finally, Period 1 veto players calculate $q_{1, \text{re-elect}}$. As before, they take into account compensation to type $L$ incumbents and a profit constraint. In addition, they condition their choice on a re-election constraint. This constraint is based on the following calculation of voters. If voters expel incumbents of type $H$ at the end of period 1, they will pay the costs associated with $q_{L,2}$ from the second period onwards. In addition, they will bear the costs of replacing incumbents, $c$. Veto players therefore choose $q_{1, \text{re-elect}}$ such that the costs to voters of this policy are not greater than the costs voters would bear if they replaced incumbents of type $H$. Incumbents find $q_{1, \text{re-elect}}$ by solving:

$$
\max \frac{1}{\rho} \left\{ R_{1}(q) + T_{H,j}(q) - \frac{g}{n-g} \left[ R_{1}(q) + T_{L,j}(q) - R_{1}\left(q_{L,2}\right) - T_{L,j}\left(q_{L,2}\right) \right] \right\},
$$

(4) s.t.

$$
\pi'(q) \geq 0, q \geq q_{L,2}, \text{ and } \frac{1}{\rho(1 + \rho)}c(q) \leq \frac{c(q_{L,2})}{\rho(1 + \rho)} + c
$$

As is clear by inspection, this problem is like the one in (3) with the introduction of the addition of the re-election constraint. The interesting case in (4) is therefore where the re-election constraint is binding and the others are not. In this case, $q_{1, \text{re-elect}}$ solves:

$$
\frac{1}{\rho(1 + \rho)}c(q_{1, \text{re-elect}}) = \frac{c(q_{L,2})}{\rho(1 + \rho)} + c
$$

(5)

It is straightforward to see that voters prefer $q_{1, \text{re-elect}}$ to $q_{1, \text{expel}}$. The costs to voters from the second period onwards of $q_{1, \text{re-elect}}$ are $\frac{c(q_{L,2})}{\rho(1 + \rho)} + c$, which are the same costs that they would bear if incumbents in the first period chose $q_{1, \text{expel}}$. However, since the election constraint is binding in (4) and not present in (3), $q_{1, \text{re-elect}}$ must be less than $q_{1, \text{expel}}$, so losses in the first period are less.

As with the other strategy choices, $q_{1, \text{re-elect}}$ falls in the number of veto players.
**Result 3.** The larger the number of veto players, the lower is $q_1^{\text{re-elect}}$ for $q_1^{\text{re-elect}} \neq q_1^{\text{expel}}$ and $n \geq 2g$.

For $n < 2g$, the reverse is true.

**Proof:** See Appendix.

Results (1) – (3) make clear that as the number of veto players rises, the level of favors authorized to special interests under every strategy falls. Two additional questions are of concern, however. The first is whether the presence of more veto players makes incumbent veto players more or less likely to pursue $q_1^{\text{expel}}$ rather than $q_1^{\text{re-elect}}$. With respect to this issue, the question is how the relative payoffs to the three strategies change with the number of veto players. Having calculated $q_1^{\text{expel}}$ and $q_1^{\text{re-elect}}$, incumbents in period 1 compare their payoffs under each. They choose $q_1^{\text{re-elect}}$ if the following condition is met:

\[
(6) \frac{1}{\delta} \left\{ \frac{n - 2g}{n - g} \left[ R_1(q_1^{\text{re-elect}}) + T_{L,1}(q_1^{\text{re-elect}}) \right] + \frac{g}{n - g} \left[ R_1(q_{L,2}) + T_{L,1}(q_{L,2}) \right] \right\} 
\geq \frac{n - 2g}{n - g} \left[ R_1(q_1^{\text{expel}}) + T_{L,1}(q_1^{\text{expel}}) \right] + \frac{g}{n - g} \left[ R_1(q_{L,2}) + T_{L,1}(q_{L,2}) \right]
\]

In the case where $g = 0$ (incumbent veto players in the first period are comprised only of those who are more tolerant of favors to special interests), it is possible to make unambiguous statements about the effect of changing $n$ on the relative magnitudes of the left and right hand side of condition (6).

**Result 4:** Provided the discount rate is sufficiently small and for $g=0$, an increase in the number of veto players $n$ leads incumbents to choose a lower equilibrium level of rents.

**Proof:** See Appendix.

Result 4 demonstrates that it is unlikely that an increase in the number of veto players will lead incumbents to choose a higher rent strategy ($q_1^{\text{expel}}$ instead of $q_1^{\text{re-elect}}$) that would offset Results 1, 2 and 3.

The second question that remains to be answered is whether the effect of the number of veto players on the level of favors $q$ depends on the costs to voters, $c(q)$. Result 5 shows that as the
costs to voters of an incremental favor increases, the magnitude of the low-favor outcome, \( q_{1}\text{re-elect} \), increases. In addition, the magnitude of the negative relationship between \( q_{1}\text{re-elect} \) and the number of veto players \( n \) identified in Result 3 declines.

**Result 5**: An increase in the costs imposed on voters by favors leads to an increase in the size of equilibrium favors and an attenuation of the negative relationship between \( q_{1}\text{re-elect} \) and \( n \).

**Proof**: See Appendix.

Result 5 says that when voters face high costs even if they expel incumbents, incumbents are freer to pursue a higher cost policy without risk of expulsion. An increase in the number of veto players therefore has a smaller effect when the costs of special interest policies are larger.

**Implications of the model**

The conclusion from Results 1 – 4 – that more numerous veto players can reduce policy distortions that favor special interests – is opposite in its implications from the large literature looking at the effects of electoral rules on policy outcomes (synthesized effectively in Cox and McCubbins, forthcoming). Many of the electoral rules analyzed in this literature narrow the interests of politicians while simultaneously increasing the number of veto players. For example, electoral rules that encourage candidates to form their own, personal constituencies, such as open list proportional representation systems, or that encourage multiple parties to form rather than to coalesce, such as those that do not place a floor on the minimum votes a party must receive to be eligible for parliamentary seats, also give greater leverage to narrow interests at the expense of more encompassing interests. Based on these constituency effects, the literature predicts a net increase in pork barrel style policies.\(^{13}\)

However, most of these institutions also tend to increase the number of veto players in a political system: rules that encourage candidate-specific constituencies give US congressmen greater

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\(^{13}\) The number of electoral districts in a country is another electoral rule that influences outcomes. The pork barrel literature (e.g., Schwartz) predicts that the larger the number of decision makers with distinct geographic constituencies, the greater their incentive to agree to collective legislation that provides public works projects to every district, even when the net benefits of these projects to society as a whole is negative.
veto power vis-à-vis party leaders; rules that encourage fragmentation encourage coalition
governments with multiple veto players. Based on the analysis here, this effect might offset the
constituency effect. Provided these countervailing effects are strong enough, one might therefore
summarize the institutional influences on policy distortions as in Figure 1.

**Figure 1: Summarizing institutional effects on policy making**

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<th>Many veto players</th>
<th>Few veto players</th>
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<td>Less susceptible to special interests</td>
<td>Fewer policy distortions</td>
<td>More policy distortions to favor special interests.</td>
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**Testing the theory: Special interests and policy distortions in the financial sector**

More than 40 countries have experienced banking crises in the last fifteen years – situations
in which a large fraction of banks are insolvent, such that the value of their assets (loans) is less than
the value of their liabilities, including deposits but also loans from the central bank and all other
creditors. In several cases, crisis has triggered losses exceeding 50 percent of national income.
Considerable evidence suggests that regulatory failures benefiting special interests exacerbated the
magnitude of crisis. The remainder of this paper explores the hypotheses that these regulatory
failures were larger in countries in which information was less complete, where there were fewer veto
players, and where elections were more distant.

**Special interests and banking crises**

Although the analysis of financial sector regulation is the subject of a large and complex
literature, it is straightforward to summarize the ways in which government policy can contribute to
crisis. A banking crisis occurs when a significant fraction of financial institutions is insolvent – when
their assets (loans, primarily) are worth less than their liabilities (deposits, central bank credits and
credits extended from other sources). Of course, numerous factors unrelated to government policies
can cause bank assets to lose value (for example, a recession or terms of trade shock that renders many borrowers unable to repay their loans). However, prudent management of banks – maintaining sufficient capital reserves, diversifying portfolios, etc. – mitigates the effects of such shocks and can permit banks to remain solvent in hard times. Conversely, even minor economic setbacks for a country can trigger large bank crises if banks have been managed imprudently – when banks engage in large amounts of high risk/high return lending, hold concentrated portfolios, and lend to insiders, for example.

Government policies play a significant role in determining whether banks choose prudent or imprudent strategies. First, governments can implicitly or explicitly agree to bail out failed banks. Deposit insurance is one way in which governments can do this, but far from the only one. If bankers and their creditors expect to be indemnified against losses, creditors demand a lower risk premium than they otherwise would when bankers acquire high risk, high return assets. Although this need not be the case, governments often establish such guarantees for reasons unrelated to the public interest – for example, government officials may own banks or have financial interests in bank creditors.

This is the first possible channel connecting special interest influence to bank crisis. The larger the indemnification that bankers or their creditors receive, the greater the quantity of high risk assets (loans) that bankers could acquire and the larger the magnitude of the crisis that such behavior could trigger.

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14 For example, government officials in East Asia encouraged or allowed the massive sale of foreign reserves in an attempt to sustain currency values in the face of devaluation pressures. These officials or their supporters had financial interests in local banks that benefited significantly from this action. Those banks had taken on large foreign-currency denominated liabilities. These could not be repaid out of the proceeds of domestic lending if a significant devaluation occurred. In the face of pressures on their currencies, and in a fruitless attempt to avoid bank insolvencies, government officials sold off most foreign exchange reserves.

15 Government officials might also institute guarantees such as formal deposit insurance because they fear the development of bank runs – depositor flight from all banks, including sound banks, when only one bank fails.

16 Even without government indemnities, information problems in financial markets can give bankers leeway to speculate in high risk assets. Dewatripont and Tirole (1994) emphasize that because banks largely finance their investment activities by borrowing from unsophisticated small depositors who face a considerable collective action problem in monitoring bank lending decisions, banks can shift risk to depositors and incur higher risks than they otherwise would.
Even if financial market participants anticipate that bank liabilities are indemnified, governments can still limit banks’ acquisition of high risk assets through prudential regulation. For example, governments can establish a regulatory apparatus that establishes minimum capital requirements for banks, supervises appropriate diversification of bank lending portfolios by sector, borrower, maturity, and currency, and that limits insider lending by banks. Special interests that stand to gain from high risk/high return lending would oppose such regulation. Governments that are more susceptible to special interests would therefore adopt weak prudential regulation, the second channel through which special interest influence is associated with larger banking crises.

Finally, even countries with the strongest regulatory apparatus experience bank failures. Government policy at this juncture once again influences the magnitude of crisis. One option for governments is to exercise forbearance, allowing banks to lend their way out of trouble or to wait for an upswing in the business cycle to improve asset quality. Alternatively, they can immediately intervene in insolvent institutions, replacing management, merging banks, or shutting banks down.

Delayed intervention, if not accompanied by intensified oversight of their operations, allows banks to build up bad assets at an accelerating rate as they “gamble for resurrection.” Forbearance, therefore, can benefit the same special interests that preferred loose prudential regulations in the first place, and like those loose regulations, exacerbate the magnitude of crisis.

One other key government decision at the time that bank insolvencies occur is whether to compensate all, some or none of the depositors and other creditors in insolvent institutions, whether to pursue the assets of delinquent bank borrowers, and whether to recapitalize the insolvent banks. The resulting fiscal transfers to the financial sector are likely to be positively correlated with

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17 Hellman, Murdock and Stiglitz (2000) show, for example, that for sufficiently competitive banking markets, banks always end up raising deposit rates of interest such that the only optimal strategy is to adopt the imprudent investment strategy.

18 Theoretically, lenience is recommended when managers have acted prudently but have been caught up in unpredictable exogenous shocks (Dewatripont and Tirole, p. 183). The practical problem with this is that regulators have imperfect information about the extent to which management actions have contributed to bank liquidity problems.

19 Akerlof and Romer, 1994, introduced the term and discuss the phenomenon.
government sensitivity to special interests. First, the transfers are bounded from above by the
difference in value between bank assets and liabilities. That is, where the influence of special
interests has been less profound and the magnitude of banking losses is small, so also are fiscal
transfers. Second, fiscal transfers to recapitalize banks or repay depositors are larger to the extent
that governments make only feeble efforts to recover assets from delinquent bank borrowers – who
are often special interests that benefited from earlier lax prudential regulation. Third, fiscal transfers
are larger to the extent that governments compensate not only small depositors, but also large
depositors and creditors of banks – again, those who tend to be special interests in their own right
and who are most likely to have benefited from earlier lax government oversight of the financial
sector.20

The foregoing discussion identifies numerous government decisions that might contribute
to banking crises and over which special interests might exercise influence. The empirical tests
below focus on two of them: the magnitude of fiscal transfers in the event of crisis, and whether
governments exercise forbearance when confronted with insolvent financial institutions. If these
decisions were made by the same government officials, then we would expect the informational and
institutional variables to affect them equally, and the following hypotheses could be proposed based
on the earlier discussion:

1. **Veto players.** If the costs to voters of crisis is not too high, an increase in the number of
   political veto players should, (a), reduce fiscal transfers in the event of a bank crisis, and, (b),
   reduce the probability that governments exercise forbearance towards insolvent banks.

2. **Information.** When the fraction of uninformed voters rises, (a), fiscal transfers should
   increase, and, (b), the probability of observing forbearance should rise.

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20 It might be argued that special interests have no influence on fiscal transfers, because transfers are driven
only by the (exogenous) magnitude of the banking crisis. The scanty evidence that exists on crisis magnitudes
suggests that this is not the case. In Chile, the assets of insolvent institutions amounted to approximately 22
percent of GDP, but bailout costs were twice as high, 41 percent. In Colombia, assets amounted to 8 percent
of GDP, but the fiscal costs of resolving the crisis were lower, 5 percent. Deposits in insolvent institutions
were approximately 5 percent of GDP in Uruguay, where bailout costs were 7 percent of GDP; they were 9
percent of GDP in Malaysia in 1985, where the bailout amounted to only 4.7 percent of GDP (asset and
3. **Elections.** The closer are elections, (a), the lower will be fiscal transfers in the event of crisis, and (b), the less likely that governments will exercise forbearance.

There are two important caveats to these hypotheses, however. It is likely that decisions about fiscal transfers and regulatory forbearance are made by different subsets of government officials. In particular, in countries that exhibit multiple veto players it is likely that all of those veto players will participate in a decision to make large fiscal transfers to the financial sector than that they will all approve a decision to forbear or intervene in an insolvent financial institution. This latter decision is more typically made within the executive branch, without the consent (or even knowledge) of the other veto players. Consequently, one would expect the influence of the number of veto players to be a more pronounced determinant of fiscal transfers than of forbearance. Conversely, fiscal transfers, unlike decisions to forbear, are difficult to hide from even the least informed voters. The decision to make fiscal transfers, therefore, should be less sensitive to the extent to which voters are informed than the decision to forbear.

**Prior empirical research on the political economy of government responses to banking crises**

The work by Mehrez and Kaufmann (1999) cited earlier, though not rooted in an analysis of political dynamics, is the only attempt to examine informational determinants of banking crises. There are a number of other studies that take institutions into account in the analysis of banking crises. Romer and Weingast (1991) consider the committee structure of Congress and the distribution of narrow interests across congressional jurisdictions in identifying the determinants of legislative decisions to increase funding to the Federal Savings and Loan Insurance Corporation. They do not directly test hypotheses about the impact of institutional change on policy outcomes.\(^{21}\)

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\(^{21}\) They do note that potential future losses from congressional inaction were highly uncertain. One effect of this was that congressmen could not see any way to claim credit from constituents for efforts to prevent these losses – but were certain that they would trigger constituent displeasure by transferring resources from other priorities to the recapitalization of the FSLIC.
Kroszner and Strahan (1996) argue that regulators who lack resources are more reluctant to intervene in insolvent financial institutions: if they appeal to legislators for additional funding, they open themselves to the possibility that politicians will hold them responsible for crisis. Kroszner and Strahan (1996) document that US savings and loan regulators shifted intervention strategies as their resources dwindled, consistent with the political hypothesis. They do not examine changes in institutional and informational variables as determinants of agency actions.

Rosenbluth (1989) focuses on financial regulation in Japan. She identifies a shift away from one specific electoral institution – single non-transferable voting – as contributing to a more aggressive regulatory posture towards insolvent Japanese financial institutions. In a book-length investigation of financial crisis in the Philippines, Hutchcroft (1998) amply documents the interaction of narrow interests (cronies) with political veto players (Marcos). His focus does not extend, however, the institutional and informational conditions that made such interactions possible.

Data

The three hypotheses outlined earlier require information on the benefits to special interests of regulatory decisions of government in the financial sector, the potential costs to society of those benefits, the completeness of voter information on the actions of political actors, and the political institutions in which political actors are making these decisions. The assembly of such a set of variables is a challenging proposition, but a number of reasonable variables are available in each of these categories. These indicators, the institutional and informational variables, and other control variables used in the analysis are described here.

Financial sector

Three financial sector variables are crucial to the analysis. Fiscal transfers and forbearance, the dependent variables identified earlier, are taken from Honohan and Klingebiel (1999). The third variable captures the costs of crisis to voters, found in Result 5 to play a key role in the analysis.
Honohan and Klingebiel (1999) have assembled data on government responses to financial crisis for 40 crises in 35 countries. In particular, they have calculated the magnitude of fiscal transfers governments made in response to crisis and they have tracked whether governments exercised forbearance in their oversight of insolvent banks. Their calculations of fiscal transfers include both the fiscal and quasi-fiscal outlays for financial system restructuring, including the recapitalization cost for banks and the costs of indemnifying depositors. Transfers range from 0.5 to 55.1 percent of GDP.

For all forty crisis episodes, Honohan and Klingebiel used interviews with country experts, IMF reports and other sources, to determine whether, for each crisis, government officials reacted to the emergence of insolvent banks with forbearance. Here the focus is on type III forbearance, the most lenient, in which the variable equals one when governments relaxed regulations or did not enforce regulations for at least a twelve month period after being informed about solvency problems in the financial sector, and zero otherwise. Twenty-four countries (26 crisis episodes) exercised this level of forbearance.

Result 5 indicates that the effect of the number of veto players on fiscal transfers and forbearance varies with the costs to voters of favors to special interests. In the case of the financial sector, favors to special interests create deadweight losses by encouraging the extension of credit to less creditworthy borrowers, by encouraging high risk projects at the expense of low risk projects, and by creating incorrect price signals that induce an inefficient transfer of human and physical capital from some sectors to others. All of these costs are likely to be proportionate to the size of the financial sector. That is, the more that economic actors rely on financial intermediation in the conduct of business, the larger should be the costs associated with failures in financial sector oversight. The size of the financial sector is therefore used as a proxy for the costs to voters of favors to special interests in the financial sector.

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22 They relied on Caprio and Klingebiel (1997 and 1999) and Lindgren, Garcia and Saal (1996), resolving conflicts by consulting with country experts.
In particular, a commonly used measure of the size of the financial sector, $M_2/GDP$, is employed in the regressions below, for the year prior to the first year of the crisis. The simple correlation between $M_2/GDP$ and the fiscal costs of crisis is negligible (-0.018), confirming that there is no necessary relationship between the level of favors granted to special interests in the financial sector, as measured by fiscal costs of crisis, and the costs to the electorate of additional favors.

**Information**

In the literature on voting behavior in the United States, the extent to which voters are informed is assessed directly through surveys of their political knowledge (see, e.g., Bartels 1996). Such information is, unsurprisingly, unavailable for cross-country research. Three proxies for voter information that are available, however, ranging from voter education to government control of media, should capture the same underlying phenomenon tracked in US political research.23

Following Brunetti and Weder (1998) and others, the regressions first employ two variables collected by Charles Humana (1985, 1992), one evaluating the independence from government control of radio and television networks, and the other the independence of newspapers. Since they exhibit significant differences (they are correlated at 0.69), both are used. The 1985 value of each variable is applied to crises of the 1980s and the 1992 value to crises of the 1990s. The highest (most independent) score goes to countries in which there is “unqualified respect” for the independence of the respective media. Occasional breaches of independence earn a country the next highest score, followed by countries in which there are frequent intrusions on independence and finally countries that exhibit a constant pattern of violations of independence.24

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23 Measures of levels of voter information range from interviewer assessments of respondents’ level of information, to respondent answers to factual questions. These turn out to be highly correlated. One would expect that voters exposed to slanted or limited media would be less informed according to these criteria, and that less educated voters would exhibit less political knowledge than more educated voters.

24 Notes in many of the country entries provide greater insight into the criteria used. Government ownership and control of all radio and television networks (as in Ghana in the early 1980s) earns countries the lowest score; countries score the next to lowest score if they exhibit some limited private ownership or, as with newspapers in Chile in the 1980s, evidence of seizures of private newspapers and mandatory prior approval of articles. Argentina in the early 1980s, under the military government, was considered to have fully independent newspapers, but because of evidence of self-censorship and financial pressures by government on electronic media, was only given the second-highest score for radio and television independence.
The third information variable that is used is a dummy variable capturing whether countries reported data on the prices of exports and imports in the International Financial Statistics. Countries that are lax or reluctant about reporting such price data are more likely to be the same countries in which voters are less well-informed. In fact, in countries that do not report these data, newspaper independence is rated 2.9 on average, relative to 3.4 for countries that do report.

**Institutional variables**

The Database of Political Institutions (DPI), version 2 (Beck, et al., 2000) provides useful measures of the political institutions that the foregoing discussion has identified as important. All of the political variables used below are three year averages, starting with the first year of crisis (reported by Honohan and Klingebiel), and extending back to two years prior to crisis (or the average of values in years $t, t-1, t-2, t=$first year of crisis).

The number of veto players is captured by the variable $\text{Checks2a}$ from that data set (hereinafter, $\text{checks}$). This variable is built up from several other variables collected in the data set. Two of these are the legislative and executive indices of electoral competitiveness ($\text{EIEC}$ and $\text{LIEC}$ in DPI), scaled one to seven, that indicate the competitiveness of elections. $\text{EIEC}$ is also used to establish the validity of the underlying assumptions in the information literature, that the effect of imperfectly informed voters depends on the existence of competitive elections.

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25 Educational attainment was also tried, but was insignificant in all specifications.

26 Where there are no elections, countries receive a one; the scores rise to seven when there are multiple candidates and multiple parties, and no single party or candidate receives more than 75 percent of the vote. If the legislative index of electoral competitiveness is less than five (where five indicates that multiple parties can legally be established, but where only one party wins any seats in the legislature), $\text{checks}$ is one. This reflects the notion that legislatures that are not competitively elected are less likely to exercise decision making authority independent of the executive. Otherwise, coding of this variable depends on whether countries are presidential or parliamentary.

In presidential systems, checks is the sum of one (if $\text{EIEC}$ is greater than four), one (for the president), one for each legislative chamber, and one if the first government party is closer in political orientation (left, right or center) to the first opposition party than to the party of the president. If the legislature is closed list (voters must vote for parties and cannot register candidate preferences) and the president’s party has a majority in parliament, the legislature is not counted as a check. In parliamentary systems, checks is the sum of one (for the prime minister) and the number of parties in the governing coalition; the number of parties is reduced by one if there is a closed list and the prime minister’s party is in the coalition.
The checks variable, intended to reflect the number of independent veto players in a country, simultaneously captures some of the other institutional influences that have been the subject of scrutiny. For example, a closed list has the effect of reducing the number of veto players (by increasing control of party leaders over party members in the legislature); at the same time, the literature predicts that the introduction of a closed list should reduce incentives of individual candidates to appeal to special interests. Similarly, the effect of low voting thresholds in proportional representation systems is predicted to be the emergence of more smaller parties appealing to narrower constituencies. This should lead to governing coalitions with more parties, and therefore more veto players. The checks measure therefore allows the net effect of these countervailing institutional influences to be assessed.

The proximity of elections is the final institutional characteristic of countries examined below. A variable tracking the number of years to the next election, legislative or presidential, counting from the first year of the crisis, has been created from information in the DPI.

A key challenge in the analysis of special interest influence is often that special interests line up on both sides of policy debates. When this occurs, analysis of the institutional determinants of special interest influence must take into account the constituencies and supporters of different government veto players. In the case of banking crises, though, the need to do this is diminished by the fact that special interests tend to line up on the same side of regulatory issues. Government policies that permit imprudent banking tend to benefit narrow interests – recipients of sweetheart loans, bank owners and managers – at the expense of large and/or unorganized interests, including taxpayers and the competitors of recipients of sweetheart loans.27

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27 Romer and Weingast present a good example of how narrow interests can line up on the same side of the regulatory debates preceding banking crises. Healthy savings and loans opposed increasing resources to the regulatory agencies because they feared those resources would come at their expense; insolvent savings and loans opposed increased funding because they knew this would trigger the end of forbearance. These two narrow interests were not opposed by other narrow and well-organized interests, and so prevailed for several years.
**Other controls**

Two economic controls are employed. One is per capita income. GDP per capita may mitigate the size of bank crises to the extent that richer countries tend to have more diversified economies, facilitating bank efforts to maintain more prudent lending portfolios. Richer countries may be able to support a more intensive regulatory effort, and may be better able to establish particular political institutions or to inform the public about government decisions.

It is also arguably appropriate to control for exogenous economic shocks that might precipitate crisis. This is arguable because government policies affect the incentives of financial sector decision makers to take precautions against such shocks. For example, to the extent that bank portfolios are overexposed to exporters, a negative terms of trade shock would expose banks to losses. However, terms of trade volatility is systematically greater in countries that have more concentrated export or import patterns. Terms of trade volatility is therefore a predictable part of the economic environment in many countries, and therefore a condition against which prudent bankers would take precautions (Caprio and Klingebiel, 1997). The introduction of terms of trade volatility into the tests below therefore potentially obscures policy errors due to special interest influence (lax oversight of bank precautions against predictable shocks). Nevertheless, despite conceptual problems and data coverage issues, the effect of terms of trade shocks are examined in the empirical work below.28

**Specification and Results**

Two sets of tests are conducted, the first explaining fiscal transfers as a function of institutional and informational variables, the second explaining government decisions to exercise forbearance. Because of the limited number of observations, a series of regressions is presented

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28 The change in terms of trade is calculated as the \( \ln \left( \frac{\text{price of exports}(t)}{\text{price of imports}(t)} \right) - \ln \left( \frac{\text{price of exports}(t-1)}{\text{price of imports}(t-1)} \right) \), where \( t \) is the first year of crisis. However, because all of the component prices were available for only 24 observations, the variable is supplemented with the percentage change in the prices of imports or exports alone, to create a second measure with 31 observations (the remaining 10 observations had not even this much data).
here, building from the most parsimonious, for which the whole sample can be utilized, to more comprehensive specifications that exclude observations.

The “base” model is given in Table 1, regression 1, where the fiscal costs of crisis are explained as a function of checks and balances, the costs of favoring special interests ($M_2/GDP$), and the number of years from the first year of crisis to the next election. The theory predicts that at higher levels of $M_2/GDP$, a larger number of veto players should have a more limited effect on favors to special interests. To test this, all regressions include an interaction term, $\text{checks} \times M_2/GDP$. Information variables are excluded. Regression 2 takes GDP/capita into account and regression 3 incorporates terms of trade shocks.

Results in Table 1 reflect the predictions regarding the number of veto players. The negative coefficient on the linear checks and balances term indicates that a larger number of veto players reduces favors for special interests when the costs of those favors are low. However, as favors become more costly to voters, the effect of the number of veto players is attenuated, as the positive and highly significant coefficient on the interaction term $\text{checks} \times M_2/GDP$ indicates. An increase in the number of veto players from the sample minimum of one to the sample maximum of seven reduces the fiscal costs of bank crisis as a fraction of GDP by approximately 31 percentage points when $M_2/GDP$ is at its lowest value (0.17), but increases the fiscal costs of bank crisis by 57 percentage points at the highest (1.87).

29 The coefficients on the linear and non-linear terms actually suggest that for sufficiently high costs of favors to voters ($M_2/GDP$), an increase in the number of veto players has a positive effect on the size of fiscal transfers. This is not predicted by the theory, but is easily explained. It is plausible that the profits earned by special interests from financial sector favors, and the size of the financial sector, are both related to the number of veto players. For example, expropriation of financial assets is more difficult when the number of veto player is larger. Given this, it is easy to show that the net effect of an increase in checks and balances can be to increase the magnitude of banking crises.
Table 1: Checks and balances and the magnitude of banking crises
(White-adjusted standard errors in parentheses)

<table>
<thead>
<tr>
<th>Dependent variable: Fiscal costs of crises</th>
<th>(1) Base specification</th>
<th>(2) Controlling for income/capita</th>
<th>(3) Controlling for terms of trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>29.3 (9.8)</td>
<td>29.1 (9.9)</td>
<td>18.3 (10.4)</td>
</tr>
<tr>
<td>checks</td>
<td>-7.6 (3.3)</td>
<td>-8.0 (3.8)</td>
<td>-4.6 (3.0)</td>
</tr>
<tr>
<td>checks*</td>
<td>10.7 (4.3)</td>
<td>11.1 (5.0)</td>
<td>7.0 (3.7)</td>
</tr>
<tr>
<td>M2/GDP</td>
<td>-28.3 (12.8)</td>
<td>-24.6 (14.1)</td>
<td>-16.2 (11.7)</td>
</tr>
<tr>
<td>No. of years from first year of crisis to year of next election</td>
<td>1.6 (1.5)</td>
<td>1.5 (1.4)</td>
<td>2.7 (1.2)</td>
</tr>
<tr>
<td>GDP/capita</td>
<td>-0.12 (.28)</td>
<td></td>
<td>-18.7 (13.1)</td>
</tr>
<tr>
<td>Terms of trade shock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.21</td>
<td>0.22</td>
<td>0.34</td>
</tr>
<tr>
<td>N</td>
<td>40</td>
<td>39</td>
<td>31</td>
</tr>
</tbody>
</table>

Note: Regression 2 excludes Taiwan because income per capita not available for Taiwan from International Financial Statistics, IMF. Observations are “clustered”, such that independence is assumed across countries but not between observations from the same country (Argentina, Indonesia, Malaysia, Turkey, and Thailand). The standard error of checks and M2/GDP is evaluated assuming the interaction term is zero.

The earlier discussion predicts that the “Number of years from first year of crisis to year of next election” should be positively related to the size of fiscal transfers: the further in the future that citizens can use the vote to punish political actors who cater excessively to special interests, the larger are the benefits to special interests. The variable has the predicted positive sign in all of the regressions of Table 1, but is significant only in Regression 3.30

However, the sample includes countries where elections, even when they are held, are not necessarily competitive and therefore pose less of a threat to incumbent politicians. When

30 It is not the specification in Regression 3, which controls for terms of trade shocks, but rather the particular sub-sample, that is responsible for this result, since the election coefficient is even more significant when the terms of trade is omitted in that regression.
regressions 1 and 2 are run only on the 21 countries for which the variable Executive Index of Electoral Competitiveness (EIEC) from the Database on Political Institutions is at its highest value (seven), the coefficients on the proximity of elections variable rise substantially and are more significant.\(^\text{31}\) For example, in regression 1, the coefficient rises from 1.6 to 2.7 (\(p=0.10\)). The \(\beta\) -coefficient of 0.29 in the sub-sample indicates that a 1.3 year increase in the time to the next election is associated with a 2.6 percentage point increase in fiscal transfers.

The two control variables are not significant and have little effect on the other coefficients. Income per capita is highly insignificant in regression 2: the wealth of countries apparently has no effect on the fiscal costs of banking crises as a fraction of national income. Moreover, although the number of veto players (checks) and the size of the financial sector are positively correlated with income per capita (at approximately 0.23 in this sample), all of the terms from regression 1 retain the predicted signs and approximately the same statistical and economic significance in regression 2.\(^\text{32}\)

Regression 3 controls for terms of trade shocks. The dollar-denominated indices of export and import prices are missing for many countries in International Financial Statistics. This not only reduces the sample size by about 25 percent, but does so by removing countries with lower than average values of checks and higher than average fiscal costs of crisis.\(^\text{33}\) Unsurprisingly, given the selection bias introduced by the variable, the coefficient values on checks and the interaction term decline in this regression. Among those countries that report terms of trade data, the regression indicates, as predicted, that adverse terms of trade shocks are positively, though not significantly, related to fiscal transfers.

\(^\text{31}\) The maximum score means that multiple parties and candidates compete for executive office and no single candidate receives more than 75 percent of the vote.
\(^\text{32}\) Using the log of per capita income yields the same result.
\(^\text{33}\) Countries that do not report these data exhibit average checks equal to 2.1, and average fiscal costs of crisis equal to 16.1, compared to 2.8 and 11.6 in the countries that do report these data.
The role of incomplete information in the determination of fiscal transfers in the event of bank crisis is addressed in Table 2. The estimates reported use the specification from regression 2 in Table 1. The hypothesis is that where voters are incompletely informed, fiscal transfers should be larger, though as the previous discussion indicated, the effect should be weak to the extent that fiscal transfers are easily observed even by uninformed voters. In fact, none of the information variables in Table 2 are significant, whether media independence or the availability of trade statistics (the dichotomous variable that takes a zero if information is unavailable in the IFS to compute the terms of trade variable, and a one if it can). Only the trade statistic variable is of the predicted sign, albeit insignificant.

This lack of significance of the information variables persists under numerous alternative specifications. If \( \text{checks} \) and \( \text{checks} \times M_2/GDP \) are included into each of the four regressions, these new variables retain their significance levels as in Table 1, but the information variables remain highly insignificant. Nor does the omission of GDP/capita increase their significance. Predictions about the importance of voter information are premised on political systems in which there are
competitive elections. Although the information coefficients increase in the sub-sample that exhibits greatest electoral competitiveness (EIEC equals seven), as predicted, they remain insignificant.

An evaluation of the determinants of forbearance constitutes a more appropriate test of the influence of information but, as the earlier discussion indicated, a less appropriate test of the influence of the number of veto players. Table 3 presents evidence on the impact of veto players and incomplete information on this more subtle aspect of the government response to crisis: did government officials exercise forbearance in the oversight of insolvent banks? The dependent variable is the (1,0) policy decision to forbear or not. The regressions in the table utilize a probit methodology.

Regressions 1 and 2 of Table 3 demonstrate that the number of veto players contributes in the predicted way to the probability that governments undertake actions that favor special interests, but the results are less striking than in the case of fiscal transfers. A larger number reduces the probability of forbearance, but this effect weakens when the social cost of forbearance (given by $M_2/GDP$) rises. The effects are of the right sign in regression 1 and significant in regression 2, when a control for income per capita is added.
Table 3: Checks and balances, information and the decision to forbear
(Probit estimation; coefficient estimates are marginal effects at mean values of independent variables; p-scores in parentheses; standard errors are White-adjusted)

<table>
<thead>
<tr>
<th>Dependent variable: Forbearance</th>
<th>(1) Checks</th>
<th>(2) Checks</th>
<th>(3) Radio and TV independence</th>
<th>(4) Availability of trade statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>checks</td>
<td>-0.16</td>
<td>-0.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.12)</td>
<td>(0.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>checks * M_{2}/GDP</td>
<td>0.21</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M_{2}/GDP</td>
<td>-0.62</td>
<td>-0.53</td>
<td>0.57</td>
<td>-0.15</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(0.34)</td>
<td>(0.10)</td>
<td>(0.47)</td>
</tr>
<tr>
<td>No. of years from first year of crisis to year of next election</td>
<td>0.18</td>
<td>0.15</td>
<td>0.17</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.01)</td>
<td>(0.005)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>GDP/capita</td>
<td>-0.017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.16)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio and TV independence</td>
<td></td>
<td></td>
<td>-0.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.05)</td>
<td></td>
</tr>
<tr>
<td>Availability of trade statistics</td>
<td></td>
<td></td>
<td></td>
<td>-0.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.03)</td>
</tr>
<tr>
<td>pseudo-R^2</td>
<td>0.20</td>
<td>0.28</td>
<td>0.24</td>
<td>0.26</td>
</tr>
<tr>
<td>N</td>
<td>40</td>
<td>39</td>
<td>36</td>
<td>40</td>
</tr>
</tbody>
</table>

Note: Income per capita not available for Taiwan from International Financial Statistics, IMF. The standard error of checks and M_{2}/GDP is evaluated assuming the interaction term is zero. Observations are “clustered”, such that independence is assumed across countries but not between observations from the same country (Argentina, Indonesia, Malaysia, Turkey, and Thailand).

Both the proximity of elections and the information variables, however, have a more statistically significant effect on forbearance than on fiscal transfers. In every regression in Table 3, the proximity of elections is highly significant, with p-scores never greater than 0.01. For every year that this variable drops (indicating that the next election is one year closer), holding constant either other institutional variables – checks – or informational variables, the probability of forbearance drops by approximately 16 percent.

Regression 3 demonstrates that greater independence of radio and TV stations (like the independence of newspapers, not reported) has a negative and significant impact on the probability that governments forbear from taking action against insolvent financial institutions. The availability
of trade statistics (in regression 4) also has a significant effect on the decision to forbear. The greater explanatory power of information variables is consistent with the notion that fiscal transfers, but not forbearance, are easily observed by even generally uninformed voters.

Again, the role of information could be conditioned on the presence of competitive elections. This assumption can be examined for Table 3 regressions by once again splitting the samples according to levels of electoral competitiveness. Coefficient sizes and significance are much higher in the sub-sample of countries where elections are most competitive, consistent with the theory that the effect of incomplete voter information operates through an electoral channel. The marginal effect of radio and TV independence (evaluated at the mean of all variables) rises from –3 percent in the 15 countries that exhibit lower levels of electoral competitiveness to –41 percent in the 21 countries that exhibit the greatest electoral competitiveness. The change in the coefficient on newspaper independence is correspondingly large, from –5 percent to –64 percent. The coefficient on the trade statistics variable rises from –15 percent in the sub-sample that includes only less competitive countries to –30 percent in the whole sample, including both less and more competitive countries.34

The regressions in Table 3 do not control for institutional variables. However, media independence and the publication of trade statistics are themselves outcomes of government policy making and therefore should not be immune from institutional and social variables. In fact, in the sample of countries used in this paper, the number of veto players is a significant, positive determinant of the independence of radio and television stations.35 This raises the issue of whether

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34 In the most competitive sub-sample, the trade statistics variable perfectly predicts forbearance and drops out.

35 The coefficient results for checks, social polarization due to ethnic fractionalization and land area, all statistically significant, are 0.18, -4.9 and 0.17. Ethnic fractionalization (taken from from Taylor and Jodice 1983) is the probability that two individuals randomly selected from a country do not belong to the same ethnic or linguistic group. To make it an appropriate measure of social polarization, it is transformed so that high and low values of fractionalization equal low values of polarization. Similar results are obtained using the fraction of the population coming from the same ethnic or linguistic group from Sullivan (1991). Area is from the CIA World Factbook.
greater information has an effect on government policy making independent of institutions and information.

Table 4 takes regression 3 in Table 3, focusing on radio and TV independence, and adds the checks variables and a control for income per capita. In regression 1 of Table 4, political variables retain the predicted signs, but only the time to the next election are significant at conventional levels. Again, though, theory suggests that information variables should have their greatest influence in countries where elections are most competitive. Countries that exhibit competitive elections (EIEC = 7) are split nearly evenly between those which forbore and those that did not. Looking only at these countries, in regression 2, the significance of all of the variables rises notably. In the more competitive electoral systems that are assumed in models of voter information and political behavior, the independence of the media is a significant determinant of the decision to forbear, even controlling for checks and balances and the horizon of decision makers. These results hold for both the independence of newspapers and the availability of statistical information.
Table 4: The influence of checks and balances, information and electoral competitiveness on the decision to forbear

(Probit estimation, marginal effects at mean values of independent variables are reported, p-scores in parentheses, standard errors are White-adjusted)

<table>
<thead>
<tr>
<th>Dependent variable: Forbearance</th>
<th>(1) Entire sample</th>
<th>(2) Maximum electoral competitiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>checks</td>
<td>-0.17 (0.27)</td>
<td>-0.29 (0.21)</td>
</tr>
<tr>
<td>checks * M2 / GDP</td>
<td>0.38 (0.17)</td>
<td>0.72 (0.09)</td>
</tr>
<tr>
<td>M2 / GDP</td>
<td>-0.17 (0.77)</td>
<td>0.26 (0.77)</td>
</tr>
<tr>
<td>No. of years from first year of crisis to year of next election</td>
<td>0.17 (0.008)</td>
<td>0.34 (0.01)</td>
</tr>
<tr>
<td>GDP / capita</td>
<td>-0.016 (0.27)</td>
<td>-0.009 (0.67)</td>
</tr>
<tr>
<td>Radio and TV independence</td>
<td>-0.08 (0.26)</td>
<td>-.34 (0.01)</td>
</tr>
<tr>
<td>pseudo-R²</td>
<td>0.30</td>
<td>0.55</td>
</tr>
<tr>
<td>N</td>
<td>36</td>
<td>21</td>
</tr>
</tbody>
</table>

Note: Income per capita not available for Taiwan from International Financial Statistics, IMF. Sample in Regression 2 is those countries that receive a six on the Executive Index of Electoral Competitiveness (EIEC) from the Database on Political Institutions.

Robustness

The results presented in Tables 1 – 4 are surprisingly robust, in view of the small sample size, to numerous different specifications and samples. Still, one might be concerned about the role of omitted variables, the quality of the variables proxying for uninformed voters and the cost to voters of special interest policies, and about additional, plausible specifications that are not examined above. This section reviews these concerns.

One set of omitted variables is the numerous economic circumstances that make banking crises more likely, such as bouts of inflation and business cycle variables. On the one hand, though, it is unlikely that these circumstances are spuriously correlated with the institutional and informational variables. For example, it is difficult to argue that inflation or business cycle variables
are determinants of both crisis decisions and of constitutional variables such as the number of veto players. Moreover, it is unlikely that such a correlation would be greater in a sub-sample of countries with more competitive elections.

On the other hand, the results are robust, or improve, after the inclusion of income per capita. This means that any omitted variables that determine both the political variables on the right hand side of the regressions and the government decisions on the left hand side must at the same time be unrelated to country incomes. Again, this seems unlikely.

A stronger case might be made that underlying social variables, such as the degree of social polarization due to ethnic and linguistic heterogeneity in a country, could influence both the right hand and left hand side variables. However, the inclusion of the social polarization variables described in footnote 32 leaves unchanged or strengthens the coefficient values on $\text{checks}$, $\text{checks} \times \text{M}_{2}\text{GDP}$, and the number of years until the next election in regression 1, Table 1 and in regression 1, Table 3. It also leaves unchanged or strengthens the information coefficients in regressions 3 and 4 of Table 3.

The information variables used in the analysis are only approximate measures of the extent to which voters are imperfectly informed about the connection between economic conditions and the actions of government officials. The question, however, is whether the defects of these variables contribute noise to the analysis or actual bias. The results suggest the former. One might argue that the three information variables capture underlying political characteristics unrelated to voter information. Countries that restrict media freedom are more likely to be authoritarian, for example, and therefore more likely to exhibit high fiscal transfers or excessive forbearance in the event of a bank crisis for reasons independent of voter information. If this were the case, though, the coefficient values of the information variables in Table 3 would exhibit a decline, instead of the increase that is actually observed, when the sample is restricted to countries with the most competitive electoral environments.
Moreover, it is difficult to explain why, if these variables were capturing some omitted underlying political or social phenomenon, such a phenomenon leads to spurious significant results in the case of forbearance (Table 3) but not fiscal transfers (Table 2). An information-based explanation, however (that fiscal transfers are more easily observed than forbearance even by voters denied access to independent media) seems more satisfactory.

The results are somewhat robust to the use of measures other than lagged $M_2/GDP$ to capture the costs to voters of special interest favors in the financial sector. Two measures suggested by Beck, Demirgüç-Kunt and Levine (forthcoming) are liquid liabilities of the financial system and private credits extended by deposit banks and other financial institutions. The checks variables in Table 1 retain their significance when lagged values of either of these is substituted for lagged $M_2/GDP$. In particular, the interaction term is always significant in each of the three regressions. These variables are not robust to alternative measures of financial sector development in the forbearance regressions in Table 3. This, however, is not surprising given that multiple veto players are not expected to participate in a regulatory decision such as forbearance.

The information variables in the last two regressions of Table 3 remain significant when alternative measures of the size of the financial sector are used. However, only the election variable in Table 4, but not the information variables, retains its significance when alternative financial sector measures are used.

It is possible in many circumstances that an increase in the number of veto players has a greater effect at low levels (e.g., moving from one veto player to two) than at high levels. One key permutation not examined earlier was therefore the use of the logarithm of checks. In fact, the results in Tables 1 – 4 are robust to the use of the logarithm of checks.

Finally, the estimates reported in the tables all take into account that observations on multiple crises in the same country might not be independent. However, it might also be argued that observations on simultaneous crises in different countries might not be independent. Re-estimating the regressions by clustering observations by year does not change the results, however.
Conclusions and policy implications

The analysis in this paper simultaneously takes into account, for the first time, three determinants of the influence of special interests on government policy: the number of veto players, the proximity of elections, and the extent to which voters are informed. The findings have implications both for the academic debate on the role of special interests and for the policy debate regarding financial sector regulation.

The analytical and empirical findings suggest, first that the number of veto players can reduce favors to special interests. This conclusion contrasts with theoretical findings in a large literature in which electoral and political institutions that produce a larger number of veto players, such as proportional representation systems with low vote thresholds, give greater incentives to veto players to favor special interests. The model in this paper, looking only at the number and abstracting from the constituencies of veto players, concludes the opposite. The empirical section offers some support for the conclusion that this countervailing influence is important.

Second, the empirical results indicate that the closer are elections, the less likely are policies that favor special interests. That is, although elections may stimulate a demand for resources among political actors, which might be expected to encourage special interests, the disciplining effect of elections appears to more than offset the exigencies of campaign finance.

Third, the work suggests that the effects of information on policy outcomes can be identified empirically only by taking into account both the institutional and policy environment. In particular, the fraction of uninformed voters is likely to favor special interests least when institutional arrangements deprive informed voters of influence (as in countries lacking elections), and for policy outcomes for which the public can easily assess official responsibility.

The findings in this paper also suggest a different set of financial sector policy recommendations than those that have emerged from the study of the United States savings and loan crisis. Based largely on rigorous examination of the US case, for example, Kroszner (1997) argues that five measures can potentially improve government financial sector policy and reduce the
cost of crisis: disseminating information about the costs of inefficient government policy; ensuring competition among interest groups; increasing the transparency of government decisions; improving the structure of legislative oversight of the regulatory process; allowing the entry of foreign banks.

Implicit in the empirical work of both Kroszner and Strahan (1999) and Romer and Weingast is a sixth policy implication, that regulatory change should be packaged to appeal to diverse veto groups.

These recommendations place great weight on the disciplining role of information and take for granted an institutional environment characterized by competitive elections and multiple veto players. The cross-country evidence marshaled here suggests that these should not be taken for granted. Moreover, the evidence from this sample suggests that these are also pre-requisites for information dissemination and interest group competition to have a salutary effect on government financial sector policies.

Appendix – Proofs of Results

Result 1: If governments are formed only of veto players from group L, the larger the number of veto players, the lower are favors to special interests.

Proof: Recall that $R_i = (\alpha h_i)\pi(q)$, rewrite the first order condition from (1) as

$$1 \frac{1}{\rho} \left( \frac{\alpha}{n} \pi' + T' \right) = 0,$$

assuming the constraint is non-binding. Totally differentiate with respect to $n$

$$\frac{\partial \tilde{R}_L Hicks}{\partial n} = 1 \frac{\alpha}{\rho} \frac{\pi'(q_L,2)}{n^2} \left( \frac{\alpha}{n} \pi'(q_L,2) + T'(q_L,2) \right)^{-1}.$$ For a maximum to exist,

$$\frac{\alpha}{n} \pi' + T' \geq 0 \text{ for } q \leq q_{L,2}, \text{ and } \frac{\alpha}{n} \pi' + T' \leq 0 \text{ for } q \geq q_{L,2} \text{, and therefore the concavity condition }$$

$$\frac{\alpha}{n} \pi'' + T'' \leq 0 \text{ is fulfilled at } q_{L,2} \text{. Since the first term is positive, then, } \frac{\partial \tilde{R}_L Hicks}{\partial n} \leq 0.$$

Result 2: The larger the number of veto players, the lower is $q_1^{\expel}$, provided $n > 2g$. Otherwise, $q_1^{\expel}$ rises in the number of veto players.

Proof: As with Result 1, recall that $R_i = (\alpha h_i)\pi(q)$ and rewrite the first order condition from (3) as
\[
\frac{\alpha}{n} \pi' + T_{H,i} - \frac{g}{n - g} \left( \frac{\alpha}{n} \pi' + T_{L,i} \right) = 0 \text{, assuming the constraints are non-binding.}\]

Totally differentiate with respect to \( n \) to get

\[
\frac{\partial \hat{q}_1^{\text{expel}}}{\partial n} = \left( \frac{n - 2 g}{n - g} : \frac{\alpha}{n^2} \pi'(q_1^{\text{expel}}) \right) \left( \frac{n}{n - g} : \frac{\alpha}{n} \pi''(q_1^{\text{expel}}) + T_{H,i}^{\pi} (q_1^{\text{expel}}) - \frac{g}{n - g} T_{L,i}^{\pi} (q_1^{\text{expel}}) \right)^{-1}
\]

For \( n \geq 2g \), the first term is positive and the second term must be negative for a solution to exist.

Therefore, \( \frac{\partial \hat{q}_1^{\text{expel}}}{\partial n} \leq 0 \). For \( n < 2g \), it becomes too expensive for veto players who care less about the status costs of special interest payoffs to compensate those veto players who care more, so

\[
\frac{\partial \hat{q}_1^{\text{expel}}}{\partial n} > 0.\]

**Result 3**: The larger the number of veto players, the lower is \( q_1^{\text{re-elect}} \) for \( q_1^{\text{re-elect}} \neq q_1^{\text{expel}} \) and \( n \geq 2g \).

For \( n < 2g \), the reverse is true.

**Proof**: Totally differentiate equation 5 with respect to \( n \) to get

\[
\frac{\partial \hat{q}_1^{\text{re-elect}}}{\partial n} = \left[ \frac{1}{\rho} \pi'(q_1^{\text{re-elect}}) \right]^{-1} \left[ \frac{\partial \hat{q}_1^{\text{expel}}}{\partial n} \pi'(q_1^{\text{expel}}) + \frac{1}{\rho(1 + \rho)} \frac{\partial \hat{q}_{L,2}}{\partial n} \pi'(q_{L,2}) \right].\]

Since \( \pi \) rises in \( q \), (5) and by Results 1 and 2, this expression must be negative when \( n \geq 2g \) and positive otherwise.

**Result 4**: Provided the discount rate is sufficiently small and for \( g=0 \), an increase in the number of veto players \( n \) leads incumbents to choose a lower equilibrium level of rents.

**Proof**: Totally differentiate (5) with respect to \( n \), setting \( g = 0 \). Payoffs to pursuing \( q_1^{\text{expel}} \) (the right hand side of (5)) change as follows:

\[
\frac{\partial \text{(Payoffs to } q_1^{\text{expel}})}{\partial n} = - \frac{\alpha}{n^2} \pi'(q_1^{\text{expel}}) + \frac{\partial \hat{q}_1^{\text{expel}}}{\partial n} \left[ \frac{\alpha}{n} \pi''(q_1^{\text{expel}}) + T_{L,i}^{\pi} (q_1^{\text{expel}}) \right].\]

However, by the conditions of maximization, the sum in squared brackets must equal zero. Payoffs to adopting \( q_1^{\text{re-elect}} \), the left-hand side of (5), change in a similar fashion, unsurprisingly:
\[
\frac{\delta (\text{Payoffs to } q_1^{\text{re-elect}})}{\delta n} = \frac{1}{\rho} \left\{ -\frac{\alpha}{n^2} \pi(q_1^{\text{re-elect}}) + \frac{\delta q_1^{\text{re-elect}}}{\delta n} \left[ \frac{1}{n} \pi(q_1^{\text{re-elect}}) + \frac{\delta}{\delta n} \left( \pi(q_1^{\text{re-elect}}) + \pi(q_1^{\text{re-elect}}) \right) \right] \right\}.
\]

Since \( q_1^{\text{expel}} \geq q_1^{\text{re-elect}} \), the sum in squared brackets is positive and the entire second term in curly brackets is therefore negative. For a sufficiently low discount rate, \[
\left| \frac{\delta (\text{Payoffs to } q_1^{\text{expel}})}{\delta n} \right| > \left| \frac{\delta (\text{Payoffs to } q_1^{\text{re-elect}})}{\delta n} \right|. \] However, since

\[
-\frac{\alpha}{n^2} \pi(q_1^{\text{expel}}) \geq -\frac{\alpha}{n^2} \pi(q_1^{\text{re-elect}}),
\]

the sufficiently low discount rate need not be particularly low. \(\blacksquare\)

**Result 5**: An increase in the costs imposed on voters by favors leads to an increase in the size of equilibrium favors, and an attenuation in the negative relationship between \( q_1^{\text{re-elect}} \) and \( n \).

**Proof**: Assume that costs can be rewritten as \( c(\beta q) \), where \( \beta \) is a parameter that is high or low depending on whether voters bear higher or lower costs from increases in favors \( q \). Rewrite condition (5) as

\[
\frac{1}{\rho} c(\beta q_1^{\text{re-elect}}) = c(\beta q_1^{\text{expel}}) + \frac{c(\beta q_{1,2})}{\rho (1 + \rho)} + c. \]

Totally differentiating this expression with respect to \( \beta \) gives

\[
\frac{\delta q_1^{\text{re-elect}}}{\delta \beta} = \left[ \frac{1}{\rho} q_1^{\text{re-elect}} c'(q_1^{\text{re-elect}}) \right]^{-1} \left[ q_1^{\text{expel}} c'(q_1^{\text{expel}}) + \frac{1}{\rho (1 + \rho)} q_{1,2} c'(q_{1,2}) \right] > 0. \]

That is, when voters bear higher costs from any given level of favors, they have less leverage over incumbents, and incumbents are freer to choose a higher level of favors without fear of expulsion. Moreover, totally differentiating

\[
\frac{\delta q_1^{\text{re-elect}}}{\delta n} = \left[ \frac{1}{\rho} c'(q_1^{\text{re-elect}}) \right]^{-1} \left[ \frac{\delta q_1^{\text{expel}}}{\delta n} c'(q_1^{\text{expel}}) + \frac{1}{\rho (1 + \rho)} \frac{\delta}{\delta n} c'(q_{1,2}, q_{1,2}) \right] \]

from Result 3 with respect to \( \beta \), one observes that the negative relationship between favors and the level of checks is also attenuated, since
\[
\frac{\Delta q_1^{\text{re-elect}}}{\delta \alpha \delta \beta} = -\frac{1}{\rho} q_1^{\text{re-elect}} \left( \frac{1}{\rho} q_1^{\text{re-elect}} \right)^{-2} \times \left[ \Delta q_1^{\text{expel}} \exp (q_1^{\text{expel}}) + \frac{1}{\rho (1 + \rho)} \frac{\Delta q_1^{\text{expel}}}{\delta \alpha} \exp (q_1^{\text{expel}}) \right] \geq 0
\]

by the concavity assumptions on \( c \) and Results 1 and 2. ■

References


The World Bank.


