

“Plata o Plomo?”: Bribe and Punishment  
in a Theory of Political Influence

Ernesto Dal Bó, Pedro Dal Bó and Rafael Di Tella

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# “*Plata o Plomo?*”: Bribe and Punishment in a Theory of Political Influence\*

Ernesto Dal Bó                      Pedro Dal Bó                      Rafael Di Tella  
*New College, Oxford              Brown University              Harvard Business School*

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## Abstract

We present a model where groups attempt to exert influence on policies using both bribes (*plata*, Spanish for silver) and the threat of punishment (*plomo*, Spanish for lead). We then use it to make predictions about the quality of a country’s public officials and to understand the role of institutions granting politicians with immunity from legal prosecution. The use of punishment lowers the returns from public office and reduces the incentives of high ability citizens to enter public life. Cheaper *plomo* and more resources subject to official discretion are associated with more frequent corruption and less able politicians. Moreover, the possibility of punishment changes the nature of the influence game, so that even cheaper *plata* can lower the ability of public officials. Protecting officials from accusations of corruption (immunity) will *decrease* the frequency of corruption and may increase the quality of politicians if the judiciary is weak. These predictions are the opposite to those emerging from a model where only bribes are used.

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\*Corresponding author: Pedro Dal Bó, Dept. of Economics, Brown University, 64 Waterman St., Providence, RI 02912. E-mail: pedro\_dal\_bo@brown.edu.

*The positive evils and dangers of the representative, as of every other form of government, may be reduced to two heads: first, general ignorance and incapacity, or, to speak more moderately, insufficient mental qualifications, in the controlling body; secondly, the danger of its being under the influence of interests not identical with the general welfare of the community.*

*John Stuart Mill*<sup>1</sup>

## 1 Introduction

During their first week in office, Colombian judges and other public officials involved in the anti-drugs war often receive a message asking,

*“Plata o plomo?”*

The message originates in the drug cartels and is Spanish for *“Silver or lead?”*. It reminds public officials that there is an alternative to fighting drugs and receiving *plomo* (Spanish for lead, as in bullets) which is to not fight drugs and receive *plata* (Spanish for silver or money, as in a bribe). Bowden (2001) writes about the ways of the former head of the Medellin Cartel, Pablo Escobar Gaviria: *“Pablo was establishing a pattern of dealing with the authorities...It soon became known simply as plata o plomo. One either accepted Pablo’s plata (silver) or his plomo (lead)...Death was his strategy against extradition, that and money. His policy of plata o plomo became so notoriously effective that it would ultimately threaten to undermine Colombia’s democracy...Pablo’s primary target...was the country’s judicial system, to which he offered plata o plomo....Plata o plomo had every official in Bogotá living in fear or under suspicion...”* The phenomenon is well documented and exceeds the case of the Medellin Cartel.<sup>2</sup>

In this paper we present a model built upon the assumption that groups have access to both carrots (*plata*) and sticks (*plomo*). A basic result of the paper is that an active pressure group may want to use both instruments, as the use of threats saves on bribes. Our root assumption has many advantages. First, it is more realistic than previous approaches, as there is overwhelming evidence that, in practice, pressure groups use both types of instruments. Second, the assumption is less restrictive from a theoretical perspective than allowing groups to use only bribes or punishment. Third, a model built upon this assumption allows us to analyze the two *“positive evils and dangers of the representative”* emphasized by Mills

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<sup>1</sup>“Considerations on Representative Government” (1861), in “On Liberty and Other Essays” (1998), Oxford World’s Classics, Oxford: Oxford University Press, page 286. Cited in Mueller (1989).

<sup>2</sup>Variants of the *Plata o Plomo* phenomenon have been observed in various countries where drugs mafias operate: *“Plata o plomo. Silver or lead. That is the choice drug traffickers in Mexico have given their allies and enemies for years: the bribe or the bullet”* (*Los Angeles Times*, December 12 1999).

in the quote above: that the representative is influenced by special interests, and that the members of the representative are of insufficient mental quality. In fact our model explains how the two dangers are linked together through the “*plata o plomo*” method of influence. Finally, the approach is easily testable as a number of the predictions that emerge are in sharp contrast to those made by the traditional approach where groups can only use bribes or campaign contributions.<sup>3</sup> We focus on the quality of public officials and the value of a class of institutions designed to make policymakers less accountable, such as legal immunity.

The contrast with the traditional approach is worth emphasizing. For example, the assumption that groups have access to both *plata* and *plomo* results in the first model that can explain a negative relationship between the level of state capture and measures of the quality of politicians. In the traditional approach, more capture is obtained through more bribes, which in turn makes public life more attractive for the more able individuals in society. In our model, more capture may be the result of threats becoming cheaper to use, as when violence becomes more widespread. In this case, returns to entering public life fall and only the relatively less able will want to run for office. Interestingly, even when it is the traditional instrument of influence (bribes) which becomes cheaper to use, society might end up with worse politicians. This is the opposite to what one finds in a world where only bribes are used, and shows that including threats changes the *nature* of the influence game. In addition, a model where groups use only bribes could never explain why countries may want to provide public officials with some form of legal immunity. A famous example is the granting of immunity from legal prosecution to France’s President, Jacques Chirac, in 2000.<sup>4</sup> Such an institution, which makes it more difficult to investigate the actions of officials, could only make sense in a world where threats of legal harassment are used to influence policy. Our model explains this institution quite naturally, and how its usefulness is related to the quality of other judicial institutions in the country. Finally, we predict that the amount of resources under political discretion may be negatively correlated with the quality of politicians. In the traditional approach, more resources under political discretion result in more bribes, which in turn make public life more attractive. In our model, more resources under political discretion result in more threats, which makes public office less attractive for high ability types.

Since threats are used by active pressure groups, this model offers a new perspective on the efficiency costs of influence activities (see, for example, Becker, 1983). In contrast to a bribe, which can be considered just a transfer, punishment involves dead weight losses, particularly

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<sup>3</sup>See Stigler (1971), Peltzman (1976), Baron (1989), Grossman and Helpman (1994), *inter alia*.

<sup>4</sup>A French court ruled that President Jacques Chirac cannot be investigated while in office in connection with a corruption scandal. See, for example, “Court upholds Chirac’s immunity”, *BBC News*, Tuesday, 11 January, 2000.

when it involves the physical destruction of resources for which the group gains nothing directly. More importantly, however, our paper emphasizes another channel through which influence activities can induce efficiency losses, namely that it could reduce the equilibrium ability of public officials. Although the pressure group only intends to change the policy decisions of the officials, the expected payoffs of the latter are reduced by the use of threats so that able candidates will be less likely to enter political careers.<sup>5</sup> Caselli and Morelli (2001) is one of the few models that can explain cross-country differences in the quality of politicians.<sup>6</sup> They show that bad politicians may want to keep their own wages low so that society may get to be supply-constrained of high quality politicians. Since bribe-offers is the technology used for influence, however, the natural outcome in this model is that the quality of politicians *increases* when there is more capture, if not in terms of honesty, at least in terms of ability.<sup>7</sup> Explaining the quality of officials is important because it is a simple explanation for cross-country income differences. Our explanation is that poor countries end up poor because their political elites choose bad policies, and that this is so because in equilibrium policies get to be chosen by politicians of “insufficient mental qualifications” (to speak moderately). This is particularly appealing because, as Caselli and Morelli (2001) emphasize, the quality of political elites varies greatly across countries.<sup>8</sup>

The violent aspect of the “*Plata o plomo?*” quote may suggest that we are referring to a (big) problem in a small number of countries.<sup>9</sup> But the natural assumption is that pressure groups have access to a number of threat “technologies” that allow groups to exert pressure reducing the utility of policymakers, without necessarily taking them to (presumably) minus

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<sup>5</sup>For other roles of threats, see section 2 below.

<sup>6</sup>They introduce the term “*bad politicians*”. Using the representative democracy setup as developed by Osborne and Slivinski (1996) and Besley and Coate (1997), it can be shown that our model can be applied to both elected officials and to bureaucrats. Thus, except when otherwise noted, we use the two categories interchangeably.

<sup>7</sup>The connection between bribes in the public sector and a higher quality of applicants was already present in the early work on rent seeking. In fact, Krueger (1974) argues that when the system distributes more rents, and there are more bribes to be shared, an excess supply of candidates for the bureaucracy may appear so that some form of rationing will be required. Her concern was that if rationing is done following educational attainment, competition may lead to waste. A related point is raised by Murphy, Shleifer and Vishny (1991), who show that when rent seeking is important, the more talented people will choose the bureaucracy over the private sector. Since the private sector drives growth, this is particularly costly.

<sup>8</sup>An existing literature studies how bad policies can come about (see, for example, Weingast, Shepsle and Johnsen, 1981; and Coate and Morris, 1995) and on how good policies may not be introduced as soon as they should (see, for example, Alesina and Drazen, 1991; Fernandez and Rodrik, 1991; and Dal Bó and Di Tella, 1999). The explanations in this literature hold for societies where the quality of politicians is taken as given.

<sup>9</sup>Note that violence is the norm rather than the exception. There are 30 OECD countries with relatively secure environments (but see Mexico, Turkey and Italy’s south) and 189 member states in the United Nations.

infinity through death. Indeed, politicians in less violent countries often make a point related to *Plata o plomo?* when they claim that their own actions are constrained by the influence of pressure groups. The type of complaint voiced by politicians suggests that punishments include smear campaigns in the media and legal harassment in countries with weak judicial institutions. Examples are provided in Section 2. Interestingly, the existing literature on interest groups cannot explain such complaints. If groups only offer bribes, and accepting bribes is always optional, the complaints raised by politicians would not be believed by anyone. Thus, our analysis is close to Dal Bó and Di Tella (1999), who study how pressure affects policy formation in a model where policymakers are honest and groups only have access to threats. The analysis there, as well as in this paper, is developed in the context of government officials under pressure, but the analysis is readily applied to other contexts. Baron (2001) develops a related idea in his model of private politics and corporate social responsibility. He considers an activist who has access to a class of threats (including boycotts and filing lawsuits) in attempting to influence the firm’s strategy. The extension to a prior entry stage along the lines of our model could be empirically important, particularly when the media plays a role in developing threats.<sup>10</sup> The work on legal origins by Glaeser and Shleifer (2002) has also emphasized the possibility that groups use threats to affect judges, and that differences in the intensity of pressure determined the form of legal organization that emerged over time in England and France. To our knowledge, our paper is the first attempt at extending the basic model of endogenous policy formation to include pressure groups that optimally use both bribes and threats simultaneously.<sup>11</sup>

The plan for the paper is as follows. Section 2 discusses some examples while section 3 introduces the model. It has two stages: an entry stage, where individuals of different ability decide if they want work in the public or in the private sector, and a pressure stage, where a pressure group tries to influence the decisions of a public official. In section 4 we analyze the benchmark case where the pressure group only has access to a bribe technology.

Section 5 studies the case of groups that have access to both bribe and punishment technologies and derives the main empirical predictions. Section 6 applies the model to explain when granting official immunity can curb corruption and when it can improve the quality of politicians. Section 7 offers some further results. The first concerns the connection

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<sup>10</sup>The possibility that talented CEO’s would fail to apply for the top jobs at times when shareholder activism—and media scrutiny—is intense, is discussed in the article “No Thanks: Fearing Scandals, Executives Spurn CEO Job Offers”, page 1, *The Wall Street Journal*, June 27, 2002. Dyck and Zingales (2002) show that the media can play a role in pressuring corporate managers in behaving in ways that are socially desirable and that may not coincide with shareholder value maximization. See also Dyck (2002).

<sup>11</sup>Compare our setting with an armed robbery. In the latter, the thief says “You, give me the money, otherwise I will harm you”. In our setting, the group says “I will give *you* the money (and you give me a favorable policy), otherwise I will harm you”.

between the amount of discretion officials enjoy, with the equilibrium amount of corruption and the quality of politicians. Then we extend the model to analyze the possibility of multiple equilibria when the incompetence of politicians reinforces the conditions that make their emergence more likely. An extension where threats become endogenously credible on reputation grounds is included in the Appendix. Section 8 concludes.

## 2 Discussion and Some Examples

The root assumption of the paper is that, besides paying bribes, pressure groups have access to a punishment technology. There is overwhelming anecdotal evidence of the use of at least three types of punishment: threats of physical violence, legal harassment and smear campaigns in the media. In this section we provide examples of this type of pressure group activity, particularly when there is a potential effect on the pool of policymakers. The reason why threats occur in this model, as well as in Dal Bó and Di Tella (1999), is to induce the policymaker to change his action from that preferred by society to that preferred by the group. This includes situations where the official yields to threats because he fears a political damage, and not a personal one. The official may choose a bad decision in fear that the realization of punishment, discrediting him or his cause, may lead to his replacement with candidates pursuing inadequate agendas thereafter. Groups could have at least two more reasons to use threats. First, when the official denies the group a favor, the announced punishment might effectively eliminate him, perhaps allowing a new “better disposed” official to take his place. This is explicit in the case of direct violence—see the case of the Colombian guerrilla discussed below. In the case of a smear campaign, or legal harassment, the policymaker may resign or be sacked as a result of the actions of the group. Second, one could imagine that the actions of the group make the policymaker less effective. One could assume policymakers have a stock of political capital that could be affected by smear campaigns that could force the official to spend his time explaining himself. The results of our model are valid when groups have these other reasons to use threats, as long as the official’s payoff suffers when punishment is inflicted.

### *Physical Violence*

The mafia has traditionally used violent means to influence politicians.<sup>12</sup> There are also many examples of political violence that exceed the case of mafia organizations. The cases of Galina Starovoitova, gunned down on the stairs of her apartment building in November 1998, and politician Mikhail Manevich hit five times at long range as his car sped down a

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<sup>12</sup>On the Sicilian mafia, see Gambetta (1993), who provides an analysis of the phenomenon as a private protection industry.

busy street in August 1997, both in St. Petersburg, are well-known examples of contract violence against politicians.<sup>13</sup> Some violent organizations are explicit about the expected outcome of the threats. In early June 2002, for example, the main narco-guerrilla group in Colombia, the FARC (Fuerzas Armadas Revolucionarias de Colombia), launched a campaign to intimidate politicians who oppose them or are unsympathetic to the cause. The campaign, which includes threats of kidnapping and assassination, explicitly requested the resignation of 463 out of 1,098 city mayors in a region of the country. Two months later two city mayors had been killed and, with the killing of Briceno Luis Sanchez on July 14, the number of elected city council members assassinated by the FARC reached 5. By then a total of 222 out of the 463 city mayors had resigned. Former guerrilla fighter turned political analyst, León Valencia, reflected *“It is a tremendously cheap and efficient tactic.”*<sup>14</sup>

### *Legal Harassment*

In many cases public officials have been subject to lengthy judicial processes. Often these have been described as an instance of pressure group activities. In Latin America the practice is so frequent that it has been given a name: the *“judicialization of politics”*.<sup>15</sup> Perhaps the most extreme case is that of the former Malaysian deputy Prime Minister Anwar Ibrahim, who was arrested on September 20, 1998 and initially held without charge under the Internal Security Act. Amnesty International describes the events as follows: *“Subsequently, politically motivated charges of abuse of power (allegedly using his office to interfere with police investigations into alleged sexual offences and sodomy) were filed against him, after a trial which Amnesty International considered to be unfair.”* In other excerpts it writes *“Anwar was sentenced in April 1999 to six years in prison. His appeals were rejected. In September 1999 Sukma Darmawan and academic Dr. Munawar Anees were arrested and, after pleading guilty of “having been sodomised” by Anwar Ibrahim, were sentenced to six months in prison. They later retracted their confessions stating they were severely ill-treated to coerce them.”* It also states that *“In order to remove Anwar Ibrahim from political life and to discredit him publicly, those in power in Malaysia resorted to measures including*

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<sup>13</sup>See, for example, *The Times*, Monday, March 22, 1999. In Starovoitova’s obituary, *The Economist* points out that *“A problem for her enemies was that she could not be bought. She lived simply and seems to have had no business interests.”* November 28th 1998. On the Russian mafia, see Varese (1994). Dal Bó and Di Tella (1999) report other assassinations in Eastern Europe, Africa, Asia and Latin America, where it has been alleged that pressure groups were involved.

<sup>14</sup>In *“Un plan diabólicamente eficaz,” La Nación* (Buenos Aires, Argentina), July 15, 2002 (our translation).

<sup>15</sup>See *La Nación*, November 8, 1998. A similar process is described in the editorial *“Leave the Judiciary out of it”*, *The Taipei Times*, March 3, 2000. This is an extreme version of a problem analysed by political scientists involving the process by which courts and judges come to make public policies that had previously been made by other governmental agencies, especially legislatures and executives (see, for example, Tate and Vallinder, 1995).



*the misuse of law, state institutions and the courts, the ill-treatment of detainees to coerce confessions, and the erosion of the right to a fair trial.*"<sup>16</sup>

A second example of politically motivated judicial harassment involves the sacking of Pedro Pou, president of Argentina's Central Bank in 2001 by President Fernando De la Rúa, for "bad conduct". Pou was replaced by Roque Maccarone, an experienced banker who "has worked for Mr Cavallo in the Economy Ministry before in the early 1990s." In spite of that connection, Mr Maccarone told reporters the central bank "will not be a dependency of the Economy Ministry." The decision "followed a public feud between Pou and economy minister Domingo Cavallo over how to lift Argentina's economy out of nearly three years of deep recession. The economy minister had publicly branded the central banker a "liar" and opposed his monetary policies." It was also reported that "Mr Pou is charged with mismanagement of the central bank during a high-profile, \$4.5bn money laundering scheme under the presidency of Carlos Menem from 1989 to 1999. But Mr Pou's feud with Mr Cavallo was described by many analysts as his downfall as the economy minister attempted to wrest control of central bank policies. Mr Cavallo has denied those allegations and the government has said Maccarone's appointment would not compromise the central bank's independence on monetary policy. Mr Pou also angered Mr Cavallo by rejecting his plans to peg the Argentine peso to both the euro and the US dollar. Currently, the currency is pegged to the dollar only."<sup>17</sup>

### *Biased Media Coverage*

A third type of action that reduces the utility of the policymaker is if pressure groups can attack him in the press. In a number of occasions the potential for such actions has led politicians to be less willing to enter political races. An example of this in the UK is the problems faced by Michael Portillo, a candidate to lead the Conservative Party who admitted to a homosexual past and who in 2001 was undecided to run because he feared that right-wing critics would mount an anti-gay smear campaign.<sup>18</sup> Such problems are even more severe when pressure groups heavily sponsor or directly own media outlets because of the possibility of biased coverage. This depends on the particular organization of the media industry in each country. Again an extreme example is Russia in the late 1990's, where seven of the top eight largest financial-industrial groups had significant media interests. It also suggests that the main reason for the appointment of Chernomyrdin's successor as prime minister (Kiriyyenko) in March 1998, was his ties to the country's business community. "His industry pedigree may have recommended him to the leaders of Russian big business, [...]. The approval of these tycoons is well worth having. They own most of the national mass

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<sup>16</sup>See <<http://www.amnesty.it/news/2000/32800900.htm>>.

<sup>17</sup>See *BBC News*, Thursday, 26 April, 2001, <<http://news.bbc.co.uk/1/hi/business/1298298.stm>>.

<sup>18</sup>See "Portillo Fears Smear Campaign", page 1, *The Independent*, Sunday June 10, 2001.

*media and much of the banking industry too. They can twist the arm or stain the reputation of any minister they choose*".<sup>19</sup>

Another example of the use of the media by pressure groups involves the privatization of Banco de Mendoza, bought by Raul Moneta, a businessman who was president of CEI—a big media conglomerate with interests in cable, open TV, radio and the written press. After allegations of corruption were made, a parliamentary investigation led by Gustavo Gutierrez was launched. Following this, a series of threats and slander were levied against Gutierrez and a fellow congressman. A report by an American agency by the name Kroll, hired by Moneta, accused Gutierrez of a number of crimes, including arms trafficking and money laundering for hundreds of millions of dollars. The accused requested that they be tried for these alleged crimes. Fourteen judges and co-judges subsequently excused themselves. When finally an ad-hoc judge accepted to carry out the investigation, all the charges levied against Gutierrez were dismissed. An editorial in the leading national newspaper emphasized the importance of this trial, given the circumstances mentioned above. It also emphasized that the ruling *"warns society and the government authorities that certain individuals are capable of carrying out press actions and propaganda that discredits the same public officials that are investigating them. The purpose is to frighten those in a position to investigate them through the diffusion of information that destroys their public and private reputation. This is particularly relevant these days in which so many pre-candidates prefer not to give electoral battle given obscure situations that do not end up duly clarified."*<sup>20</sup> In another part the editorial points out that *"society as a whole should question the influence of money on politics, both when it is used to destroy and when it is used to uphold a candidate. This regrettable phenomenon is more damaging given the aggression to which citizens that get involved in the public interest are subjected to, many of which are honorable people that the country badly needs for its recovery. The ruling is also a warning of the possible influence of unscrupulous "journalists", who rather than inform the truth, accommodate their preaching according to which is convenient to certain interests."*<sup>21</sup>

### 3 The Model

The model has two stages. In the first stage, citizens with different abilities decide whether to apply for public office or to enter the private sector. In the second stage, the pressure

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<sup>19</sup>See *The Economist*, April 4, 1998.

<sup>20</sup>The editorial is alluding to the mysterious decision of the most popular politician in Argentina at the time, Carlos Reutemann, not to run in the presidential elections. The only explanation given was that he *"had seen things that he had not liked"*.

<sup>21</sup>See *"Preservar la Política"*, Editorial I, *La Nación*, July 29, 2002. Our translation.

group has the opportunity to bribe and threaten the official to obtain a given resource.

*First Stage: entry calculus by prospective officials*

We assume that the economy is populated by agents indexed with an ability parameter  $a \in [0, \infty)$ . Ability is distributed according to the function  $F(a)$ , with associated density  $f(a)$ . In the first stage of the game, individuals decide whether to apply for public office or to enter the private sector. The wage they can earn in the private sector equals their ability. Their earnings in the public sector depend both on the wage of the public sector and the behavior of the pressure group. Those whose private earnings  $a$  are lower or equal than what they expect to get in public office, apply. Therefore, if individuals expect public office to yield a payoff of  $P$ , all types  $a \leq P$  will apply.<sup>22</sup> The recruitment office chooses an individual from the pool of applicants to occupy the available position. We assume that the recruitment office can observe the ability of applicants and chooses the agent with the highest ability among the applicants.<sup>23</sup> Then, if individuals expect public office to yield a payoff of  $P$ , the public sector position will be filled with a  $P$  type. Hence, the quality of public officials is directly determined by the payoff individuals expect to get by working in the public sector.

We assume the official earns a fix wage  $w$ .<sup>24</sup> In the absence of a pressure group, the payoff  $P$  of a public official is simply the wage. Thus, in the absence of a pressure group, every individual with ability type less than or equal to the public wage would apply to public office, and  $w$  would be the prevailing skill level. If a pressure group is present, the official's

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<sup>22</sup>We assume that the payoff on the private sector does not depend on the quality of the official for simplicity only. In a more general model we would have that the wage in the private sector is  $w(a, a^*)$ , where  $a$  is the ability of the citizen and  $a^*$  is the ability of the politician;  $w(a, a^*)$  is increasing in both arguments and for any  $P$  there is an  $a^*$  that makes  $w(a^*, a^*) = P$ . In that case we have that given the public payoff  $P$ , the equilibrium quality will be  $w(a^*, a^*) = P$ . The lower  $P$ , the lower the equilibrium quality  $a^*$ , yielding the same results as our simpler model.

<sup>23</sup>We want to stress the point that we might get bad politicians even when recruitment screening is faultless. All the results in the paper are still true under a selection process in which the expected ability of the selected politician depends positively on the highest ability among applicants. Wittman (1989) has emphasized that a number of models on endogenous policy formation derive explanations for the existence of inefficiencies from imperfect voting markets. He argues that democracies produce efficient results when the approach to modelling the market for votes is similar to that for the market for goods. Our model assumes that democracy works well in the sense that the best candidate is always selected.

<sup>24</sup>This might be because there are cultural, legal, or other constraints to how high or low it can be. Or it could be because officials set their own wages as high as they can. The important assumption is that wages are fixed. A rational planner may want to manipulate it to attract better candidates to public office. But the effects we analyze hold for—and are relative to—any wage level that society might choose. See Besley and McLaren (1993) for a model where the possibility of raising wages to attract better candidates is available, and where this does not imply the planner will necessarily want to use it.

payoff also depends on the produce of his dealings with the group.

Note that we assume that only in the public sector there is room for the use of bribes and threats. This is done for simplicity to represent a world in which there is more outside influence in the public sector than in the private sector. This can be justified by the fact that influencing the decisions of a private manager may be more difficult than influencing the decisions of a public official given the usual greater number of principals and their lower incentives to monitor the agent in the public sector.

*Second Stage: interaction between the pressure group and the public official*

In the second stage, the appointed official performs his duties while interacting with the pressure group. For concreteness, we can think of the official's output as a public good, and the level of this public good depends positively on the official's ability level. Because the overall income of society can be expected to depend on the amount of public good provided, it follows that society will care about the ability level of the official appointed in equilibrium.<sup>25</sup> The official is also assumed to have discretion on the allocation of an amount  $\pi$  of resources that he can redirect towards the pressure group. This action is modeled as a lump sum, implying that there are no efficiency losses in this transfer. The fact that the official might yield to the group's request is just distributively bad for the vast majority of society.<sup>26</sup>

The pressure group has two instruments to influence the decisions of the official: bribes,  $b$ , and a threat of punishment of variable size  $r$ , which we assume to be credible.<sup>27</sup> The environment is symmetric. Delivering a bribe  $b$  costs  $\beta\Phi(b)$  while delivering a punishment  $r$  costs  $\rho\Psi(r)$ . The parameters  $\beta > 0$  and  $\rho > 0$  affect the costs of delivering bribes and threats respectively. We assume that  $\Phi(\cdot)$  and  $\Psi(\cdot)$  are both twice continuously differentiable,  $\Phi(0) = \Psi(0) = 0$ ,  $\Phi'(0) = \Psi'(0) = 0$ ,  $\Phi' > 0$ ,  $\Phi'' > 0$ ,  $\Psi' > 0$ , and  $\Psi'' > 0$ . When the official receives the bribe offer and the threat of punishment, he believes that both will be delivered in case he respectively accepts or rejects the group's proposal. We impose very simple preferences on the official: he cares linearly about money, punishment, and the cost  $h$  of

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<sup>25</sup>The point is that the benefit must exceed the wage. In Rosen (1982) assigning persons of superior talent to top positions increases productivity by more than the increments of their abilities because greater talent filters through the entire organization.

<sup>26</sup>We can abstract from the fact that influence might be undesirable because of distributive or direct efficiency reasons—like when the transfer is done through a tariff or another distortive instrument.

<sup>27</sup>For concreteness, threats can be viewed as physical violence against the politician. As explained in Section 2, an important class of threats include false accusations of bribe-taking by the public official. In the simple set up of this section, such punishment would "reveal" that the official is honest. Extending the model to include other potential sources of accusations (for example from an honest, but imprecise, anticorruption watchdog) is simple and is done in section 6. With respect to the credibility assumption, Appendix 2 considers the case in which threats become endogenously credible on reputation grounds. A previous version of the paper shows that the results go through in a more complicated, finite horizon set up.

getting involved in a corrupt deal. The latter can be seen as a moral or any other type of cost incurred when accepting a bribe, including risks of detection and the cost of ensuring secrecy.

We assume that with probability  $1 - \gamma$  it is impossible for the official to accept the corrupt proposal and his only choice is to reject the offer and face the threats.<sup>28</sup> In this case, the official's payoff is  $w - r$ . With probability  $\gamma$  the official can decide between accepting or rejecting the corrupt deal. The official will accept the bribe (and do a favor to the group) as long as his payoff from so doing is greater or equal than the payoff from refusing,

$$w + b - h \geq w - r, \tag{1}$$

This condition implies that every official will accept if  $b \geq h - r$ .

The pressure group sets bribes  $b$  and punishment  $r$  to maximize its expected profits  $\Pi$  given by,

$$\begin{aligned} \Pi(b, r) &= \gamma\{\pi - \beta\Phi(b)\} - (1 - \gamma)\rho\Psi(r) \\ &s.t. \ b \geq h - r. \end{aligned} \tag{2}$$

Denote with  $b^*$  and  $r^*$  the quantities maximizing  $\Pi(b, r)$  for an active pressure group. If  $\Pi(b^*, r^*)$  is nonnegative, we say the group does indeed want to engage in influence activities. If it is negative, we say the group prefers to stay inactive earning no profits. When characterizing equilibrium, we will look at the threshold level  $\bar{\pi}(\gamma, \beta, \rho)$  that allows the group to make money by becoming active—this is, the level of  $\pi$  satisfying  $\Pi(b^*, r^*) = 0$ , given the parameter values  $\gamma, \beta$ , and  $\rho$ . An important element in this paper will be what we denote degree of state capture,

**Definition 1** *The magnitude  $\bar{\pi}$  is an inverse measure of the degree of state capture.*

One important feature of a society is how often corruption takes place. When we talk about “pervasive” corruption, we sometimes have in mind a society where corruption happens in a high fraction of interactions between officials and private interests.  $\bar{\pi}$  denotes the size of

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<sup>28</sup>This might obey to a circumstantial impossibility to strike a deal, say because random auditing is taking place. Another interpretation is that  $1 - \gamma$  is a fraction of infinitely honest individuals in the population, who are incorruptible. Self-selection effects do not arise in equilibrium as long as the group has all bargaining power, because the two types get identical payoffs. If officials have bargaining power we should either stick with the first interpretation or assume that officials only learn fully how much they dislike engaging in corruption after making their entry decisions (as done, for instance, by Acemoglu and Verdier, 2000). Such an assumption seems realistic because individuals do not have experience with such activities prior to entering public life, although it certainly allows individuals to have rational estimates of their moral costs in average.

the set of possible values of  $\pi$  for which the group cannot engage in influence activities. One way of interpreting the measure  $\bar{\pi}$  is as the chance that a group will not be able to afford to corrupt the official.<sup>29</sup>

## 4 Results With Bribes Only

### 4.1 The equilibrium

As a benchmark, we start our analysis by setting  $r = 0$  exogenously. In other words, we have a standard corruption model where only bribes can be used as an instrument of political influence. If active, the pressure group will decide on an optimal bribe level  $b^\circ$ , by maximizing,

$$\Pi(b, 0) = \gamma\{\pi - \beta\Phi(b)\}.$$

We know from expression (1) that there is no point in paying a bribe any higher than  $h$  since all the bargaining power is on the group's side. Hence the group will set  $b^\circ = h$  whenever the gain  $\pi$  covers the cost  $\beta\Phi(h)$  of such a bribe. A group for whom  $\pi$  is smaller than the threshold value  $\bar{\pi}^0 \equiv \beta\Phi(b^\circ) = \beta\Phi(h)$  can only remain inactive. It follows that,

**Lemma 1** *a) An active group will set  $b^\circ = h$ .*

*b) The group only becomes active if  $\pi$  is larger than  $\bar{\pi}^0 \equiv \beta\Phi(b^\circ) = \beta\Phi(h)$ .*

The bribe level and the fact that the group may or may not afford to be active fully determine the payoff for prospective applicants to public office. If  $\pi \geq \bar{\pi}$ , the group is active and the payoff for the official is  $w + b^\circ - h = w$ . If  $\pi < \bar{\pi}$ , the group stays inactive and the payoff for the official is again  $w$ . This implies that, in a world without threats, individuals whose ability type  $a$  satisfies,

$$a \leq w,$$

will apply, and the recruiter will appoint an official of type  $w$ . It follows that,

**Lemma 2** *In a world with only bribes, the quality of the official is  $w$  regardless of whether the group is active or not.*

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<sup>29</sup>We could also extend the model so that  $\pi$  is drawn from a distribution  $Z(\cdot)$  with support in  $[0, \infty)$ . We would then have a measure  $Z(\bar{\pi})$  representing the probability that the group (or the fraction of groups who) will not be able to offer "plata o plomo". Of course, capture will be successful only a fraction  $\gamma$  of these cases. In any case,  $\bar{\pi}$  can be seen as an inverse measure of the pervasiveness of capture given  $\gamma$  and  $Z(\cdot)$ .

## 4.2 Room for influence and the quality of officials in a world with only bribes

A lower value of the parameter  $\beta$  captures improvements in the bribing technology. This could reflect a more lax environment regarding the payment of bribes, as when firm's and individual's financial movements are not well monitored and balance sheets and individual income tax forms are not heavily scrutinized—perhaps because auditing firms are not reliable or income taxes are not in fully in place. A reduction in the cost of paying bribes allows pressure groups with lower profits to enter the business of bribing officials, increasing the degree of state capture. However, variations in the cost of bribes do not affect the quality of politicians given that their payoff is independent of the group being active or not.

**Proposition 1** *More room for influence through bribes (a lower  $\beta$ ) implies a higher degree of state capture but it does not decrease the quality of politicians.*

Proof. See Appendix.

When, as in our model, all bargaining power is on the group's side, movements in  $\beta$  have no bearing on the quality of politicians. Note, however, that when the official has some bargaining power and  $b^\circ > h$ , his payoff *improves* when paying bribes becomes easier for the group (as the surplus  $\pi - \beta\Phi(b)$  grows). Hence, in the benchmark case with only bribes and no threats, there is a tendency for higher capture through bribes to, if anything, actually improve the quality of politicians.

## 5 Results With Bribes and Threats

### 5.1 The equilibrium

In this section we allow the group to choose both bribes and threats freely. We characterize first the behavior of the pressure group and we study its effect on the entry decision of the official. Then we compare the degree of state capture and the quality of politicians with the values obtained in a world with only bribes.

We start by studying the optimal bribes and threats "offered" by an active pressure group. From expression (1) we know that, given some  $r$ , the most convenient bribe is  $b = h - r$ . Paying more will not convince an incorruptible official, and paying just that is enough to make the other type accept doing favors to the group. In addition, given that the marginal cost of starting to use any of the two instruments is zero, an active pressure group uses both bribes and threats in positive amounts.

We study now the conditions under which a pressure group will decide to be active. The pressure group would like to be active if the optimal bribes and threats  $(b^*, r^*)$  result in positive profits. Then, the pressure group makes the “*plata o plomo*” offer  $(b^*, r^*)$  if  $\Pi(b^*, r^*) \geq 0$ , and chooses to stay inactive otherwise. Given that the profits of the active pressure group are increasing in  $\pi$  and there is a positive cost to influence the official, there exist a critical value  $\bar{\pi}$  under which the pressure group would rather not exert pressure. This critical value is  $\bar{\pi} \equiv \frac{(1-\gamma)}{\gamma} \rho \Psi(r^*) + \beta \Phi(h - r^*)$ . Summarizing,

**Lemma 3** *a) An active group sets bribes  $b^*$  and threats  $r^*$  such that  $b^* = h - r^*$ ,  $b^* > 0$  and  $r^* > 0$ .*

*b) The group only becomes active if  $\pi$  is larger than the threshold value  $\bar{\pi} \equiv \frac{(1-\gamma)}{\gamma} \rho \Psi(r^*) + \beta \Phi(h - r^*)$ .*

Proof: See Appendix.

If  $\pi$  is above the critical level  $\bar{\pi}$  the pressure group uses both bribes and threats to influence the official. The threat allows the pressure group to influence the official without paying the full cost of changing the decision but by paying only  $h - r^*$  (Lemma 3-a) while it needs to pay  $h$  in a world without threats. Then, if politicians are being coerced by groups they will tend to sell their favors cheaply. Tullock (1972) has pointed out that lobbying activities seem to involve too little money relative to the amount of resources that special interests can obtain from the political process.<sup>30</sup>

**Proposition 2** *(comparison of Lemmas 1-a and 3-a) Bribe offers are lower in a world with bribes and threats.*

In this way, in a world with bribes and threats an active pressure group will result in a payoff for the official of  $w - r^*$  while an inactive group results in a payoff of  $w$ . Given that citizens with ability higher than the payoff from public office do not even apply, we have the following:

**Lemma 4** *In a world with bribes and threats, the quality of officials is  $w - r^*$  if the group is active and  $w$  if it is not.*

While in a world without threats the quality of politicians is  $w$ , in a world with threats and an active group the quality is only  $w - r^*$ . Since an active pressure group avoids paying the full bribe by using threats, the payoff and quality of politicians is lower in a world with threats than it is in a world without threats. It then follows that,

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<sup>30</sup>See also Ramseyer and Rasmusen (1992), Helpman and Persson (1998), Leaver and Makris (1999), Ansolabehere, de Figueiredo and Snyder (2002), Rotemberg (2002), *inter alia*.



**Proposition 3** (*comparison of Lemmas 2 and 4*) *The quality of the official is lower in a world with threats.*

A fundamental feature of our model is that the possibility of using threats lowers the entry barrier to the influence activity. Given that an active pressure group would use threats to influence the official, its profits are necessarily higher in a world with threats. Therefore, the set of values of  $\pi$  for which the group is active is larger in a world with threats than in a world without. This is characterized in the following proposition,

**Proposition 4** (*comparison of Lemmas 1-b and 3-b*) *The degree of state capture is higher when threats are available (ie.,  $\bar{\pi} < \bar{\pi}^0$ ).*

Proof: See Appendix.

If  $\bar{\pi}$  is interpreted as the inverse of a measure of the number of active groups dealing with officials across society, the message of our last proposition is that a world with threats features more frequent corruption. We turn now to studying the effects of *parameter changes* affecting the scope for political influence.

## 5.2 Room for influence and the quality of officials in a world with bribes and threats

We establish our main results in this section. We study the effect of changes on the cost of bribes and threats on the behavior of the pressure group, the degree of state capture and the quality of politicians.

A decrease in the cost of bribes would make bribes more attractive for an active group, resulting in a substitution of bribes for threats. In the same way a decrease in the cost of threats would result in a substitution of threats for bribes by an active group.

**Lemma 5** *a) More room for influence through bribes (a lower  $\beta$ ) implies a lower  $r^*$ , while b) more room for influence through threats (a lower  $\rho$ ) implies a higher  $r^*$ .*

Proof. See Appendix.

A direct implication of this lemma is that when influence through bribes becomes easier, equilibrium bribes  $b^* = h - r^*$  by active groups will be higher. On the other hand, when it is influence through threats which becomes easier, equilibrium bribes  $b^* = h - r^*$  become smaller.

It is important to characterize how changes in  $\beta$  and  $\rho$  affect our measure of state capture. Any decrease in the cost of influence will necessarily increase the profits of an active pressure

group resulting in an increase in the set of values of  $\pi$  that allow the pressure group to be active. That is, the threshold level  $\bar{\pi}$  is positively related to the cost parameters. When influence—either through bribes or threats—becomes less costly, the threshold goes down, implying that groups with lower stakes will be able to afford influencing officials through the “*plata o plomo*” mechanism. This amounts to saying that societies where groups have easier access to bribing and punishment technologies can expect to have more pervasive corruption.

**Proposition 5** *More room for influence through either bribes (a lower  $\beta$ ) or threats (a lower  $\rho$ ) increases the degree of state capture.*

Proof. See Appendix.

We can now establish results relating changes in the costs of bribes and threats on the quality of politicians.

**Proposition 6** *a) More room for influence through bribes (a lower  $\beta$ ) has an ambiguous effect on the payoff of officials and their quality.*

*b) More room for influence through threats (a lower  $\rho$ ) decreases the payoff of officials, lowering their quality.*

Proof: See Appendix.

We discuss first part a). The intuition for a decrease in  $\beta$  having an ambiguous effect on the quality of politicians is as follows. On the one hand, the payoff of an official facing a group that is active both before and after such change will increase, because a lower  $\beta$  implies lower threats and higher bribes (Lemma 5-a). This would go in the “traditional” direction, according to which more influence through bribes can improve the official’s payoff, and hence the quality of politicians. However, a lower  $\beta$  implies that a group with a low  $\pi$  that was inactive might now be able to become active (Proposition 5), but not only paying bribes! Therefore, in a world where threats are allowed, the fact that paying bribes gets easier implies a lower barrier to entry to the *plata o plomo* influence business. And this business lowers the payoff of officials. Then, we have that a lower  $\beta$  can result in either a higher or lower payoff and quality of the official.

This result shows that the inclusion of threats can alter the predictions concerning changes in the cost of bribes—the instrument of influence on which the literature focuses attention. While cheaper bribes can never harm the quality of politicians in a world with only bribes (Proposition 1), in a world with bribes and threats they certainly can. Higher levels of

capture following from groups finding it easier to pay bribes may be associated with worse politicians, and not merely with more frequent wrongdoing.<sup>31</sup>

Turn now to part b). A lower  $\rho$  would reflect a world where it is cheaper to hire thugs, influence the media, or manipulate the judicial system. A lower cost of threats can have two effects. First, if the group was active before, a lower  $\rho$  will result in a more intensive use of threats (Lemma 5-b), lowering the payoff of the official and its equilibrium quality. Second, if the group was not active before, a lower  $\rho$  may result in the group becoming active (Proposition 5). Given that active pressure groups use threats, this can only result in a lower payoff for the official with a similar effect on its equilibrium quality. Together with Proposition 5 (more room for influence increases state capture), Proposition 6-b suggests that societies where groups have easier access to punishment technologies will tend to have more frequent corruption and worse politicians.

One might think that if society is governed by politicians of low ability because threats are high, someone will want to raise public wages in order to attract better candidates. This might indeed be the case. But for any level of wages chosen by the public, the quality of politicians will be worse when threats exist and groups find it easier to exert influence, relative to when threats are more expensive to use or are simply not available. Furthermore, the public may need to pay very large wages if the threats involve physical violence, so it may be more cost-effective to direct resources to limiting the scope for political influence.

## 6 Explaining Immunity

Our model can be applied to the analysis of the institution of official immunity. A number of countries have some form of legal protection for policymakers. These range from immunity from libel for things said during parliamentary debates, to stronger forms of immunity—including protection from criminal prosecution while in office. Moreover, over the recent past there have been numerous attempts to change this institution in important ways.<sup>32</sup> Immunity has been debated around the figure of elected politicians (as in the Chirac example in the introduction), but also in relation with appointed officials such as central bankers. We first illustrate the importance of the institution of official immunity by exposing in detail the case of the Central Bank in Argentina (BCRA), which gained international notoriety during 2002

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<sup>31</sup>This is still true if we give officials some bargaining power, although it might not be if this power is too high.

<sup>32</sup>In Russia, Putin has requested the power to strip governors of their legal immunity from prosecution. See, “Putin’s Power Play”, *Business Week*, June 5, 2000. In Nicaragua, official immunity has recently come under harsh criticism. For a defense, see “*La Inmunidad del Funcionario Público*”, *La Prensa*, March 14, 2002.

in relation to that country's financial crisis. We then investigate formally the possibility that protecting officials from accusations of corruption may actually curb corruption and improve the equilibrium quality of officials.

*Immunity for Central Bankers: The Case of Argentina*

The granting of immunity to the president and board of directors of the Central Bank of Argentina (BCRA) was the subject of a heated political debate during 2002, in the context of the country's negotiations with the IMF. Argentina's banking sector suffered from ineffective regulation and supervision and repeated, forced government rescues (see, for example, Calomiris and Powell, 2000). Given the very weak judicial institutions, it seems that banks that are affected by the decisions of the Central Bank find it easy to initiate legal actions against bank regulators. The problem is so acute that a former president of the BCRA at one point faced 32 legal demands against him. The problem has been described in the recent banking literature, by Gale and Vives (2002): "*A related problem (in Argentina, for example) is the lack of legal protection that a supervisor has when attempting to discipline a bank in trouble. Then even if the perceived problem is serious the bank may be allowed to continue or even granted help.*"

An initial reaction to this phenomenon was the approval of an internal BCRA norm stipulating that employees that are the subject of a penal process originating in events derived from their official duties will receive in advance a sum of funds that will cover their legal defense expenses.<sup>33</sup> After the separation of Pedro Pou from the presidency in 2001 (see also Section 2 above), and with the onset of the banking crisis, the subject of legal immunity for the president and members of the board of directors of the BCRA became a central issue in Argentina. In the first half of 2002, the topic was in the front page of virtually every newspaper in the country, and the focus of the negotiation between the IMF, the government and the main opposition parties. Banks had been closed since early December 2001, and by July 2002 had not reopened in spite of a dramatic contraction in GDP. A key ingredient for the bank restructuring involved the closing of insolvent banks. Given past experience, the new president of the BCRA, Mario Blejer, publicly asked that legal immunity be granted. With two unfulfilled vacancies in the directorate, the authorities were reluctant to undertake a major bank restructuring without some form of legal protection.<sup>34</sup> The

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<sup>33</sup> *Estatuto del Personal*, article 13. Interestingly, a document prepared by the BCRA evaluating the Bank's performance, argues that a basic principle of effective central bank supervision is the presence of an adequate legal framework protecting bank supervisors. The document judges the performance of the Bank in this respect unsatisfactory. In *Basic Principles for an Effective Bank Supervision: Self-Evaluation* (in Spanish), November 2000.

<sup>34</sup> A former president of the BCRA stated (personal communication) that the job had been offered to "fourteen distinguished professionals", but that all had declined.

rejection of the initiative to grant immunity by Congress was followed by Blejer’s resignation and the appointment of Aldo Pignanelli, of Peronist extraction, as new President of the BCRA in a move widely considered as marking the end of a period of relative central bank independence.

Interestingly, it has been argued that the kind of protection offered by immunity “*is consistent with the first of the Basle Core Principles for Effective Bank Supervision*” although “*As adequate legal protection for supervisory officials is achieved, it is worth putting in place counterbalancing elements. For instance, an independent advisory body – made up of knowledgeable and reputable people– could be set up to survey the activities of official supervisors and assess fairness in the application of norms.*” (De la Torre, 2000). In the formal analysis that follows we take into account the tension between the possible benefits of immunity, and its negative side: reducing the accountability of officials.

#### *Immunity and the degree of state capture*

We now investigate formally the paradoxical statement that by insulating officials from accusations of corruption, society might make corruption less frequent. The existence of accusations that have a tainted origin—they are actually waved to force officials into corrupt deals—has the potential to generate such a paradox. The effect of immunity is twofold. On the one hand, it benefits honest officials by insulating them from judicial actions that might have been manipulated by a pressure group, while on the other hand, it makes corrupt officials less accountable to an independent judiciary. Clearly the impact of the threats will depend on the quality of the judiciary. An honest and effective judiciary system increases the cost of corrupt deals while protecting the politicians from false accusations.

To investigate these effects further, we now modify the model presented in section 3 to include the effect of immunity and the quality of the judiciary. Assume that accepting the group’s offer implies taking a gamble. A fraction  $\theta \in [0, 1]$  of officials accepting bribes are detected. This parameter  $\theta$  summarizes the efficacy of the judiciary. When caught, bribed officials lose their wage, the bribe received, and they pay a moral cost  $m$  for having been corrupted. When not caught, corrupt officials keep both wages and bribes, and only pay the moral cost  $m$  associated to wrongdoing. Immunity is parameterized with  $i \in [0, 1]$ . A degree of immunity  $i$  does two things. First, it reduces the probability of detection (presumably, by independent judges) of wrongdoers to  $\theta(1 - i)$ ; complete immunity, then (ie.  $i = 1$ ), makes corrupt officials undetectable, while no immunity ( $i = 0$ ) makes them fully detectable (at the usual rate of discovery by the judicial system,  $\theta$ ). The other effect of immunity is to mitigate the impact of false accusations that are not discarded by the judiciary, so that a threat of punishment  $r$  becomes  $(1 - i)(1 - \theta)r$ . As a result, an official accepting bribes makes  $(w + b)[1 - \theta(1 - i)] - m$ , while one rejecting them receives  $w - (1 - i)(1 - \theta)r$ . Note

that the last expression uses the fact that the threats,  $r$ , are legal in nature and that a good judiciary would render them invalid. In other words, a good judiciary can also discard bogus accusations.

Therefore, changes in immunity affect both the utility that a politician derives from accepting the corrupt deal as the utility from rejecting it. When justice is relatively ineffective ( $\theta$  is low), immunity has a greater effect on protecting the honest politician from false accusations than on sheltering the corrupt politician from justice. Then, when justice is relatively ineffective, increases in immunity will result in the interest group having to incur higher pressure costs in order to affect the behavior of the politician. In this case higher immunity makes corruption more expensive to groups, and thus fewer groups should be able to afford it. On the contrary, when justice is relatively effective, an increase in immunity has a higher effect on sheltering the corrupt politician than in protecting the honest one, reducing the costs of pressure and increasing state capture.

**Proposition 7** *If justice is relatively ineffective higher immunity reduces state capture, while if justice is relatively effective higher immunity increases state capture.*

Proof: See Appendix.

The importance of this proposition is that it shows that the paradoxical beneficial effect of immunity exists, but only if justice is ineffective enough. Therefore, debates regarding whether certain officials should receive immunity in order to act more independently cannot take place without considering the general situation of justice in the country. Countries that have a good judiciary may not benefit much from this institution. In a country like Argentina, where the judicial system is relatively corrupt and ineffective, various institutions granting legal immunity to policymakers may play a useful role.

#### *Immunity and the quality of politicians*

Immunity may affect the quality of the citizens willing to enter public life. An increase in immunity may affect the use of bribes and threats by an active pressure group, thus having an effect on the payoffs and quality of politicians. We initially abstract from the effect that immunity might have on the decision of the group to participate in the pressure business, and take it as given that variations in immunity will not drive the group out of the pressure game.

The impact of immunity on the ability of politicians can be studied by looking at the equilibrium utility of officials:  $w - (1 - i)(1 - \theta)r^*(i)$ . Differentiating this expression with respect to  $i$  we get,  $(1 - \theta)r^*(i) - (1 - i)(1 - \theta)\frac{dr^*}{di}$ . The first term in this expression is the increase in protection that arises from an increase in immunity, while the second term is

the impact from changes in the amount of threats. Hence, with an active pressure group, a *sufficient* condition for higher immunity to improve the quality of politicians is that higher immunity decrease the size of equilibrium threats ( $\frac{dr^*}{di} \leq 0$ ). In fact, if justice is relatively effective, it can be shown that an increase in immunity will result in a reduction in the use of threats by active pressure groups, thus raising the quality of politicians.

**Proposition 8** *With an active pressure group and a relatively effective judicial system, an increase in immunity improves the quality of politicians.*

Proof: See Appendix.

Note that Proposition 8 provides a sufficient but not necessary condition for an increase in immunity to improve the quality of politicians. There can certainly be cases where increases in immunity result in an increase in politicians' payoffs and quality even with an ineffective justice.

Another way in which changes in immunity may affect the quality of politicians is through changes in the degree of state capture. Changes in the degree of capture may affect the pressure group's decision to participate in the pressure business. For example, in a society with a relatively effective judicial system, an increase in immunity increases the degree of capture and may result in an inactive pressure group deciding to become active with a negative effect on the final quality of politicians.

In a world with several pressure groups interested in resources with different values  $\pi$ , changes in immunity may affect the quality of politicians both through changes in the degree of state capture (changes in the number of groups that participate in pressure activities) as through changes in the amount of threats that active pressure groups use. While it is not possible to present general results regarding the interaction of these two effects with our general assumptions, it is interesting to note that a society may face a trade off between the degree of state capture and the quality of politicians when deciding the optimal amount of immunity. If justice is relatively efficient, an increase in immunity will result in an increase in the degree of state capture and a decrease in the use of threats by active pressure groups, as shown before. That is, some new groups will enter the pressure activity with a negative effect on the payoff and quality of officials while the groups that were already active will pay higher bribes and use weaker threats. There are circumstances where the second effect will dominate and an increase in immunity will result in an increase of both state capture and the quality of politicians. We then have that in societies with good judiciary systems a trade-off emerges: raising immunity may improve the ability of the political class, but only at the cost of more frequent corruption.

## 7 Further Results and Extensions

In this section we return to the original model to study how changes in the amount of resources that the official can redistribute affect the behavior of the pressure group and the quality of politicians. We then extend the model to analyze the possibility of multiple equilibria when the incompetence of politicians reinforces the conditions that make their emergence more likely.

### 7.1 Discretion, corruption, and the quality of politicians

At least since the work of Tullock (1967) and Krueger (1974), economists associate the possibility of official discretion with rent-seeking waste and worse economic performance. Murphy, Shleifer and Vishny (1991) present a model where rent seeking drives talent out of innovative activities damaging growth. Ades and Di Tella (1999) present evidence consistent with the hypothesis that more rents create corruption. But even if there is capture, there will still be occasions when some intervention is justified (see Acemoglu and Verdier, 2000). Here we perform a simple exercise: we ask how levels of state capture and the quality of politicians would evolve if we enlarge the size of resources under official discretion.

>From section 5, we know that in a world with threats the quality of politicians is lower when the pressure group is active and that the pressure group will be active only if the amount of resources it can get covers bribing and threatening costs ( $\pi \geq \bar{\pi}$ ). Therefore, a decrease in  $\pi$  to a value below  $\bar{\pi}$  results in the pressure group becoming inactive and, hence, in an increase in the quality of politicians. Therefore a decrease in the amount of resources subject to official discretion may reduce the amount of threats that officials face and increase the appeal of public office for citizens of higher ability. It follows that,

**Proposition 9** *A decrease in the amount of resources subject to official discretion has a positive effect on the quality of politicians.*

Thus, political discretion in the allocation of resources may not only lead to waste through rent seeking activities. It will generate, first, a higher fraction of corrupt decisions and, second, a negative effect on the quality of politicians through the use of threats by rent seekers.

### 7.2 Multiple Equilibria

We can explain cross-country variations in the quality of politicians by considering a single equilibrium and showing that higher values of the parameter capturing the scope for pressure through threats imply a lower quality of politicians. Caselli and Morelli (2001) read the



empirical evidence as justifying an interest in multiple equilibria. In our model, multiplicity arises naturally if the quality of politicians affects the scope for threats being used. One possibility is that if politicians are generally expected to be of low quality, a smear campaign may be easier to organize. Another plausible channel is that bad politicians may provide less public goods of which law enforcement may be one example. This may enhance the ability of the group to threaten the officials, thus lowering their expected payoffs, and therefore their equilibrium quality. On the contrary, high quality politicians will provide tight law enforcement, thus reducing the chances for punishments being used. This should raise the expected payoff of officials and, consequently, their quality in equilibrium.

Denote with  $g_t$  the level of the public good available in period  $t$ . This represents the quality of law enforcement, or the amount of anti-libel regulation in the media industry, prevailing in period  $t$ . Assume also that  $g_t$  depends simply on the quality of officials during period  $t-1$ :  $g_t = a_{t-1}$ , denoting a world where the quality of law enforcement today depends on the quality of the people that have been responsible for it in the immediate past. A higher level of  $g$  will typically imply a higher value of  $\rho$ : the total and marginal costs of exerting pressure through threats go up with tighter law enforcement or stricter anti-libel regulations. So we will write  $\rho(g)$ , where  $\rho' > 0$ . To keep things simple, suppose that  $g$  does not affect  $\beta$ . We showed in the previous section that the payoff of politicians (call it  $P(b^*, r^*)$ ) was increasing in  $\rho$ : if the group stays active after an increase in  $\rho$ , the lower threats and higher bribes imply a higher payoff for the official. If an increase in  $\rho$  brings about the group switching to inactivity, this raises the payoff of the official discretely from  $w - r^*$  to  $w$ . Let us for simplicity focus on a range of variation of  $\rho$  such that the group is always active and increases in  $\rho$  bring about improvements in the payoff of politicians in a continuous way. As in this case the payoff  $P(b^*, r^*) = w - r^*(\rho)$  is increasing in  $\rho$ , then it is also increasing in  $g$ . We can then write  $P'(g) > 0$ .

We do not want to make precise statements about existence nor stability of any particular equilibrium. That is, we do not claim that multiple equilibria *will* definitely exist, nor that they must look precisely like those shown below. Rather, we want to show that multiple equilibria *can* arise, and that some of them could be “bad”, in the sense that appointing bad politicians reinforces the conditions that make bad politicians the only ones to be available. Then, for the sake of the argument, let us make a reasonable assumption: that higher levels of the public good have diminishing marginal returns in terms of the improvements they produce on the payoff of politicians. Hence,  $\frac{d^2 P\{\cdot\}}{dg^2} < 0$ . Moreover, if the prevailing level of  $g$  is zero, we can assume that  $\rho$  attains some lower bound, threats are very high, and hence the payoff of politicians is very low. Note nothing prevents it from being negative for some very low  $\rho$ . In that case no citizen would apply for public office and with no politician in office  $g$  is zero and the group presumably obtains  $\pi$  without having to deal with any official.

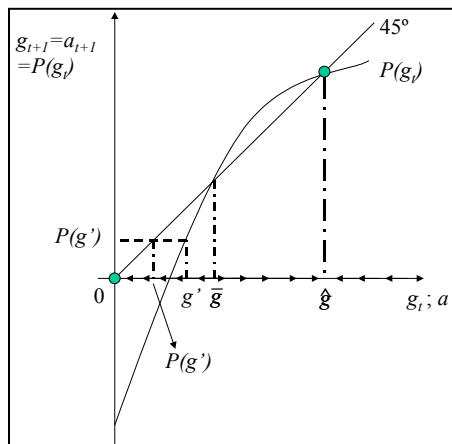


Figure 1: Multiple equilibria in the quality of politicians and public goods

The horizontal axis in this picture measures two variables. On the one hand it measures  $g_t$ , the prevailing level of the public good in the economy at period  $t$ . On the other, it measures  $a_t$ , the ability of an individual considering applying for public office in period  $t$ . The vertical axis measures payoffs from being in the private and public sector in period  $t$ . The former are given by the ability of each individual (through the 45 degree line), while the latter are given by  $P(g_t)$ . Note that, in any period  $t$ ,  $P_t = P(g_t) = P(a_{t-1}) = P[P(g_{t-1})] = P(P_{t-1})$ , and equilibrium is characterized by  $P_t = P_{t-1}$ , or  $g_t = g_{t-1}$  (i.e. by the intersections of the 45 degree line and  $P(g_t)$ ).

To see how we can get multiple equilibria, suppose that, being concave,  $P(g_t)$  cuts the 45 degree line twice: first at a level  $\bar{g}$  and then at a higher level  $\hat{g}$ . Start with a public good level  $g' < \bar{g}$ . This generates an anticipated reward from entering public service of  $P(g')$ . Now finding the reflection of  $P(g')$  in the horizontal axis we see that an individual with type  $a' = g'$  would earn precisely  $a' = g' > P(g')$  in the private sector. Thus, no individual with a type higher than or equal to  $P(g')$  would enter the public sector. So if the officials producing the public good in  $t - 1$  were of type  $a' = g'$  (they must have been if the public good level was  $g'$ ) they would quit and leave their posts to people with lower types. This process would go on for any public good level  $g < \bar{g}$ . So if a society starts anywhere below  $\bar{g}$ , it would converge to a bad equilibrium in which  $g = 0$ . This is a situation in which there is no law enforcement and groups can reduce the utility of officials with great ease. Thus, any individual with the ability to earn positive amounts in the private sector will stay out of public life. In this situation, the pressure group appropriates  $\pi$  without having to deal with any official. For  $g = \bar{g}$ , we have an unstable equilibrium. And for  $g > \bar{g}$ , a similar argument to that one just made for  $g < \bar{g}$  ensures society will tend to enjoy a public good of size  $\hat{g}$ . This will allow higher rewards from public life and attract people of type  $\hat{a} = \hat{g}$  to

the public sector. This is a stable equilibrium with high quality politicians and little room for the pressure group to threaten them.<sup>35</sup>

## 8 Conclusion

We develop a model where pressure groups use both carrots (*plata*) and sticks (*plomo*) in their attempt to influence policy. Our approach has a number of advantages. First, it has descriptive appeal since there is overwhelming evidence of the existence of pressure groups that use bribes and threats (including smear campaigns in the media, legal harassment, and violence) in both less developed and transition countries, as well as in some of the industrial democracies. Second, it has some theoretical relevance because it seems ad hoc to restrict a pressure group's action space to include only one type of instrument. Interestingly, some of the predictions of the model are a result of considering both instruments simultaneously (i.e. the interaction), and could not be generated by a model that considers bribes (or threats) alone. Third, the approach is empirically promising because a number of the model's predictions could not be generated by the standard approach (with only bribes or campaign contributions), such as those concerning the quality of public officials or those on the value of granting politicians with legal immunity.

Our model has two stages. In the first, citizens decide to enter public life depending on the total expected payoff received by public officials. In the second stage, the official is influenced by a pressure group that has access to both a bribe and a threat technology. A simple result is that both bribes and punishments are used in equilibrium, explaining the non-rhetorical nature of the “*Plata o Plomo?*” question. This is unfortunate because punishments introduce an element of inefficiency into our model (while bribes are mainly transfers). The reason inefficient actions are used is because they allow the group to save on bribes. Indeed, a feature of our equilibrium is that decisions that are valuable to the groups are provided by the policymakers in exchange for relatively small sums of money, a result that can be linked to Tullock's (1972) observation that there seems to be too little money in lobbying in the US.

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<sup>35</sup>Caselli and Morelli (1999), which has inspired this section, shows that there can be multiple equilibria when the rewards from office are increasing in the average quality of office holders. The bad equilibrium requires that a good quality candidate refrains from entering as he prefers to be surrounded by good quality candidates rather than with bad quality ones. This assumption gives low weight to the possibility that such an exceptional candidate would be held in high esteem by the public. The assumption that quality of law enforcement is increasing in the quality of previous officials is perhaps more plausible. Another issue is robustness. In their model the bad equilibrium can be avoided if a candidate stands for election offering to raise wages or if it coordinates to run for office with other high quality types. In our model generating a high  $g$  that improves the environment for future officials is not directly rewarding for any one individual.

A number of the empirical predictions of the model are in contradiction to those arising in models in the traditional approach (where only bribes are used). For example, the basic result for the benchmark case where groups only use bribes (and cannot use threats), is that factors that make it cheaper for groups to offer bribes will introduce a tendency for higher monetary rewards to being in office. This means that increases in state capture will tend to be associated with higher ability of public officials. This prediction, common to all models of political influence based on bribes, cannot explain why countries with high indices of capture exhibit a public service of appalling quality. We then show that allowing for bribes and threats of punishments to be used in the influence process introduces a tendency for lower rewards to public life. Thus, when countries experience higher degrees of state capture through threats, they will also tend to have a political class of lower ability. Interestingly, when threats are present, more scope for influence through bribes may also lead to appointed officials of lower quality. This suggests that the use of threats changes the *nature* of the influence game.

Economists have shown how cross-country differences in income can be explained by factors such as differential access to technology or differences in savings rates. Linking state capture—and the factors that facilitate it—with the quality of officials is of interest, given that a relatively unexplored explanation for cross-country differences in income is the variation in the competence of those in charge of selecting policies. We show how factors such as the prevalence of violence or the amount of discretion enjoyed by officials can affect the quality of the latter and the degree of state capture.

Finally, the model is applied to the analysis of the conditions that make it desirable to grant some form of legal immunity from prosecution to public officials. This institution, which is observed in a vast number of countries, makes officials less accountable and cannot be explained (as socially desirable) in a model where groups only use bribes as their method of influence. Yet, we show that immunity will reduce the degree of state capture when justice is not very effective. It might seem paradoxical that less accountability would be desirable when corruption is a concern. But it is the natural outcome when the judicial system is weak and politically motivated legal actions can allow groups to influence public officials.

In summary, we show that the two evils of representative government identified by John Stuart Mill in the opening quote of the paper are connected. Thus, and in contrast to the traditional literature, it is possible to argue that being under the influence of special interests will *lead to “general ignorance and incapacity, or, to speak more moderately, insufficient mental qualifications, in the controlling body”*.

## 9 Appendix

### 9.1 Appendix 1: Proofs

**Proof of Proposition 1.** Since  $\frac{\partial \bar{\pi}^0}{\partial \beta} = \Phi(h) > 0$ , a lower  $\beta$  implies a higher degree of state capture. In addition, from Lemma 2 we have that the quality of the official is always  $w$ , then changes in  $\beta$  have no effect on quality. ■

**Proof of Lemma 3.** a) The official will accept the bribe if  $w + b - h \geq w - r$ . Therefore, an active pressure group would chose to pay  $b = h - r$ , for a given level of threat  $r$ . The problem of the active pressure group then becomes,

$$\underset{r}{Max} \Pi(b(r), r) = \gamma\{\pi - \beta\Phi(h - r)\} - (1 - \gamma)\rho\Psi(r),$$

which has the following FOC for an interior solution:

$$\gamma\beta\Phi'(h - r) - (1 - \gamma)\rho\Psi'(r) = 0. \quad (3)$$

Since  $\gamma\beta\Phi'(h) - (1 - \gamma)\rho\Psi'(0) > 0$ ,  $\gamma\beta\Phi'(0) - (1 - \gamma)\rho\Psi'(h) < 0$  and both  $\Phi'$  and  $\Psi'$  are continuous, by the intermediate value theorem, there exists  $r^* \in (0, h)$  that satisfies the FOC. In addition the SOC is also satisfied:

$$-\gamma\beta\Phi''(h - r) - (1 - \gamma)\rho\Psi''(r) < 0.$$

From  $b = h - r$ , we also have that  $b^* \in (0, h)$  and both  $r^*$  and  $b^*$  are strictly positive. ■

**Proof of Proposition 4.** Given that by Lemma 3  $r^* > 0$ , then  $r = 0$  is a binding restriction in the no threat case and  $\Pi(b^*, r^*) > \Pi(b^0, r = 0)$ . Then,  $\gamma\beta\Phi(h) > \gamma\beta\Phi(h - r^*) + (1 - \gamma)\rho\Psi(r^*)$ , and  $\bar{\pi}^0 = \beta\Phi(h) > \beta\Phi(h - r^*) + \frac{(1-\gamma)}{\gamma}\rho\Psi(r^*) = \bar{\pi}$ . ■

**Proof of Lemma 5.** a) Differentiating the first order condition from Lemma 3 at  $r^*$  with respect to  $\beta$ , one gets:

$$\gamma\Phi'(h - r^*) - \gamma\beta\Phi''(h - r^*)\frac{dr^*}{d\beta} - (1 - \gamma)\rho\Psi''(r^*)\frac{dr^*}{d\beta} = 0,$$

yielding,

$$\frac{dr^*}{d\beta} = \frac{\gamma\Phi'(h - r^*)}{\gamma\beta\Phi''(h - r^*) + (1 - \gamma)\rho\Psi''(r^*)},$$

which is positive given the second order condition from Lemma 3 and  $\Phi'$  being positive.

b) Differentiating with respect to  $\rho$  the first order condition from Lemma 3 at  $r^*$ , one gets:

$$-\gamma\beta\Phi''(h - r^*)\frac{dr}{d\rho} - (1 - \gamma)\rho\Psi''(r^*)\frac{dr}{d\rho} - (1 - \gamma)\Psi'(r^*) = 0,$$

yielding,

$$\frac{dr^*}{d\rho} = \frac{-(1-\gamma)\Psi'(r^*)}{\gamma\beta\Phi''(h-r^*) + (1-\gamma)\rho\Psi''(r^*)},$$

which is negative given the second order condition from Lemma 3 and  $\Psi'(r^*)$  being positive. ■

**Proof of Proposition 5.** This follows from differentiating the threshold  $\bar{\pi}(\beta, \rho) = \beta\Phi(h-r^*) + \frac{(1-\gamma)}{\gamma}\rho\Psi(r^*)$  with respect to  $\beta$  and  $\rho$  respectively, taking into account that  $r^*$  is a function of such parameters, and the FOC from Lemma 3. We get,

$$\begin{aligned} \frac{d\bar{\pi}(\beta, \rho)}{d\beta} &= -\beta\Phi'(h-r^*)\frac{dr^*}{d\beta} + \frac{(1-\gamma)}{\gamma}\rho\Psi'(r^*)\frac{dr^*}{d\beta} + \Phi(h-r^*) = \Phi(h-r^*) > 0 \\ \frac{d\bar{\pi}(\beta, \rho)}{d\rho} &= -\beta\Phi'(h-r^*)\frac{dr^*}{d\rho} + \frac{(1-\gamma)}{\gamma}\rho\Psi'(r^*)\frac{dr^*}{d\rho} + \frac{(1-\gamma)}{\gamma}\Psi(r^*) = \frac{(1-\gamma)}{\gamma}\Psi(r^*) > 0 \end{aligned}$$

yielding the result. ■

**Proof of Proposition 6.** a) Let  $\beta > \beta'$ . From Proposition 4 we have that  $\bar{\pi}(\beta) \geq \bar{\pi}(\beta')$  and there are three cases to consider.

First, the group is active under both  $\beta$  and  $\beta'$ . Given that, by Lemma 4, the payoff of the official is  $w - r^*$  if the group is active and that by Lemma 5  $\frac{dr^*}{d\beta} > 0$ , then  $P(\beta') > P(\beta)$ .

Second, the group is inactive under both  $\beta$  and  $\beta'$ . By Lemma 4 the payoff of the official is  $w$  in both cases.

Third, the group is inactive under  $\beta$  but active under  $\beta'$ . By Lemmas 2 and 4 the payoff of the official is  $w$  under  $\beta$  and  $w - r^*$  under  $\beta'$ . Since  $r^* > 0$  by Lemma 3,  $P(\beta') < P(\beta)$ . And changes in the cost of bribes has ambiguous effects on the payoff of the official and its quality.

b) Let  $\rho > \rho'$ . From Proposition 4 we have that  $\bar{\pi}(\rho) \geq \bar{\pi}(\rho')$  and there are three cases to consider.

First, the group is active under both  $\rho$  and  $\rho'$ . Given that by Lemma 4, the payoff of the official is  $w - r^*$  if the group is active, and that by Lemma 5  $\frac{dr^*}{d\rho} < 0$ , then  $P(\rho) > P(\rho')$ .

Second, the group is inactive under both  $\rho$  and  $\rho'$ . By Lemma 2 the payoff of the official is  $w$  in both cases.

Third, the group is inactive under  $\rho$  but active under  $\rho'$ . By Lemmas 2 and 4 the payoff of the official is  $w$  under  $\beta$  and  $w - r^*$  under  $\beta'$ . Since  $r^* > 0$  by Lemma 3,  $P(\rho) > P(\rho')$ . Therefore, a reduction on the cost of threats reduces the payoff and quality of the official. ■

**Proof of Proposition 7.** Given that an active pressure group will pay bribes as low as possible given the level of punishment we have that

$$b(i, r) = \frac{[(\theta w - (1-\theta)r](1-i) + m}{1-\theta(1-i)}. \quad (4)$$

Given that bribes can not be negative we have that  $r \in [0, \bar{r}]$ , where  $\bar{r} = \frac{\theta}{1-\theta}w + \frac{m}{(1-i)(1-\theta)}$ .

The FOC for an interior level of threats that maximizes profits is:

$$-\gamma\beta\Phi'(b(i, r^*)) \frac{db}{dr} - (1 - \gamma)\rho\Psi'(r^*) = 0. \quad (5)$$

Given that the FOC is positive for  $r = 0$  and negative for  $r = \bar{r}$ , and both  $\Phi'$  and  $\Psi'$  are continuous, by the intermediate value theorem, there exists  $r^* \in (0, \bar{r})$  that satisfies the FOC. In addition it can be easily shown that  $r^*$  is continuous in the parameters of the model. (The SOC can also be easily checked).

State capture is given by our measure  $\bar{\pi}$ , which now reads  $\frac{(1-\gamma)}{\gamma}\rho\Psi(r_{(i)}^*) + \beta\Phi b(i, r_{(i)}^*)$ . Differentiating this with respect to  $i$  and using the envelope theorem one gets,

$$\frac{d\bar{\pi}}{di} = \beta\Phi'(b(i, r_{(i)}^*)) \frac{\partial b}{\partial i},$$

where  $\frac{\partial b}{\partial i}$  is the direct effect of  $i$  on  $b$ . Obviously,  $\text{sgn}(\frac{d\bar{\pi}}{di}) = \text{sgn}(\frac{\partial b}{\partial i})$ . Differentiating (4) and rearranging we get  $\frac{\partial b}{\partial i} > 0$  iff  $\theta < \frac{r^*}{w+m+r^*}$ . But remember that  $r^*$  depends on  $\theta$ . Since  $r^* > 0$  when  $\theta = 0$ ,  $0 < \frac{r^*(0)}{w+m+r^*(0)}$ . Since  $r^*$  does not converge to infinity as  $\theta \rightarrow 1$ ,  $\frac{r^*(\theta)}{w+m+r^*(\theta)}$  is strictly lower than  $\theta$  for  $\theta$  close enough to 1. Then, given that  $r^*$  is continuous in  $\theta$ , there exist  $\underline{\theta} \in (0, 1)$  and  $\bar{\theta} \in (0, 1)$  such that  $\frac{\partial b}{\partial i} > 0$  for  $\theta < \underline{\theta}$  and  $\frac{\partial b}{\partial i} < 0$  for  $\theta > \bar{\theta}$ . Therefore  $\frac{d\bar{\pi}}{di} > 0$  if  $\theta < \underline{\theta}$  and  $\frac{d\bar{\pi}}{di} < 0$  if  $\theta > \bar{\theta}$ . ■

**Proof of Proposition 8.** A sufficient condition for higher immunity to improve the payoff (hence, the ability) of politicians is that  $\frac{dr^*}{di} < 0$ . The term  $\frac{dr^*}{di}$  can be obtained as the first order comparative static effect of  $i$  on  $r$  after writing the FOC for the group in the implicit function  $r^*(i)$  and differentiating. This yields,

$$-\gamma\beta\Phi''(b^*) \left(\frac{\partial b}{\partial r}\right)^2 \frac{dr^*}{di} - \gamma\beta\Phi''(b^*) \frac{\partial b}{\partial i} \frac{\partial b}{\partial r} - \gamma\beta\Phi'(b^*) \frac{d^2b}{drdi} - (1 - \gamma)\rho\Psi'' \frac{dr^*}{di} = 0.$$

Rearranging, we can solve for  $\frac{dr^*}{di}$ ,

$$\frac{dr^*}{di} = \frac{\gamma\beta \left\{ \Phi'' \frac{\partial b}{\partial i} \frac{\partial b}{\partial r} + \Phi' \frac{d^2b}{drdi} \right\}}{-\gamma\beta\Phi''(b^*) \frac{\partial b}{\partial r^*}^2 - (1 - \gamma)\rho\Psi''},$$

where the denominator is clearly negative. Thus, the sign of  $\frac{dr^*}{di}$  depends on the sign of the numerator, and it will be negative whenever  $\Phi'' \frac{\partial b}{\partial i} \frac{\partial b}{\partial r} + \Phi' \frac{d^2b}{drdi} > 0$  holds. This can be written as  $\Phi'' \frac{\theta(w+r) - (1-\theta)r(1-\theta)(1-i)}{(1-\theta(1-i))^3} + \Phi' \frac{(1-\theta)}{[1-\theta(1-i)]^2} > 0$ . This inequality will be satisfied if  $\theta \geq \frac{r^*}{w+m+r^*}$ . That is if  $\theta \geq \bar{\theta}$  from the proof of Proposition 6. ■

## 9.2 Appendix 2: The credibility of threats in a repeated game

The standard assumption in the political economy literature is that informal “contracts” are credible (e.g. Stigler, 1971; Peltzman, 1976; Becker, 1983; and Baron, 1989; *inter alia*).

How can the promise of bribes (policy) be made credible if after a policy (bribe) has been given there is nothing there to enforce this agreement? One might think that sometimes it is perhaps possible to operate in real time, with an immediate *quid pro quo* exchange mechanism. This is just a fancy way of saying that one might pay the bribe with one hand and get the favor (a signature of a decree, say) on the other, at the same time. It could be argued that these problems get worse when it comes to threats. One is not necessarily in a position to deliver a punishment there and then, right after the official refuses one's offer. One might need to go out and spend time finding and hiring a thug. Even finding a journalist or a judge one can hire might take a positive length of time. And of course spending this time and money once the official has refused to deliver a favor is a dominated strategy. One usual answer for sustaining the play of dominated strategies is that presumably, in a repeated interaction, reputational concerns induce players to keep their word. Our concern in this section is then with whether reputation can help make credible the threats of the group. Konrad and Skaperdas (1997) study a simple way of generating credibility by sinking a fixed cost in advance. Smith and Varese (2000) look at a two-period model where threats by a mafia are sustained by reputation. In this section we describe a simple infinitely repeated version of the model in which threats are not assumed to be exogenously credible. For this environment, we provide conditions under which the optimal threat of previous sections ( $r^*$ ) becomes endogenously credible on reputation grounds.

Suppose that the game described in Section 3 takes place between an infinitely lived pressure group (with discount factor  $\delta < 1$ ) and a different official each period. The other difference is that the group can renege on its threat to punish an official that does not accept the bribe. Even when punishment is not committed in advance, the group may be willing to carry it out if failing to do so would result in future officials thinking that threats are empty. Then, failure to deliver punishment would result in the group paying the full bribe in the future or going inactive because of the reputation loss.

For the pressure group to be willing to punish an official with intensity  $r^*$  after the bribe was rejected, two things are necessary. First, it is necessary that the group makes positive profits in equilibrium (otherwise there is no sense in having any reputation). Second, the group must be patient enough for the long run loss of reputation being more important than the short run cost of punishing an official.

**Proposition 10** *If  $\Pi(b^*, r^*) > 0$  and the group is sufficiently patient ( $\delta$  large enough), then there exists a subgame perfect equilibrium in which bribes  $b^*$  and threats  $r^*$  are used.*

Proof: Consider the following profile of strategies:

a) For the pressure group: (i) Offer  $(b^*, r^*)$  in every period and punish officials who reject bribes if every official who rejected bribes so far has been punished. (ii) If at least one



official who rejected a bribe has not been punished, offer  $(b^\circ, r = 0)$  if  $\Pi(b^\circ, r = 0) > 0$  or stay inactive otherwise.

b) For the officials: (i) If all officials that rejected bribes so far have been punished, accept the bribe if  $h \leq b^* + r^*$ . (ii) If at least one official who rejected bribes previously was not punished, accept the bribe only if  $h \leq b^\circ$ .

This profile of strategies is a subgame perfect equilibrium if no player has incentives to deviate given the other players' strategies.

It is straightforward to check that the officials' strategies are best responses to the group's strategy.

Consider a pressure group interested in influencing the officials ( $\Pi(b^*, r^*) > 0$ ). It is clear that if no rejection to takes bribes has gone unpunished it is optimal for the group to offer  $(b^*, r^*)$  (by Lemma 3). If some rejection has gone unpunished threats are not credible and the best response of the group is to offer  $(b^\circ, r = 0)$  if  $\Pi(b^\circ, r = 0) > 0$  or stay inactive otherwise.

If an official does not accept the bribe, the group would save  $\rho\Psi(r)$  by not delivering punishment, but that would result in a loss of  $\{\Pi(b^*, r^*) - \max\{0, \Pi(b^\circ, r = 0)\}\}$  in every future period. Then, it is a best response for the pressure group to punish an official who rejects bribes, if this has always been done before, if  $\rho\Psi(r) \leq \frac{\delta}{1-\delta} \{\Pi(b^*, r^*) - \max\{0, \Pi(b^\circ, r = 0)\}\}$ . Given that the right hand side of the inequality can be made arbitrarily large by choosing  $\delta$  close enough to one, we have that it is a best response for the group to carry out its threats if it is patient enough. ■

Threats are credible since paying the cost of punishing allows the group to derive higher payoffs in the future. These higher payoffs are due to the fact that threats can still be used in the future allowing the group to keep on saving on bribes.

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