

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

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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. This predicts that violence in a country will typically go together with corruption and worse 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 if the judiciary is weak and may increase the quality of politicians. These predictions cannot emerge from a traditional model where only bribes are used.

Keywords: lobbying, threats, quality of policymakers, official immunity.

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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*¹

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.² In fact—and beyond the origin of the expression *“Plata o Plomo?”*—the use of rewards and threats of punishment was recognized long ago to be an important aspect of political influence. According to Jeremy Bentham (1843), political influence proceeds by offering “seductive” incentives, belonging to two categories: those causing pleasure and those causing pain. He called the first “pleasurable or alluring”, or “bribery”, and the second

¹“Considerations on Representative Government” [1861], in *On Liberty and Other Essays* (1998).

²Variants 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).

“painfully-operating”, “coercive” or “terrorism” (see Section IX and Section X “Bribery and terrorism compared” in Bentham’s Plan of Parliamentary Reform).

This distinction, however, has been blurred by economists working in the modern analytic literature on political influence. Beginning with Stigler (1971), Peltzman (1976) and Becker (1983), policymakers are seen to arbitrate among various interests, who can contribute to the policymaker’s utility in unspecified ways. In later treatments (see, e.g., Baron, 1994, Grossman and Helpman, 1994, Groseclose and Snyder, 1996), the policymaker is more explicitly situated as an auctioneer who receives “bids” from various interest groups, always in the form of bribes, campaign contributions, or other alluring elements. Politics is then reduced to a set of voluntary transactions taking place in markets where property rights are relatively well defined, voluntary contracts are the norm, and the state monopolizes violence. In practice, however, and in contrast with standard economic models, the state cannot perfectly monopolize the use of coercion and policymakers are forced to entertain the demands of private interests, which often involve subtle forms of coercion. The media, for example, must select the topics that are newsworthy. The rules of democracy do not distinguish between the right to free speech and the arbitrary focus on a topic that hurts a politician (bias by agenda). Other forms of harassment involve the use of the law, as when a particular interest threatens with legal action that, regardless of the possible verdict, would damage the public image of the official. In Section 2 we illustrate with some real life examples.

It is worth pointing out that the focus of economists on “alluring” rather than “painfully-operating” methods of influence was not always the norm. An early example appears in the work of Adam Smith. Even though he placed the idea of voluntary, mutually advantageous trade at the centre of his theoretical edifice, he readily points out the importance of understanding the way monopolies influenced policy incorporating both alluring and coercive incentives:

“The member of parliament who supports every proposal for strengthening this monopoly, is sure to acquire not only the reputation of understanding trade, but great popularity and influence with an order of men whose numbers and wealth render them of great importance. If he opposes them, on the contrary, and still more if he has authority enough to be able to thwart them, neither the most acknowledged probity, nor the highest rank, nor the greatest publick services can protect him from the most infamous abuse and detraction, from personal

insults, nor sometimes from real danger, arising from the insolent outrage of furious and disappointed monopolists.” (Smith [1776], 1981; IV.ii, p.471).

Even in modern times, some fields in social science have considered coercion as a strategic instrument. For example, scholars in the area of international politics have acknowledged coercion to be a crucial element in the relationships among nations (see for instance Alt, Calvert and Humes, 1988; and also Powell 1999 and the many references therein). Our understanding of domestic politics is comparatively behind, in that we lack a systematic analysis of political influence that incorporates the alluring and coercive instruments brought forward by Bentham and Smith.

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, because threats of sticks save on carrots. Our approach 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, our model isolates conditions under which a balanced use of bribes and threats should be observed, thus explaining what set of circumstances must be behind such observation. Third, a model where both bribes and threats are used allows us to derive implications that make a difference to our understanding of politics. In particular, our model sheds light on the connections between the degree of corruption in the country, the prevailing levels of violence, the role of judicial institutions, and the quality of rulers. Our approach allows us to analyze the two “*positive evils and dangers of the representative*” emphasized by Mills in our opening quote: that the representative is influenced by special interests, and that the members of the representative may be of insufficient mental quality. In fact, our model explains how, when both *plata* and *plomo* are used, the first danger may cause the second, in the sense that conditions that promote political influence will damage the quality of politicians. Finally, the approach is easily testable as the empirical predictions that emerge from it are in sharp contrast to those stemming from the traditional approach where groups can only use bribes or campaign contributions.

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 (or corruption) and

measures of the quality of politicians.³ 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 more talented individuals will flee public life. In other words, our model warns that countries where violence rises (say because drug crops become profitable or the country is going through a chaotic political transition) may see a simultaneous increase in corruption and a deterioration in the quality of its rulers.⁴

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. (This result, although technically straightforward, is counterintuitive, which lends support to the choice of a formal approach to pursue this investigation.) 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. While it is not hard to explain why politicians may want to bestow immunity on themselves (they would have a freer hand to steal from the public), explaining why most societies use such institutions is harder. A famous example is the granting of immunity from legal prosecution to France’s President, Jacques Chirac, in 2000.⁵ Such an institution, which makes it more difficult to investigate the actions of officials, makes 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.

³Using 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 (politicians) and to bureaucrats. Thus, except when otherwise noted, we use the two categories interchangeably.

⁴Our model offers—to the best of our knowledge—the first formal result on the connection between violence and corruption, and the joint link between those two forces and the quality of rulers. Note that violence variations may respond to exogenous elements—such as ethnic divisions, that originate or amplify a given violent potential. See Beissinger (2002) for an account of how ethnonationalist factors played out in the collapse of the Soviet Union.

⁵A 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.

In our model, more resources under political discretion result in more threats, which make 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 typically involves dead weight losses, particularly 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.⁶ Caselli and Morelli (2004) offer another model that, not including threats, can explain cross-country differences in the quality of politicians.⁷ 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.⁸ 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”. This is particularly appealing because, as Caselli and Morelli (2004) emphasize, the quality of political elites varies greatly across countries.⁹

The violent aspect of the “*Plata o plomo?*” quote may suggest that we are referring to a

⁶For other roles of threats, see section 2 below.

⁷They introduce the term “*bad politicians.*”

⁸The 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 is 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 costly.

⁹An 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). The explanations in this literature hold for societies where the quality of politicians is taken as given.

(big) problem in a small number of countries.¹⁰ 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 policy-makers, without necessarily taking them to (presumably) minus infinity through death. For example, an interest group can offer a campaign contribution to a politician and threaten with giving the money to the politician’s contender instead if a favor is not granted.¹¹ In our model, this has the effect of lowering the effective equilibrium donations, contributing an answer to the question on why there is so little money in US politics (see Ansolabehere, De Figueiredo and Snyder, 2003). Another possibility is that certain groups may fund negative advertising to damage a politician (see Skaperdas and Grofman, 1995; and Lau, Sigelman, Heldman, and Babbitt, 1999, *inter alia*). But there might still be other ways to threaten officials. 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 that might resort to smear campaigns in the media and legal harassment. Interestingly, the existing literature on interest groups cannot explain such complaints. If groups only offer bribes, and accepting bribes is always optional, such complaints would not be made, and if made, they would not be believed by anyone.

The use of threats in this paper is related to that in Dal Bó and Di Tella (2003). However, in that paper politicians are all honest, there is no model of entry to public life, and groups can only use threats, leaving out the phenomenon of interest in our paper. 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.¹² 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

¹⁰Note 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.

¹¹We are grateful to Ken Shepsle for suggesting this application.

¹²The 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).

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.¹³ Allowing for such simultaneous use generates distinct predictions that cannot follow from a model where only bribes or threats are available in isolation.

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 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 policy-makers. The reason why threats occur in our model—as well as in Dal Bó and Di Tella (2003)—is to induce the policy-maker to change his action from that preferred by society to that preferred by

¹³Compare 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”.

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 policy-maker 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 policy-maker less effective. One could assume policy-makers 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.¹⁴ 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 busy street in August 1997, both in St. Petersburg, are well-known examples of contract violence against politicians.¹⁵ 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

¹⁴On the Sicilian mafia, see Gambetta (1993), who provides an analysis of the phenomenon as a private protection industry. On extortion, see Konrad and Skaperdas (1997). Whereas we are focussed on individual decision-making under threats, note there is an extensive literature on the general topic of conflict (see the papers in Garfinkel and Skaperdas, 1996, and the references therein).

¹⁵See, 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).

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.”*¹⁶

Officials in the judiciary of various countries have also been the targets of physical violence. The self-selection effects that threats induce can be large when threats are frequent and highly payoff-relevant. On the frequency issue, Prillaman (2000) reports data compiled by the International Commission of Jurists indicating that 1,600 of Colombia’s 4,500 judges had received death threats. Colombia’s National Association of Judicial Employees puts the figure closer to 50%. An indication that punishment is not seen as a payoff-irrelevant event may lie in that Association’s report that when judicial employees went on a nationwide strike in 1989 it was not to obtain better pay. They requested bulletproof vests, fifty armored cars, eighty escort motorcycles and five metal detectors for court entrances.

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”*.¹⁷ 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*

¹⁶In *“Un plan diabólicamente eficaz,” La Nación* (Buenos Aires, Argentina), July 15, 2002 (our translation).

¹⁷See *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).

and to discredit him publicly, those in power in Malaysia resorted to measures including 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.”¹⁸

An older example of politically motivated judicial harassment, and its effect on the decision to participate in politics, involves the efforts of the Roman Emperor Tiberius to advance over the Senate. “...*Lucius Calpurnius Piso (II) denounced official sharp practices -corruption in the courts, and bullying by advocates, with their continual threats of prosecution. He himself was going to leave Rome, he said, and retire to some remote, inaccessible country place. Then he proceeded to walk out of the senate-house.*”¹⁹

Biased Media Coverage

A third type of action that reduces the utility of the policy-maker 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.²⁰ 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 (Kiriyenko) 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 media and much of the banking industry too. They can twist the arm or stain the reputation of any minister they choose*”.²¹

¹⁸See <<http://www.amnesty.it/news/2000/32800900.htm>>.

¹⁹In Tacitus (1971 [109]), page 93.

²⁰See “Portillo Fears Smear Campaign”, page 1, *The Independent*, Sunday June 10, 2001.

²¹See *The Economist*, April 4, 1998.

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 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 $a \in [0, \infty)$, which we also call quality. 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.²² 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.²³ 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 .²⁴ In the absence of a pressure group, the

²²We 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 a citizen's 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 in power; the value $w(a, a^*)$ 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.

²³We 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 obtain explanations for the existence of inefficiencies from postulating an imperfect market for policies. He argues that democracies produce efficient results when the approach to modelling the market for policies 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.

²⁴This 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 any wage level that society might choose. In fact, all the results are

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 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 to capture simply a difference of degrees: we want 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. This may follow from free riding problems undermining monitoring to a greater extent 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.²⁵ The official is also assumed to have discretion on the allocation of an amount π 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. We abstract from any efficiency considerations—like when the transfer is done through a tariff or another distortive instrument.

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.²⁶ The

robust to the government optimally choosing w , even if it is possible to make the wage level conditional on characteristics of the successful candidate. 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.

²⁵The 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.

²⁶For concreteness, threats can be viewed as physical violence against the politician. As explained in Section 2, other forms are possible. 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

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, and that $\Phi(0) = \Psi(0) = 0$, $\Phi'(0) = \Psi'(0) = 0$, $\Phi'' > 0$, $\Psi'' > 0$, $\Phi' > 0$, 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. Since the group makes a take it or leave it offer, it holds all bargaining power. This is done for simplicity, as the essence of our results holds in models where the official has bargaining power. We impose very simple preferences on the official: he cares linearly about money, punishment, and the cost h of 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 punishment.²⁷ In this case, the official's payoff is $w - r$. With probability γ 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 Π given by,

$$\Pi(b, r) = \gamma\{\pi - \beta\Phi(b)\} - (1 - \gamma)\rho\Psi(r) \tag{2}$$

the credibility assumption, an extension in previous versions of the paper (and available from the authors upon request) considers the case in which threats become endogenously credible on reputation grounds (both in the infinite and in the more complicated finite horizon case). On reputation and extortive punishments, see also Konrad and Skaperdas (1997), and Smith and Varese (2001).

²⁷This might obey to a circumstantial impossibility to strike a deal, say because of technical reasons unknown to the group, or because of the chance event that the official is under the scrutiny of a third party (e.g. a superior, the media, or a nongovernmental organization). Another interpretation is that $1 - \gamma$ is a fraction of infinitely honest individuals in the population, who are incorruptible. Self-selection across "honesty types" does not arise in equilibrium; note that the group has all bargaining power, causing the two "types" to get identical payoffs. Our results are also compatible with extending the model to include a continuum of honesty types, but we choose the simplest setup that delivers the results we want to focus on, which regard the ability dimension.

$$s.t. b \geq h - r.$$

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 π satisfying $\Pi(b^*, r^*) = 0$, given the parameter values γ, β , and ρ . 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. The value $\bar{\pi}$ denotes the size of the set of possible values of π 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.²⁸

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° , by maximizing,

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

$$s.t. b \geq h.$$

²⁸We could also extend the model so that π 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 γ of these cases. In any case, $\bar{\pi}$ can be seen as an inverse measure of the pervasiveness of capture given γ and $Z(\cdot)$.

Since all the bargaining power is on the group's side, there is no point in paying a bribe any higher than h and the group will set $b^\circ = h$ whenever the gain π covers the cost $\beta\Phi(h)$ of such a bribe. A group for whom π 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 offers a bribe equal to the cost the corrupt action has for the official ($b^\circ = h$).*

b) The group only becomes active if the value of a favor π is larger than the cost of the bribe ($\bar{\pi}^\circ \equiv \beta\Phi(b^\circ) = \beta\Phi(h$)).

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.*

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

A lower value of the parameter β captures improvements in the bribing technology. This could reflect a more lax environment regarding the payment of bribes, as when firms' and individuals' 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.

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

Proof: See Appendix.

A reduction in the cost of paying bribes allows pressure groups with lower stakes 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. When, as in our model, all bargaining power is on the group's side, movements in β have no bearing on the quality of politicians. Note, however, that were the official to have some bargaining power, his payoff would *improve* when paying bribes becomes easier for the group. 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 candidate-officials. 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 π and there is a positive cost to influence the official, there exists 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 uses both bribes and threats and the total amount of pressure*

exerted equals the cost to the official of a corrupt action ($b^* + r^* = h$, $b^* > 0$ and $r^* > 0$).

b) The group only becomes active if the expected benefit $\gamma\pi$ is larger or equal than the total cost $(1 - \gamma)\rho\Psi(r^*) + \gamma\beta\Phi(h - r^*)$ of the exerted pressure (i.e. if the value of a favor π is not smaller than the threshold value $\bar{\pi} \equiv \frac{(1-\gamma)}{\gamma}\rho\Psi(r^*) + \beta\Phi(h - r^*)$).

Proof: See Appendix.

If π 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. It needs to pay only $h - r^*$ (Lemma 3-a) when threats are available, 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 relatively 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.²⁹

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,

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

²⁹See also Ramseyer and Rasmusen (1992), Helpman and Persson (2001), Ansolabehere, de Figueiredo and Snyder (2003), Rotemberg (2003), *inter alia*.

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 π 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 (i.e., $\bar{\pi} < \bar{\pi}^0$).*

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 (i.e. a lower β) implies weaker threats $\left(\frac{dr^*}{d\beta} > 0\right)$, while*

b) More room for influence through threats (i.e. a lower ρ) implies stronger threats $\left(\frac{dr^}{d\rho} < 0\right)$.*

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 β and ρ 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 π 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 β) or threats (a lower ρ) 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 β) has an ambiguous effect on the payoff of officials and their quality.*

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

Proof: See Appendix.

We discuss first part a). The intuition for a decrease in β 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 β 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 β implies that a group with a low π 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 β 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. This is an example of how the simultaneous availability of both instruments of influence alters predictions.

Turn now to part b). A lower ρ 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 ρ 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 ρ 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 (Proposition 6b). This 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 policy-makers. These range from immunity

from libel for things said during parliamentary debates, to stronger forms of immunity—including protection against civil suits while in office. Moreover, over the recent past there have been numerous attempts to change this institution in important ways.³⁰ Immunity has been debated around the figure of elected politicians, as in the Chirac example in the introduction, or as in the case of former president Clinton in the United States, who requested immunity against civil suits in the context of the Paula Jones case. Immunity has also been debated in relation with appointed officials such as central bankers. In this section we first illustrate the importance of the institution of official immunity by explaining in detail the case of the Central Bank in Argentina (BCRA), which gained international notoriety during 2002 in relation to that country’s financial crisis. In that circumstance, the tensions surrounding the requests of immunity for the central banker had important political and economic repercussions. 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.³¹ 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.*”

³⁰In 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.

³¹For a more general discussion of the political determinants of central bank independence, see Bernhard (1998).

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.³² 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. The banking system had been effectively shut-down since early December 2001, and by July 2002 had not been normalized 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.³³ The 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

³² *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.

³³ A former president of the BCRA stated (personal communication) that the job had been offered to “fourteen distinguished professionals”, but that all had declined.

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 θ 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 simple way to study immunity is to postulate that 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 (i.e. $i = 1$), makes corrupt officials undetectable, while no immunity ($i = 0$) makes them fully detectable (at the usual rate of discovery by the judicial system, θ). 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

$$(w + b)[1 - \theta(1 - i)] - m, \tag{3}$$

while one rejecting them receives

$$w - (1 - i)(1 - \theta)r. \tag{4}$$

Two clarifications are now due. First, 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 judiciary with a degree of effectiveness equal to θ will discard bogus

accusations at a rate θ (obvious extensions of this model are (i) to separate the effectiveness of the judiciary at catching bribe takers and discarding bogus accusations under two different parameters, and (ii) to make these detection rates endogenous to the judiciary's internal budget allocation). Second, one can assume immunity does other things rather than affect the probability of detection. One could think immunity affects the set of crimes for which an official can be prosecuted, so higher immunity means an official can be prosecuted for fewer crimes, bringing down the effective rate of detection he faces across all possible misdemeanors. A complementary interpretation is that immunity is really about postponing in time the negative payoff of detection and conviction. One could take total immunity ($i = 1$) to mean one can never be tried for certain charges, while zero immunity ($i = 0$) would mean one can be tried immediately (most countries settle for an intermediate option—not zero—which is typically protecting the official from judicial action during his time in office). The result is that, with intertemporal discounting, higher immunity means judicial punishment on the official is effectively smaller. Our model as described above—where immunity directly affects the probability of detection and punishment—can be easily shown to be a reduced form for slightly richer models where these other two interpretations of immunity are made.

To think through the effects of immunity, note that changes in it affect both the utility that a politician derives from accepting the corrupt deal as the utility from rejecting it—see expressions (3) and (4) above. These expressions tell us that when justice is relatively ineffective (θ 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 on 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.³⁴ 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 from this institution. These environments conform to our conventional notions about crime deterrence, in that a higher chance of prosecution and conviction diminishes wrongdoing (see, for instance, Becker, 1968, Stigler, 1970, and Shavell, 1991). In a country like Argentina, however, where the judicial system is relatively corrupt and ineffective, various institutions granting legal immunity to policy-makers may play a useful role and diminish corruption, even when lowering the chance that bribe takers get caught.

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 harshness 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.*

³⁴Note that the presence of *both* bribes and threats is key for this result. In a world with only bribes, more immunity always increases capture, while in a world with only threats, more immunity always reduces capture.

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 π , 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 level of aggressiveness in the 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 state intervention creating rents generates opportunities for corruption, there will still be occasions when some intervention is justified (see Acemoglu and Verdier, 2000). In Besley and Coate (2001) lobbying creates political rents and induces too much entry to the public sector. 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 π 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 (2004) 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 ρ : 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 $\rho' > 0$. For simplicity, suppose that g does not affect β . We showed in the previous section that the payoff of politicians (call it $P(b^*, r^*)$) was increasing in ρ : if the group stays active after an increase in ρ , the lower threats and higher bribes imply a higher payoff for the official. If an increase in ρ 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 ρ such that the group is always active and increases in ρ 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 ρ , then it is also increasing in g .

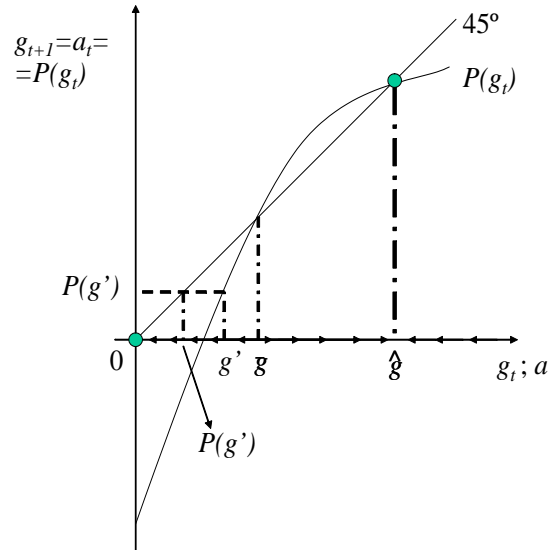


Figure 1: Multiple equilibria in the quality of politicians and public goods

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 ρ 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 ρ . In that case no citizen would apply for public office and with no politician in office g is zero and the group presumably obtains π without having to deal with any official.

The horizontal axis in the figure above 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 π 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.³⁵

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. We develop a

³⁵Caselli and Morelli (2004) show 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.

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. This includes the (paradoxical) case where a group combines bribe offers and the threat of public accusations of the official being corrupt.³⁶ 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. Fourth, our model allows us to make predictions on a phenomenon seldom discussed in economics or politics, namely the connection between the level of violence in a society and the quality of its civil servants. An immediate explanation for the observation that more violent countries are ruled by worse politicians could be that bad politicians are incapable of upholding the rule of law. Our model allows for a prediction with the opposite causal direction: violent countries will have a hard time at attracting good politicians, which will certainly not help. Our extension featuring multiple equilibria shows how vicious circles can arise: violence generates bad politicians to be in power, and the latter are incapable of altering the conditions that make good candidates stay away from politics.

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

³⁶For an example, see Cavallo (1997). For discussion of instances in which the public discount corruption accusations and still vote for political candidates accused of bribe taking, see Bryce (1959) and Rundquist, Strom and Peters (1977). The latter state "the contentiousness of American elections is such that voters discount reports that one or more of the candidates are corrupt, assuming instead that allegations of corruption are merely partisan tricks." (Page 955). Note that even when voters discount these attacks, the attacks may be effective at placing costs on the target (in terms of time, money, public exposure, etc.)

an element of inefficiency. While bribes are mainly transfers, punishment typically entails the destruction of resources. 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 policy-makers 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 devoted to political influence in the US.

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 public officials of higher ability. This prediction, common to all models of political influence based on bribes, cannot explain why countries with high indices of corruption exhibit a public service of appalling quality. We, instead, show that allowing for bribes and threats of punishment 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 counterintuitive result shows that the use of threats changes the *nature* of the influence game.

Economists have shown how variations in the wealth of nations 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 violence in the country, the amount of discretion enjoyed by officials, and certain judicial institutions can affect the degree of corruption and the quality of rulers.

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—it being under the influence of special interests, and it being constituted by men of insufficient quality—are connected. Thus, and in contrast to the traditional literature, it is possible to argue that the government 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

Proof of Proposition 1. Since $\frac{\partial \pi^0}{\partial \beta} = \Phi(h) > 0$, a lower β 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 β 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:

$$\gamma\beta\Phi'(h - r) - (1 - \gamma)\rho\Psi'(r) = 0. \tag{5}$$

Since $\gamma\beta\Phi'(h) - (1 - \gamma)\rho\Psi'(0) > 0$, $\gamma\beta\Phi'(0) - (1 - \gamma)\rho\Psi'(h) < 0$ and both Φ' and Ψ' 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 $\Pi(b^*, r^*) > \Pi(b^\circ, r = 0)$. 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 β , 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 Φ' being positive.

b) Differentiating with respect to ρ 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 β and ρ 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 β and β' . 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 β and β' . By Lemma 4 the payoff of the official is w in both cases.

Third, the group is inactive under β but active under β' . By Lemmas 2 and 4 the payoff of the official is w under β and $w - r^*$ under β' . 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 ρ and ρ' . 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 ρ and ρ' . By Lemma 2 the payoff of the official is w in both cases.

Third, the group is inactive under ρ but active under ρ' . By Lemmas 2 and 4 the payoff of the official is w under β and $w - r^*$ under β' . 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

$$b(i, r) = \frac{[(\theta w - (1 - \theta) r)(1 - i) + m]}{1 - \theta(1 - i)}. \quad (6)$$

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:

$$-\gamma \beta \Phi'[b(i, r^*)] \frac{db}{dr} - (1 - \gamma) \rho \Psi'(r^*) = 0. \quad (7)$$

Given that the FOC is positive for $r = 0$ and negative for $r = \bar{r}$, and both Φ' and Ψ' 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 $\frac{(1 - \gamma)}{\gamma} \rho \Psi[r^*(i, \theta)] + \beta \Phi[b(i, r^*(i, \theta))]$. Differentiating this with respect to i and using the envelope theorem one gets,

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

where $\frac{\partial b}{\partial i}$ is the direct effect of i on b . Obviously, $sgn(\frac{d\bar{\pi}}{di}) = sgn(\frac{\partial b}{\partial i})$. Differentiating (6) and

rearranging we get $\frac{\partial b}{\partial i} > 0$ iff $\theta < \frac{r^*}{w+m+r^*}$. But remember that r^* depends on θ . Since $r^* > 0$ when $\theta = 0$, $0 < \frac{r^*(i,0)}{w+m+r^*(i,0)}$. Since r^* does not converge to infinity as $\theta \rightarrow 1$,³⁷ $\frac{r^*(i,\theta)}{w+m+r^*(i,\theta)}$ is strictly lower than θ for θ close enough to 1. Then, given that r^* is continuous in θ , there exist $\underline{\theta} \in (0, 1)$ and $\bar{\theta} \in (0, 1)$ such that $\underline{\theta} \leq \bar{\theta}$, $\frac{\partial b}{\partial i} > 0$ for $\theta < \underline{\theta}$ and $\frac{\partial b}{\partial i} < 0$ for $\theta > \bar{\theta}$. Therefore $\frac{d\pi}{di} > 0$ if $\theta < \underline{\theta}$ and $\frac{d\pi}{di} < 0$ 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 $\frac{dr^*}{di}$,

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

where the denominator is clearly negative. Thus, the sign of $\frac{dr^*}{di}$ depends on the sign of the numerator, and $\frac{dr^*}{di}$ will be negative whenever $\Phi'' \frac{\partial b}{\partial i} \frac{\partial b}{\partial r} + \Phi' \frac{d^2b}{drdi} > 0$ holds. This inequality will be satisfied if $\theta \geq \frac{r^*}{w+m+r^*}$ (as this implies that $\frac{\partial b}{\partial i} < 0$, and we have that $\frac{db}{dr} < 0$ and $\frac{d^2b}{drdi} > 0$). This is, from the proof of Proposition 7, $\frac{dr^*}{di} < 0$ if $\theta \geq \bar{\theta}$. ■

9.1 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

³⁷This argument holds for $i > 0$, but it is easy to alter the model slightly so that the proof is also valid when $i = 0$.

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 fix cost in advance. Smith and Varese (2001) 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 (δ 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 $(b^0, r = 0)$ if $\Pi(b^0, r = 0) > 0$ 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 refusal to take 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 δ 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.

References

- Acemoglu, D. and T. Verdier (2000). "The Choice Between Market Failures and Corruption," *American Economic Review* 90(1), 194-211.
- Ades, A. and R. Di Tella (1999). "Rents, Competition and Corruption," *American Economic Review* 89(4), 982-994.
- Alesina, A. and A. Drazen (1991). "Why Are Stabilizations Delayed?," *American Economic Review* 81(5), 1170-88.
- Alt, J., Calvert, R., and B. Humes (1988). "Reputation and Hegemonic Stability: A Game-Theoretic Analysis," *American Political Science Review* 82(2), 445-66.
- Ansolabehere, S., de Figueiredo, J., and J. Snyder (2003). "Why is There so Little Money in US Politics?," *Journal of Economic Perspectives* 17(1), 105-30.
- Baron, D. (1994). "Electoral Competition with Informed and Uniformed Voters," *American Political Science Review* 88(1), pp. 33-47.
- Baron, D. (2001). "Private Politics, Corporate Social Responsibility and Integrated Strategy," *Journal of Economics & Management Strategy*, 10, 7-45.
- Becker, G. (1968). "Crime and Punishment: An Economic Approach," *Journal of Political Economy* 76(2), 169-217.
- Becker, G. (1983). "A Theory of Competition Amongst Pressure Groups for Political Influence," *Quarterly Journal of Economics* 98(3), 371-400.
- Beissinger, M. (2002). *Nationalist Mobilization and the Collapse of the Soviet State*. Cambridge: Cambridge University Press.
- Bentham, J. (1843). "Plan for Parliamentary Reform," in *The Works of Jeremy Bentham* Vol. III, Edinburgh: William Tait.
- Bernhard, W. (1998). "A Political Explanation of Variations in Central Bank Independence," *American Political Science Review* 92(2), pp. 311-27.

- Besley, T. and S. Coate (1997). "A Theory of Representative Democracy," *Quarterly Journal of Economics* 112, 85-114.
- Besley, T. and S. Coate (2001). "Lobbying and Welfare in a Representative Democracy," *Review of Economic Studies* 68(1), 67-82.
- Besley, T. and J. McLaren (1993). "Taxes and Bribery: The Role of Wage Incentives," *Economic Journal* 103, 119-41.
- Bowden, M. (2001). *Killing Pablo*. London: Atlantic Books.
- Bryce, J. (1959). *The American Commonwealth*. Louis Hacker (ed.) New York: G. P. Putnam's Sons, Vol. I.
- Buchanan, J. (1980). Rent Seeking and Profit Seeking, in *Towards a Theory of the Rent Seeking Society*, Buchanan, J., R. Tollison and G. Tullock (eds), College Station: Texas A&M Press.
- Calomiris, C. and A. Powell (2000). "Can Emerging Bank Regulators Establish Credible Discipline? The case of Argentina, 1992-1999," World Bank mimeo.
- Caselli, F. and M. Morelli (2004). "Bad Politicians," *Journal of Public Economics* 88(3-4), 759-82.
- Cavallo, D. (1997). *El peso de la Verdad*. Buenos Aires: Editorial Planeta.
- Coate, S. and S. Morris (1995). "On the Form of Transfers to Special Interests," *Journal of Political Economy* 103(6), 1210-35.
- Dal Bó, E. and R. Di Tella (2003). "Capture by Threat," *Journal of Political Economy* 111(5), 1123-54.
- De la Torre, A. (2000). "Resolving Bank Failures in Argentina," World Bank Policy Research Working Paper 2295.
- Dyck, A. and L. Zingales (2002). "The Corporate Governance Role of the Media", NBER 9309.

- Dyck, A. (2002). "The Hermitage Fund: Media and Corporate Governance in Russia", Harvard Business School case 703-010.
- Fernandez, R. and D. Rodrik (1991). "Resistance Against Reform: Status Quo Bias in the Presence of Individual Specific Uncertainty," *American Economic Review*, 81, 1146-55.
- Gale, D. and X. Vives (2002). "Dollarization, Bailouts, and the Stability of the Banking System," *Quarterly Journal of Economics*, 117, 2, 467-502.
- Gambetta, D. (1993). *The Sicilian Mafia: The Business of Private Protection*, Mass.: Harvard University Press.
- Garfinkel, M. and S. Skaperdas (1996). *The Political Economy of Conflict and Appropriation*. New York: Cambridge University Press.
- Glaeser, E. and A. Shleifer (2002). "Legal Origins", *Quarterly Journal of Economics* 117(4), 1193-230.
- Groseclose, T. and J. Snyder (1996), "Buying Supermajorities," *American Political Science Review* 90(2), pp. 303-15.
- Grossman, G. and E. Helpman (1994). "Protection for Sale," *American Economic Review*, 84, 833-50.
- Helpman, E. and T. Persson (2001). "Lobbying and Legislative Bargaining", *Advances in Economic Analysis & Policy*, 1(1), Article 3.
- Konrad, K. and S. Skaperdas (1997). "Credible threats in extortion," *Journal of Economic Behavior and Organization* 33, 23-39.
- Krueger, A. (1974). "The Political Economy of the Rent Seeking Society," *American Economic Review* 64(3), 291-303.
- Laffont, J-J. and J. Tirole (1993). *A Theory of Incentives in Procurement and Regulation*. Cambridge: MIT Press.
- Lau, Richard, Lee Sigelman, Caroline Heldman, and Paul Babbitt (1999). "The Effects of Negative Political Advertisements: A Meta Analytic Assesment," *American Political Science Review* 93(4): 851-876.

- Mill, J.S. ([1861], 1998). "Considerations on Representative Government," in *On Liberty and Other Essays*, Oxford World's Classics; Oxford: Oxford University Press,
- Mueller, D (1989) *Public Choice II*, Cambridge University Press.
- Murphy, K., Shleifer, A. and R. Vishny (1991), "The Allocation of Talent: Implications for Growth," *Quarterly Journal of Economics* 106(2), 503-30.
- Osborne, M. and A. Slivinski (1996). "A Model of Political Competition with Citizen Candidates," *Quarterly Journal of Economics* CXI, 65-96.
- Peltzman, S. (1976). "Towards a More General Theory of Regulation," *Journal of Law and Economics*, 19, 211-48.
- Powell, R. (1999). *In The Shadow of Power: States and Strategies in International Politics*. Princeton University Press.
- Prillaman, W. (2000). *The Judiciary and Democratic Decay in Latin America*. Westport and London: Praeger Publishers.
- Ramseyer, J.M. and E. Rasmusen (1992). "Cheap Bribes and the Corruption Ban: A Coordination Game Among Rational Legislators," *Public Choice* 78(3-4), 305-27.
- Rosen, S. (1982). "Authority, Control and the Distribution of Earnings," *Bell Journal of Economics*, 2, 311-23.
- Rotemberg, J. (2002). "Commercial Policy with Altruistic Voters", forthcoming *Journal of Political Economy*.
- Rundquist, B., Strom, G. and J. Peters (1977). "Corrupt Politicians and their Electoral Support: Some Experimental Observations," *American Political Science Review* 71, 954-63.
- Shavell, S. (1991). "Specific versus General Enforcement of Law," *Journal of Political Economy* 99(5), 1088-108.
- Skaperdas, S. and B. Grofman (1995). "Modeling Negative Campaigning," *American Political Science Review* 89(1), 49-61.

- Smith, A. ([1776], 1981). *An Inquiry into the Nature and Causes of the Wealth of Nations* (Campbell, R., Skinner, A. and W. Todd, eds.), Indianapolis: Liberty Fund.
- Smith, A. and F. Varese (2001). "Payment, Protection and Punishment: The Role of Information and Reputation in the Mafia," *Rationality and Society* 13(3).
- Stigler, G. (1970). "The Optimum Enforcement of Laws," *Journal of Political Economy* 78(3), 526-36.
- Stigler, G. (1971). "A Theory of Economic Regulation," *Bell Journal of Economics*, 2, 3-21.
- Tacitus (1971 [109]). *The Annals of Imperial Rome*. Harmondsworth: Penguin Books.
- Tate, C. N. and T. Vallinder (1995). The Global Expansion of Judicial Power: The Judicialization of Politics. In *The Global Expansion of Judicial Power*, eds. C. N. Tate and T. Vallinder, New York University Press.
- Tullock, G. (1967). "The Welfare Costs of Monopolies, Tariffs, and Theft," *Western Economic Journal*, 5, 224-32.
- Tullock, G. (1972). "The Purchase of Politicians," *Western Economic Journal*, 10, 354-55
- Varese, F. (1994). "Is Sicily the Future of Russia?: Private Protection and the Rise of the Russian Mafia," *Archives Europeenes de Sociologie*, 35, 2, 224-59.
- Weingast, B., Shepsle, K. and C. Johnsen (1981). "The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics," *Journal of Political Economy* 89, 642-64.
- Wittman, D. (1989). "Why Democracies Produce Efficient Results," *Journal of Political Economy*, 97(6), 1395-424.