

# Corruption and Political Competition

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## Abstract

There is a growing evidence that political corruption is often closely associated with the rent seeking activities of special interest groups. This paper examines the nature of the interaction between the lobbying activities of special interest groups and the incidence of political corruption and determines whether electoral competition can eliminate political corruption. We obtain some striking results. Greater electoral competition serves to lessen policy distortions. However, this in turn stimulates more intense lobbying which increases the scope of corrupt behavior. It is shown that electoral competition merely serves to alter the type of corruption that eventuates, but cannot eliminate it.

## 1 Introduction

“Democracy gives citizens a role in choosing their leaders. Thus, corrupt elected officials can be voted out of office. But democracy is not necessarily a cure for all corruption.” (Rose-Ackerman [8])

This paper addresses an important issue. Can electoral competition eliminate political corruption and promote more efficient policy decisions? The answer to this question has far reaching policy implications for both developed and developing countries. A growing body of literature has demonstrated that political corruption impedes economic growth (Mauro [7]), inhibits investment (Bardhan [1]), and stifles the entry of new enterprises

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(Manion [6]). Thus, if greater electoral competition can reduce the degree of corruption, this may induce more efficient economic policy decisions. This link between electoral competition and corruption does not appear to have been fully investigated in the existing literature.

A growing body of evidence suggests that political corruption is often closely linked to the lobbying activities of special interest groups. While statistical measures of the link between political corruption and lobbying are difficult to obtain because of the clandestine nature of these activities, anecdotal evidence abounds. Media reports describing the corruption influence of lobby groups appear with regular frequency. The scandals over countries as varied in political institutions and development levels as the USA, UK, and France to Indonesia, and India. Among more widely publicized cases are the Italian experience, where anti-corruption investigations unearthed evidence of campaign funds being misappropriated for personal and party political purposes and of the Christian Democratic Party in Germany with secret payments made to its “slush funds”.<sup>1</sup> There is a substantial literature on rent seeking by special interest groups (see, for instance, Baron [2], Grossman and Helpman [4] and Grossman and Helpman [5]). However, this literature appears to have ignored the interaction between the level of corruption and the activities of lobby groups.

This paper explores two key issues. First, we examine the link between the activities of lobby groups and the incidence of political corruption. Second, we determine whether electoral competition can (*i*) reduce corruption and (*ii*) mitigate the distortionary influence of lobby groups on policy decisions. The conclusions which emerge are striking. Electoral competition merely serves to alter the type of corrupt behavior that eventuates, but cannot eliminate it. However, greater electoral competition may promote more efficient policy making.

We consider a situation in which politicians are self interested and propose policies to maximize their utility. Special interest groups seek to influence the policy outcome by making campaign donations to political parties or politicians. The existing rent seeking literature assumes that when lobby groups make contributions to political parties for electoral purposes, these funds are used by the parties to finance election campaigns (see for instance Baron [2], Fredriksson [3], Grossman and Helpman [4] and Grossman and

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<sup>1</sup>The Economist, 15 January 2000.

Helpman [5]). However, while payment of a political contribution may involve some degree of tacit reciprocity between the donor and the recipient, there is no legally binding contract to ensure that the funds are used for the purposes intended by the donor. Thus, once a donation has been made, a political party will renege on the agreement, if it is in its interests. For instance, political contribution may be used for personal gain or political purposes, rather than for campaigning on the issue desired by the interest group. This is most likely occur when a donor has no credible means of retaliation, or when the political party's grip on power is uncertain. so that threats of future retaliation are not effective. The absence of enforcement mechanism provides an opportunity for politicians to divert funds for personal use. This issue, which has been neglected, plays an important role in our model.

The analysis is based on the well known model of Grossman and Helpman [5], where two parties compete in an electorate consisting of informed and uninformed voters. To attract votes from the uninformed electorate, the parties engage in costly advertising and campaigning. A special interest group seeks to influence the policy position of the parties by offering contributions, which are contingent upon the policy proposed by each party. We assume that self interested politicians derive utility from income and holding office. The parties therefore have an incentive to propose policies which attract political contributions. These contributions are either used for political campaigning or other non-electoral purposes. Since there is no legally binding contract between the political party and the lobby group, the donor is unable to prevent politicians from diverting funds to non-campaign uses.

In deciding on the proportion of political contributions to be allocated to various uses, the politicians confront a trade-off. Increasing the funds used for campaigning raises the probability of winning the election. On the other hand, money diverted for personal purposes yields utility, irrespective of the election outcome. Each party allocates political contributions between campaigning and other uses optimally.

The analysis based on the following sequence of events. In the first stage the political parties decide on the allocation of funds between campaigning and other uses. The proportion of funds diverted for personal use is interpreted as one form of corruption, and is defined as the *degree of em-*

*bezzlement*. In the second stage, the lobby group announces its contribution schedules to the parties. Finally, the parties choose their policy platforms and the contributions are paid. The extent to which policies are distorted as a consequence of lobbying is yet another dimension of corruption in this framework. As usual, the model is solved by backward induction.

We explore the impact of corruption on the lobby group's incentive to contribute to a party. Embezzlement of political contributions is likely to have two conflicting effects on lobby group donations. On the one hand, lobbying is less productive when funds intended for campaigning diverted for personal use, so that the lobby group may have less incentive to make political contributions. However, in a sequential game there is an additional channel which reflects the first mover advantage of the political party. Specifically, the lobby group knows that in the absence of an enforcement mechanism, its desired policy will be proposed by a political party only if it is incentive compatible. This requires that the political party is adequately compensated for the welfare loss it suffers from altering its policies. A party which spends a lower proportion of its political contributions on campaigning, suffers a greater loss when its policy deviates from the vote maximizing strategy. To compensate for this the lobby group is compelled to increase its political contributions. It is demonstrated that the sequential effects dominate so that a party which is known to divert a greater proportion of campaign funds obtains larger political contributions. Somewhat paradoxically, the more dishonest a party, the greater is its ability to attract contributions.

We also show that as the intensity of electoral competition increases, the proportion of funds diverted for personal use rises. Thus, electoral competition increases the level of corruption. This seemingly counterintuitive result arises for the following reason. As the probability of winning an election increases, the expected payoffs to a political party from allocating funds to campaigning rises. There is therefore less incentive to divert funds to other uses. Since less electoral competition induces more campaign spending, the proposed policies are closer to the preferences of the lobby group. Electoral competition thus alters the form of corrupt behavior, but does not eliminate it. It reduces the level of policy distortions, but increases the degree of embezzlement.

The remainder of the paper is organized as follows. Section 2 outlines

the basic structure of the model and examines the manner in which political contributions vary with changes in corruption levels. Section 3 investigates the effects of electoral competition on contributions, and announced policies and corruption levels. Finally, section 4 concludes the paper.

## 2 The Model

Two political parties, denoted  $A$  and  $B$ , compete in an election contest. The politicians in both parties are self interested. The utility function of the representative politician from party  $A$  is given by

$$G_A = s[(1 - \theta_A)C_A + R] + (1 - s)[(1 - \theta_A)C_A + L], \quad (1)$$

where  $s = s(\theta_A C_A, \theta_B C_B)$  is the probability that party  $A$  wins the election,  $C_j \geq 0$  is the campaign contribution received by party  $j = A, B$  from a special interest group,  $\theta_j$  defines the proportion of these contributions which are used for campaigning in the election by party  $j$ ,  $(1 - \theta_A)C_A$  is the proportion of campaign contributions which are diverted for personal use and other non-electoral purposes,  $R$  and  $L$  represent the payoffs when party wins or loses the election, respectively. It is assumed that  $R > L$ .

**Remark 2.1** *Equation (1) reveals that politicians obtain greater utility from winning an election, i.e.,  $R > L$ . This is because of the higher salary and benefits which accrue to the winner and the “ego rents” of holding office.*

The politicians obtain utility when campaign funds are diverted for personal consumption and other issues. On the other hand, the probability of winning the election is assumed to depend on the proportion of funds each party spends on campaigning, i.e.,  $\theta_j C_j$ . It is supposed that the probability that each party wins the election is increasing in its own campaign spending and declining in the spending by the rival. That is,

$$\frac{\partial s}{\partial \theta_A C_A} > 0, \quad \frac{\partial s}{\partial \theta_B C_B} < 0.$$

The parties therefore confront the trade-off. While diverting campaign contribution for personal use directly rises utility, it also diminishes the probability of winning the election.

Party  $B$  is symmetric with utility given by

$$G_B = (1 - s) [(1 - \theta_B)C_B + R] + s [(1 - \theta_B)C_B + L]. \quad (2)$$

Following Grossman and Helpman [5], we assume that the parties compete on two issues, that is, *ideology*, denoted  $I$ , and a *pliable policy issue*, denoted  $P$ . Parties maintain fixed positions on ideological matters. For simplicity, let ideology be measured along the unit interval, i.e.,  $I \in [0, 1]$ . It is assumed that the parties adopt extreme points along this interval so that party  $A$ 's ideology is represented by  $I_A = 0$  and party  $B$ 's ideology is represented by  $I_B = 1$ .

The pliable issues consist of policy matters on which the parties do not have any prior ideological preferences.<sup>2</sup> Each party's announced policy position on the pliable issues is represented by

$$P_j \in [0, 1], \quad j = A, B.$$

There are two types of voters in the electorate, the informed and the uninformed. There is a fraction  $(1 - \alpha)$  of informed voters who have full knowledge of the impact of policies on their welfare and therefore have well defined preferences over the pliable policy. We assume that their preferences are given by

$$u_i = -k|P - P_i| + \beta_i I, \quad (3)$$

where  $k > 0$  is a constant,  $P$  is the policy which is *expected* by informed voters to be implemented,  $P_i$  is the ideal pliable policy of informed voter  $i$  and  $\beta_i$  is the marginal utility from ideology  $I \in [0, 1]$ .

The Parties cannot observe either  $P_i$  or  $\beta_i$ , but know that they are drawn from independent uniform distributions. Following Grossman and Helpman [5], it is supposed that  $P_i$  is uniformly distributed over  $[0, 1]$  and that  $\beta_i$  is uniformly distributed over

$$\left[ -\frac{1}{2d} - \frac{b}{d}, \frac{1}{2d} - \frac{b}{d} \right],$$

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<sup>2</sup>This might consist of issues such as public good provision, environmental regulations, tariffs etc.

where  $d$  is a measure of the uniformity of views. From the joint density function, the proportion of the informed electorate who vote for party  $A$  can be shown to be

$$\frac{1}{2} + b - kd \left( P_A - \frac{1}{2} \right)^2 + kd \left( P_B - \frac{1}{2} \right)^2. \quad (4)$$

There are a fraction  $\alpha$  of uninformed voters in the electorate who are unable to assess the impact of the pliable policies on their welfare. They can be persuaded to vote for a party through campaign advertisements. The party which spends more on campaign advertisements captures a greater number of their votes. These voters have a certain ideological preference for one of the parties. As in Grossman and Helpman [5], the proportion of this electorate who vote for party  $A$  is given by

$$\frac{1}{2} + b + h(\theta_A C_A - \theta_B C_B), \quad (5)$$

where  $b > 0$  represents the inherent ideological bias of these voters for party  $A$ ,  $h > 0$  measures the effectiveness of the advertisement campaign.

Combining (4) and (5), the proportion of individuals who vote for party  $A$  is given by

$$s = \frac{1}{2} + b + \alpha h(\theta_A C_A - \theta_B C_B) + (1 - \alpha) \left[ -kd \left( P_A - \frac{1}{2} \right)^2 + kd \left( P_B - \frac{1}{2} \right)^2 \right]. \quad (6)$$

It is assumed that the eventual policy which is adopted is proportional to the number of seats won by each party, i.e.,

$$P = sP_A + (1 - s)P_B.$$

There is one special interest lobby group which has well defined preferences over the pliable policy issue. The interest group seeks to influence the policy outcome by making campaign contributions to the parties in order to induce them to adopt the policy platform that better serves its needs. The lobby group has no ideological biases. Let  $C_j$  denote the campaign contributions paid by the lobby group to party  $j$ ,  $j = A, B$ . The utility of

the lobby group from a policy is given by

$$u_L = -k|P - P_L| - C_A - C_B, \quad (7)$$

where  $P_L$  is the lobby group's ideal policy. Without loss of generality, let  $P_L = 1$ .

Having outlined the general structure of the model, we shall now derive the equilibrium level of contributions paid to each party. In the absence of lobbying, party  $A$  would choose a pliable policy  $\hat{P}_A$  to maximize its utility, as defined in Equation (1). Thus,

$$\hat{P}_A = \arg \max (sR + (1 - s)L). \quad (8)$$

Substituting for  $s$  when  $C_A = 0$ , and solving the first-order condition, it can be verified that  $\hat{P}_A = 1/2$ .<sup>3</sup> In this case the number of seats that party  $A$  wins in the legislature is given by

$$\hat{s} = \frac{1}{2} + b - \alpha h \theta_B C_B + (1 - \alpha) \left[ kd \left( P_B - \frac{1}{2} \right)^2 \right].$$

The resulting level of utility accruing to party  $A$  in the absence of lobbying is

$$\hat{G}_A = \hat{s}R + (1 - \hat{s})L. \quad (9)$$

Suppose that the lobby group offers party  $A$  a contribution to announce a policy platform which is more closely aligned to its interest. Party  $A$  will have an incentive to alter its policy only if the contributions received from the lobby group are sufficient to compensate it for varying its policy from its preferred position  $\hat{P}_A$ . Thus, contributions to party  $A$  must satisfy

$$G_A > \hat{G}_A.$$

Substituting and simplifying, equilibrium contributions to party  $A$  are given by

$$C_A \geq \frac{(1 - \alpha)dk(R - L)(P_A - \hat{P}_A)^2}{1 - \theta_A + \alpha h \theta_A (R - L)}. \quad (10)$$

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<sup>3</sup>Analogously, it can be verified that in the absence of lobbying, party  $B$ 's utility maximizing policy is  $\hat{P}_B = 1/2$ .

Note that Equation (7) reveals that the lobby group's utility is declining in the contribution paid to each party. The lobby group therefore maximizes its utility by offering party  $A$  the minimum amount necessary to induce it to modify its policy from its preferred position  $\hat{P}_A$ . Thus, in equilibrium, contributions must satisfy (10) with equality. An analogous condition holds for party  $B$ .

Having derived the contribution levels we now assess the manner in which political contributions vary with certain parameters of the problem. One dimension of corruption in this model is the proportion of funds which are diverted for personal consumption. We begin by considering the impact of an increase in  $\theta$  on contribution levels. Differentiating (10), one gets

$$\frac{\partial C_A}{\partial \theta_A} = \frac{-C_A(\alpha h(R-L) - 1)}{1 - \theta_A + \alpha h\theta_A(R-L)} < 0. \quad (11)$$

Equation (11) reveals that political contributions increase as the proportion of funds subverted for personal use rise. This result may seem counterintuitive, but arises for the following reason. The lobby group knows that in the absence of an enforcement mechanism, its desired policy will be proposed by a political party only if it is given the incentive to do so. This requires that the political party be adequately compensated for the welfare loss which suffers from adopting the lobby group's preferred policy. A more corrupt party spends a lower proportion of its political contributions on campaigning and therefore suffers a greater loss, in electoral terms, when its policy deviates from the vote maximizing strategy,  $\hat{P}_A$ . To compensate for this, the lobby group is compelled to increase its political contributions. Thus, *ceteris paribus*, the greater the degree of embezzlement, the higher are the required contributions demanded and received by a corrupt party.

Consider next the effect of an increase in the payoffs from winning the election. Differentiating (11), we get

$$\frac{\partial C_A}{\partial R} = \frac{C_A(1 - \theta_A)}{(R-L)(1 - \theta_A + \alpha h\theta_A(R-L))} > 0. \quad (12)$$

As the rewards from winning an election increase, there is less incentive for the party to alter its policy from the preferred position. Thus, the lobby group is required to pay a larger compensation to the party when its policy departs from the preferred position,  $\hat{P}_A$ .

### 3 Equilibrium Policy Positions

Having obtained the equilibrium level of contributions, we now solve for the policy positions. As noted by Grossman and Helpman [5], the lobby group can induce the political parties to announce any feasible policy platform so long as the contributions adequately compensate them for the welfare loss of departing from their preferred policy positions. Thus, the policy platform announced by each party will maximize the lobby group's payoffs, subject to the constraint that each party is adequately compensated for the welfare loss of varying the announced policy from its preferred position. Hence, the lobby group solves the following problem:

$$\max_{P_j} u_L = -k|P - P_L| - C_A - C_B, \quad (13)$$

subject to

$$C_A = \frac{(1 - \alpha)dk(R - L)(P_A - \hat{P}_A)}{1 - \theta_A + \alpha h\theta_A(R - L)},$$

or

$$C_B = \frac{(1 - \alpha)dk(R - L)(P_B - \hat{P}_B)}{1 - \theta_B + \alpha h\theta_B(R - L)},$$

where  $j = A, B$ . The first-order condition is

$$k \left( s + P_A \frac{\partial s}{\partial P_A} - \frac{\partial C_A}{\partial P_A} \right) = 0.$$

An analogous condition holds for party  $B$ .

**Lemma 3.1** *Assume, for a unique maximum to exist, that  $\frac{\partial^2 u_L}{\partial P_A^2} < 0$ . When corruption, as measured by the degree of embezzlement, rises the lobby group has less influence on the announced policy platform of a party, i.e.,  $\frac{dP_j}{d\theta_j} > 0$ .*

**Proof.** From the first-order condition above,

$$\frac{\partial u_L}{\partial P_A} = k \left( s + P_A \frac{\partial s}{\partial P_A} - \frac{\partial C_A}{\partial P_A} \right) = 0, \quad (14)$$

where

$$\frac{\partial s}{\partial P_A} = 2 \left( \frac{\alpha h\theta_A C_A - (1 - \alpha)dk(P_A - \hat{P}_A)^2}{P_A - \hat{P}_A} \right)$$

and

$$\frac{\partial C_A}{\partial P_A} = \frac{2C_A}{(P_A - \hat{P}_A)}.$$

Totally differentiating (14),

$$\frac{\partial^2 u_L}{\partial P_A^2} dP_A + \frac{\partial^2 u_L}{\partial P_A \partial \theta_A} d\theta_A = 0. \quad (15)$$

Thus,

$$\frac{dP_A}{d\theta_A} = -\frac{\frac{\partial^2 u_L}{\partial P_A \partial \theta_A}}{\frac{\partial^2 u_L}{\partial P_A^2}}. \quad (16)$$

Since we have assumed that  $\frac{\partial^2 u_L}{\partial P_A^2} < 0$ , it follows that

$$\text{Sign} \frac{dP_A}{d\theta_A} = \text{Sign} \frac{\partial^2 u_L}{\partial P_A \partial \theta_A}.$$

Substituting for  $\frac{\partial s}{\partial P_A}$  and  $\frac{\partial C_A}{\partial P_A}$  in (14) and further differentiating with respect to  $\theta_A$ , one obtains

$$\frac{\partial^2 u_L}{\partial P_A \partial \theta_A} = k \left[ \alpha h \left( C_A + \theta_A \frac{\partial C_A}{\partial \theta_A} \right) + \frac{2}{P_A - \frac{1}{2}} \left( \alpha h C_A P_A - \frac{\partial C_A}{\partial \theta_A} \right) \right] > 0, \quad (17)$$

where the sign of (17) follows from the fact that

$$\frac{\partial C_A}{\partial \theta_A} = \frac{-C_A (\alpha h (R - L) - 1)}{1 - \theta_A + \alpha h \theta_A (R - L)} < 0$$

and

$$C_A + \theta_A \frac{\partial C_A}{\partial \theta_A} = C_A + \frac{-C_A \theta_A (\alpha h (R - L) - 1)}{1 - \theta_A + \alpha h \theta_A (R - L)} > 0.$$

Thus,

$$\frac{dP_A}{d\theta_A} = -\frac{\frac{\partial^2 u_L}{\partial P_A \partial \theta_A}}{\frac{\partial^2 u_L}{\partial P_A^2}} > 0.$$

The proof follows. ■

Lemma 3.1 explores the manner in which policy platforms vary with changes in the degree of embezzlement. Intuitively, a party which is more corrupt, spends a lower proportion of contributions on campaigning. Thus, contributions are less effective in delivering the lobby group's desired policy

platform. Hence, as more funds are diverted for personal use, the lobby group has less influence on the announced policy platform. Paradoxically, this result suggest that in an election context parties which embezzle more funds will stand on more independent platforms.

**Lemma 3.2** *As the proportion of funds diverted for personal use by one party increases, the lobby group has greater influence on the announced policy platform of its rival, i.e.,  $\frac{dP_i}{d\theta_j} < 0$ ,  $j = A, B$ ,  $i \neq j$ .*

**Proof.** Totally differentiating (14), one obtains

$$\frac{\partial^2 u_L}{\partial P_A^2} dP_A + \frac{\partial^2 u_L}{\partial P_A \partial \theta_B} d\theta_B = 0. \quad (18)$$

Thus,

$$\frac{dP_A}{d\theta_B} = -\frac{\frac{\partial^2 u_A}{\partial P_A \partial \theta_B}}{\frac{\partial^2 u_A}{\partial P_A^2}}, \quad (19)$$

where

$$\frac{\partial^2 u_A}{\partial P_A \partial \theta_A} = k \frac{\partial s}{\partial \theta_A} = -k\alpha h \left( C_B + \theta_B \frac{\partial C_B}{\partial \theta_B} \right) < 0.$$

Since,  $\frac{\partial^2 u_L}{\partial P_A^2} < 0$ , it follows that  $\frac{dP_A}{d\theta_B} < 0$ . ■

As, say, party  $A$  diverts a greater proportion of funds for personal use, the lobby group has less influence on its policy, so that its contributions to party  $A$  are less profitable. It, therefore, has an incentive to lobby the rival party  $B$  more intensively. Hence, party  $B$ 's announced policy moves closer to the lobby group's desired position.

We shall, now, explore the impact of electoral competition on policies. Recall that the parameter  $b$  represents the bias of the electorate for party  $A$ . Thus, as  $b$  rises, party  $A$  confronts less electoral competition.

**Lemma 3.3** *As the bias in the electorate for, say, party  $A$  increases, it announces a policy platform which is closer to that of the lobby group, i.e.,  $\frac{dP_A}{db} > 0$ .*

**Proof.** Totally differentiating (14), one obtains

$$\frac{\partial^2 u_L}{\partial P_A^2} dP_A + \frac{\partial^2 u_L}{\partial P_A \partial b} db = 0 \quad (20)$$

Therefore,

$$\frac{dP_A}{db} = -\frac{\frac{\partial^2 u_L}{\partial P_A \partial b}}{\frac{\partial^2 u_L}{\partial P_A^2}} = -\frac{k}{\frac{\partial^2 u_L}{\partial P_A^2}} > 0.$$

This completes the proof. ■

The lobby group finds it more profitable to induce the more popular party to adopt a platform that is closer to its preferred position. This is simply because, *ceteris paribus*, contributions given to the popular party are more productive in buying votes.

Turning to the first stage of the game, each political party will choose the proportion of funds it allocates to campaigning to maximize its welfare. Thus, the degree of embezzlement which eventuates in equilibrium is determined by the solution to (1). The associated first-order condition is

$$\begin{aligned} \frac{dP_A}{d\theta_A} \left[ \frac{2C_A}{\left(P_A - \frac{1}{2}\right)} (1 - \theta_A + \theta_B \alpha h(R - L)) - (1 - \alpha)k d2 \left(P_A - \frac{1}{2}\right) \right] \\ - \frac{dP_B}{d\theta_A} 2 \left(P_B - \frac{1}{2}\right) = 0. \end{aligned} \quad (21)$$

A similar condition holds for party  $B$ .

**Proposition 3.4** *As electoral competition becomes more intense, the degree of embezzlement rises, i.e.,  $\frac{d\theta_A}{db} > 0$ .*

**Proof.** Totally differentiating (21) and solving, one can obtain

$$\frac{d\theta_A}{db} = -\frac{\frac{\partial^2 G_A}{\partial \theta_A \partial b}}{\frac{\partial^2 G_A}{\partial \theta_A^2}}, \quad (22)$$

where for a unique maximum, we assume  $\frac{\partial^2 G_A}{\partial \theta_A^2} < 0$  and

$$\begin{aligned} \frac{\partial^2 G_A}{\partial \theta_A \partial b} &= \frac{\partial^2 G_A}{\partial \theta_A \partial P_A} \frac{\partial P_A}{\partial b} \\ &= \frac{\partial P_A}{\partial \theta_A} \left( \frac{1}{(P_A - \hat{P}_A)^2} \right) (2(R - L)(1 - \alpha)k(P_A - \hat{P}_A)^2) \frac{\partial P_A}{\partial b} > 0. \end{aligned}$$

Hence,  $\frac{d\theta_A}{db} > 0$ . The proof follows. ■

Proposition 3.4 outlines the impact of electoral competition on corruption as a measure by the degree of embezzlement. With more intense po-

litical competition, i.e., as  $b$  falls, there is less incentive to depart from the average ideal policy of the informed voter. Hence, there is a greater incentive to misappropriate campaign funds instead. Proposition 3.4 and Lemma 3.3 further combine to suggest that the more popular party will spend a greater proportion of its funds on campaigning and adopt a policy platform that is closer to the ideal of the lobby group. As a consequence its policy will be further from the average preferences of the informed electorate.

We shall now determine the strategic interactions between the parties.

**Proposition 3.5** *Ceteris paribus, as one party allocates a greater proportion of its lobby group contributions to campaigning, its rival has an incentive to reduce the proportion of funds allocated to campaigning, i.e.,  $\frac{d\theta_j}{d\theta_i}$ .*

**Proof.** Totally differentiating (21) and solving,

$$\frac{d\theta_A}{d\theta_B} = -\frac{\frac{\partial^2 G_A}{\partial\theta_A\partial\theta_B}}{\frac{\partial^2 G_A}{\partial\theta_A^2}}, \quad (23)$$

where

$$\begin{aligned} \frac{\partial^2 G_A}{\partial\theta_A\partial\theta_B} &= \frac{\partial^2 G_A}{\partial\theta_A\partial P_A} \frac{\partial P_A}{\partial\theta_B} \\ &= \frac{\partial P_A}{\partial\theta_A} \left( \frac{1}{(P_A - \hat{P}_A)^2} \right) (2(R - L)(1 - \alpha dk(P_A - \hat{P}_A)^2) \frac{-k \frac{\partial s}{\partial\theta_B}}{\frac{\partial^2 u_L}{\partial P_A^2}} < 0. \end{aligned}$$

Hence,  $\frac{d\theta_A}{d\theta_B} < 0$ . This completes the proof. ■

Proposition 3.5 reveals that campaign intensities are strategic substitutes. When one party competes more aggressively by allocating a greater proportion of its funds to campaigning, its rivals reduces the proportion of funds allocated to campaigning. Intuitively, when the party with the electoral advantage campaigns intensively, its rivals campaign spending is less productive in terms of acquiring votes from the uninformed electorate. Allocating funds for personal consumption therefore becomes more attractive for the rival.

Overall, these results suggest that the party with the electoral disadvantage will embezzle a greater proportion of lobby group donations for personal use and thus capture a smaller portion of the uninformed votes. It therefore announces a policy platform which is closer to the ideal of the average in-

formed voter. In contrast, the more popular party diverts a smaller portion of its funds to personal use and adopts a policy which is closer to the preferences of the lobby group. These results indicate that electoral competition may lessen policy distortions. With greater competition in elections there is less incentive to propose policies that promote the views of special interest groups (Lemma 3.3). However, this in turn induces higher contributions and greater scope to divert these contributions for personal use (Proposition 3.4). Electoral competition thus alters the type of corrupt behavior that emerges, but does not prevent the abuse of political power. More intense electoral competition lessens policy distortions, but creates incentives to extract rents from lobby groups.

## 4 Conclusion

Political scandals in democracies around the world have focused attention on the role of lobby groups in the political process. This paper has attempted to study the nature of the interaction between political lobbying and corruption and the effects of electoral competition on this relationship. It was shown that greater political competition simply alters the form of corrupt behavior that eventuates, but does not eliminate it. More intense electoral competition limits the ability of a party to distort policies in favor of special interest group and thus creates an incentive to divert campaign funds for other uses. With greater electoral competition the lobby group is required to pay higher contributions to the parties and the parties divert a greater proportion of these contributions for personal use. These results therefore suggest that there is unlikely to be a simple direct relationship between measures of corruption or lobbying and policy distortions. Policy distortions resulting from lobbying activities are likely to be greatest when there is a little competition. On the other hand, when politicians have discretion over the way in which political contributions are spent, greater electoral competition increases the incentive to divert funds for personal use.

There are number of important issues that have not been considered in this paper which warrant further research in future work. The sequential structure of the model implies that lobby groups can determine the proportion of funds that will be diverted for personal use by politicians. It would clearly be useful to extend the model to a signaling game in which the de-

gree to which it occurs cannot be determined with certainty. In addition, following the existing literature it has been implicitly assumed that parties cannot alter their announced policy positions. This assumption would hold if voters are more likely to reelect politicians who support promises made during election campaigns. However, it would be useful to explore the consequences of allowing for the possibility that politicians renege on their campaign promises following an election. This would clearly involve a substantial extension of this model.

## References

- [1] P. Bardhan, *Corruption and development*, *Journal of Economic Literature* **35** (1998), 1320–1346.
- [2] D. P. Baron, *Electoral competition with informed and uninformed voters*, *American Political Science Review* **88** (1994), 33–47.
- [3] P. G. Fredriksson, *The political economy of trade liberalization and environmental policy*, *Southern Economic Journal* **65** (1999), 513–525.
- [4] G. M. Grossman and E. Helpman, *Protection for sales*, *American Economic Review* **84** (1994), 833–850.
- [5] ———, *Electoral competition and special interest politics*, *Review of Economic Studies* **63** (1996), 265–286.
- [6] M. Manion, *Corruption by design: Bribery in chinese enterprise licensing*, *Journal of Law Economics and Organization* **12** (1996), 165–197.
- [7] P. Mauro, *Corruption and growth*, *Quarterly Journal of Economics* **110** (1995), 681–712.
- [8] S. Rose-Ackerman, *Corruption and development*, *The World Bank Annual Conference on Development Economics* (B. Pleskovic and J. E. Stiglitz, eds.), 1997.