Why a clean politician supports dirty politics: A game-theoretical explanation for the persistence of political corruption

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A R T I C L E   I N F O

A B S T R A C T

Using a theoretical model of repeated political competition among two career politicians, I study the incentives of both the corrupt and clean politicians not to adopt a fully effective reform targeting political corruption. In the setup I study, each politician can credibly adopt the reform as part of his policy platform in the elections. Yet, when the level of political corruption is high, neither politician does so in a Nash Equilibrium. Intuitively, political corruption changes the zero-sum nature of political competition: the reform eliminates the illegal rents of the corrupt candidate and the competitive advantage of the clean candidate.

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1. Introduction

In a Turkish National Security Council meeting on February 19, 2001, President Mr. Sezer strongly criticized PM Mr. Ecevit for blocking corruption investigations about high level politicians, leading to a row between these two, as well as contributing to the onset of the most severe financial crises in modern Turkish history. Although most likely accurate, the accusation was surprising: Mr. Ecevit was a clean politician whose honesty was a major contributing factor to his electoral success in his more than three-decade political career as the head of a political party (four times PM of Turkey); see Tachau (2002, p. 114). A clean politician not enforcing or implementing effective anti-corruption policies, however, is not a phenomenon unique to Turkey; even in countries with some infamously corrupt politicians, an election victory by a clean politician has rarely been followed by implementation of effective anti-corruption policies (reforms).2

Using a formal model, I study the incentives of both corrupt and clean politicians to support an effective anti-corruption reform. The politicians’ incentives matter, because the very existence of political corruption indicates an agency problem: if a politician can steal when none of the voters want him to do so, then a politician can also choose not to adopt the

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1 Within a day, the overnight interest rates rose to 7500 percent; within three days, the stock exchange lost about 29 percent of its value. On February 21, 2001, with the support of IMF, Turkey abandoned its exchange-rate controls, leading to a devaluation of its currency by 30 percent.
2 For instance, Timberman (1991, p. 235) notes that in Philippines after Marcos, President Mrs. Aquino’s “honesty has not been matched by the political will to punish the corrupt,” quoted in Quah (2004).

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reform even when the voters want him to do so. The conventional wisdom suggests that the incentives of politicians are easy to determine: only a corrupt politician benefits from the political corruption (so, only he may have incentives to block such a reform), while a clean politician always has incentives to support and implement policies that are effective against corruption. To some degree, the gap between the conventional wisdom and the casual observation can be explained by (i) the lack of fully effective anti-corruption reforms, (ii) the high cost of the reform (in terms of the resources and attention it diverts away from more pressing issues), and (iii) the voter apathy (Rose-Ackerman, 1977). These and other possible explanations, however, are not completely convincing when the level of political corruption is sufficiently high. Because, then, (i) at least one of the commonly proposed anti-corruption policies (higher salaries, higher penalties, and other institutional changes) is likely to reduce political corruption, (ii) the cost of the reform is justified by the excessive amounts of corruption and its harmful effects (Rose-Ackerman, 1999, Chap. 3), and, (iii) the voters rank political corruption as one of the biggest problems (so, they would support a clean politician in his anti-corruption campaign). I propose another explanation based on the observation that when political competition is among a small set of career politicians) political corruption changes the zero-sum nature of political competition, producing a positive externality for the clean politician. Then, the clean politician, too, has incentives to not to adopt the reform, because by (effectively) turning his corrupt rivals in future elections into clean candidates, the reform eliminates the clean politician’s competitive advantage in future elections.

In the formal model, two sufficiently forward looking party leaders (referred as politicians or candidates throughout the paper) compete repeatedly. The candidates differ in their (both ex-ante and ex-post) popularity due to either their personal characteristics, such as ethnicity, gender, charisma, religion, etc. or due to their social policies, such as the role of religion in government, the rights of a certain minority, etc. The fiscal policy each politician proposes in the elections is also different. The level of corruption is endogenously determined by the politicians’ fiscal policy platforms. In the status quo, one of the politicians choose to steal, while the other one chooses not to. There exists a policy (reform) that will eliminate corruption when implemented. To focus on the politicians’ incentives to support the reform, I assume away all other obstacles to reform: the reform I consider is fully effective, it is costless, and it is supported by a well informed electorate. All the reform needs is political support: it will be implemented only if at least one politician adopts the reform as part of his policy platform (and, wins the election).

Studying a game in which each politician simultaneously decides whether to adopt the reform as part of his policy platform or not, I identify the set of parameters under which neither the clean nor the corrupt politician adopts the reform in a pure strategy Nash Equilibrium (PSNE). Referred to as the bad PSNE throughout the paper, such an equilibrium exists when the level of corruption is high. Intuitively, for both corrupt and clean politicians, adopting the reform provides a short run benefit and has a long run cost. By (credibly) promising to adopt the reform, a politician increases the probability of winning the election in the period when the reform is an issue. More specific, unless the level of corruption is too low, deviating from the bad PSNE and single-handedly adopting the reform always guarantees an election victory. Yet, the reform eliminates the (current and future) illegal rents of the corrupt candidate, as well as the competitive advantage of the clean candidate (in future elections). This result holds when I consider several different motivations for the latter.

In all different versions of the model, how much (if, at all) a candidate steals is endogenously determined. In the benchmark case studied in Section 2, each candidates is a rent-maximizer, maximizing the present discounted value of his expected rents (the sum of his legal rents, such as ego rents, and illegal rents). In this benchmark case, one candidate stays clean for strategic reasons (he cannot afford to steal due to his lower ex-ante popularity). In the extensions studied in Section 3, the candidate who chooses to steal in equilibrium is still a rent-maximizer. The clean candidate in these extensions either dislikes money stolen from public (legal-rent-maximizer), or, he is committed to a social policy, doing all he can to move the equilibrium social policy closer to his ideal social policy (policy-motivated).

No matter which type of clean politician is considered, when the level of corruption is high, each politician’s (long-run) loss from adopting the reform exceeds his (short-run) benefit and none of the politicians proposing the reform is a PSNE. When the level of corruption is low, the benefit of proposing the reform exceeds the cost for a relatively impatient corrupt politician. In this case, a clean politician’s incentives to adopt the reform depends on whether he is interested in rents or policy. The rent-maximizer clean candidate will almost never deviate from the bad PSNE. Although for the legal-rent-maximizer the illegal rents (stolen money) provide no benefits at all, his incentives to deviate from the bad PSNE are not intrinsically different from those of the rent-maximizer clean candidate. The only difference is that the legal-rent-maximizer’s promise of reform is credible under a larger set of parameters, including lower discount factors. Thus, when he deviates from the bad PSNE, it is due to his impatience, not to his dislike of stolen money.

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3 Rose-Ackerman (1999, p. 199) notes that “[r]eform will not occur unless powerful groups and individuals inside and outside government support it.” For the importance of political will in fighting corruption, see also Kpundeh (1998).
4 For instance, given the low or non-existent voter support for the reform, a clean politician may prefer to stay friendly with corrupt politicians who could be future coalition partners.
5 Evrenk (2009a) presents a more general but static version of the model of political agency used in this paper as well as several examples.
6 Pani (2011) shows how a fully effective anti-corruption reform might not be supported by a fully informed electorate.
7 Throughout the paper, I use mostly figures to present the results. I do this because, especially for one case, the mathematical expressions characterizing the set of parameters under which the bad PSNE exists are quite complicated. A Mathematica notebook providing all the derivations and calculations is available upon request.
Compared to the first two types, the policy-motivated clean candidate has stronger incentives to adopt the reform when he is an “extremist,” i.e., when his most-preferred social policy is significantly different from that of the electorate. To have a reasonable chance of winning the election and implementing a policy that he strongly prefers to the most-preferred social policy of the (median) voter, an “extremist” has to moderate his social policy in the regular elections. An “extremist” would single-handedly adopt the reform when the level of corruption is low, because bundling his highly unpopular social policy with the reform provides him the only opportunity to implement his most-preferred social policy. Even an “extremist,” however, will not adopt the reform when the level of corruption is high. When competing against a highly corrupt opponent, he has a good chance of winning the election even when he proposes his highly unpopular social policy. Yet, when the reform is implemented, to win the election, the “extremist” will have to moderate his social policy significantly.

It is worth noting that the point of this paper is not that political corruption persists only because of the clean politicians’ lack of support. Several obstacles mentioned above (such as the high cost of the reform and the voter apathy) are all likely to be significant. Yet, to design a successful anti-corruption reform, one needs to be aware of all possible obstacles. Further, being aware of this specific obstacle (both clean and corrupt politicians’ incentives and their power to oppose the reform) can be helpful when choosing among reforms that have similar costs and similar ex-post effectiveness. When, for instance, the politicians are (legal) rent-maximizer, a reform that uses carrots (higher salaries, higher pensions, etc.) to eliminate corruption is more likely to be implemented than another one based on sticks (higher penalties, better auditing technologies, etc.), or on other institutional changes. Finally, using a formal model to study the incentives of the clean candidate helps to see that the clean politician’s loss from the reform is quite often larger (and, thus, his incentives to oppose the reform are stronger) than that of the corrupt candidate. Thus, the analysis here may help designers and supporters of the reform by noting that the clean candidate is not always a natural ally (he is not even always more likely to support the reform).

As Bai and Lagunoff (2011) notes “While an abundant literature in political economy studies the link from political power to policy, less is known about the ‘reverse causal link,’ i.e., from policy to power.” In the literature, several authors use analytical models of political agency to study which reforms would reduce political corruption when implemented; for a review, see Persson and Tabellini (2000, Ch 4) and Besley (2006). Fewer studies use agency models to analyze the political will for the reform. Using an extension of the seminal incumbency model of political agency in Ferejohn (1986, 1999) examines why an incumbent politician would want to make himself more accountable. In his model, the political agency problem is due to asymmetric information: the voter cannot observe whether the low level of public good is due to corruption or an adverse cost shock. She only receives a noisy signal about the cost of the public good. Ferejohn (1999) explains the incumbent’s desire to increase the precision of this signal, by noting that only then will the voter trust him with more resources, i.e., a larger government. Ferejohn (1999) conjectures that if one considers the incentives of the infinitely many challengers as well, there would be even more accountability in the equilibrium. The main differences between the agency model employed in this paper and the incumbency model are as follows: in the model I study, candidates are not perfect substitutes for each other, and an incumbent’s political career does not end after an election loss. In the setup I study, a politician can risk losing elections for one period; he knows that he will still be the head of his party in the next election. As suggested by “the iron law of oligarchy” (Michels, 1999 [1911]), absent any term limits, the party leaders consider entrench themselves in power.

In the seminal incumbency model, all incumbents are rent-maximizer; the problem is moral hazard. Besley and Smart (2007) provide an agency model that has both moral hazard and adverse selection (and, term limits). They do not study the support for the reform, but in the setup they study a (clean) politician’s likelihood of adopting the reform would be even higher. This is because, when the adverse selection is an issue, all politicians will try to signal that they are clean. Adopting (and, later implementing the reform) helps them to do so.

In Caselli and Morelli (2004), the source of agency problem is not the imperfect information; they, too, study a setup in which the voters know which candidates are corrupt. They study factors that determine the quality (honesty or ability) of competing political candidates. They find that when the legal rents are low, the high-quality candidates will not run in the elections. They also note that the low-quality (unable or dishonest) incumbents will keep the legal rents low to keep the high-quality candidates out of politics (there is a continuum of both types of candidates as well as of the offices that they can win). An honest candidate in the setup they study will always adopt the reform. Because, in their model, political corruption only produces a negative externality by reducing the social status of all the politicians.

### 2. The model

In this section, I first describe the status quo and then the reform. Then, I calculate the support for the reform when both the clean and corrupt candidates are rent-maximizers.

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8 In the model, the corrupt candidate does not have policy preferences. Thus, he always proposes the voters’ most preferred social policy. Even if a corrupt politician does have preferences on a social policy issue, by stealing he reveals that he places less weight on the actual policy and more weight on rents. Thus, even when he has such preferences, he will choose a social policy that is more likely to please a majority of voters.

9 This is also the case in Myerson (1993).
2.1. The status quo

The status quo is endogenously determined as the equilibrium outcome of a duopoly model of political agency. In this model, two (male) career politicians compete with each other in the elections held at the beginning of every period \( t \in \{1, 2, 3, \ldots \} \). In each election, each candidate \( j \in \{1, 2\} \) proposes a fiscal policy: an income tax rate \( \tau_j \) and a public good level \( g_{jt} \). Each candidate keeps his election promises when elected.

The electorate is represented by a single (female) voter. In every period \( t \), she receives unit income (there are no savings) and she has an infinite life span. Her quasi-linear preferences over private and public good consumption in period \( t \) are represented by the utility function

\[
U(c_i, g_t) = c_t + H(g_t),
\]

where \( c_t = 1 - \tau_t \) is her private good consumption (income after the tax) and \( H(.) \) is a twice continuously differentiable and sufficiently concave function.

The voting is stochastic: the voter elects \( j \) who provides the highest total utility\(^{11}\)

\[
U(1 - \tau_j, g_{jt}) + (j - 1)\beta_t,
\]

where \( \beta_t \) is an i.i.d. random variable distributed uniformly over \([-1/2 + \beta, 1/2 + \beta]\). That is, \( \beta_t \) is a preference shock that affects the voter’s decision in \( t \). Its mean \( \beta \in (-1/2, 1/2) \) represents the voter’s preferences on certain fixed characteristics (gender, charisma, ethnicity, religion, etc.) of Candidate 2 (in Section 3.2, I study a model in which his equilibrium “social” policy plays a similar role).

Let \( p_t = [(1, t, g_{1t}), (\tau_{2t}, g_{2t})] \) denote a policy profile in period \( t \). Knowing only the distribution of \( \beta_t \), each \( j \) can calculate the probability that he wins the election in \( t \) as\(^{12}\)

\[
\rho_{jt}(p_t, \beta) = \frac{1}{2} + \tau_{jt} - \tau_t + H(g_{jt}) - H(g_{jt}) + 2 \left( j - \frac{3}{2} \right) \beta.
\]

Note that \( \rho_{jt}(p_t, \beta) \) is equal to sum of a constant and a utility difference. Using this, for \( k \neq j \), one can write the expected welfare of the voter in \( t \) as\(^{13}\)

\[
W_t(p_t, \beta) = 1 - \tau_t + H(g_{jt}) + \frac{1}{2} (\rho_{jt}(p_t, \beta))^2.
\]

For the candidates, winning the election in period \( t \) provides legal rents worth \( \eta \in (0, 1/2) \). In addition, a candidate pockets the difference (if any) between the total tax revenue and the cost of the public good.\(^{14}\)

Candidate 2 is a rent-maximizer. Formally, in the beginning of period \( t \) he chooses the sequence of his policy platforms to maximize\(^{15}\)

\[
\sum_{t' \geq t} \left( \eta + (\tau_{2t'} - g_{2t'})^2 \rho_{2t'}(p_t, \beta) \right)^{\delta^{t'-t}},
\]

where \( \delta \in (0, 1) \) denotes the common discount rate and \( \theta_2 \) denotes the marginal utility of Candidate 2 from illegal funds. Before the reform, \( \theta_2 = 1 \).

As Sen (1977) notes, utility theory may be too demanding in certain ways, but it imposes too little structure to analyze moral behavior.\(^{16}\) One can think of several objective functions for Candidate 1 under which he chooses not to steal before the reform. Ignoring the possibility that Candidate 1 is a saintly soul, whose sole purpose is simply to maximize the voter’s

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\(^{10}\) The incentive compatibility conditions are provided below.

\(^{11}\) When \( \beta_t = 1 \) for both candidates (a measure-zero event), the voter tosses a coin.

\(^{12}\) To derive \( \rho_{jt} \), note that the voter will elect Candidate 1 if and only if \( \beta_t \leq U(1 - \tau_t, g_{jt}) - U(1 - \tau_{2t}, g_{2t}) \). Given the distribution of \( \beta_t \), the probability of this happening is \( \rho_{jt} = (1/2) + U(1 - \tau_t, g_{jt}) - U(1 - \tau_{2t}, g_{2t}) \). Using (1) and the fact that \( \rho_{2t} = 1 - \rho_{1t} \), we obtain \( \rho_{jt}(p_t, \beta) \).

\(^{13}\) Let \( E \) denote expectation taken over the random variable \( \beta_t \). The expected welfare of the voter in \( t \) is given by \( W_t(p_t, \beta) = \sum \rho_{jt} U(1 - \tau_j, g_{jt}) + (1 - \rho_{jt}) E[\beta_t | \beta_t > U(1 - \tau_t, g_{jt}) - U(1 - \tau_{2t}, g_{2t})] \). Using (3), the second term can be written as \( (1 - \rho_{1t})(1/2) + U(1 - \tau_t, g_{jt}) - U(1 - \tau_{2t}, g_{2t}) \). Adding this to the first term, \( U(1 - \tau_t, g_{jt}) \rho_{jt} + (1 - \rho_{1t}) U(1 - \tau_{2t}, g_{2t}) \), we obtain (4). Note that in calculating welfare, \( \beta \) is not treated as a systematic mistake by the voter. Treating \( \beta \) as a systematic mistake (and, thus, removing it from the voter’s welfare) would only reduce the welfare gain due to reform, reducing the support for the reform and increasing the set of parameters under which the bad PSNE exists.

\(^{14}\) Of course, a corrupt politician steals through different channels and less directly; see, for instance, Khwaja and Mian (2005). Yet, the argument in this paper does not depend on the specific channels through which corruption occurs. As long as the political corruption is costly to the voter and beneficial to the corrupt politician, our results hold.

\(^{15}\) Implying that the public good is produced via a one-to-one transformation. Then, given the fiscal policy platform of Candidate 2, the voter, too, can calculate how much he steals. By assuming that the production technology depends on the elected leader’s (uncertain) ability parameter \( \alpha_t \), one can avoid this problem; see Evrenk (2009a). Such a fix would significantly complicate the calculations for the voter’s expected welfare gain from the reform, without any clear implications on the results.

\(^{16}\) Similar problems exist, for instance, in modelling people’s choices to comply with the tax law given the current (ineffective) penalty structure; see Andreoni et al. (1998, p. 821).
welfare (then, there would be no need to study his support), throughout the paper I consider three types of Candidate 1: rent-maximizer, legal-rent-maximizer, and policy-motivated.

The rent-maximizer Candidate 1 has the objective function

\[ \sum_{t \in T} (\eta + (\tau_{1t} - g_{1t})\theta_1) p_{1t}(p_1, \beta)^{\delta t - \tau}, \]  

(6)

where \( \theta_1 = 1 \). Although he has no scruples, under certain conditions he will strategically choose not to steal.

To identify these conditions, let \((\tau^0, g^0)\) with \( \tau^0 = H(t^0) \) and \( g^0 = g^0 \) denote the first-best policy (the fiscal policy platform that maximizes the voter’s welfare).\(^{17}\) It follows from Evrenk (2009a, Theorem 1) that the PSNE of the stage game always exists, and, for our model, is always unique. Further, given (6), one can easily show that if\(^{18}\)

\[ \frac{3}{2} - 3\eta < \beta, \]  

(7)

then the unique PSNE of the stage game is \( p^* = [(\tau^0, g^0), (\tau^0 + s^*, g^0)] \), where\(^{19}\)

\[ s^* = \frac{1}{2} \left( \frac{1}{2} - \eta + \beta \right). \]  

(Fig. 1a) presents both the set of parameters (legal rents and the ex-ante popularity advantage of Candidate 2) satisfying A1 and the resulting equilibrium level of political corruption \( s^* \).\(^{20}\) To see what A1 implies, note that the equilibrium level of political corruption (who steals and how much) depends on three factors: uncertainty about the voter’s preference shock (fixed in our model); the ex-ante popularity advantage of Candidate 2; and the size of the legal rents.

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17 I assume that \( H(\cdot) \) is sufficiently concave, so that \((\tau^0, g^0)\) is in the interior.

18 Given the existence and uniqueness, all we need is that the strategies in \( p^* \) are best-responses to each other with \( s^* > 0 \). The payoff functions are differentiable and (if we rewrite \( g_2 \) as \( r_2 - s_2 \)) strictly quasi-concave in \( s_2 \). It is straightforward to show that \( \partial p_{1t}(p_1, \beta)(\eta + s_2)/\partial s_2 |_{(s_1, 0, r_2, s_2)} \leq 0 \) iff \( (3/2) - 3\eta < \beta \) and \( \partial p_{1t}(p_1, \beta)(\eta + s_2)/\partial s_2 |_{(s_1, 0, r_2, s_2)} = 0 \) with \( \partial^2 p_{1t}(p_1, \beta)(\eta + s_2)/\partial s_2^2 |_{(s_1, 0, r_2, s_2)} = -2 \). For \( s^* > 0 \), we need \( 1/2 + \beta - \eta > 0 \), but, since \( 0 < \eta < 1/2 \) this inequality is implied by \( (3/2) - 3\eta < \beta \).

19 Corruption has no effect on the equilibrium public good level since the voter’s preferences are quasi-linear; see Evrenk (2009a, Remark 1). This unrealistic result can be avoided by assuming additive, but not quasi-linear, preferences under which the utility from the private good consumption, too, is strictly concave. This alternative assumption would complicate the calculations, but, as the candidates’ losses and gains have similar relative magnitudes under this assumption, too, the model would yield qualitatively the same results.

20 Otherwise, there is a unique PSNE in which either both candidates, or none of them, steal.
When Candidate 2 is more popular ex-ante ($\beta > 0$), he is more likely to win when they both propose the same fiscal policy. Then, he can steal and still remain competitive.\textsuperscript{21} Kurzer (2001, p. 63) notes “unpopular corruption, [with] popular corrupt politicians,” see also Rundquist et al. (1977) and de Ferranti et al. (2009, p. 91). Such politicians exists, not because corrupt politicians are popular, but because a politician who is popular can afford to be corrupt. Given the (ex-ante) popularity advantage of Candidate 2, stealing would reduce Candidate 1’s probability of getting the legal rents to such a low level that his expected total rents would decrease. Thus, to keep the rent-maximizer Candidate 1 clean we need the legal rents to be sufficiently high. Yet, if they are too high, then Candidate 2, too, would steal (then, we do not have political corruption in the first place). Inequality A1 states that the legal rents are neither too low nor too high, $\eta \in (1/3, 1/2)$. Under A1, the equilibrium corruption level $s^*$ lies in the interval $(0, 1/3)$.

Given $\mathbf{p}^*$ and (3), the probability that Candidate $j$ wins the election of the stage game can be calculated as

$$
\rho_j^* = \frac{1}{2} + 2 \left( j - \frac{3}{2} \right) (\beta - s^*).
$$

Note that when A1 holds, Candidate 2 wins the election more often ($\rho_2^* > \rho_1^*$): with two rent-maximizers we do have unpopular corruption, [with] popular corrupt politicians.

I study the support for the reform assuming that before the reform each candidate plays his stage game Nash equilibrium strategy after every history in the PSNE of the repeated game. This point needs to be discussed: it is well known that even when the stage game has a unique equilibrium, typically a continuum of equilibria exist in the infinitely repeated game (Fudenberg and Maskin, 1986). More specific, when the equilibrium payoffs in the stage game lie below the frontier of all feasible payoff vectors (the convex combinations of the highest payoff each player can achieve), due to the repeated structure of the game there exists equilibria with average per-period payoffs higher than those in the PSNE of the stage game.\textsuperscript{22} Yet, this is not a problem for most of the games studied below, i.e., by focusing on the PSNE of the stage game, I am not missing equilibria in which both candidates could be better off.

This is because, in the status quo I am interested in, one candidate chooses not to steal. But, when one imposes this feature on the equilibrium outcome of the repeated game, the payoffs from $\mathbf{p}^*$ lie at the frontier of the set of payoff vectors. Given that Candidate 1 does not steal (A1 holds), the payoff of Candidate 2 is already maximized at his strategy in $\mathbf{p}^*$. Thus, if in a given strategy profile Candidate 1 always stays clean before the reform but receives an average per-period payoff higher than his payoff from $\mathbf{p}^*$, it must be the case that in this equilibrium the payoff of Candidate 2 is less than his expected payoff from $\mathbf{p}^*$, i.e., $(\eta + s^*)\rho_2^*$, in other words, if the repeated game has any equilibria other than each candidate repeatedly playing his strategy in $\mathbf{p}^*$ after every possible history, then in these equilibria either both candidates steal (so, it cannot be used to calculate a clean candidate’s incentives to block anti-corruption reform) or Candidate 2 is worse off.

The same reasoning applies when the clean-candidate is a legal rent-maximizer (Section 3.1) as well, but not always when he is policy-motivated (Section 3.2). For the latter case, I provide an example in Section 3.2, and discuss how the set of parameters under which bad PSNE exists increases when candidates collude and achieve higher payoffs in the status quo.

An advantage of the repeated game structure is that it allows us to identify when a certain election promise is credible. As Barro (1973) notes, when the future rents are high and when the politicians are sufficiently forward looking ($\delta$ is sufficiently high), the politicians will keep their promises. The idea is that if a politician reneges on his promises, then his future promises will not be credible; his political career will end. As demonstrated in the accompanying Mathematica file, deviating from election promises in $\mathbf{p}^*$ by imposing one-hundred percent tax rates, and then stealing all the tax revenue\textsuperscript{23} is not individually rational for Candidate $j$ when $IC_j$ holds, where

$$
\delta > \frac{4}{4 + ((3 - 2\beta) - 2\eta)\eta}.
$$

(\text{IC}_1)

$$
\delta > \frac{12 - 8(\beta - \eta)}{13 - 4(\beta - 3\eta) + 4(\beta + \eta)^2}.
$$

(\text{IC}_2)

Thus, when both $IC_1$ and $IC_2$ hold, each candidate will keep his election promise in $\mathbf{p}^*$. That is, when both $IC_1$ and $IC_2$ hold, each candidate repeatedly playing his strategy in $\mathbf{p}^*$ is a PSNE of the supergame.

\subsection{2.2. The reform}

To assume away all other obstacles other than the lack of support by politicians, I consider a reform that costs nothing and will be fully effective forever. As the focus of the present analysis is on the political support for the reform, I do not choose a specific reform: I only assume that the reform will effectively set $\theta_j = 0$ for both $j \in \{1, 2\}$.\textsuperscript{24} To simplify the calculations, I

\footnotesize
\begin{enumerate}
\item\textsuperscript{21} I assume that this popularity advantage is bounded from above ($\beta < 1/2$); otherwise, after the reform, Candidate 2 is expected to win the election with probability one.
\item\textsuperscript{22} Perhaps the most well-known example is that in the infinitely repeated Prisoners’ Dilemma players can cooperate using Nash reversion strategies even though cooperation is not an equilibrium outcome in the single period game.
\item\textsuperscript{23} This is the most profitable deviation, given how the voter will react to any deviation from election promises.
\item\textsuperscript{24} When $j$ has no use for the stolen money, $\theta_j = 0$, he does not steal.
\end{enumerate}
assume that the reform will be an issue only during the elections in a certain period \( t \). Thus, each candidate’s policy platform in \( t \) is a vector \((x_t; y_t; t_t)\), where \( t_t \in \{\text{reform}, \text{no reform}\}\).

I also assume that the voter is fully informed; she can calculate that, in addition to its possible benefits by improving the corrupt candidate’s fiscal policy in \( t \), the reform increases present value of her lifelong welfare by \( \Delta W^* (\delta/(1 - \delta)) \), where \( \Delta W^* = (1/2)[1 - s^* + 2\beta s^*] \); and, she votes accordingly.\(^{25}\)

The reform will be implemented as long as a politician who proposed the reform wins the election and keeps his election promise. Otherwise, the status quo remains unchanged; the candidates keep playing the same stage game repeatedly. In general, a politician can renege on his promise of reform as well. To rule out non-credible reforms, we need to specify the conditions under which the reform promise is credible. I use \( IC_j \) to denote the incentive compatibility condition for candidate \( j \) to keep his promise of both the fiscal policy and the reform in \( t \) (again, under the assumption that the voter will expect the worst from a politician who renews on his election promises), where

\[
\delta > \frac{2}{2 + \eta - 2\beta \eta} \quad \quad \quad \text{(\( IC_1 \))}
\]

\[
\delta > \frac{2}{2 + \eta + 2\beta \eta} \quad \quad \quad \text{(\( IC_2 \))}
\]

That is, when both \( IC_1 \) and \( IC_2 \) hold, each candidate’s promise of the reform is credible.

Fig. 1b depicts both \( IC_1 \) and \( IC_2 \), and it shows that \( IC_2 \) is redundant. Indeed, three of the four incentive compatibility constraints obtained so far are redundant: when \( IC_1 \) holds, the election promises of each candidate are credible.\(^{26}\) Assuming \( IC_1 \) holds, in the next section, I calculate when (if ever) neither politician adopting the reform is a PSNE, i.e., when the bad PSNE exists.

2.3. When the bad PSNE exists

Deviating (single-handedly) from the bad PSNE provides a short-term benefit to each candidate. The reform is fully supported by the voter, so adopting the reform increases the probability that the candidate wins the election and receives the legal rents. Yet, such a deviation is costly for each candidate in the long term. When the reform is implemented, each candidate \( j \) will win the election with probability \((1/2) + 2(j - (3/2))\beta\), and winning the election will provide only the legal rents \( \eta \). The reform will increase future electorateability of Candidate 2, but it will eliminate his future illegal rents. Since the reform turns the corrupt Candidate 2 into an effectively clean politician, it reduces the future appeal of Candidate 1 (after the reform, all politicians are clean politicians). As a result, the future electorateability (and, hence, expected rents) of the clean candidate decreases as well. Less formally, political corruption changes the zero-sum nature of political competition; the clean politician, too, will be worse off when corruption is eliminated.

Comparing the present discounted value of the benefit and the cost, we find

**Proposition 1.** When either candidate can credibly propose the reform, the bad PSNE exists unless the level of corruption is low. In terms of the exogenous parameters, the bad PSNE exists if and only if \( \delta > \max((1 + 4\beta(1 + \beta + 2\eta) + 4\eta(1 - 3\eta))/8\eta(2\beta - 1), (1/2)(1 + 2\eta - 2\beta \eta)) \).

**Proof.** Let \( b^* = [(x^*; y^*; \text{no reform}), (x^* + s^*, y^*; \text{no reform})] \) denote the bad PSNE strategy profile. If (the rent-maximizer) clean Candidate 1 deviates from \( b^* \) by playing \((x^*; y^*; \text{reform})\), then he wins the election in \( t \) with probability \( \rho^D_{1t} = \min(1, (1/2) + s - \beta + \Delta W(\delta/(1 - \delta))) \). Thus, the clean candidate will deviate from the bad PSNE if and only if \( 1/(1 - \delta)(1/2) + s - \beta \eta \leq (1 + (\delta/(1 - \delta))(1/2 - \beta)\eta \rho^D_{1t} + (1 - \rho^D_{1t})(1/2 + s - \beta \eta)\eta(\delta/(1 - \delta)) \). This inequality can be reduced to

\[
\delta \leq \max \left\{ \frac{-12 + 40\beta + 24\eta}{-9 + 52\beta + 12\beta^2 + 20\eta - 8\beta \eta - 4\eta^2 \cdot 2 + \eta - 2\beta \eta} \right\}. \quad (9)
\]

Similarly, the corrupt Candidate 2 deviates from \( b^* \) (and, adopts both the reform and the first-best fiscal policy, since this is the fiscal policy maximizing his payoff given the reform) if and only if \( 1/(1/2 - s + \beta)(\eta + s)/(1 - \delta) \leq (1 + (\delta/(1 - \delta)) + \beta)(\eta \rho^D_{2t} + (1 - \rho^D_{2t})(1/2 + s - \beta)\eta + s)/(\delta/(1 - \delta)) \), where \( \rho^D_{2t} = \min(1/2, 1 + \beta + (\delta/(1 - \delta))\Delta W, 1) \). This inequality can be reduced to

\[
\delta \leq \max \left\{ \frac{1 + 4\beta(1 + \beta + 2\eta) + 4\eta(1 - 3\eta)\eta}{8\eta(2\beta - 1), \cdot \frac{2}{2 + \eta - 2\beta \eta}} \right\}. \quad (10)
\]

Under A1, (10) \( \Rightarrow \) (9): \( b^* \) is a PSNE iff \( \delta > \max((1 + 4\beta(1 + \beta + 2\eta) + 4\eta(1 - 3\eta))/8\eta(2\beta - 1), (1/2)(1 + 2\eta - 2\beta \eta)) \). \( \square \)

\(^{25}\) Her welfare gain in each \( t \geq t + 1 \) can be calculated from (4) and \( \mathbf{p}^* \): the lower expected tax payments due to reform increases \( W_t(p, \beta) \) by \((1/2) - s^* + \beta s^* \), while being able to elect Candidate 2 whenever there is a favorable preference shock \( (\beta > 0) \) increases \( W_t(p, \beta) \) by \((1/2)s^2 \).

\(^{26}\) We have \( IC_1 \Rightarrow IC_2, \overline{IC}_1 \Rightarrow \overline{IC}_2, \) and \( \overline{IC}_2 \Rightarrow IC_2. \)
Panels (c) and (d) of Fig. 1 plot the bounds on δ imposed by inequalities (9) and (10). Note that for low legal rents and high ex-ante popularity advantage (that is, for high levels of corruption), these bounds coincide with the lower bound on δ imposed by IC1, i.e., \(2/(2 + \eta - 2\beta\eta)\). Intuitively, when the level of corruption is high, candidates keep their reform promises only when they are considerably patient. But, for considerably patient politicians, the short term gain is always dominated by the long term loss.

When the level of corruption is low (high legal rents and low ex-ante popularity advantage), the reform promises of less patient candidates, too, is credible. For such politicians, the short term gain exceeds the present discounted value of the long term loss, and the bad PSNE fails to exist.

It is worth noting that the bad PSNE would still exist under high levels of corruption had we allowed discount factors that are significantly lower than those allowed by IC1. This result follows because, when the level of corruption is high, the cost of the reform (for each candidate) is a strictly increasing function of the level of corruption while the benefit from the reform is not. Specifically, as the level of corruption increases, so does the corrupt candidate’s illegal rents (and, thus, the clean candidate’s comparative advantage in the status quo). The benefit from (single-handedly) adopting the reform, however, is bounded from above: when \(j\) deviates from \(b^\ast\), he receives the legal rents with a higher probability in \(\bar{\tau}\); but this increase from \(\rho_j^*\) to \(\rho_j^D\) is bounded (\(\rho_j^D \leq 1\)). Further, due to high voter support for the reform \(\rho_j^D\) hits this upper bound quite soon. The strips in the bottoms of the boxes in panels (c) and (d) are the thresholds: when the set of the parameters (\(\eta\) and \(\beta\)) exceed (are to the right side of) these thresholds, under any discount factor \(\delta\) satisfying IC1, the voter’s gain from the reform \((\delta|\Delta W(1 - \delta))\) when the clean candidate adopts it and \(s^* + \Delta W(\delta(1 - \delta))\) when the corrupt candidate adopts it is so large that \(\rho_j^D\) is equal to one.\(^{27}\)

Comparing panels (c) and (d) of Fig. 1, one can easily see that if the corrupt candidate does not have incentives to deviate from the bad PSNE single-handedly, never will the (rent-maximizer) clean candidate. Thus, if the bad PSNE fails to exist, then (almost always) it is because the corrupt candidate has incentives to deviate. This is because (under A1) the corrupt candidate’s loss from the reform is always less than that of the clean candidate. Intuitively, under A1 the legal rents are quite high and the corrupt candidate always has a popularity advantage. After the reform the corrupt candidate is winning these high legal rents with a considerably higher probability while the clean candidate is getting these high legal rents with a considerably lower probability. Proposition 1 examines the existence of PSNE when both candidates can credibly adopt the reform. When neither candidate can credibly adopt the reform, obviously the bad PSNE is the only PSNE of the game. When only Candidate 2 can propose the reform credibly, the condition (10) will be slightly modified: the upper bound will still be the maximum of two terms, but the second term will be \(IC_2\) instead of \(IC_1\). To reduce the number of figures and to avoid changing the incentive constraints within each of the three cases considered throughout the paper (these already differ between cases), I do not study a candidate’s incentives to adopt the reform when only he can credibly promise it, i.e., in this case when both \(IC_2\) and \(IC_1\) hold, but \(IC_1\) does not.\(^{28}\)

Proposition 1 shows when the bad PSNE exists. Almost all the time, a good PSNE (a PSNE in which both candidates adopt the reform) exists alongside with the bad PSNE. Intuitively (as noted above), \(\rho_j^D\) is equal to one for a quite large set of parameters; if one candidate adopts the reform in this region, then he wins the election in \(\bar{\tau}\) for sure. In turn, the reform will be implemented for sure. Thus, if each candidate thinks that the other one will adopt the reform, then his best response is to adopt the reform.\(^{29}\) Even when the good PSNE exists, however, the bad PSNE (from the point of view of politicians) Pareto dominates it. Thus, the bad PSNE is a focal point for the politicians.

Finally, one should be careful when interpreting Proposition 1. This paper studies the incentives of the candidates, not their rhetoric. Although the candidates we consider choose simply not to adopt the reform, the actual politicians will know better: when a politician decides not to adopt the reform, he is not likely to announce that he wants political corruption to persist. Instead, he would choose to adopt an ineffective reform, arguing that the effective one will not work, i.e., it would be more realistic to assume that \(r_j \in \text{effective reform, ineffective reform}\). Such a strategy would work quite well, because, realistically, the electorate is not as well informed about the effectiveness of a given reform as it is assumed in this paper.

3. Alternative motivations for the clean candidate

The clean politician studied in the previous section was only interested in rents, be they legal or illegal. Even in highly corrupt countries, not all clean politicians can be convincingly modelled as pure rent-maximizer s. Models of purely selfish politicians who have no scruples are quite common in what is sometimes called “the rational choice approach to politics.”\(^{30}\)

\(^{27}\) To the left of these thresholds, deviating from the bad PSNE only with sufficiently high δ guarantees an election victory.

\(^{28}\) \(IC_2\) is the binding incentive constraint in Section 3; so, by comparing Figs. 1 and 2, one can still see the change in the set of parameters under which b∗ exists when only the corrupt rent-maximizer can propose the reform in the setup studied in this section.

\(^{29}\) In this case, adopting the reform does not affect the candidate’s future payoff (the reform will be implemented whether he adopts the reform or not), but it does increase his rents in the current period.

\(^{30}\) Quoting the famous assumption in Downs (1957, p. 28) that “parties formulate policies in order to win elections, rather than win elections to formulate policies”, Roemer (2006, p. 1014), for instance, notes that “[to be precise, Downs does speak of parties, but his parties are evidently controlled completely by venal opportunistic politicians who have no accountability to constituents.”
However, contrary to what opponents of this approach seem to think, one can use formal models to study agents who have some scruples (does not like stolen money) or who are not interested in illegal rents. In this section I examine how Proposition 1 changes when one considers a clean politician who is a legal-rent-maximizer or who is policy-motivated. Neither of these candidates ever steals. Further, as in Wittman (1983), the policy-motivated candidate is not interested in even the legal rents.

In the variants of the model studied in this section, Candidate 2 is always a rent-maximizer. I always focus on the set of parameters under which Candidate 2 steals in the PSNE of the stage game and the election promises of all the candidates are credible. The set of parameters under which the bad PSNE exists are provided in Figs. 2 and 3. By comparing these with Fig. 1, I note how the set of parameters under which the bad PSNE exists changes with the motivation of the clean candidate.

3.1. Legal-rent-maximizer

For a legal-rent-maximizer Candidate 1, the illegal rents provide no utility \((\hat{\theta}_1 = 0)\). Thus, in the beginning of period \(t'\), he chooses his future policy platforms \(\{r_{1t}, g_{1t}\}_{t\geq t'}\) to maximize

\[
\sum_{t\geq t'} \eta \rho_{1t}(p_t, \beta) \delta^{t-t'}.
\] (6')

I do not specify why a legal-rent-maximizer does not like stolen money.\(^{31}\) Although he always proposes the first-best social policy in the equilibrium, Candidate 1 is not saintly; he does not feel that he must choose the best policy for the society.

As he has no utility from the stolen money, no matter how much Candidate 2 steals, the legal-rent-maximizer candidate will not steal. The second first-order condition in footnote 18 becomes redundant. Under (6'), if

\[
-\frac{1}{2} + \eta < \beta,
\] (A1')

then the unique PSNE of the stage game is (again) \(p^* = [(r^0, g^0);(r^0 + s^*, g^0)]\) where, as in (7), we still have \(s^* = 1/2((1/2) - \eta + \beta)\). The set of \(\eta\) and \(\beta\) satisfying A1' as well as the equilibrium level of corruption are depicted in Fig. 2a.

Since the legal-rent-maximizer has no use for illegal rents, he has no incentives to renege on his regular election promises. That he will always keep his promise of the reform as long as Candidate 2 keeps his promise of the reform is not obvious

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\(^{31}\) With ineffective law enforcement, to steal or not becomes a question of personal taste. Similarly, we do not know why, for instance, some people comply with the tax code when the expected penalty for tax evasion is trivial.
Incentive (its demonstration is provided in the accompanying Mathematica notebook). Thus, all the promises are credible when \( \tilde{IC}_2 \) (depicted over the set of parameters satisfying A1 in Fig. 2b) holds.

In terms of its equilibrium, there are only a few differences between this model and the one in which the clean candidate was a rent-maximizer. Further, all differences are due to the larger set of parameters allowed by A1 and \( IC_2 \). First, the status quo exists under a considerably larger set of \( \eta \) and \( \beta \). As a result, the equilibrium level of corruption in the status quo can be significantly higher, \( 0 < s^* < (1/2) \).

Second, unlike the clean rent-maximizer the clean legal-rent-maximizer adopts the reform when the corrupt candidate would not do so (when both \( \beta \) and \( \eta \) are high), cf. panels (c) and (d) of Figs. 1 and 2. This is simply because the condition \( IC_1 \) is significantly more strict than \( IC_2 \) when both \( \beta \) and \( \eta \) are high. Under \( IC_2 \), the reform promise is credible for discount rates as low as 7/10 (when \( \beta \) and \( \eta \) close to 1/2). The sufficiently impatient clean candidate does propose the reform and gets the high legal rents with certainty in this region. When the discount rate increases to the levels permitted under \( IC_1 \) (depicted in Fig. 1b), however, the legal-rent-maximizer clean candidate, too, stops deviating from the bad PSNE.

3.2. Policy-motivated

Next, I consider a clean politician who cares about a certain “social” policy issue. The social policy is not specified except that it is orthogonal to the fiscal policy.32 In this version of the model, the voter, too, has preferences over this social policy issue: in a given period \( t \neq \hat{t} \), she votes for the candidate whose policy platform \( (t_{jt}, g_{jt}, b_{jt}) \) provides a higher

\[
U(1 - \tau_{jt}, g_{jt}) - \left\| 0 - b_{jt} \right\| + (j - 1)\beta_{jt},
\]

32 Examples include the rights of a certain sect or minority, abortion, or even a foreign policy issue.
where \( b_{jt} \in [-1/2, 1/2] \) is the social policy of candidate \( j \), \( \| . \| \) is the standard Euclidean metric, and \( \beta_t \) is a random variable distributed uniformly on \([-1/2, 1/2]\). That is, the most-preferred social policy of the voter (\( \beta^0 \)) is normalized to zero and Candidate 2 does not have any ex-ante popularity advantage \( \mathbb{E}[\beta_t] = 0 \). As we see below, the (unpopular) equilibrium social policy of the policy-motivated candidate provides a similar advantage for Candidate 2.

As before, given a policy profile \( \mathbf{q}_t = [(t_{1t}, g_{1t}, b_{1t}); (t_{2t}, g_{2t}, b_{2t})] \), one can calculate the probability that each candidate wins the election and the voter’s expected welfare in period \( t \) as

\[
\begin{align*}
\rho_t(\mathbf{q}_t) &= \frac{1}{2} + \tau_{jt} - \tau_{jt} + H(g_{jt}) - H(g_{jt}) - \| b_{jt} \| + \| b_{jt} \| , \\
W_t(\mathbf{q}_t) &= 1 - \tau_{1t} + H(g_{1t}) - \| b_{2t} \| + \frac{1}{2}(\rho_{2t}(\mathbf{q}_t))^2 ,
\end{align*}
\]

(12)

where \( k \neq j \).

A policy-motivated Candidate 1 is an expected utility maximizer who chooses his policy proposals \( \{t_{1t}, g_{1t}, b_{1t}\}_{t \geq t'} \) to maximize

\[
\sum_{t \geq t'} \left( \| b_{mt} - b_{1t} \| \rho_{1t} + \| b_{mt} - b_{2t} \| \rho_{2t} \right) \delta^{t-t'},
\]

(6’)

where \( b_{mt} > 0 \) is his ideal social policy (the case in which \( b_{mt} < 0 \) is completely symmetric).

The objective function in (6’) is a special case of the one period objective function introduced by Wittman (1983). Due to technical difficulties discussed in an earlier working paper version of this paper in detail, the candidate I consider has preferences over only one dimension of the policy space.

It is straightforward to show that in the status quo with a policy-motivated clean Candidate 1, the unique PSNE of the stage game is the policy profile \( [(t_0, g_0, b_{1t}^0); (t_0 + s^*, g_0, 0)] \), where \( b_{1t}^0 = \min(b_{mt}, (1/2) - (\eta/3)) \) and \( s^* = 1/2(1/2 - \eta + b_{1t}^0) \). Similarly, after the reform, the stage game (as well as the repeated game) has a unique PSNE: the policy profile \( [(t_0, g_0, b_{1t}^A); (t_0, g_0, 0)] \), where \( b_{1t}^A = \min(b_{mt}, 1/4) \). Less formally, the policy-motivated candidate who cares only about the social policy, never steals and the corrupt candidate who cares only about the money, always provides the popular social policy.

The effect of the unpopular social policy of a policy-motivated Candidate 1 is similar (but, not identical) to the ex-ante disadvantage that a rent-maximizer Candidate 1 has in Section 2. The effect is similar, because by simply setting \( \beta^0 = -b_{1t}^B \) for equilibrium before the reform, one can calculate the equilibrium level of corruption in status quo from (7); \( s^* \) is simply \( s^* + \) an ex-ante popularity advantage \( \beta^0 \). Similarly, using equilibrium levels of corruption and \( \beta^0 \), one can calculate the (before-the-reform) equilibrium probability of an election victory by \( j \) directly from (3). Further, setting \( \beta^0 = -b_{1t}^A \) (and, of course, noting that there is no corruption after the reform), one can calculate the (after-the-reform) \( \rho_{jt}^* \)’s directly from (3) as well.

The effect of the unpopular social policy is different, because when his most-preferred social policy is sufficiently “extreme” \( (b_{mt} > 1/4) \), the clean candidate’s equilibrium social policy changes after the reform; see anels (a) and (b) of Fig. 3. Intuitively, the clean candidate moderates his equilibrium social policy when his most-preferred social policy is too far from that of the voter. How much he needs to moderate depends on how corrupt an opponent he faces. When Candidate 2 is mostly corrupt, the voter’s only other alternative is a corrupt fiscal policy; thus, Candidate 1 does not need to moderate his equilibrium social policy much. Yet, after the reform, he faces a clean opponent, thus, Candidate 1 will have to propose a social policy that is not too far from the center.

One implication of this difference is that the single period welfare gain of the voter

\[
\Delta W^* = b_{1t}^B - b_{1t}^A + \frac{1}{2}(\rho_{2t}^A + \rho_{2t}^B)(\rho_{2t}^A - \rho_{2t}^B)
\]

(13)

will be higher when the most-preferred social policy of Candidate 1 is sufficiently far from that of the voter. When \( b_{mt} \leq 1/4 \), the voter’s welfare gain due to reform, in this version of the model, is the same as her welfare gain under the previous versions, \( \Delta W^* = \Delta W^* \). However, when Candidate 1 is an “extremist” \( (b_{mt} > 1/4) \), the voter’s welfare gain is larger, \( \Delta W^* > \Delta W^* \). That is, in addition to lowering the tax burden and allowing the voter to elect Candidate 2 in case of a favorable preference shock \( (\rho_{jt} > 0) \), the reform brings the equilibrium social policy of Candidate 1 closer to center.

Note that unless \( b_{mt} > (1/2) - (\eta/3) \), the argument that the stage game PSNE payoffs lie at the frontier of the set of feasible payoff vectors still holds. Thus, again, I assume that at the repeated game before reform each player plays his stage game PSNE strategy (below, I discuss how the results change if one allows collusion when \( b_{mt} > (1/2) - (\eta/3) \)). I also assume that when the policy-motivated candidate reneges on his election promises, the voter will not believe him anymore and will vote

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31 Note that we could study the model under this more general utility function in the previous sections as well. But, since the rent-maximizer candidates always propose the voter’s most-preferred social policy in equilibrium, such an extension would make no difference in results; it would only complicate the presentation.

32 Note that in the stage game the policy-motivated candidate will choose a policy in the interval \([0, b_{mt}]\) and the objective function is not only continuous and strictly quasi-concave in \( b_{mt} \) but also differentiable in this interval (only the derivative from the left is defined at \( b_{mt} \), but this is enough, because he will never propose a policy that is further to the right of \( b_{mt} \)).
for the candidate who always proposes the voter’s most preferred social policy (only under such a threat will the promises of a policy-motivated candidate be credible). Then, one can show that, as long as the corrupt politician’s promise of the reform is credible (that is, as long as \( I\mathcal{C}_2 \) holds), all promises of the policy-motivated politician are credible. Note that \( I\mathcal{C}_2 \) was written in terms of \( \beta \). By noting that \( \beta^A = b^A_\nu \), we can rewrite \( I\mathcal{C}_2 \) in terms of \( b_m \); it becomes \( \delta > \max \{ 4/(4 + 3\eta), 2/(2 + \eta + 2\eta b_m) \} \).

Panel (c) of Fig. 3 depicts the set of parameters that satisfy this new condition.

In \( \tilde{\tau} \), the corrupt candidate’s incentives to deviate from the bad PSNE are not really different from what we found in the previous cases: the lower bound above which he does not single-handedly deviate from the bad PSNE is presented in Fig. 3e.\(^{35}\)

The lower bound for the clean candidate presented in Fig. 3d, however, is noticeably different from what we found under the first two objective functions. The policy-motivated clean candidate single-handedly adopts the reform when his most-preferred social policy is sufficiently far from that of the voter, even under relatively large discount factors (as high as 0.9 is possible). This is because for the rent-maximizer \( s \) considered before, deviating from the bad PSNE only increases the probability of an election victory; it does not change the reward \( (\eta) \) that the candidate gets when elected in \( \tilde{\tau} \). For the policy-motivated candidate, it increases the probability and the reward: when \( b_m > (1/2) - (\eta/3) \), adopting the reform single-handedly provides Candidate 1 his only opportunity to implement \( b_m \).

As noted above, for \( b_m > (1/2) - (\eta/3) \), the repeated game has infinitely many equilibria in which still only one candidate steals, but both candidates receive higher payoffs than those received in the PSNE of the stage game. I calculate the incentives of both candidates to deviate from the bad PSNE under the assumption that players coordinate on such a collusive equilibria before the reform as well. As one cannot study the support for the reform in all such equilibria, I choose the one in which the payoff vector lies at the frontier and one in which the policy-motivated clean candidate does not moderate at all, i.e., in each period the candidates play \( \{ (s^0, g^0, b_m); (s^{***}, g^{***}, 0) \} \), where \( s^{***} = 1/2(1/2) - \eta + b_m \) is Candidate 2’s best-response to \( b_m \). A detailed analysis is provided in the accompanying Mathematica file, but briefly, in such an equilibrium all election promises of Candidate 1 are credible and the credibility condition(s) for Candidate 2 remains the same. Further, the incentives of Candidate 2 to deviate from bad PSNE is unchanged even though now his payoff in the status quo is higher when \( b_m > (1/2) - (\eta/3) \). This is because, when \( b_m > (1/2) - (\eta/3) \), Candidate 2 does not single-handedly deviate from bad PSNE even under the stage game PSNE payoffs; see Fig. 3e. Candidate 1, however, becomes less reluctant to deviate from the bad PSNE then he was under the stage game PSNE payoffs as he is better off in the corrupt status quo under the collusive equilibrium payoffs. Plotting the two lower bounds corresponding to each one the equilibrium payoffs, Fig. 3f makes clear that the decrease in the incentives of Candidate 1 due to collusion is small (the upper surface in Fig. 3f is the same lower-bound in Fig. 3d). More specific, even though his unpopularity is the same as those of a clean legal-rent-maximizer candidate \( (b_m = \beta) \), a policy-motivated candidate is more likely to deviate from the bad PSNE. Again, the intuition is that for a policy-motivated candidate, winning the election is more important than it is for a legal-rent-maximizer.

4. Conclusion

To summarize, I find that when the political agency problem is due to imperfect competition in a world with career politicians, a bad PSNE in which neither the clean nor the corrupt candidate adopts a fully effective (and, costless) reform exists when the level of corruption is high. When the level of corruption is low, the bad PSNE fails to exists unless the candidates are sufficiently patient. This result holds not only when the clean candidate is a rent-maximizer who cannot steal due to his unpopular characteristics, but also when the clean candidate gets no utility from stolen money or when he is policy motivated.

The analysis in this paper has several testable implications on political will to fight political corruption. The main result suggests a “political corruption trap” in countries where politics is dominated by a small set of long-tenured party leaders, i.e., countries with low levels of corruption adopting effective reforms while the countries with high levels of corruption not. It also implies a stronger political will for the reform when politicians are not that forward looking (as it would be the case when there are term limits or when an election defeat ends the career of the politician). Another implication is that in countries with low and moderate levels of political corruption, an “extremist” politician has the incentives (and, the credibility) to propose an effective anti-corruption reform. So, one should expect to see higher support for the reform in countries where the parties (or, leaders) are committed to (and, allowed to propose) social policies that are significantly different from those preferred by the median voter. The source of the voter preferences on fixed candidate characteristics (in Sections 2 and 3.1) or the candidate’s preferences on social policy (in Section 3.2) has not been specified. Still, as people change over the time, such preferences could change as well. When a permanent and sufficiently large change in these preferences eliminates the disadvantage of the clean candidate in the election, the model predicts an increase in the political will to fight political corruption.

Although it is outside of the scope of the model studied here, it is worth noting that the analysis above suggests stronger political will for the reform under multicide candidate competition with sufficiently extreme candidates: when one of them

\(^{35}\) For \( b_m > (1/4) \), his incentives to deviate from the bad PSNE cannot be predicted: it could increase (due to the voter’s higher gain from the reform, c.f., (14)) or decrease (due to lower electoral advantage after the reform as a result of a more voter friendly social policy by Candidate 1). Comparing Fig. 3e with Figs. 1d and 2d, we see that these two effects (almost) cancel each other.
adopts the reform, the other (more mainstream) candidates, too, will do so. If, unlike the model studied here, one considers corruption levels as exogenous and the decision to adopt the reform as a separate issue from the given fiscal policy of the candidate, the analysis of three-candidate spatial competition with valence differences in Evrenk (2009b,c) suggest that a marginal candidate does have the incentives to adopt the reform. Yet, to study the candidates’ incentives when the level(s) of corruption are endogenously determined and when the reform is one of the issues (in addition to the fiscal policy, and, the social policy) in a multi-candidate election, one needs a richer model that incorporates coalitions. This is left for future research.

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