Committing to transparency to resist corruption ☆

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ABSTRACT

This paper studies firms' incentives to commit to transparent behavior in a competitive procedure modeled as an asymmetric information beauty contest managed by a corrupt agent. In his evaluation of firms' offers for a public contract the agent has some discretion to favor a firm in exchange for a bribe. While unilateral commitment to transparency is never incentive compatible, under some circumstances a voluntary but *conditional* commitment mechanism can eliminate corruption. A low quality firm may prefer not to commit only when the agent's discretion is strong and the market's profitability is small. In that situation, the high quality firms commit when commitment decisions are kept secret, but some conditions on firms' beliefs are required when commitment decisions are publicly announced. A mechanism combining both conditionality and a reward (a transparent selection advantage that needs not be large) allows complete elimination of corruption.

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"*Few issues are more cross-cutting and more relevant to a wide array of corruption challenges than the question of how business around the world can ensure that it performs to the highest standards of integrity and does not become a party to or facilitator of corrupt transactions.* "H. Labelle, Chair of Transparency International.[1]

"*Business should work against corruption in all its forms, including extortion and bribery.* "United Nations Global Compact.[2]

1. Introduction

Corruption in competitive procedures for public contracts is an issue in both developed and developing countries. The stakes involved in many public contracts (e.g., in the construction of infrastructure or in the extractive industry) can be huge, and the highly specific character of these large markets leaves significant room for discretion to the agents who administer the procedures. This discretion can be abused in corruption at large costs for the national economy (see, for instance, Bardhan, 1997; Mauro, 1995; Robinson and Torvik, 2005). The consequences are most serious in developing countries where government accountability is low. Great efforts have been exerted by international organizations (e.g., the World Bank or the European Community) to improve the legislation in developing countries. Many countries have adopted new procurement legislation (satisfying international standards), started deep-reaching reforms of public administration, introduced conflict of interest laws, etc. Yet, there is by now a consensus that good laws alone are not sufficient to combat corruption.

At the same time, the business case for fighting corruption has never been so strong. It is now recognized that at the level of the individual firm corruption raises costs, introduces uncertainty, reputational risks and vulnerability to extortion and also makes capital more expensive. Among the instruments developed by the business community, we have seen a proliferation of codes of conduct and ethical standards. The discussion of how the private sector can help to fight corruption has also been taken forward under the umbrella of the G20.[3] The anti-corruption community has since many years developed a variety

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[1] See introduction to the Global Corruption Report, 2009 "Corruption and the Private Sector".
[2] Principle 10 of the UN Global Compact is a commitment to combat corruption.

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[3] On April 27–28, 2011 the G20 and the OECD held a conference "Joining forces against corruption, G20, Business and Government".

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of commitment mechanisms aimed at curbing corruption in competitive procedures. Of particular interest are the Integrity Pact[4] (which comes in several variants) and the Extractive Industries Transparency Initiative (EITI).[5] The United Nations Convention Against Corruption also calls for the private sector to adopt standards of transparency that preclude bribery.[6]

Yet, to the best of our knowledge, the properties of all these instruments have not been investigated in a strategic perspective. Our paper contributes to filling this gap. We are interested in the properties of simple and voluntary mechanisms aimed at combating corruption in competitive procedures, in particular in the procurement of concessions for the exploitation of natural resources.[7] A central lesson from the 2009 Global Corruption Report: Corruption and Private Sector, which compiles expert research and analysis from around the world, is that "more of the same will not do"; there is a need "to take advantage of a new generation of innovative tools". The commitment mechanisms that we propose in this paper are such innovative tools. They can be operated by an automated device and would rely on an independent audit structure. Our main results suggest that conditional commitment has a significant potential to reduce corruption. If conditional commitments do not fully eliminate corruption, which may be the case when the discretion of procurement officials is strong, the low-quality firm has a lower cost and the market profitability is small, then adding a transparent selection advantage for commitment will preclude bribery.

We model competition for a public project as an asymmetric information beauty contest with two firms. An example would be in the extractive industry when the government of the Republic of Congo wants to allocate extraction rights and the government greatly values the firm's contribution to the development of the industry's infrastructure. More generally, a beauty contest is an allocation procedure where the price is either fixed or plays a minor role in competition. Instead, firms compete in "quality". This procedure can be motivated when firms' private value is viewed as a poor proxy of the social economic value of the allocation. Another case is when there are fears that the cost of price competition will reduce the winning firm's capacity to make social economic efficient investments. The allocation of 3G cell phone licenses in Europe offers a recent well-documented case where beauty contests were used. Some countries, like France and Sweden, opted for a beauty contest (see, e.g., Andersson et al., 2005) and others, like England and Germany, for auction. One of the main criticisms leveled against the beauty contest is that the evaluation of offers is less transparent than in a first-price auction (see, e.g., Binmore and Klemperer, 2002). Consequently, it opens the way for favoritism and corruption. We view this vulnerability as a special reason for investigating the potential of commitment to transparency to reduce corruption in beauty contests.

The competitive procedure is managed by an agent who may be corruptible. Corruption is modeled as an auction game where the firms compete in the bribes they offer to the agent in exchange for a selection advantage in the evaluation of submitted projects. In equilibrium, bribery is either pure extortion, i.e., it does not affect the allocation of the contract, or it is accompanied by social economic inefficiency: the bad project wins.

We introduce a commitment mechanism which allows firms to credibly commit not to bribe. The starting point for the analysis is that no firm has any incentive to commit unilaterally. Therefore, we first consider a mechanism where commitment is *conditional*: the commitment of one firm is valid only if the other firm also commits (Section 3.1 extensively discusses how such commitments can be implemented in practice). We find that this conditional commitment mechanism can eliminate corruption when the corrupt agent's discretion is weak, i.e., too small to secure the gain of a low-quality firm against a high-quality one,[8] or when discretion is strong but the high-quality firm has low costs. Otherwise, when the high quality firm has high costs, the low-quality firm may prefer not to commit, in which case corruption obtains in equilibrium. This happens when the market is not so profitable and/or the probability that the opponent is of the low-quality type is not sufficiently large. The low-quality firm then has better prospects of winning with corruption against a high-quality firm.

When conditional commitment by both types of firm is not possible in equilibrium, there still exists an equilibrium in which only firms of the high-quality type commit, provided the commitment decisions are not observable by the other firm. In such a case, the conditional commitment mechanism allows elimination of corruption when two high-quality firms meet. Publicly announcing the firms' commitment decisions either has no impact on behavior or is detrimental, i.e., it induces more corruption than if commitment decisions were kept secret.

Finally, we devise a new mechanism of *conditional commitment with bonus*. A main result is that corruption can be fully eliminated for a bonus that is smaller than the selection advantage in corruption, provided only that the bonus is large enough to secure a win for a committing firm of the high-quality type against a corrupt firm of the low-quality type.

1.1. Related literature

Corruption in competitive procedures has been studied in a few papers, including Burguet and Che (2004), Celentani and Ganunza (2002), and Compte et al. (2005). These papers focus on incentives to bribe a corruptible agent in an auction context and study the impact of corruption on social economic efficiency. Typically, the impact depends on the type of discretion that the agent can abuse. In this paper we are interested in the agent's discretion to favor a firm in the evaluation of offers. Favoritism has been addressed in Burguet and Che (2004) and more recently in Kosenok and Lambert-Mogiliansky (2009). While Burget and Che's main result is that corruption can result in allocation inefficiency, Kosenok and Lambert-Mogiliansky show how favoritism and collusion between firms can complement each other. In this literature, corruption deterrence (if considered at all) is most often captured by an expected punishment cost. Simple comparative statics results on the magnitude of the punishment costs are derived. In contrast, we focus on corruption deterrence using simple voluntary commitment mechanisms. For that reason, we depart from the above-mentioned literature and model the competitive procedure awarding the project as a beauty contest (rather than an auction), while the bribing game is modeled as an auction in bribes.

Our approach allows one to focus on the impact of commitment and brings us to recent literature in game theory, including Kalai et al. (2010), Peters and Troncoso-Valverde (2010), and Celik and Peters (2011), who characterize equilibrium payoffs that can be achieved in a game when allowing for conditional strategies. Bade et al. (2009) and Renou (2009) study the impact on equilibrium outcomes when players can commit unilaterally to some subspace of strategies in games with complete information. Recently, Kalai and Kalai (2010) provide a cooperative and non-cooperative approach to conditional commitment in games with incomplete information. Contrary to our setting, they allow players to sign more general binding agreements, including payoff transfers and information sharing.

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[4] http://transparency.org.

[5] http://eitransparency.org.

[6] Chapter 2, article 12: "(f) Ensuring that private enterprises, taking into account their structure and size, have sufficient internal auditing controls to assist in preventing and detecting acts of corruption and that the accounts and required financial statements of such private enterprises are subject to appropriate auditing and certification procedures."

[7] The governance of natural resources is an issue of paramount importance for the development of many LDC, which makes the development and investigation of the properties of new tools aimed at reducing corruption in the management of natural resources of central interest for the development community (see, e.g., the report "Impact in Africa — story from the ground", EITI 2010, www.eiti.org).

[8] Corruption only determines allocation in the event of a tie.