The scope and limits of accounting and judicial courts intervention in inefficient public procurement[☆]

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A R T I C L E   I N F O

A B S T R A C T

Cost inefficiencies in public procurement tend to come from two sources: corruption (moral hazard) and incompetence (adverse selection). In most countries, audit authorities are responsible for monitoring costs but do not distinguish both sources of inefficiency in their audits. Judicial courts typically rely on these cost audits, but only sanction corruption. In a model of public procurement by politicians, we study how the respective quality of the two courts affects corruption as well as cost efficiency. We find that while better courts have the direct effect of decreasing corruption, they may have a negative indirect effect on the abilities of the pool of politicians, so that the net effect on cost efficiency is ambiguous.

1. Introduction

Public procurement represents a very significant share of the value added in every country in the world. In OECD countries, 15 to 25% of GDP is typically composed of government purchases of goods, equipment, and services; public works; studies; and other activities needed to deliver public services.[1] Cost inefficiencies are common in these markets, and whether they arise because of corruption, incompetence or simply bad luck often remains an open question. A 2014 study by PricewaterhouseCoopers (PwC) for the European Union (EU) estimates that bid rigging in public procurement affects 48% of auctions.[2] The inefficiencies arising from corruption and incompetence in procurement represent 10 to 30% of the costs of publicly funded construction projects (OECD, 2016).

In most countries, a key element of the policies adopted to reduce the risks of corrupt and incompetent practices is reliance on internal government controls (OECD, 2016). Such controls tend to be housed within the procurement entities themselves but are also often complemented by independent government auditing units.[3] In 2014, the

European Court of Auditors (ECA)[4] identified problems in about 40% of the procurement projects undertaken with EU funds. As only corruption is actually illegal, it is generally rational for any individual involved in an action identified by auditors as irregular to claim incompetence rather than dishonesty. To find a politician or political appointee guilty, therefore, the assessment of an accounting court must be complemented by the assessment of a judge.

In this paper, we analyze the respective influence of the quality of the judicial system and the accounting courts on the cost efficiency of public procurement. We find that increasing the quality of both courts helps decrease procurement costs when the main driver of high costs is corruption. When the main problem is incompetence, however, better courts sometimes make things worse. These results are driven by the skills and honesty of the politicians (or political appointees) responsible for the management of the procurement process. This insight contributes to the literature on the endogenous selection of politicians (Caselli and Morelli, 2004; Besley, 2005; Poutvaara and Takalo, 2007). It does so by taking into account the difficulties of identifying the source of cost overruns (Bandiera et al., 2009), focusing on the need to

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[1] OECD statistics, available at: http://stats.oecd.org/
[2] PwC (2014), Public Procurement: costs we pay for corruption.
[3] For instance, the Government Accountability Office for the U.S. federal government, the National Audit Office in the United Kingdom, the Cour des Comptes in France or Belgium, and the Tribunal de Cuentas in Spain. Herein we use the term "court" to refer to such audit authorities, contrasting, for example, "accounting courts" with "judicial courts."
[4] European Court of Auditors (2014), Audit of public procurement by the European Court of Auditors, Berlin, November 14.

distinguish between incompetence and corruption and on the role of judicial and accounting courts in improving the overall efficiency of procurement.

We assume that citizens differ in ability and choose when to join the pool of politicians or political appointees (denoted through the paper as "politicians"). We treat ability as a single dimension, so that more able politicians have a higher opportunity cost of being in office (a standard assumption in the literature). We also assume that more able politicians are more often in a position to benefit from corruption. One reason for this is that they have a better understanding of the process, which is directly linked to the ability to manage it. Another is that they are more likely to have connections at a higher level: Gagliarducci et al. (2010) for instance, show that in Italy high-income citizens entering politics tend to be less dedicated than those of more modest means and to make more money from outside activities.[5] Our distinction between incompetence and corruption is very close to the idea of active and passive waste in Bandiera et al. (2009), who show that 83% of the waste in public purchases of standardized goods in Italian municipalities is the consequence of passive waste, described as a combination of incompetence and the costs of regulation. In Russia, Best et al. (2017) show that more than half of the variation in prices paid for an identical good can be explained by differences in ability of the bureaucrats.

While we find that the direct effect of both better judicial and accounting courts is to decrease the probability of corruption, we also identify indirect and possibly detrimental effects on the ability of politicians. Good judges may decrease the quality of the pool of politicians for three reasons. First, because better judges decrease the probability of being wrongfully convicted for corruption, they protect the least able politicians and make politics more attractive to them. Second, as the least able politicians have fewer opportunities to benefit from corruption, better judges decrease the relative advantage of the most able politicians if corruption is an important share of politicians' income. Third, if corruption is not an important source of income, better judges make politics more attractive to the marginal citizen, indifferent between entering politics or not. If the most able citizens are politicians, the marginal politician is of lesser ability than the average and her entry decreases the quality of the pool. This last effect is reminiscent of the possibility of a detrimental impact of wages on the quality of politicians documented in Poutvaara and Takalo (2007).

Better accounting courts may similarly lower the quality of the pool of politicians for two reasons. First, as with good judges, good accounting courts may decrease the relative benefit of highly able citizens if corruption is an important source of income. Second, better accounting courts decrease the share of judicial mistakes affecting higher-ability citizens, but raise the share of mistakes affecting the least able citizens. If only the least able citizens enter politics and the marginal politician is of low ability, better accounting courts make politics less attractive to her, and the quality of politicians decrease.

More generally, we find that an "ideal" institutional design combines sufficiently good accounting courts, high punishment for corrupt politicians and, somewhat counter intuitively, sufficiently bad judicial courts responsible for punishing corrupt politicians. Within this institutional framework, we also show the local conditions under which expected procurement costs can be cut through a marginal increase in the quality of the two types of courts, a change in the wages of politicians and more severe levels of punishment.

These broad conclusions rest on four important modeling assumptions which we relax in various extensions of the model. First, we assume that each citizen choosing to become a politician is elected with equal probability, implying that voters cannot screen based on skills. We show in Section 6.1 that assuming, instead, that voters screen the

most able candidates would mechanically decrease the importance of the selection problem.[6] The extent to which voters actually assess the competence of their politicians is thus crucial but easily overestimated. For instance, Todorov et al. (2005) show that "inferences of competence, based solely on the facial appearance of political candidates and with no prior knowledge about the person, predict the outcomes of elections for the U.S. Congress even after voters were given the possibility to correct their vote after receiving additional information on politicians' competence."[7] Hence, unless voters manage to correctly identify the most able citizens by assessing their physical appearance,[8] elections alone do not suffice to screen the most able candidates.

Second, we define an increase in the quality of a court as a symmetric decrease in the share of false positives and false negatives in its judgments. In practice, this corresponds to giving more resources or autonomy to those courts. Alternatively, it is possible to study the severity of courts, defined as decreasing the number of false negatives at the cost of increasing the number of false positives. We show in Section 6.2 that judicial severity does not affect the pool of politicians in the same way as judicial quality. In other words, while better judges make politics more attractive to the least able citizens, more severe judges make politics less attractive to everyone.

Third, we consider ability as a single dimension: a more able politician is better at delivering public goods at low cost, has more outside options, and is more often in a position to benefit from bribes. In Section 6.3, we study a variant of the model in which the ability to benefit from corruption is independent from the ability to deliver projects at low cost. In that case, the least able politicians are the ones who accept the most bribes, because they know that, without corruption, they are more likely to deliver at high cost and to be victims of judicial errors. Even in this case, it remains possible for better courts to lower the quality of the pool of politicians, because of the degree to which better judges protect the least able politicians from judicial errors.

Fourth, we rule out the fact that some politicians are genuinely honest and derive no utility from bribes (defined broadly to cover conflicts of interests). In Section 6.4, we consider politicians with different preferences for corruption. If the most able politicians are also more honest, they are also hurt less by a decrease in corruption, neutralizing one of the reasons why better courts may lower the ability of politicians.

We review the relevant literature in the next section. Section 3 presents the model and the equilibrium of the game. We provide comparative statics on the impact of the quality of the different courts in Section 4. Section 5 studies the impact of policy changes on cost efficiency, corruption and the share of judicial errors. We discuss the robustness of our results to different assumptions in Section 6 and conclude in Section 7.

2. Related literature

Our contribution looks into institutional failures that allow inept and corrupt politicians to improve their career prospects and, in so doing, to degrade the cost efficiency of public projects – either directly

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[6] The same holds for corruption. A study of Brazil by Winters and Weitz-Shapiro (2013) concludes that the lack of credible information on corruption explains the inability of voters to punish it. The question of how voters should gather such information remains open, however, as discussed for instance by Lambert-Mogiliansky (2015).

[7] A perhaps even more striking example is given in Antonakis and Dalgas (2009), who show that a sample of children asked to choose the ideal "captain of their boat" from a picture predicted correctly 71% of the results of the French parliamentary elections, with a rate of successful prediction that was undistinguishable from that of adults.

[8] The problem we study would matter less if the beauty premium (see also Hamermesh et al., 1994) is a strong predictor of the ability to deliver a public procurement project at low cost. Berggren et al. (2010), show that perception of competence and beauty is strongly correlated; Berggren et al. (2017) demonstrate that physical appearance also helps identify the ideology of a candidate.