



# To bid or not to bid: That is the question: Public procurement, project complexity and corruption

Simona Baldi <sup>a</sup>, Anna Bottasso <sup>b,\*</sup>, Maurizio Conti <sup>b</sup>, Chiara Piccardo <sup>c</sup>

<sup>a</sup> Italian Transport Authority, Italy

<sup>b</sup> University of Genova, Italy

<sup>c</sup> University of Bologna, Italy

## ARTICLE INFO

### Article history:

Received 5 June 2015

Received in revised form 9 April 2016

Accepted 11 April 2016

Available online 14 April 2016

### JEL classification:

H57

D44

D72

D73

D82

L14

### Keywords:

Public procurement

Complexity

Corruption

## ABSTRACT

The main aim of this study is to improve our comprehension of the role played by project complexity and institutional quality as possible drivers of the choice between open auctions and negotiations in a sample of Italian municipalities. Controlling for project characteristics, for observed and unobserved heterogeneity at municipality level, our main results suggest that projects that are more complex are more likely to be procured with negotiated procedures. On average, a rise in the project complexity index from the 25th to the 75th percentile of its distribution increases the probability of procuring the project with a negotiated procedure by about 6%–8%. However, our results also suggest that the impact of complexity might be more relevant in the case of projects procured by municipalities located in provinces characterized by low levels of corruption. Moreover, we also find that complex projects are associated to longer delays in their execution, larger rebates and to higher probabilities to be awarded to local firms.

© 2016 Elsevier B.V. All rights reserved.

## 1. Introduction

Public procurement refers to the process by which public authorities, such as central government or local authorities, procure the resources needed to pursue their institutional goals. Public procurement plays an important economic role since it accounts for a significant share of the EU economy (19% of GDP in 2011).

Indeed, the 1985 White Book on *Completing the Internal Market* viewed public contracts as a priority area for actions aimed at removing barriers to trade and promoting integration among member states. More recently, public procurement has been widely recognized as a valuable policy instrument able to stimulate growth and to promote a smart, sustainable and inclusive model of economic development, as required by the *Europe 2020* objectives. Consequently, EU rules have been reformed in order to guarantee higher efficiency and transparency to the procurement process and to ensure a greater inclusion of social goals like environmental protection, social responsibility, innovation, wider inclusion of small and medium firms, employment, public health and other social and environmental considerations.<sup>1</sup>

\* Corresponding author at: Department of Economics, University of Genova, Via Vivaldi 5, 16124 Genova, Italy.

E-mail address: [bottasso@economia.unige.it](mailto:bottasso@economia.unige.it) (A. Bottasso).

<sup>1</sup> The new Directives 2014/24/EU, 2014/25/EU and 2014/23/EU have to be transposed by April 2018 by EU member states.

The objectives introduced by the new EU Directives are indeed very ambitious, since the organization and the design of an efficient and effective procurement process is a very complex task: corruption risks, informative asymmetries, conflict of interests, contract incompleteness, biased incentives, conflicting short and long run objectives are just some of the issues that need to be tackled. Moreover, such design has to be compliant with EU rules, national rules and, at the same time, needs to adhere to the EU Treaty principles, the most important of these being equal treatment, non-discrimination, mutual recognition, proportionality and transparency.

The procurement process is made up of different steps (pre-procurement stage, tender process and contract award, contract and supplier management), each requiring a specific and careful design able to guarantee the best possible procurement outcomes. In this study, we focus on issues involved in the choice of the tender process: open procedures, restricted procedures, competitive dialog and negotiated procedures are the main awarding mechanisms available to public authorities. These instruments are characterized by different degrees of flexibility, discretion and manageability and might conduce to different outcomes depending on projects and actors' characteristics, procurement objectives and environmental conditions. In particular, in this paper we add to the debate on the choice between auctions and negotiation in public procurement by providing original empirical evidence on the role played by project characteristics, environmental and institutional factors in supporting such choice.

By analyzing a sample of about 11,400 public works procurement contracts tendered by Italian municipalities over the period 2009–2012 we explore in detail the role played by project complexity in determining the choice of the awarding mechanism. In particular, unlike previous literature, we build a measure of complexity based on experts' evaluations derived from a questionnaire that we administered to a group of officials of large municipalities, architects, engineers, and officials of the Italian surveillance authority of public works. The main relative advantage of our complexity variable is that it does not rely on the ad hoc measures previously employed in the literature, such as the project reserve price, the "physical" size of the work, or the project category. Although these measures might be correlated with some dimensions of complexity, they are far from satisfactory. For instance, projects with a relatively low reserve price in some categories might be more complex than projects with a higher reserve price in other categories. However, a possible pitfall of our complexity variable is that it is a subjective measure; nevertheless, the high correlation coefficients among answers obtained across the various groups of experts in our survey reassures us that we have been capturing important features of project complexity.

In our empirical model we control for additional features of the projects, for local authorities political characteristics and for the quality of local institutions, as proxied by social capital endowment, levels of corruption and efficiency of the judicial system. Unfortunately, Italy represents an interesting case study since, according to recent Transparency International's corruption perception rankings, it is one of the most corrupted nations in Western Europe. Indeed, [Nannicini et al. \(2013\)](#) suggest that social capital is a strategic factor enhancing the accountability of political institutions and corrupted environments are often associated to low levels of social capital. Moreover, some authors have argued that differences in social capital endowment among Italian regions can affect several economic outcomes, including the performance of the public sector (e.g. [Bandiera et al. \(2009\)](#)). However, how these differences affect the choice of the awarding mechanism in the public procurement process has never been studied before.

The econometric strategy that we follow in order to identify the impact of complexity on the choice of the auction format (open auctions versus negotiations) relies on controlling for unobserved heterogeneity at the municipality level through a full set of municipality fixed effects. However, because there could be unobserved heterogeneity within municipalities at the individual project level, we also follow two different strategies.

First, we verify that our results are robust to the inclusion of municipalities' linear time trends. Indeed, if the unobserved heterogeneity were simply associated to time shocks at municipality level that give raise to time varying heterogeneity evolving linearly over time, municipalities linear time trends (as well as fixed effects) should control for most of this form of unobserved heterogeneity.

However, municipality linear time trends may not capture other forms of unobserved heterogeneity at project level within municipalities and, in this case, we would need an external valid instrument. Unfortunately, since we lack an external valid instrument that would give us strong confidence to interpret our results as causal, we rely on an identification strategy that exploits the existence of heteroskedasticity in the regression residuals ([Lewbel, 2012](#)). Although this identification strategy is not convincing as a (quasi) natural experiment, we believe that, at the least, it provides additional robustness to the correlations that we find in our analysis.

Our main results suggest that projects that are more complex are also more likely to be procured with negotiated procedures. Interestingly, we also find that this correlation seems to be stronger in the case of projects procured by municipalities located in provinces characterized by low levels of corruption, while the effect of complexity seems to be weaker when the level of corruption is relatively large.

Finally, in the last part of the paper we exploit our dataset in order to shed some light on the impact of project complexity on some ex-ante and ex-post performance measures of the procurement process, an issue that has been somehow neglected in the literature so far. Our results show that more complex projects are in general associated to a larger probability of being awarded to firms located in the same province of the contracting authority and that higher complexity is correlated with higher rebates and longer delays in the execution of the work.

In the next Section, we summarize the theoretical debate on the drawbacks and advantages that characterize these different awarding mechanisms and we revise the main results reached by the empirical literature. In [Section 3](#), we describe the Italian institutional setting and the data used in the paper, explaining in details our measure of project complexity. Empirical results are discussed in [Section 4](#) and conclusions follow.

Download English Version:

<https://daneshyari.com/en/article/5067858>

Download Persian Version:

<https://daneshyari.com/article/5067858>

[Daneshyari.com](https://daneshyari.com)