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Insider Lobbying and Government Contracts:

The Moderating Role of Firm Size

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This study examines insider lobbying as a form of relational Corporate Political Activity (CPA) that can be used by firms to gain an advantage in the competition for government contracts, and how firm size moderates the effectiveness of different insider lobbying strategies. Drawing on a unique dataset that captures meetings between private companies and British government ministers, we find that both the breadth and depth of insider lobbying are positively related to the value of the contracts awarded by the UK Ministry of Defence. Further analysis reveals that the benefits from a strategy of lobbying depth are stronger for small firms, than those from a strategy of lobbying breadth. The findings suggest that the bridging and bonding social capital cultivated through meetings with politicians can be deployed in alternative ways by different-sized firms.

Key words: Corporate political activity; insider lobbying; firm size; government contracts; UK; quantitative analysis

Introduction

Strategic management scholars increasingly recognise that Corporate Political Activity (CPA) is vital for communicating business interests to policy-makers (Lawton *et al.*, 2013; Lux *et al.*, 2011). Defined as ‘close consultation with political and administrative leaders’ (Gais & Walker, 1991, p. 103), ‘insider lobbying’ by key firm representatives promises particular benefits for companies undertaking CPA because it facilitates direct access to public policymakers (Schuler *et al.*, 2002, p. 659). According to Grant (1978), insider status is achieved when a given firm has developed an on-going consultative relationship with policy-makers and is trusted by those policy-makers. Nevertheless, Maloney *et al.* (1994) highlight that firms can be distinguished by their degree of insiderness. Core insiders benefit from regular participation in policy-making on ‘a wide variety of issues cognate to a policy area’, specialist insiders from ‘participation in particular areas’, whereas peripheral insiders have ‘little, if any influence’ (Maloney *et al.*, 1994; p.30). As a result, firms may adopt different insider lobbying strategies to achieve their aims, especially those firms supplying products and services to government who may have more opportunities to consult with policy-makers and profit from becoming insiders. However, despite growing interest in the nature and dynamics of insider lobbying (Dür and Mateo, 2013; Weiler and Reissman, 2019), surprisingly little research systematically investigates ‘insider’ meetings between firms and government agencies and subsequent public procurement outcomes. Moreover, none to our knowledge addresses the potentially moderating effects of firm size on those outcomes, even though large companies are more likely to have insider status than smaller ones (Coen, 2007).

Research on CPA and firm outcomes has identified a wide range of costs and benefits associated with efforts to influence public policy (Hadani *et al.*, 2017a). Scholarship focused on CPA and public procurement has revealed better contracting outcomes from corporate political donations (e.g. Bromberg, 2014; Titl & Geys, 2019; Tripathi 2000; Witko, 2011), and

firms' spending on outside lobbyists (e.g. Hadani *et al.*, 2017b; Kim, 2018; Ridge *et al.*, 2017). While these studies shed valuable light on the role of CPA in shaping government contracting decisions, they emphasize lobbying expenditures, rather than the direct meetings with policy-makers that are particularly important for firms dependent upon government decision-making (Hillman & Hitt, 1999). In addition, the relative breadth and depth of insider lobbying activity is rarely addressed.

The breadth of a firm's lobbying reflects 'the extent of government activities or entities the firm is attempting to influence', while the depth of its lobbying is 'concentrated on a limited number of relationships that can be exploited (Ridge *et al.*, 2017, pp.1139, 1146). Although researchers are paying increased attention to lobbying breadth and depth (Abdurakhmonov *et al.*, Forthcoming), Ridge *et al.* (2017) highlight that 'there is much opportunity for future research to further develop and examine these dimensions' of lobbying (p.1158). Drawing on theories of social capital, we inquire into the breadth and depth of insider lobbying by investigating the extent and number of direct meetings that firms hold with key political actors and the value of the contracts awarded to companies by the UK's Ministry of Defence (MOD), along with the moderating effects of firm size on that relationship.

Meetings between key individuals from 'insider' firms (i.e. directors, executives and senior managers) and political actors are important sources of social capital that can be the focal point for a company's lobbying. Such interactions build social capital through informal exchanges of knowledge, information and evidence, and are indispensable in contexts where 'relational contracting' is critical, such as in public procurement processes (Parker & Hartley, 2003; Sozen *et al.*, 2016). The extant literature on CPA and social capital largely focuses on the appointment of former politicians to boards of directors (e.g. Lester *et al.*, 2008), political service by former firm representatives (e.g. Hillman *et al.*, 1999) or the non-parliamentary activities of politicians (e.g. Niessen & Ruenzi, 2010). Such political connections can provide

advance warning of policy changes, enabling firms to protect their existing market position, and so may hold key to ensuring that the institutional environment remains stable and predictable (Oliver & Holzinger, 2008). Nonetheless, it is the meetings between firms' representatives and active politicians that build the social networks and capital needed to gain access to policy-makers and effectively mobilise political influence. The breadth and depth of such 'insider' exchanges are highly likely to contribute to the overall social capital that can be deployed in pursuit of corporate political goals (Oliver & Holzinger, 2008), and can be conceptualised as corresponding to the bridging and bonding forms of social capital.

Social capital theories emphasise the importance of "social networks and the norms of reciprocity and trustworthiness that arise from them" (Putnam, 2000, p. 19). Bridging social capital is developed through the weak ties individuals have to people with whom they are only a little acquainted, while bonding social capital is a product of the strong ties individuals develop with people they know well (Bika & Kalantaridis, 2019; Newell *et al.*, 2004). In inter-organizational relations, bridging social capital facilitates knowledge exchange across a wide network of potential collaborators, with bonding social capital fostering trusting relationships with central actors, thereby reducing the transaction costs associated with collaborating (Adler & Kwon, 2002). Both forms of social capital can be the focal-point for lobbying strategies aimed at improving organizational outcomes (Oliver & Holzinger, 2008). A greater breadth of lobbying activity can be aimed at cultivating weak ties with multiple political actors that, in turn, can raise awareness of new government procurement opportunities (Ridge *et al.*, 2017). By contrast, a greater depth of lobbying depth aimed at developing strong ties with the key actor within a political network can inculcate the trust needed to reassure them of a firm's technical capabilities (Flammer, 2018).

Empirical research on buyer-supplier relationships suggests that the value of the social capital created by inter-organizational relations may be contingent on the resources that actors

are able to invest in building ties with their partners (Jap, 1999; Roden & Lawson, 2014). From this perspective, firm size may be a critical moderator of the relationship between lobbying breadth and depth, and procurement outcomes. Indeed, the CPA literature highlights how size is a major firm-level antecedent of CPA, as well as its outcomes (Hillman *et al.*, 2004). Large corporations have more resources to spend on lobby firms than small companies (Schuler, 1999), can open offices for liaising with government officials near to major administrative centres (Hadjikhani *et al.*, 2008), and tend to have a more established and visible ‘insider’ reputation in the eyes of policy-makers (Berrios, 2006). These advantages are likely to enable big companies to nurture, and benefit from, a wider range of network ties, whereas small companies may be restricted to focusing their relationship-building efforts on those actors perceived to be central within a network. For this reason, it seems plausible to anticipate that large firms will benefit most from a strategy of lobbying breadth aimed at cultivating bridging social capital, while smaller firms can gain more from a strategy of lobbying depth focused on the development of bonding social capital.

To understand whether the breadth and depth of insider lobbying are associated with firm-level outcomes, and whether the effects of these two lobbying strategies are moderated by firm size, we analyse the relationship between meetings held by private firms with UK government ministers and the value of the contracts awarded by the MOD between 2012 and 2017. To do so, we draw upon a unique and extensive dataset that documents meetings between MOD ministers and external interest groups. We utilise OLS and Tobit estimators to analyse the relationship between ministerial meetings with the representatives of private firms and variations in the value of the contracts received by those firms. We then investigate the ways in which firm size influences the outcomes from insider lobbying, focusing on its moderating effects on lobbying breadth, measured as the number of different MOD ministers met by each

firm per annum, and lobbying depth, measured as the total number of meetings with the Minister for Defence Procurement for each year.

Our study suggests that the breadth and depth of insider lobbying are both associated with the award of government contracts – results robust to the use of instrumental variable estimators to account for potential endogeneity. Further analysis indicates that firm size negatively moderates the connection between lobbying depth and contract values, implying that small firms can benefit most from a strategy of lobbying depth, while large firms may be more likely to benefit from a strategy of lobbying breadth.

Theory and hypotheses

Firms that are more dependent upon public policy decisions, such as those providing products and services to government, often adopt a relational approach to CPA. In addition to revolving door activity (Lester *et al.*, 2008; Carretta *et al.*, 2012), insider lobbying (‘close consultation with political and administrative leaders’ (Gais & Walker, 1991, p. 103)) represents what Oliver and Holzinger (2008) describe as an influence strategy of political management. Influence-based strategies are generally perceived to be effective because they rely upon the positive power of persuasion (Aplin & Hegarty, 1980). In particular, meetings between ‘insider’ firms and politicians can build the social capital companies need to effectively mobilise political influence (Oliver & Holzinger, 2008).

The concept of social capital has been theorized and operationalized in myriad alternative ways in the management literature (see Adler & Kwon, 2002; Leana & Van Buren, 1999; Payne *et al.*, 2011). At the heart of the concept, is the notion that actors can harness the relational resources within a network to achieve desired outcomes (Bourdieu, 1980; Coleman, 1994). The number and density of the connections between individuals that compose such networks may vary greatly, with large networks spanning many different and diverse

individuals tending to be more open and inclusive than small, close-knit ones that are closed and exclusive (Granovetter, 1973; 1983). Wide, inclusive networks are seen as a source of bridging social capital, which can enable individuals to access a multiplicity of external assets and exchange valuable new information, while narrow, exclusive networks are seen as a source of bonding social capital that generates strong norms of trust, solidarity and reciprocity (Adler & Kwon, 2002; Putnam, 2000). The bridging and the bonding social capital that firms develop through their meetings with politicians, can be regarded as dynamic capabilities that may hold the key to better firm-level outcomes (Oliver & Holzinger, 2008).

Lobbying breadth and government contracts

Within the context of meetings between insider firms and government ministers, interactions with a wide network of relevant political actors are likely to nurture the growth of more opportunities for exchanging knowledge, information and evidence germane to a firm's corporate political goals (Broscheid & Coen, 2007). A strategy to build bridging social capital by expanding a political network therefore cultivates an array of potential sources of informal support for a firm's activities (Peng and Luo, 2000). In particular, the breadth of insider lobbying that a wide political network can facilitate may be especially useful for improving firm outcomes from the competition for government contracts.

Lobbying breadth can increase the chances of success in public procurement processes in four related ways: firstly, it can increase the network of political actors who will recognize a firm as a legitimate vendor of government services; secondly; it can generate inside knowledge of a wider range of new public procurement opportunities; thirdly, it expands the potential number of supporters within government upon whom a firm can call to advance its interests (Berrios, 2006; Kelleher & Yackee, 2008; Ridge *et al.*, 2017); and, fourthly, it creates a network of 'insider' contacts that is more resilient to the turnover among government ministers that is a

common occurrence in parliamentary democracies, such as the UK (Huber & Martinez-Gallardo, 2008). These arguments seem especially likely to apply to the insider lobbying that is facilitated by meetings between key representatives of a firm and the political actors operating within a particular policy area. Hence, we propose:

Hypothesis 1. The breadth of insider lobbying will be positively related to firm government contract values

Lobbying depth and government contracts

Although lobbying breadth can potentially increase the prospects of firm success in the government procurement process, intensively lobbying a smaller number of the most prominent actor within a political network may also be an important strategy for firms seeking to maximize the benefits from their insider status (Hadjikhani *et al.*, 2008). Regular meetings with key political actors can produce the bonding social capital that encourages influential politicians and government officials to trust a firm and thereby lower the transaction costs for both parties. In particular, in contracting relationships, trust can be an effective co-ordinating mechanism because it reduces information asymmetries (Dyer & Chu, 2003), lowers monitoring costs (Hoffmann *et al.*, 2010), and facilitates the free transfer of knowledge and learning (Kale *et al.*, 2000). The depth of insider lobbying that repeated interactions with central actors can facilitate may therefore prove invaluable in cultivating the trust needed to reassure policy-makers of a company's merits and intentions.

Trust is regarded as a dynamic capability that firms can deploy when bidding for government contracts because it can lower the transaction costs associated with the negotiation, preparation and monitoring of procurement contracts (Zaheer *et al.*, 1998). Moreover, the corresponding trust that government has in "suppliers' non-opportunistic behavior is likely to

be an important determinant of the purchasing decision” (Flammer, 2018, p. 1302). Such trust takes time to develop (Dasgupta, 2000), but, in the context of public procurement, presupposes a willingness on the part of firms to invest time and money in developing bonding social capital through more frequent meetings with pivotal political actors. For this reason, we advance:

Hypothesis 2. The depth of insider lobbying will be positively related to firm government contract values

The moderating effects of firm size

Firms seeking to build the social capital needed to effectively influence political actors, face important questions about how they lobby particular individuals when the outcomes from such insider lobbying may be uncertain (Nownes, 2006). Firm-level contingencies are therefore likely to influence the lobbying strategies that organizations adopt (Getz, 1991; Schuler & Rehbein, 1997). In particular, firm size is an especially important firm-level characteristic likely to shape insider lobbying (Drope & Hansen, 2006). By virtue of their market share and economic importance, the largest firms within given industries may be automatically accorded core insider status by government officials (Coen, 2007).

Core insiders are typically able to gain access to a wider array of policy-makers than other insider groups (Maloney *et al.*, 1994). Large firms can therefore potentially gain most from a strategy of lobbying breadth because they are more likely to be trusted by a larger network of politicians than their smaller counterparts. Indeed, political science has long highlighted that big corporations’ wide range of interests and political concerns impels them towards a greater breadth of policy engagement than smaller companies and SMEs (Mizruchi, 1992; Salisbury, 1984). For all of the above reasons, it seems likely that bigger companies will be in a stronger position to cultivate a wider network of political contacts than smaller ones, and that a strategy of lobbying breadth will have a correspondingly positive impact on their

reputation as a core insider throughout government (Berrios, 2006), which will translate into more and/or higher value government contracts. Hence, we propose:

Hypothesis 3. Firm size will strengthen the positive relationship between lobbying breadth and firm government contract values

Unlike large corporations, small firms are seldom granted the broader access to policy-makers on an individual basis that large firms are accorded due to their significance as major economic actors (Coen, 1997). A firm-level strategy aimed at attempting to cultivate bridging social capital may therefore lead smaller companies to lose out in the competition for politicians' attention to larger ones that are already regarded as trusted insiders by sympathetic government officials (Coen & Dannreuther, 2003). Due to these pervasive size-based differences in organizational reputation, efforts to develop bonding social capital with a more focused set of politicians that matter to them may be a more reliable strategy for small firms seeking to maximise the potential pay-off from becoming regarded as a specialist insider (Chalmers, 2013). At the same time, large firms may benefit less from repeated interactions with those key actors who are already very familiar with their technical capabilities and reputation (Berrios, 2006). As a result, we proffer:

Hypothesis 4. Firm size will weaken the positive relationship between lobbying depth and firm government contract values

Methodology

Data and sample

To test the proposed hypotheses, we construct a unique dataset combining information on MOD procurement contracts and meetings between representatives of private firms (i.e. directors, executives and senior managers) and MOD ministers. The sample used in this study includes all the companies (306) with whom the MOD spent greater than 5 million British Pounds in any year during the period 2012-2017. These firms range from companies focused on the production of military equipment and armaments (e.g. Northrop Grumman, Qinetiq), manufacturing firms producing industrial machinery and systems for civil and defence purposes (e.g. Boeing, Rolls Royce), companies providing construction solutions and facilities management (e.g. Carillion, Kier Group), energy and telecommunications companies (e.g. EDF, BT Group), and professional services firms (e.g. Macquarie Investment Limited, Price Waterhouse Coopers). We exclude from our analysis other interest groups who also met with MOD ministers: industry associations, individual consultants, investment fund managers, newspaper editors, charities, other government departments and foreign public officials.

To ensure that we accurately identified private companies in the meeting reports, a coding frame was developed to assign the interest groups named in the reports to a particular sector of the economy, organizational form and likely status as a potential contractor with the MOD (available on request).¹ To match the procurement contracts data with the lobbying data, we aggregate the value of procurement contracts at the holding company level in those cases where multiple subsidiaries were awarded MOD contracts, such as, for example, Airbus, BAE systems, Babcock, Leonardo, Lockheed Martin and Thales.

Dependent variable

The dependent variable in this study is the yearly value of MOD procurement allocated to each contractor in our sample, as reported in the Trade, Industry and Contracts statistics that have been published annually by the MOD since the financial year 2012/13. The MOD is responsible for about 5% of the UK government's managed public sector expenditure – circa £35 billion per annum (HM Treasury, 2018). Of the MOD's annual budget, more than half is spent on procurement (about £19 billion), which accounts for over 40% of all UK government procurement spend, and represents one of the biggest defence budgets worldwide. The procurement contracts signed by the MOD range from agreements for the production of military equipment and high-tech communications hardware to training and education services, and a variety of different types of facilities management services as well as HR and financial consultancy services. On average, the companies in our sample received MOD procurement contracts of about 59 million British Pounds per year between 2012 and 2017 (see Table 1).

Independent variables – breadth and depth of insider lobbying

In 2010, the UK Government committed to publishing details of ministers' meetings with external organizations on a quarterly basis. This unique source of information enables us to identify 'insider' interactions between firms and politicians. Details specified in the quarterly meeting reports include: the date of the meeting; the meeting participants; and, the purpose of the meeting (Dommett *et al.*, 2017). The data we collected relate to meetings between private firms and the following MOD ministers: the Secretary of State for Defence; the Minister of State for Defence; the Minister of State for the Armed Forces; the Minister for Defence Procurement; the Minister for Reserves; and, the Minister for Personnel and Veterans. The vast majority of these meetings (over 90%)² took place in the MOD offices in London with the purpose of discussing "defence-related issues", indicating that our measures capture lobbying

activity aimed at influencing politicians rather than routine sales activity or contract monitoring focused on discussions about specific projects.

To measure *lobbying breadth*, we calculate the number of MOD ministers with whom firms' representatives had at least one meeting over the course of a year. This indicator ranges from 0 to 6, with a higher score indicating a wider network of political contacts and therefore a greater breadth of insider lobbying efforts, capturing the idea that a larger spread of contacts across a network may be a valuable source of bridging social capital (Granovetter, 1973). Our second independent variable of interest, *lobbying depth*, is constructed by summing the number of meetings each company held with the Minister for Defence Procurement per year. The defence procurement minister is responsible for the Defence Equipment Plan, defence industry and exports, and defence-related science and technology. A higher number of meetings with the key political actor overseeing defence procurement may be a source of bonding social capital, because individuals with whom one interacts more regularly 'have greater motivation to be of assistance and are typically more easily available' (Granovetter, 1983, p. 209). Both insider lobbying measures have been standardized by subtracting the mean and dividing by the standard deviation to facilitate results interpretation and comparison.

Control variables

Following the literature on government contracts and lobbying, we include in our models a matrix of firm-level characteristics that may affect both the allocation of MOD procurement and insider lobbying.³ Specifically, we include measures of firm size, age, financial leverage and performance that proxy for the technical ability of contractors to meet the requirements of the MOD. In addition, we include a set of dichotomous variables controlling for industry-level effects.⁴

Firm size is measured as the log of total assets. This approach enables us to gauge the total resources available to a company to generate profit through their business activities (Dang

et al., 2018). Firm age is measured as the number of years since the financial year in which the company was incorporated. Financial leverage is measured as the ratio of long-term liabilities to total assets, which represents a company's systematic risk (Mandelkar & Rhee, 1984). Firm performance is measured as the Return on Total Assets (ROTA), which refers to a firm's earnings before interest and taxes, and captures the efficiency with which it uses its total asset base (Selling & Stickney, 1989). Following Flammer (2018), we mitigate the potential impact of outliers by winsorizing the financial ratios at the 1st and 99th percentiles of their distribution.

We use the FAME database from Bureau Van Dijk to extract the firm-level data necessary for our study. Some firms in our sample did not have complete records reported in FAME during the time period under study (see the number of complete observations reported in Table 1). This leads to a final sample of 1350 firm-year observations from 2012 to 2017. To check if this loss of information affects our estimates, we report in the Appendix (Table A2) estimates using the full sample (1836 firm-year observations), for which we impute missing values using a Multiple Imputation Chained Equations (MICE) approach.⁵ The results of our analysis, however, do not seem to depend on the model choice, with MICE and non-MICE approaches producing similar results for our independent variables of interest.

[TABLE 1]

Empirical strategy

To formally test whether firms' meetings with government ministers influence the allocation of public procurement contracts, we estimate the following regression model:

$$\text{Log}(y_{it} + 1) = \beta \text{Lob}_{it-1} + \gamma' X_{it-1} + \alpha_s + \epsilon_{it} \quad (1)$$

where y_{it} represents the amount of MOD procurement contracts allocated to firm i at time t (in millions of British Pounds); Lob represents each of our lobbying measures⁶; X refers to the matrix of control variables, including a constant term; α_s denotes industry-level effects; and, ϵ_{it} the remainder disturbance term. Following the literature on lobbying, we measure all the right-hand side independent variables one year before the allocation of the contracts.

We begin our analysis estimating Eq. (1) by means of standard OLS regression techniques. Nonetheless, it should be noted that our measure of government procurement is left censored, since not all firms are awarded government contracts in a given year (about 35% of our observations are left-censored at zero). Therefore, due to the censored nature of the dependent variable, we complement our OLS analysis by estimating a Tobit model, a maximum likelihood approach that accommodates censored data. The reason behind the choice of a Tobit model as our preferred model is that our dependent variable is fully observed, meaning that the zeros in our data are true zeros representing the actual value of MOD procurement (i.e., not imputed missing values). Hence, our dependent covariate follows a distribution exhibiting a probability mass at zero and a continuous distribution for positive non-zero values, thus both set of values come from the same data generating process. In this case, standard OLS may yield biased results and a Tobit specification is preferred (see, for example, Amore and Murtinu, 2019). Furthermore, by including in our models industry fixed-effects, we can adjust for potential time invariant industry-related unobserved factors.

To analyse whether firm size moderates the impact of both lobbying measures on the likelihood of being awarded government contracts, we estimate the following interactive statistical model:

$$\begin{aligned} \text{Log}(y_{it} + 1) = & \beta Lob_{it-1} + \pi(Lob_{it-1} * Size_{it-1}) + \mu Size_{it-1} + \gamma' X_{it-1} + \alpha_s \\ & + \epsilon_{it} \end{aligned} \tag{2}$$

where *Size* refers to the proxy measure for firm size described in the data subsection, i.e., the log of total assets. Since firm size can be operationalized using multiple measures (Acabado *et al.*, 2020), we check the robustness of our results by replacing one at a time in Eq. (2) the log of total assets with the log of the number of employees (Mean = 7465.42, standard deviation = 36244.46) and the log of operating revenue (Mean = 3189.61 (£ millions), standard deviation = 2.11e+07), respectively.⁷

Results

Basic summary descriptive statistics and correlations are reported in Table 1. These correlations already point to a positive association between both lobbying measures and the value of MOD procurement contracts. The parameter estimates for our baseline models are reported in Table 2. Overall, the results suggest that both the breadth and the depth of insider lobbying efforts are positively associated with the value of government procurement contracts, hence supporting **Hypotheses 1 and 2**. These findings appear to be substantively as well as statistically important.

[TABLE 2]

Starting with **Hypothesis 1**, i.e. the relationship between insider lobbying breadth and government contract values (Table 2; Model 1), OLS estimates suggest that, conditional on the model and data, a one standard deviation increase in the number of different MOD ministers with whom firms hold meetings is associated with an increase in the value of procurement contracts of about 60% ($\beta=0.601$, $p<0.001$). We also report in Table 2 Tobit estimates to account for the censored nature of our dependent variable, with the findings reported above essentially unchanged for our independent variable of interest, i.e. lobbying breadth, in terms of direction and statistical significance. More specifically, Tobit estimates suggest a one

standard deviation increase in lobbying breadth is associated with an increase in the value of government contracts awarded to a firm of about 64% ($\beta=0.643$, $p<0.001$).

Turning our attention to **Hypothesis 2**, i.e. the relationship between lobbying depth and the value of government contracts (Table 2; Model 2), OLS estimates suggest that a one standard deviation increase in the number of meetings with the Minister of Defence Procurement is associated with a 49% increase in the value of government contracts ($\beta=0.489$, $p<0.001$), while Tobit estimates also suggest that there is a positive correlation of about 50% ($\beta=0.504$, $p<0.001$). Thus, our empirical results reveal that both types of insider lobbying strategies might play an important role for firms when competing for government contracts.

In addition to these estimates, we conducted a number of robustness tests to check our results' sensitivity to alternative model specifications. More specifically, we first exclude from our sample those firms that held meetings for three or more years in a row (see Appendix A, Table A6). We also report in Appendix A; Tables A7 and A8, estimates of our baseline models including our lobbying measures lagged two years (t-2) and three years (t-3), respectively. Finally, we report in Appendix A; Table A9, results of our baseline models including time dummies to account for potential shocks affecting all firms. The results of all these alternative specifications are virtually identical to our baseline results.

[TABLE 3]

Hypotheses 3 and 4 propose the moderating role of firm size on the outcome of different lobbying strategies. Starting with the combined effect of lobbying breadth and firm size (**H3**), we report in Table 3 estimates of the interactive statistical model shown in Eq. (2). The coefficient for the interaction terms including the three different proxies for firm size, i.e. the log of total assets, log of number of employees and log of operating revenue, are all positive, ranging between 0.009 and 0.034, but robust standard errors and p-values do not permit us to

definitively conclude that this moderating effect is statistically different from zero.⁸ To fully explore this combined effect, a more informative approach is to examine the marginal effect of lobbying breadth across different levels of firm size.

[FIGURE 1]

Figure 1 illustrates the effect of lobbying breadth on the likelihood of being awarded government contracts contingent on our measures of firm size. The solid sloping line plots the marginal effect of lobbying breadth as the logged size variables vary, while the shaded bands represent the 95% confidence interval. The figure suggests that firm size might have a positive effect on the connection between lobbying breadth and government contracts, though the confidence intervals prevent us from definitively concluding that the estimated moderating effect of firm size on lobbying breadth is statistically different from zero. Hence, the results do not give clear support to **Hypothesis 3**.

[TABLE 4]

Table 4 and Figure 2 show the effect of lobbying depth contingent on firm size (**H4**). The coefficient for the interaction terms including the three different proxies for firm size range between -0.096 and -0.136, in function of the model (OLS/ Tobit) and the size measure, and p-values are consistently below 0.001, thus giving clear support to **Hypothesis 4**. Figure 2 visually confirms this finding, i.e. that the positive effect of lobbying depth decreases as firm size increases, and the shaded confidence intervals suggest that this estimated effect is statistically significant, indicating that smaller firms benefit more than larger firms from a higher number of meetings with the government minister overseeing defence procurement.⁹

[FIGURE 2]

Potential endogeneity issues

OLS and Tobit estimates might be biased due to omitted variables and/or endogenous selection into the lobbying process. Hence, we also estimate Eq. (1) with a two-stage Instrumental Variable (IV) approach, using both a generalized method of moments (GMM) estimator and an IV Tobit approach. We instrument both lobbying measures using an indicator of firms' "proximity" to MOD ministers, measured as the log of the distance between a firm's UK headquarters and the MOD offices in Whitehall, London. The closer a firm's headquarters to Whitehall, the more likely a meeting with MOD ministers because of easier access and/or lower opportunity or transaction costs (Hill *et al.*, 2013; Lambert, 2019).

Panel B in Table 5 highlights that the instrument is statistically significant and exhibits the expected sign in the first-stage regression. The first-stage F-statistics for OLS regressions, along with Kleibergen-Paap's (KP's) statistics, are well above the threshold suggested by Stock and Yogo (2002), indicating that our instrument is *relevant*. The exclusion restriction for our instrument, is not testable directly, but is unlikely to be violated given the UK's Public Procurement Policy, which does not consider firms' location as a contract award criterion.¹⁰ Panel A in Table 5 indicates that the GMM and IV estimates are in line with the non-instrumental variable approach, though the point estimates are slightly larger. Nevertheless, to add further confidence in our approach, we tested whether the non-instrumented lobbying measures can be treated as exogenous. Baum *et al.*'s (2007) test for the GMM approach and the Wald test for the IV Tobit approach reported in Table 5, suggest that we cannot reject the null hypothesis that a non-instrumental estimator of the same equation would yield consistent estimates.

[TABLE 5]

Discussion

Consistent with the arguments that we develop about insider lobbying, we find that firms that had informal meetings with a broad range of ministers within the UK's Ministry of Defence (MOD) received government procurement contracts of a greater value, as did firms that met more regularly with the minister for defence procurement. We also find that smaller firms may be more likely to receive more valuable contracts when they prioritize lobbying depth, and that larger firms may therefore gain less from such a strategy. Our study has important theoretical and practical implications.

Implications for CPA research

We contribute to the literature on CPA by focusing on the bridging and bonding social capital developed through meetings between firms' representatives and key political actors. Drawing on a unique dataset capturing the breadth and depth of 'insider' interactions, we go beyond survey-based research on managerial networking (e.g. Acquaah, 2007) and analyses of the appointments to company boards and political office that have often been shown to positively influence firm outcomes (e.g. Hillman *et al.*, 1999; Ridge *et al.*, 2017; though see Carretta *et al.*, 2012). In doing so, our analysis suggests that meetings with government ministers may be a particularly efficacious means for increasing the likelihood of public procurement success, and that a strategy of meeting with a key political actor may enable smaller firms to do better in the competition for government contracts – a finding that is especially important given the focus on the advantages accruing to large firms in much of the related literature (Coen, 1997; Hillman *et al.*, 2004). As a result, our study illustrates the potential effectiveness of insider lobbying, along with the alternative strategies for developing social networks that differently-sized firms can deploy to achieve corporate political goals.

In addition to the CPA literature, we contribute to scholarship dealing with insider and outsider lobbying. Prior research in this field has emphasised the informational benefits accruing to insiders (e.g. Broscheid & Coen, 2003; Weiler & Reißmann, 2019), but is largely dependent on survey-based evidence and has yet to identify tangible rewards associated with insider status. Drawing on publicly available meetings and contracts information, we highlight how ‘insider’ firms can benefit financially from their interactions with key political actors. Given the strength of the relationship between insider lobbying and contract values, subsequent studies should therefore investigate whether political actors’ personally benefit from their responsiveness to insiders through political donations, consultancy opportunities or paid employment, with particular attention devoted to the different incentives that may be utilised by large and small firms to elicit support from political actors. It would also be important to establish whether insider involvement in contracting processes occurs in ways that could be perceived to be corrupt, unethical or inefficient (Dorn *et al.*, 2008), and to identify accountability mechanisms likely to ensure that such processes create public as well as private value (Rufin & Rivera-Santos, 2012).

Implications for practitioners

The results of our study demonstrate to firms that insider lobbying matters for public procurement outcomes. In particular, the findings suggest that companies can benefit from meeting in person with political actors in order to develop the social capital likely to facilitate the exchange of valuable information and knowledge. Both a wide network of political contacts and frequent interaction with the key actor within that network are associated with better procurement outcomes, indicating that companies can gain from a strategy of lobbying breadth and/or depth. More specifically, though, our results highlight that smaller firms can improve

their prospects of success in the competition for government contracts if they focus their lobbying efforts on the key actor within a political network.

Meetings between government ministers and representatives of ‘inside’ interest groups are an everyday part of the process of governing in many liberal democracies (Dommett *et al.*, 2017), and can reduce the transaction costs government officials confront in seeking to understand the needs of different industries and sectors of society (Broscheid & Coen, 2007). Nevertheless, lobbying is still regarded as deeply unethical in some countries and is frequently subject to much stricter regulation than is currently present in the UK, with fewer legitimate opportunities for directly influencing policy-makers (Chari *et al.*, 2020). Our statistical results indicate that senior policy-makers and officials within businesses and government alike may have justifiable concerns about the extent to which meetings between ‘insider’ firms and key political actors might be perceived to be unethical or unfair. For insiders receiving government contracts, the development of a reputation for being socially responsible may reassure critical observers of the technical competence of the firm (Flammer, 2018). For public policy-makers, the introduction of mandatory lobbying regulations can potentially make the processes and outcomes of insider lobbying more transparent and equitable (Chari *et al.*, 2020). For example, full publication of the notes from meetings between firms and politicians could provide assurance that insider access does not receive undue weight in subsequent policy choices (see, for example, Chatterjee, 2010).

Limitations

Although our findings are consistent with a social capital perspective on CPA, our study has a number of limitations, which provide opportunities for further research. Firstly, the available data do not permit us to determine whether meetings with firms lead politicians to directly intervene in the government procurement process. More research is therefore needed to pinpoint the precise mechanisms through which insider lobbying shapes government contracting

decisions. Secondly, due to data limitations, we are unable to investigate the costs that some researchers have associated with CPA, including a higher tax burden (Szakonyi, 2018) and weaker market capitalisation (Hadani & Schuler, 2013). Systematic analysis of the relationship between the breadth and depth of insider lobbying and multiple firm outcomes would therefore cast valuable light on the potential costs and benefits of this approach to CPA. Finally, because firm lobbying expenditures are not disclosed in the UK, we are unable to compare the efficacy of insider lobbying by firm representatives versus spending on lobby firms. The use of these two corporate political strategies is likely to be correlated (Weiler & Reißmann, 2019), but their relative effectiveness may depend upon the context in which they are deployed (Sun *et al.*, 2012), and may be contingent upon firm size, as the findings from our study highlight. More evidence on when, how and why insider lobbying or lobbying firms are most efficacious would therefore be of great value.

Conclusion

Our study contributes to the growing literature on the outcomes from CPA by providing evidence of the efficacy of insider lobbying in the defence industry. Although media reports frequently spotlight the activities of paid lobbyists (Cave & Rowell, 2014) and revolving door appointments (Gilligan, 2012), comparatively little scholarly attention has been devoted to the meetings between companies and politicians with the power and influence to directly affect contract awards. Since the relative importance of insider lobbying is likely to vary across policy domains (Broscheid & Coen, 2003; 2007), and countries (Dür & Mateo, 2013), we hope that our study provides a foundation for further theoretical development and empirical tests in other settings.

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Table 1 Descriptive statistics and correlations

		<i>Obs</i>	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
1	MOD contracts value (£ millions)	1,836	58.89	236.32						
2	Lobbying breadth	1,836	0.14	0.48	0.43***					
3	Lobbying depth	1,836	0.24	1.24	0.39***	0.77***				
4	Assets (size) (£ millions)	1,770	14,385.49	118,139.4	0.34***	0.19***	0.18***			
5	Firm age	1,836	28.16	25.92	0.03	0.04	0.01	0.26***		
6	Leverage	1,426	0.24	0.31	0.23***	0.01	0.02***	0.15***	-0.17***	
7	ROTA	1,618	6.30	35.87	-0.04*	0.00	-0.02	-0.09***	-0.02	-0.15***

Notes: Means and standard deviation (SD) values are reported for the untransformed data. The correlation matrix has been computed with the transformed variables as they enter the regression models; MOD procurement = $\log(1 + \text{MOD procurement})$; Lobbying breadth and depth are standardized by subtracting the mean and dividing by the standard deviation; Assets= $\log(\text{Assets})$ Leverage and ROTA are winsorized at the 1st and 99th percentiles of their distribution.

*** p.< 0.01, * p.< 0.10.

Table 2 Insider lobbying and the value of MOD contracts.

	<i>Model 1</i>		<i>Model 2</i>	
	<i>OLS</i>	<i>Tobit</i>	<i>OLS</i>	<i>Tobit</i>
Lobbying breadth (t-1)	0.601*** (0.037)	0.643*** (0.047)		
Lobbying depth (t-1)			0.489*** (0.052)	0.504*** (0.060)
Size (t-1)	0.256*** (0.025)	0.320*** (0.034)	0.272*** (0.025)	0.342*** (0.034)
Firm Age (t-1)	-0.002 (0.002)	-0.003 (0.002)	-0.001 (0.002)	-0.002 (0.002)
Leverage (t-1)	0.923*** (0.160)	1.199*** (0.211)	0.866*** (0.163)	1.137*** (0.214)
ROTA (t-1)	-0.004 (0.003)	-0.006 (0.004)	-0.003 (0.003)	-0.006 (0.004)
Banking services	-0.978** (0.424)	-1.280** (0.589)	-1.131*** (0.430)	-1.474** (0.598)
Communications	0.306 (0.365)	0.285 (0.499)	0.341 (0.376)	0.327 (0.507)
Construction	0.378** (0.176)	0.437* (0.262)	0.366** (0.177)	0.430 (0.265)
Business services	0.614*** (0.167)	0.799*** (0.242)	0.647*** (0.167)	0.846*** (0.243)
Defence	0.809*** (0.147)	1.016*** (0.219)	0.951*** (0.144)	1.199*** (0.217)
Energy	0.096 (0.184)	0.123 (0.273)	0.012 (0.184)	0.029 (0.276)
Industrial Machinery	0.179 (0.226)	0.062 (0.424)	0.184 (0.228)	0.085 (0.430)
Other services	1.034*** (0.159)	1.338*** (0.230)	1.009*** (0.157)	1.326*** (0.231)
Computer services	0.520*** (0.171)	0.656** (0.257)	0.486*** (0.170)	0.625** (0.259)
Number of firms	262	262	262	262
Observations	1,350	1,350	1,350	1,350
R-squared	0.333		0.310	

Notes: Robust standard errors reported in parentheses. *** p.< 0.01, ** p.< 0.05; * p.< 0.10.

Table 3 Estimates of lobbying breadth on government contracts contingent on firm size

	<i>Size = Total assets</i>		<i>Size = Number of employees</i>		<i>Size = Total operating revenue</i>	
	<i>OLS</i>	<i>Tobit</i>	<i>OLS</i>	<i>Tobit</i>	<i>OLS</i>	<i>Tobit</i>
Lobbying breadth (AME) (t-1)	0.538*** (0.059)	0.606*** (0.077)	0.588*** (0.057)	0.670*** (0.073)	0.568*** (0.054)	0.640*** (0.070)
Size (AME) (t-1)	0.259*** (0.024)	0.322*** (0.034)	0.163*** (0.022)	0.2000*** (0.030)	0.238*** (0.022)	0.298*** (0.031)
Lobbying breadth*Size	0.030 (0.018)	0.017 (0.023)	0.034** (0.016)	0.025 (0.020)	0.023 (0.017)	0.009 (0.021)
Firm Age (t-1)	-0.002 (0.002)	-0.003 (0.002)	-0.001 (0.002)	-0.002 (0.003)	-0.002 (0.002)	-0.003 (0.002)
Leverage (t-1)	0.908*** (0.160)	1.191*** (0.211)	1.307*** (0.228)	1.720*** (0.297)	1.437*** (0.168)	1.863*** (0.218)
ROTA (t-1)	-0.004 (0.003)	-0.006 (0.004)	-0.006* (0.003)	-0.007 (0.005)	-0.006** (0.003)	-0.008* (0.004)
Observations	1,350	1,350	1,198	1,198	1,315	1,315
R-squared	0.334		0.303		0.333	

Notes: AME = Average Marginal Effect. Robust standard errors reported in parentheses. Industry effects included in all models.
 .*** p.< 0.01, ** p.< 0.05; * p.< 0.10.

Table 4 Estimates of lobbying depth on government contracts contingent on firm size

	<i>Size = Total assets</i>		<i>Size = Number of employees</i>		<i>Size = Total operating revenue</i>	
	<i>OLS</i>	<i>Tobit</i>	<i>OLS</i>	<i>Tobit</i>	<i>OLS</i>	<i>Tobit</i>
Lobbying depth (AME) (t-1)	0.843*** (0.079)	0.935*** (0.095)	0.871*** (0.161)	0.988*** (0.092)	0.868*** (0.078)	0.969*** (0.095)
Size (AME) (t-1)	0.250*** (0.025)	0.315*** (0.035)	0.161*** (0.023)	0.199*** (0.031)	0.228*** (0.023)	0.290*** (0.032)
Lobbying depth*Size	-0.102*** (0.018)	-0.123*** (0.021)	-0.096*** (0.018)	-0.119*** (0.020)	-0.111*** (0.018)	-0.136*** (0.021)
Firm Age (t-1)	-0.001 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.001 (0.003)	-0.001 (0.002)	-0.002 (0.002)
Leverage (t-1)	0.932*** (0.163)	1.219*** (0.214)	1.399*** (0.235)	1.836*** (0.305)	1.502*** (0.171)	1.941*** (0.221)
ROTA (t-1)	-0.003 (0.003)	-0.006 (0.004)	-0.006* (0.003)	-0.008 (0.005)	-0.006** (0.003)	-0.009* (0.004)
Observations	1,350	1,350	1,198	1,198	1,315	1,315
R-squared	0.321		0.284		0.319	

Notes: AME = Average Marginal Effect. Robust standard errors reported in parentheses. Industry effects included in all models.

*** p.< 0.01, ** p.< 0.05; * p.< 0.10.

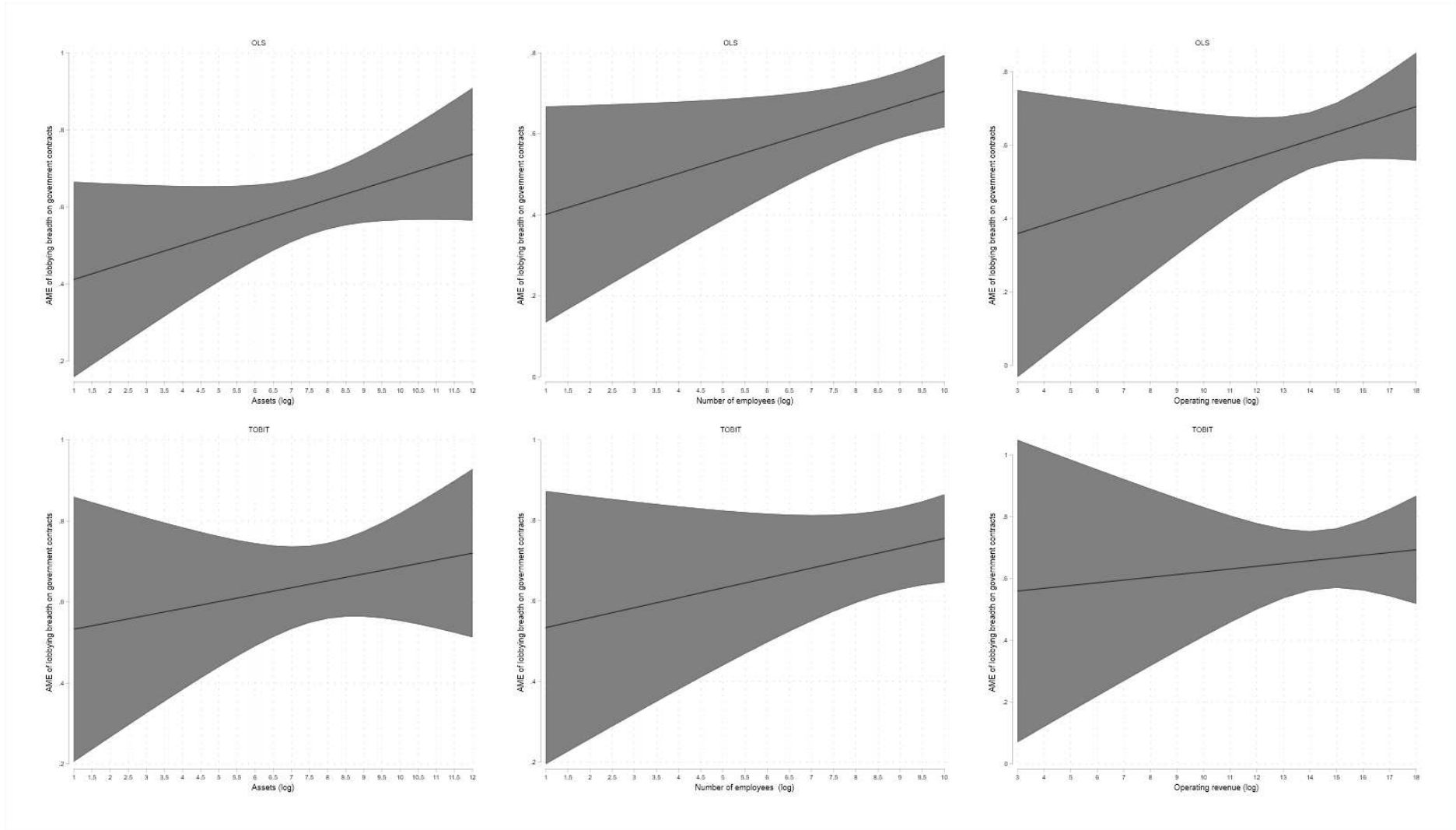


Figure 1 Marginal effects of lobbying breadth on government contracts contingent on firm size

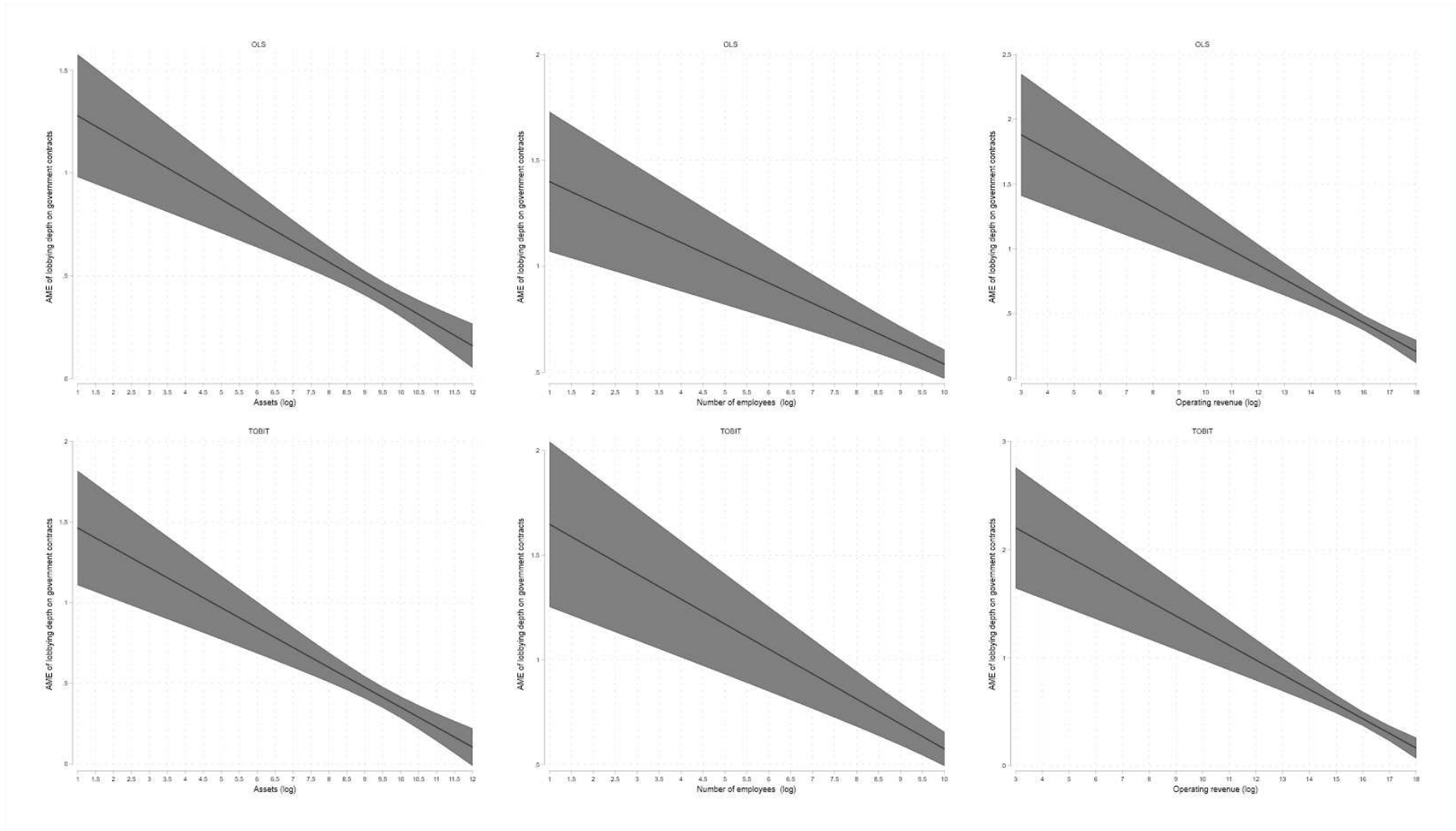


Figure 2 Marginal effects of lobbying depth on government contracts contingent on firm size

Table 5 Insider lobbying and the value of MOD contracts; IV methods

	<i>Model 1</i>		<i>Model 2</i>	
	<i>GMM</i>	<i>IV Tobit</i>	<i>GMM</i>	<i>IV Tobit</i>
Panel A: Second-stage results				
Lobbying breadth (t-1)	0.947*** (0.338)	0.928** (0.458)		
Lobbying depth (t-1)			0.819*** (0.310)	0.803* (0.412)
Size(t-1)	0.205*** (0.054)	0.278*** (0.075)	0.223*** (0.048)	0.298*** (0.068)
Firm Age (t-1)	-0.002 (0.002)	-0.003 (0.002)	-0.001 (0.002)	-0.002 (0.002)
Leverage (t-1)	1.023*** (0.191)	1.282*** (0.253)	0.946*** (0.180)	1.209*** (0.239)
ROTA (t-1)	-0.004 (0.003)	-0.006 (0.004)	-0.004 (0.003)	-0.006 (0.004)
Panel B: First-stage results				
Distance to MOD (t-1)	-0.054*** (0.012)	-0.055*** (0.012)	-0.063*** (0.015)	-0.063*** (0.015)
Size (t-1)	0.132*** (0.018)	0.132*** (0.018)	0.131*** (0.024)	0.131*** (0.024)
Firm Age (t-1)	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Leverage (t-1)	-0.284*** (0.078)	-0.284*** (0.078)	-0.235*** (0.075)	-0.235*** (0.074)
ROTA (t-1)	0.001 (0.002)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
F-test of excluded instruments	19.75		17.37	
Kleibergen-Paap rk LM statistic	18.96		17.04	
Exogeneity test (<i>p</i>)	0.294		0.257	
Wald test (<i>p</i>)		0.527		0.448
Number of firms	262	262	262	262
Observations	1,350	1,350	1,350	1,350
R-squared	0.302		0.277	

Notes: Robust standard errors reported in parentheses. Industry effects included in all models.

*** p.< 0.01; ** p.< 0.05. Exogeneity tests refers to Baum et al. (2007) and the Wald exogeneity test.

¹ To establish the validity of the coding frame, a sample of the meetings data was coded independently by the authors. This process resulted in an inter-rater reliability correlation of over 0.90. Divergent codings were then examined in more detail and the coding frame was adapted following discussion about the appropriate assignment of interest groups, such as defence industry associations, and individual defence consultants.

² A small number of the recorded meetings between firm representatives and MOD ministers took place during site visits and industry events.

³ Variable definitions are shown in Table A1 in Appendix A.

⁴ Using the firms' primary business line description provided in BvD FAME database, we have classified the firms in our sample within the following main industries: Banking, Insurance and Financial Services; Business Services; Communications; Computer Services; Construction; Defence; Energy; Industrial Machinery; Transport, Freight and Storage; Other Services.

⁵ We incorporate in our imputation models all the variables included in any of the models described in the empirical strategy subsection. We use 300 imputations with a burn-in period of 50. To handle potentially non-normally distributed continuous variables, we use a Predictive Mean Matching (PMM) method.

⁶ It should be noted that both insider lobbying measures, i.e. lobbying breadth and lobbying depth, cannot enter the models simultaneously due to potentially severe multicollinearity issues (the pairwise correlation between the measures is about 0.77 — see Table 1). Hence, we estimate a separate regression model for each lobbying measure.

⁷ To check our results robustness to different modelling strategies, we report in Appendix A, Tables A3, A4 and A5, OLS and Tobit estimates of Eq. (1) splitting our sample into smaller and larger firms based on each indicator of firm size. The criteria to classify a firm as small/big is based on the 75% percentile figure for each size proxy, i.e., assets, number of employees and sales. The results of Wald style tests comparing whether the estimated coefficients of the two regressions (small vs big firms) suggest that there are clear differences between smaller and bigger firms regarding the effects of lobbying depth, with these effects being more substantial for smaller firms, thereby confirming the findings reported in our models including interactions. On the other hand, Wald tests do not allow us to clearly conclude that there are different effects of lobbying breadth contingent on firm size, due to the tests' inconsistency in terms of statistical significance across model specifications, which, again, broadly concurs with our interactive models.

⁸ The number of observations changes for the estimations reported in Tables 3 and 4 because there are missing observations in the FAME database for the two measures of firm size (i.e. number of employees, and total operating revenue) that we employ as alternatives to our preferred size measure – total assets

⁹ Importantly, the varying moderating effects of size on alternative lobbying strategies also confirm that our measures of lobbying breadth and depth are capturing different aspects of the social capital firms can accrue from insider lobbying.

¹⁰ For further details on this, see <https://www.gov.uk/guidance/public-sector-procurement-policy#concession-contracts-regulations-2016>.