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Articles

Determinants of Local SOE Board Size and Composition: Evidence From England

Rhys Andrews [a]

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Local State-Owned Enterprises (SOEs) play an increasingly important role in the delivery of key public services to citizens across the world. Because they operate at arms' length from their parent organizations, arrangements for the effective governance of local SOEs are a major concern for public administration researchers and policy-makers alike. In many countries, local SOEs are supervised by boards of directors responsible for managing and monitoring service provision. Agency theory suggests that the size and composition of these boards is likely to be influenced by the ownership structure, organizational complexity, and growth opportunities. Using seemingly unrelated regressions to analyse the size and composition of local SOE boards in England, this study finds that large, minority public-owned, not-for-profit SOEs and those with more public sector partners have larger boards of directors, and that older, majority public-owned, and not-for-profit SOEs have more politicians on the board. The theoretical and practical implications of these findings for the governance, accountability and performance of local SOEs are discussed.

Introduction

Local governments across the world are increasingly creating and operating corporations, trusts and other forms of State-Owned Enterprise (SOE) to deliver services in diverse fields such as social care, museums, housing, property management, educational support and leisure services (Torsteinsen, 2019; Voorn et al., 2018). This development, often described as 'corporatization', has been particularly striking in England, where a field-level change in the use of corporations for local public service delivery has been observed (Ferry et al., 2018). However, despite rapidly growing interest in the phenomenon of corporatization, systematic research investigating the governance structures of local SOEs is only slowly emerging (Grossi & Thomasson, 2015). In particular, to date, scant attention has been paid to variations in the size and composition of the boards of directors responsible for overseeing local SOEs, even though researchers have identified the salience of board characteristics for the management and performance of those SOEs (e.g. Monteduro et al., 2011; Papenfuß & Schmidt, 2021a, 2021b).

Organizational entities managed at arms-length by local governments confront choices about the optimal arrangements for ensuring that the senior managers of those entities are held accountable for organizational performance (Olsen et al., 2017; Swiatczak et al., 2015). In many countries, local SOEs are subject to private company law, and so have adopted governance structures akin to those found in business organizations, especially boards of directors that set strategic priorities, approve budgets and monitor financial and operational management. In England, local SOE boards mirror those of the one-tier boards of directors in privately-owned firms, in which the chairman and managing director jointly supervise organizational activities with the support of executive and nonexecutive directors. A specific concern for the management of local SOEs in these circumstances is therefore the organizational characteristics that may determine the size and composition of their boards of directors.

Researchers often adopt an agency theory perspective to understand the dynamics of board governance (McColgan, 2001). According to this perspective, the owners of a company are regarded as principals who contract with, and delegate decision-making authority to, company directors to act as their agents in running the business (Jensen & Meckling, 1976). Within this setting, the size and composition of boards of directors are designed in response to the principal-agent problems posed by the need for an organization's owners to exert control over the executives responsible for its management (Jensen & Meckling, 1976). Large boards and those with more "outside" directors are generally able to bring a wider range of information sources to bear on the oversight and monitoring of managers' actions (Fama & Jensen, 1983). However, large boards with more outside directors may also experience increased transaction costs due to co-ordination and free-rider problems (Jensen, 1993) and greater difficulty accessing insider knowledge (Adams & Ferreira, 2007). As a result, the precise size and composition of any given board of directors is likely to reflect

a Cardiff Business School, Cardiff University, Email: AndrewsR4@cardiff.ac.uk

organizational characteristics that have a bearing on the agency problems confronted by the board, especially the degree of concentrated ownership, organizational complexity and potential growth opportunities (de Andrés-Alonso et al., 2009). These arguments seem likely to apply to local SOEs.

The ownership structure of local SOEs can vary greatly, with many being wholly-owned and controlled by public organizations, while others are principally-owned by private sector partners (Bel & Fageda, 2010; Boardman & Moore, 2020). Agency theory suggests that concentrated ownership reduces the costs arising from the divergence among shareholders' interests and between the interests of the shareholders who own an organization and the managers who control it (Jensen & Meckling, 1976). Majority public-owned SOEs are therefore likely to need fewer executive directors than minority public-owned SOEs which experience higher transaction costs associated with bringing public and private actors together (Hoppe & Schmitz, 2010). Nevertheless, major shareholders often demand greater board transparency and accountability (O'Regan & Oster, 2002). Hence, majority public-owned SOEs may have a higher proportion of local politicians on the board than minority public-owned SOEs.

Organizations with complex corporate and functional structures are likely to benefit from a larger board and more outside directors (Fama & Jensen, 1983). Variations in the complexity of local SOEs is considerable, with some entities existing for decades, managing large budgets, debt provisions and staff, whereas others are recently established, smaller organizations (Papenfuß & Schmidt, 2021a). In addition, some local SOEs are owned by multiple public sector partners, whereas others are accountable to only a single parent public organization (van Genugten et al., 2020). Local SOEs that are older, larger or have multiple public sector owners may therefore have more directors on their governing board as they are required to manage a more complex web of stakeholder relationships, bigger budgets and potentially conflicting goals. To ensure that these organizations are responsive to the broader *demos*, their governing board may also have greater political representation (Olsen et al., 2017).

Agency theories indicate that organizations with more potential growth opportunities can benefit from the flexibility and lower transaction costs associated with having fewer directors and less outsiders on their boards (Lipton & Lorsch, 1992). Smaller boards of directors are therefore sometimes thought to be more appropriate for profit-making than not-for-profit entities, which may have to deal with a more diverse range of stakeholder groups (Aggarwal et al., 2012) and more complex regulations (Beattie et al., 2001). These arguments seem likely to apply to local SOEs, as they can take either a profit-making or a non-profit legal form (Andrews et al., 2020).

Do organizational characteristics affect the size and composition of local SOE boards? To understand the connections between public ownership, organizational complexity, profit orientation and the size and composition of local SOE boards, this study draws upon a dataset of nearly 500 local SOEs in England. Seemingly unrelated regressions are used to estimate the effects of public ownership, organizational complexity and profit orientation on the size of the board of directors and the percentage of locally elected politicians on those boards. Public ownership is measured as the exercise of majority shareholding or voting rights by public organizations. Organizational complexity is gauged using indicators of the age, size and financial leverage level of SOEs and the number of public sector owners. Profit orientation is denoted by whether the legal form of a SOE permits the distribution of share equity.

Next, the literature on the determinants of board characteristics is set out, focusing on the roles of ownership structures, organizational complexity and growth opportunities. Following that, hypotheses are developed regarding the relationships between these key organizational characteristics and the size and composition of local SOE boards. Then, the research context and methods are described, before the results are discussed, and conclusions drawn about the implications of the study.

Determinants of SOE Board Size and Composition

The corporate governance literature devotes considerable attention to the boards of directors responsible for the oversight and strategic direction of private companies (Hart, 1995). Large swathes of that literature have drawn on agency theory, especially the idea that the composition of boards of directors is a product of shareholders' efforts to hold managers to account for running the organization effectively and efficiently (Shleifer & Vishny, 1997). Because boards are at the apex of an organization's internal governance, much is thought to depend on the way in which they are constituted (Hart, 1995) and how qualified they are to exercise their fiduciary duties as directors with a legal responsibility to protect shareholders' interests (Gilson, 1990). In particular, many scholars contend that board composition may have an important influence on managerial accountability and company performance (e.g. Baysinger & Butler, 1985; de Andres & Vallelado, 2008). Although the agency perspective on corporate governance was developed with large corporations in mind (Becht et al., 2003), its insights can be applied to nonprofit entities and other forms of organization that have a formal separation between ownership and control. In particular, agency theory seems to be especially applicable to hybrid organizations such as local SOEs that operate in 'a twilight zone, being both private in one sense, acting according to the legislation of joint stock companies, and public in another sense, oriented towards fulfilling the needs of the municipal citizenry' (Collin et al., 2009, p. 142). At the same time, the blurring of lines of accountability for corporatized public services may enable local politicians to delegate yet retain control over service delivery in a way that facilitates blame avoidance and credit-claiming (Tavares, 2017).

While hybrid organizations typically have a distinctive social mission, they are also expected to be run and operated on a commercial basis (Brandsen & Karré, 2011). In particular, like private firms, they are usually steered by boards of directors responsible for ensuring that the managers are held accountable for achieving the goals of the hybrid organization (Olsen et al., 2017). Accordingly, many of the organizational characteristics assumed to be important influences on the boards of directors of large corporations may have an impact on the boards of hybrid organizations, especially the ownership structure and relative level of organizational complexity. However, despite ever-growing interest in the governance and management of hybrid organizations (Vakkuri & Johanson, 2018), little is known about the determinants of board composition in hybrid organizations, even though they are recognised to be critical for the delivery of public services in many countries (Skelcher & Smith, 2017).

Among those hybrids now responsible for providing public services, the SOEs created and operated by local governments are increasingly important (van Genugten et al., 2022). Local SOEs at least partly-owned by a local rather than a national or regional government, can take the form of mixed enterprises or companies that are majority-owned by private or nonprofit organizations, and be either profit-making or not-for-profit (Boardman & Moore, 2020). In some countries, such as Germany, Italy and South Korea (Grossi & Reichard, 2008; Kim & Lee, 2020), they play a large role in providing public services, but their use at the local level is increasing almost everywhere. In England, local SOEs vary considerably in terms of their ownership structure, operational complexity and legal form (Andrews et al., 2020), and thus represent an excellent setting for examining the potential impact of organizational characteristics on the boards of directors responsible for their oversight. Specifically, following the strategic contingency approach of Pearce and Zahra (1992), it is assumed that the size of SOE boards and the degree of 'outside' political representation on those boards are likely to vary due to the distinctive monitoring needs and demands associated with different organizational factors.

Public ownership

In the private sector, the composition of boards of directors mirrors the ownership structure of companies because major shareholders' legal right to exercise control over a board's direction can only be properly institutionalised through board representation (Denis & Sarin, 1999). For hybrid organizations with a clearly defined ownership structure, board composition is also likely to reflect the relative proportion of shares or voting rights held by the different owners. The boards of local SOEs are thus likely to be shaped by similar forces to those that operate on corporate boards. Importantly, from an agency theory perspective, concentrated ownership of shares or voting rights among a small number of principals, generates greater convergence in the interests of the shareholders who own an organization, and thereby reduces the costs associated with achieving agreement about its strategic control (Jensen & Meckling, 1976). This, in turn, means that a smaller number of directors will be required to ensure that the board effectively represents shareholder's interests (Kieschnick & Moussawi, 2004). At the same time, though, concentrated ownership among fewer principals could lead to a demand for greater independent oversight of the board's activities (Bathala & Rao, 1995), especially through the appointment of more outside directors (Li, 1994).

The agency-based arguments about ownership and board composition may be particularly applicable to hybrid organizations that are subject to some degree of public ownership, especially SOEs, which are often majority-owned by a single public organization. Because of the need for governments to uphold the accountability and legitimacy of organizations that provide public services, they may seek to retain a high level of shareholding and thereby forgo the need for a large and potentially less malleable board of directors to oversee such organizations (Caves, 1990). At the same time, governments and SOEs themselves may seek to increase political support for the activities of the organization by appointing more outside directors to the board (Li, 1994), as outsiders are assumed to offer more intensive monitoring of manager's decisions (Fama & Jensen, 1983). The delegation literature also highlights how efforts to establish political control over arms-length entities may reflect strategies of blame avoidance and credit-claiming by politicians (Hood, 2007; Mortensen, 2016). As a result, it seems plausible to expect majority public-owned SOEs to have a smaller board of directors, and a larger proportion of 'outside' directors likely to enhance political legitimacy. Although the empirical literature dealing with board composition is currently silent on the determinants of SOE board size and composition, private and nonprofit sector research largely confirms that the concentration of ownership among fewer principals is associated with smaller boards and more independent directors (e.g. Bathala & Rao, 1995; de Andrés-Alonso et al., 2009; Kieschnick & Moussawi, 2004; Pfeffer, 1973). For that reason, the following assertions are posited:

> *Hypothesis 1a*: Majority public ownership will have a negative relationship with SOE board size
> *Hypothesis 1b*: Majority public ownership will have a positive relationship with the percentage of politicians on a SOE board

Organizational complexity

To control the agency costs associated with managing large numbers of employees, services and product lines, complex organizations tend to develop sophisticated corporate structures and processes (Fama & Jensen, 1983). The impact of such structures and processes is potentially more beneficial when directors have a wide range of specialist knowledge and expertise in the different facets of business management. For that reason, agency perspectives on board structure predict that organizational complexity is associated with larger boards and the presence of more outside directors on the board (Boone et al., 2007). Typically, studies of board composition regard the size and age of a corporation and the proportion of debts to assets that it holds as indicators of the complexity of its operations (Booth & Deli, 1999; Linck et al., 2008). Larger organizations inevitably have more diversified activities requiring more intensive board supervision (Lehn et al., 2009), while those that are older and more "mature" tend to require specialised support from their boards thereby generating demand for a larger board with more outsiders (Boone et al., 2007). In particular, firms that have accumulated a large amount of debt are likely to appoint additional directors with financial expertise (Booth & Deli, 1999).

The anticipated effects of complexity on board size seem especially likely to apply to hybrid organizations, given the complications inherent in pursuing multiple goals and objectives that are characteristic of such organizations (Thomasson, 2009). To ensure that the boards of more complex SOEs are equipped to effectively supervise the management of organizational activities, it is likely that the board will need to expand to accommodate more directors with relevant commercial and financial as well as production expertise, including some from outside the organization (World Bank, 2014). For local SOEs that are larger, older, or more indebted, a larger number of executive directors is likely to be appointed to supervise budgetary matters, financial control and relations with a growing array of stakeholders. Such complexity is also likely to generate a demand for increased political representation on the board of directors to uphold the wider public interest (Grossi & Thomasson, 2015). While there is scant evidence of the impact of complexity on SOE board structure, prior private sector research offers mixed results, with some studies highlighting its importance (e.g. Boone et al., 2007), whereas others find it to be immaterial (e.g. Linck et al., 2008). However, several nonprofit studies have indicated that complexity tends to be associated with larger boards and more independent directors (e.g. Cornforth & Simpson, 2002; de Andrés-Alonso et al., 2009; Pfeffer, 1973). Hence, the next propositions are:

> *Hypothesis 2a*: Organizational complexity will have a positive relationship with SOE board size
> *Hypothesis 2b*: Organizational complexity will have a positive relationship with the percentage of politicians on a SOE board

Growth opportunities

The corporate governance literature asserts that monitoring costs are higher for the boards of organizations operating in uncertain, turbulent or dynamic environments (Demsetz & Lehn, 1985). According to agency theory, restricting boards to a smaller number of inside directors might be the optimal way for owners to reduce the agency costs associated with supervising strategic decisions in fast-changing environments (Lehn et al., 2009). In particular, the managerial flexibility required to take advantage of growth opportunities in competitive markets is likely to be facilitated by boards with fewer directors in total and a smaller number of outsiders requiring detailed internal reports on business decisions (Lipton & Lorsch, 1992). In other words, the costs of continually adapting corporate strategies to meet environmental changes as they arise is expected to be inversely related to board size and to outside representation (Lehn et al., 2009). For this reason, it seems reasonable to anticipate that organizations with a strong profit-making orientation may be more likely to have smaller boards and fewer outside directors – a phenomenon that has been observed among nonprofits that are primarily financed by their commercial activity (de Andrés-Alonso et al., 2009).

Although most hybrid organizations are expected to be commercially viable, they can vary considerably in the extent to which they regard economic growth as a major objective. This variation is especially apparent in the SOEs providing public services at the local level. Many local SOEs now take a profit-making form and seek to make and shape the 'commercial' markets in which they operate and frequently compete with private firms for service contracts (e.g. social care, waste management). By contrast, other local SOEs may take a not-for-profit form and operate in less competitive 'political' markets in which they enjoy a near monopoly of provision, such as cultural, arts and heritage services (Papenfuß & Schmidt, 2021b). The different growth opportunities presented to profit-making and not-for-profit SOEs may therefore influence the size and composition of their boards in the ways that agency theory prescribes, with political board representation being more of a concern for nonprofit SOEs operating in less commercial environments. In addition, while service on the boards of profit-making SOEs may potentially attract rent-seeking behaviours from local politicians (Bergh et al., 2019), the vicissitudes of operating in a more commercial environment may render blame avoidance and credit-claiming strategies more difficult to implement (Bach & Wegrich, 2019). Despite an absence of empirical evidence on this in the UK, the above assumptions from agency theory seem likely to hold in the English case, especially as politicians serving as directors of profit-making SOEs are personally liable for the business decisions that they make (Andrews & Ferry, forthcoming). The following propositions are therefore suggested:

> *Hypothesis 3a*: A profit-making orientation will have a negative relationship with SOE board size
> *Hypothesis 3b*: A profit-making orientation will have a negative relationship with the percentage of politicians on a SOE board

Data and methods

The study sample includes all of the SOEs at least partly-owned by the full population of single and upper-tier local governments in England for the period 2009-17. Single-tier local governments (London boroughs, metropolitan districts and unitary authorities) operate mostly in urban areas, while upper-tier local governments (county councils) operate in the two-tier local government system that covers rural areas. They manage about a quarter of the total UK public sector budget (HM Treasury, 2018) and are responsible for local public services in the areas of: education (e.g. primary and secondary schooling), social care (e.g. services for older people), environmental services (e.g. waste management), highways, economic development, and leisure and culture services (e.g. sports centres, libraries). With the exception of county councils, they are also responsible for social housing (e.g. sheltered accommodation and rent subsidies).

To identify the SOEs that local governments controlled or in which they had an interest, the annual statements of account for each local government were scrutinized in detail. This extensive search procedure revealed the existence of nearly 700 separate SOEs during the study period. To construct a SOE-level dataset for the purposes of the study, the registered company number for each entity was then searched via the FAME database from Bureau Van Dijk. Following that, the registered numbers were imported into the FAME database to extract the SOE-level information necessary for the analysis. This process revealed that some of the SOEs lacked full accounting data. The final sample of SOEs included in the analysis following this process of data cleaning was 476.

Dependent variables

Board size is measured by calculating the total number of executive and nonexecutive directors that sit on each SOE board per annum. This is an indicator of board size commonly used in the private sector and non-profit management literature (e.g. de Andrés-Alonso et al., 2009; Guest, 2008). The degree of *political representation* on each SOE board in the sample was measured by calculating the proportion of local elected politicians serving as directors on the board per annum. These politicians are not permanent employees of the local authority, so their service on a SOE board indicates that they are appointed to provide independent oversight of SOE decisions. In mathematical notation, political representation for SOE *i* in year *t* is equal to $\left(\frac{n_{it}}{Bsize_{it}} x100\right)$, where *n* is the number of directors who are local politicians and *Bsize* is the board size.

The managing director and chairperson of local SOEs in England are appointed in the first instance by the parent local governments responsible for the creation of the organizations through a competitive merit-based selection process. This process is usually overseen by the political leader of the government and its administrative leader, the chief executive officer. Thereafter, political or administrative representatives from local governments can be nominated to serve as directors of a SOE by the committee responsible for oversight of SOEs within the local government. All other executive and nonexecutive directors on the board are appointed by the board itself, and typically serve for a period of around three years, with the board membership expected to be under review in accordance with best practice in the private sector.

Independent variables

The degree of *public ownership* of each SOE was measured by calculating the percentage of the shares or voting rights held by local governments. In some cases, this information was not present within the FAME database, so the articles of association for SOEs were downloaded from the UK Companies House public beta service and examined for the relevant information. Public ownership ranged from a few cases where local governments had 0% ownership to 100% full ownership. The mean level of public ownership was 67%, but the distribution of ownership coalesces mostly around 20%, 50% and 100% respectively. Given the non-normal distribution of this data, a dichotomous variable coding majority public-owned companies 1 and all other companies 0 is therefore used to measure *public ownership* (see also Andrews et al., 2011). Although similar results are observed when substituting a measure capturing the percentage of public ownership of an SOE for the measure of majority public ownership, the distinction between the boards of majority public-owned and minority public-owned (or majority private-owned) SOEs is of particular interest here.

The empirical literature on board size and composition points to firm characteristics that increase the agency costs for owners seeking to monitor board activity as indicators of organizational complexity (Guest, 2008). Following that literature, measures of SOE age, size, and financial leverage are therefore added to the models to capture organizational complexity.[1] Local SOE *age* is measured as the number of years since the financial year in which the organization was incorporated. SOE *size* is measured as the log of total assets. This approach captures the sheer range of resources that the board of directors is required to oversee (Dang et al., 2018). *Financial leverage* is measured as the ratio of long-term liabilities to total assets, which is a key predictor of a company's systematic risk (Mandelker & Rhee, 1984), and can be assumed to render monitoring an organization more challenging. In addition to the above measures of organizational complexity, an indicator of the number of *public sector partners* who are owners of each SOE is included. SOEs owned by multiple public organizations are likely to have to address the interests of each of those organizations (Voorn et al., 2019), so this indicator captures the extent to which monitoring costs grow with the number of owners.

The importance of a *profit-making form* for the size and composition of SOE boards is gauged by included a dichotomous measure in the models coded 1 if the legal form of a local SOE permits the distribution of share equity and 0 if it does not.

Control variables

Dichotomous variables coded for the main type of public service provided by each SOE are added to the models. Those service areas correspond to the main local government departmental budget lines published by the UK's Ministry for Housing, Communities and Local Government: administrative support; cultural services; economic development; educational support; environmental services; leisure services; social care; social housing; and, transportation. Administrative support services is treated as the reference category. It is anticipated that monitoring costs will be higher for services that are more complex (e.g. transport infrastructure) or that are subject to greater government regulation (e.g. social care). Finally, the measure of political representation is included in the model predicting board size, and the measure of board size in the model predicting board composition to control for any possible relationship between the two variables.

1 Measures of SOE performance (Return on Assets and Return on Capital) were excluded from the models due to the large number of missing observations for these figures in the FAME database.

Table 1. Descriptive statistics and correlations

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Board size	9.82	5.29																
2	% politicians on the board	11.57	15.56	.16**															
3	Majority public ownership	.68	.47	-.01	.14**														
4	Organizational age	11.07	9.82	.26**	.22**	-.14**													
5	Organizational size (£000s)	24,073	164331	.20**	-.01	-.06**	.11**												
6	Financial leverage	1.07	17.70	.14**	.00	.15**	-.02	.19**											
7	Public sector partners	2.0	5.39	.24**	.05**	.10**	.09**	.08**	-.01										
8	Profit-making form	.59	.49	-.53**	-.15**	-.02	-.29**	.07**	-.10**	-.07**									
9	Administration	.10	.30	-.07**	.08**	.08**	-.10**	.03	-.08**	.22**	.09**								
10	Culture	.05	.22	.11**	.12**	-.04*	.21**	-.08**	-.15**	-.03	-.18**	-.08**							
11	Economic development	.36	.48	-.20**	-.02	-.09**	-.06**	-.11**	-.08**	-.08**	.16**	-.26**	-.17**						
12	Education	.09	.29	-.01	-.07**	-.04*	-.05**	-.03	.03	.15**	-.07**	-.11**	-.07**	-.24**					
13	Environment	.08	.27	-.17**	-.02	-.01	.03	-.01	-.04	.03	.19**	-.10**	-.07**	-.22**	-.09**				
14	Housing	.14	.35	.39**	.03	.20**	-.02	.12**	.28**	-.17**	-.35**	-.14**	-.09**	-.30**	-.13**	-.12**			
15	Leisure	.07	.26	.01	.02	-.20**	.05**	-.01	-.04*	-.12**	-.09**	-.10**	-.06**	-.21**	-.09**	-.08**	-.11**		
16	Social care	.04	.20	-.08**	-.06**	.08**	-.16**	-.04*	-.01	-.04*	.03	-.07**	-.05**	-.15**	-.07**	-.06**	-.08**	-.06**	
17	Transportation	.06	.24	.09**	.12**	.04*	.18**	.25**	.04*	.10**	.18**	-.08**	-.06**	-.19**	-.08**	-.07**	-.10**	-.07**	-.05**

Notes: Observations = 2666. *p < .05; **p < .01. Correlations shown for logged versions of organizational age, organizational size, financial leverage and public sector partners.

Descriptive statistics and correlations for the variables used in the analysis are presented in Table 1. Organizational age, organizational size, financial leverage and public sector partners were log-transformed for inclusion in the statistical analysis due to non-normal distributions. The table highlights that for the sample of SOEs included in the analysis, the average number of directors on the board of directors was nearly ten, and that the mean proportion of politicians on the boards is around 11.6% (i.e. one politician per board). Over two-thirds (68%) of the SOEs in the sample are majority public-owned. On average, the SOEs are nearly eleven years old, holding about £24 million in assets, with a financial leverage ratio of just over one, and two public sector owners (though the vast majority, around 80%, have only one public sector owner). Over half (58%) of the SOEs in the sample take a profit-making rather than a not-for-profit form, and typically the SOEs provide economic development services (36%), social housing (14%), or administrative support, such as financial or IT services (10%). Notable correlations shown in Table 1 include those confirming the anticipated relationships between public ownership and board composition, organizational complexity and board size, and profit orientation and both board size and composition.

Statistical results

An estimation strategy that identifies between-SOE effects rather than within-effects is applied because to test the hypotheses it is necessary to include several time-invariant variables, especially public ownership, number of public sector partners and profit-making form. These measures also make a large and statistical significant contribution to the explanatory power of the models, so to exclude them would be to introduce omitted variable bias into the analysis. Nevertheless, Seemingly Unrelated Regressions (SUR) with clustered robust standard errors were estimated, which means unit fixed effects are controlled within the analysis. At the same time, SUR estimations correct for serial correlation in the standard errors, thereby reducing the likelihood that residual autocorrelation biases the regression estimates (Cochrane & Orcutt, 1949). Importantly, SUR is used to control for the possibility that the error terms are correlated across separate regression models (Martin & Smith, 2005).

The Breusch-Pagan test of independence rejected the null hypothesis of no relationship between separate Ordinary Least Squares equations modelling board size and composition ($p<.01$). Furthermore, a small positive correlation between the residuals from the two separate equations confirms that SOEs with large boards of directors are likely to have a large proportion of politicians serving as directors (and vice versa). To control for these cross-equation correlations, SUR transforms the standard errors so that they all have the same variance and are no longer correlated, thereby providing coefficients for the independent variables in each separate equation that are purged of any association with the tendency of a SOE that has a large board to also have a large proportion of politicians serving as directors. The results are, in effect, a "pure" model of SOE board size and composition.

Inclusion of dummy variables for each year of the analysis (minus one) further minimized the threat of serial correlation (Stimson, 1985). The results for the models estimating board size and the percentage of politicians on the board are shown in Table 2 below. Multicollinearity does not seem to be a serious concern for the analysis since the individual Variance Inflation Factor is below 4 (average = 1.63) for all explanatory variables (Belsley et al., 1980).

The statistical evidence on the relationships between public ownership and board size and composition confirms hypothesis 1a and 1b. The coefficient for majority public ownership is negative and statistically significant in the model predicting SOE board size, and positive and statistically significant in the model predicting the percentage of politicians on the board. Interpretation of the substantive effects of these relationships suggest that, on average, majority public-owned SOEs have one fewer director on the board than minority public-owned SOEs, and that on average they have 6% more politicians when controlling for other important influences on board composition. The latter result equates to majority public-owned SOEs having around twice as many politicians on the board than their minority public-owned counterparts.

The organizational complexity and board size results offer reasonably strong support for hypothesis 2a, but those for complexity and board composition provide equivocal affirmation of hypothesis 2b. The coefficient for organizational age is positive and statistically significant in both the models shown in Table 2, confirming that this aspect of organizational complexity matters for both dimensions of board structure. The coefficients for organizational size and number of public sector partners are positive and statistically significant in the model predicting board size, but the coefficient for financial leverage is not. However, only one of these variables achieves statistical significance in the model predicting the percentage of politicians on the board; organizational size, which has a negative and statistically significant coefficient, indicating that large SOEs have fewer rather than more politicians on their board of directors. For the model predicting board size, substantive interpretation of the coefficients for organizational age and size indicates that an additional director is added to the board when the age and size of a SOE is about three times the average, while a doubling of the number of public sector partners is associated with the addition of about two further directors. For the model predicting political representation, a doubling of the age of an organization would be associated with there being about a 20% increase in the proportion of politicians on the board, while a doubling of the size of an SOE would probably result in only a very small decrease in political representation.

The results for the relationship between a profit orientation and board structure confirm hypotheses 3a and 3b. The coefficient for profit-making organizational form is negative and statistically significant in both models. In each case, interpretation of the substantive effects of a profit orientation suggest that it makes a sizeable and meaningful difference to board structure, being associated with, on average, four fewer directors on the board than for not-for-profit SOEs, and almost two per cent fewer politicians on the board – nearly a fifth less than not-for-profit SOEs.

Table 2. Determinants of local SOE board size and composition

	Board size		% Politicians on the board	
.	Beta	Standard error	Beta	Standard error
Majority public ownership	-1.096**	.180	6.009**	.618
Organizational age (log)	.326**	.089	2.579**	.351
Organizational size (log)	.344**	.041	-.382*	.171
Financial leverage (log)	.032	.039	.146	.240
Public sector partners (log)	2.163**	.144	.132	.486
Profit-making form	-4.503**	.436	-1.903*	.848
Culture	1.944**	.459	7.747*	1.655
Economic Development	.280	.234	3.893**	1.031
Education	-.130	.310	.283	1.223
Environment	-.805**	.280	3.632**	1.385
Housing	4.977**	.342	1.306	1.312
Leisure	.780**	.334	5.368**	1.571
Social care	.317	.360	.305	1.958
Transportation	2.750**	.488	9.264**	1.692
% politicians on the board	.019**	.006		
Board size			.288**	.080
Observations	2666		2666	
Groups	476		476	
R squared	.48		.11	
Wald chi2	2548.63**		395.98**	

Notes: *p < .05; **p < .01. Robust standard errors in parentheses. Administrative services are the reference category. Coefficients for year dummies not reported.

Overall, the estimated effects of the independent variables imply that there is strong support for hypotheses 1a and 1b, hypothesis 2a, and hypotheses 3a and 3b, but mixed support for hypothesis 2b. Turning to the results for the control variables shown in Table 2, it appears that there are several interesting variations in board size and composition associated with the type of public service provided by SOEs. In particular, SOEs that provide cultural, leisure, social housing and transportation services have larger boards and a higher proportion of politicians as directors, potentially reflecting the greater complexity associated with overseeing such services, and the need to incorporate community stakeholder groups on the boards for these types of service. Intriguingly, SOEs providing environmental services have smaller boards, but with more politicians serving as directors. SOEs providing economic development services also have a larger proportion of politicians on their boards. The propensity for politicians to serve on these boards is conceivably attributable to the *kudos* elected officials might attribute to or receive from sitting on the board of organizations providing such services (Bergh et al., 2019). Economic development activity, especially, has long been regarded as an attractive venue for credit-claiming by local politicians because it typically entails low-risk symbolic projects with high visibility (Wolman & Spitzley, 1996). As suggested by the diagnostics for our SUR estimations, board composition makes a meaningful contribution to the explanatory power of the model predicting board size, and vice versa, with positive statistically significant coefficients for each variable when it is included in the model predicting the other variable.

Discussion

Consistent with the arguments that are developed above about the impact of agency costs on board structure, regression analysis indicates that majority public-owned SOEs, and those that take a for-profit form are likely to have smaller boards of directors. By contrast, those that are older, larger and owned by multiple public sector partners are likely to have larger boards. In addition, political representation was higher on the boards of majority public-owned and older SOEs, but lower in those that take a profit-making form. These findings have important theoretical and practical implications.

The study suggests that variations in ownership structure, organizational complexity and profit orientation may influence the governance of corporatized public services in ways that require more serious and sustained attention from public management scholars. Building on the findings reported here, subsequent research should investigate in greater depth whether the different board structures associated with the varying characteristics of SOEs are actually the most appropriate ones for reducing the agency costs associated with effectively monitoring and managing SOEs. This is something that has yet to be addressed by public management researchers, but the nonprofit management literature highlights that both board structure *and* board processes have an important relationship with board effectiveness (e.g. Bradshaw et al., 1992). Research addressing these critical issues for the governance and performance of corporatized public services is therefore sorely needed. Likewise, it would be essential to investigate whether the 'fit' between SOEs characteristics and board structures influences their financial management and performance, and, ultimately, the quality of the public services that they provide. Prior research suggests that board size may have a positive impact on the financial performance of SOEs, but that increased political representation on their boards can have a detrimental effect (Menozzi et al., 2012). Nevertheless, to draw firm conclusions about how the governance of SOEs should organized, we need to know a lot more about the boundary conditions of the relationships between SOE board structure and overall effectiveness.

The study has important practical implications for policy makers concerned about the governance of local SOEs. In most countries, corporatized public services are covered by private company law, but are rarely expected to comply with codes of corporate governance, such as that in the UK which only has mandatory status for publicly-listed companies (Financial Reporting Council, 2018). As a result, central government agencies in many countries have little to no oversight of the board structure adopted by local SOEs, which are therefore subject to less stringent accountability requirements – with some exceptions (e.g Germany and the Netherlands, see Papenfuß et al., 2018). Although local governments may be (part) owners of SOEs, there may be inconsistencies in the approaches to corporate governance practices that they adopt. This raises the possibility of a growing local postcode lottery in the management of corporatized public services, which poses a potential threat to the standard of public services in some localities. All of which highlights that key stakeholder organizations, such as local government associations and supreme audit institutions, should consider working with local governments to develop a corporate governance code for local SOEs. More generally, within and across countries, learning communities, benchmarking clubs and best practice schemes seem likely to play an important role in supporting local SOE governance (e.g. World Bank, 2014).

Although the analysis focuses on a large sample of SOEs across a nine-year-period, there are a number of limitations. First, the results are based solely on SOEs in England. Evidence on the determinants of board structure from other countries would therefore highlight the extent to which the findings presented here may or may not be generalizeable. In particular, local SOEs in continental European countries typically utilise two-tier boards, so cross-country comparative research capturing variations in the determinants of single versus dual tier board structure would be invaluable. Second, it was not possible to measure board processes and effectiveness on this occasion – aspects of corporate governance that are not reported in the annual accounts of SOEs. Researchers have begun to address the dynamics of corporate governance in SOEs using questionnaire and interview data (Klausen & Winsvold, 2021). Further survey-based research and in-depth qualitative case studies could reveal the inter-relationships between board structure, processes and effectiveness, and the ways in which these might be shaped by organizational characteristics. Finally, the focus in this study is exclusively on board size and representation of politicians on the boards of local SOEs. Research that systematically evaluated the determinants of gender and minority ethnic representation, professional background, and expertise on local SOE boards would cast extremely valuable light on the governance of corporatized public services. So too would multi-level analysis of the separate and combined effects of organizational and local government-level characteristics on board size, composition and effectiveness.

In addition to research addressing the antecedents of board governance, there are many opportunities for further studies focused on the effects of SOE board governance that would add greatly to our understanding of the public management and policy implications resulting from corporatization of public services. In particular, a research agenda focused on the performance effects of different SOE board structures, processes and practices could contribute extremely valuable evidence on the effectiveness, efficiency and equity of corporatized provision, especially when set against the performance of other models of public service delivery. Given the on-going growth in the use of SOEs observed in many countries, comparative studies investigating whether SOEs outperform in-house and privatized public services would therefore be extremely insightful, especially research addressing which approaches to SOE board governance are most likely to result in better responsiveness to citizens' needs and demands. Within this context, it would be extremely important to examine whether guaranteeing local service users a seat on the boards of directors for SOEs might ensure that citizens' voice is heard in the boardroom. As well as comparative studies exploring the merits of alternative board governance strategies, quantitative and qualitative research addressing SOE directors' attitudes towards involving service users in operational decision would therefore shed invaluable light on the extent to which corporatized services are able to uphold, strengthen and promote democratic governance. Likewise, research analysing the use of blame avoidance and credit-claiming strategies by politicians serving on SOE boards would be most instructive.

To conclude, this study highlights that the structure of local SOE boards may reflect monitoring costs associated with their ownership structure, organizational complexity and profit orientation. Smaller boards are being adopted to supervise majority public-owned, profit-making forms of SOE – organizations that also have fewer elected politicians on their board of directors than minority public-owned, not-for-profit SOEs. Older SOEs seem to have larger boards populated by more politicians. The strength of some of these relationships suggest that policy-makers seeking to corporatize local public services should pay very careful attention to the potential fit between organizational characteristics and the structure of the corporate governing board.

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