Public-private partnerships, management capacity and public service efficiency

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Summary. By working with business, public organisations are assumed to benefit from: a more contestable procurement process; access to private sector entrepreneurialism and the realisation of previously untapped scale economies. Nevertheless, realization of these benefits may be contingent upon an expansion of management capacity to cope with increased transaction costs. We examine the relationship between a commitment to public-private partnership, management capacity and the productive efficiency of a set of English local authorities. We find that only those authorities with very strong management capacity are able to realise productive efficiency gains from public-private partnership. Theoretical and practical implications are discussed.

Key words

Public-private partnership; efficiency; management capacity; statistical analysis.

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Introduction

In response to the harsher fiscal environment heralded by the credit crunch of 2008, governments around the world are redoubling their efforts to ensure the efficiency of public services. As in the past, the claim that the private sector can deliver services more efficiently than the state alternative, provides a key inspiration for reform (Christoffersen, Paldam and Wurtz, 2007; Donahue and Zeckhauser, 2011; Hodge and Greve, 2007). Theorists attribute the private sector's efficiency advantage to three distinct mechanisms. The first – a contestability effect – might result from procurement processes which put suppliers into competitive or potentially competitive situations. The second – an ownership effect – suggests the possibility of benefitting from the private sector's keener eye for opportunities to maximise the value of assets. The third – a scale effect – may result from the fact that because private contractors can provide specialist services to a number of small public agencies, they can pass on the benefit in terms of lower costs and expertise which result from economies of scale.

Although policy-makers across the world continue to laud the merits of public-private partnership, evidence of realised efficiency gains resulting from their adoption remains mixed (Andrews, 2010). In fact, there is much reason to suspect that such relationships lead to deteriorations in the quality and efficiency of public services (see, for example, Davies, 2010). The varied results reported in the literature may in part be explained by the fact that the gains promised by public-private partnerships could be contingent upon the management capacity of the contracting public agency; public-private partnerships need to be managed if they are to be successful (O'Toole and Meier, 2004; Bhatti, Olsen and Pedersen, 2009).

This paper asks two questions: first, whether a commitment to public-private partnership is associated with gains in efficiency; and second whether these gains are contingent on the management capacity of the client agency? To answer these questions, we examine the relationship between a commitment to public-private partnership, management capacity and the productive efficiency of a sample of English local authorities. In the first part of the paper, we review the theoretical benefits of public-private partnership. Next, we reflect upon the potential moderating effects that management capacity might have on the realisation of increased efficiency. In the third section, we introduce our data and methods, before our findings are presented, and the theoretical and practical implications discussed in the conclusion.

Public-private partnerships and public service efficiency

Public organisations can engage the private sector in public service delivery in a number of different ways. They can open clearly specified functions to a competitive tendering process and then contract with the organisation which promises best value. Alternatively, they may externalise – or in more loaded terms – privatise the delivery of a whole service making it the responsibility of a non-state organisation. Finally they may seek to negotiate a hybrid form of organisation – often described as a public-private partnership – which is based on mixed ownership and a high level of trust (Bajari, McMillan and Tadelis, 2009).

In truth, of course, the distinctions between these approaches are fuzzy and resistant to hard and fast categorisation (Linder 1999). Governments, and commentators, often use the partnership label to describe relationships which in formal terms might seem closer to contracting or externalisation. Bracketing off ‘when is a partnership really a partnership’ type questions, we take the relative commitment of an organisation to contracting, externalisation or public private partnership as constitutive of a general attitude of receptiveness, on their part, to the involvement of the private sector in the delivery of public services. The literature suggests a number of reasons to think that engaging the private sector in public service delivery might endow significant efficiency advantages. We consider three such reasons or mechanisms: contestability, ownership and scale.

The contestability effect is realised most clearly through a procurement process in which service providers – whether of back office functions like HR and IT or public facing services like refuse collection and street cleansing – are chosen through competitive contracting (Domberger and Jensen, 1997). Advocates argue that providers subject to these processes will focus on their core performance – improving the quality of the work and reducing the costs wherever possible – for fear that a failure to please their clients will lead to a loss of business (Bel, Fageda and Warner, 2010). In this vein, it can be argued that it does not matter whether contracts are awarded to private, public or third sector suppliers since it is the process of competitive tendering and the state of contestability which provides the drive for increased efficiency (Hodge, 1998). It is possible, of course, that a public-private partnership may be long lasting and rather cosy. Indeed one of the important changes in public procurement practice in recent years has been the switch from short term to so called relational contracts (Parker and Hartley, 2003; Entwistle and Martin, 2005). It seems likely that these **c**lose or enduring partnership arrangements will score less well on contestability grounds than short lived, low trust contracts.

It is also reasonable to assume, however, that local authorities that are positively disposed to working with the private sector – as evidenced through a commitment to either contracting, partnership or whole sale externalisation – will enjoy the benefits of stronger contestability effects than those authorities that are determined to protect public sector monopolies. Although contestability might be strongest in those services subject to regular and specific contracting, at a minimum it requires neither regular contracting nor perfect competition so much as the fear that markets can be contested by rivals (Baumol and Willig, 1986). Empirical work lends some support to the efficiency advantages of contestability. Caves and Christensen (1980, p.974) find that 'the oft noted inefficiency of government enterprises stems from their isolation from effective competition rather than their public ownership per se'. Hodge concludes that 'the weight of evidence appears to support the notion that, on average, the unit cost of services is reduced through competitive tendering of public services' (Hodge, 1998, p.98).

The ownership effect stems not from the competitiveness of procurement processes, but from the intrinsic qualities of privately owned organisations. Ownership or property rights theories suggest that public ownership 'is diffused among all members of society' such that there is 'little economic incentive for any owner to monitor the behaviour of the firm's management' (Caves and Christensen, 1980, p.959). In the private sector, by contrast – with much smaller numbers of owners and assets that are easily valued and exchanged – there is 'a much larger interest in knowing and controlling costs' (Christoffersen, Paldam and Wurtz, 2007, p. 312). In such a way, differences in ownership are likely to translate into fundamentally different attitudes to the search for value. As the economists express it, the private sector is more attuned to the opportunity costs of the resources used in service delivery. More broadly, commentators describe the different basis of ownership as translating into a private sector culture which is more enterprising, flexible, innovative and less risk averse than its public counterpart (Donahue and Zeckhauser, 2011; Osborne and Gaebler, 1992). More focused on outcomes than formal decision-making procedures and administrative oversight, private sector organisations can also be less hampered by bureaucratic rules and controls (Rainey, 1989).

Although local authorities will see something of these benefits by working with private organisations in contracting type arrangements, the full advantages of private management will only be seen in those cases where the ownership of assets is transferred from the public sector through a process of externalisation or privatisation. Mixed ownership arrangements offer a hybrid arrangement which promises to capture some of the benefits of private sector ownership while maintaining public accountability (Bovaird, 2004). Again empirical work provides some support for the ownership effect. On the basis of a study of oil companies in the public and private sectors, Wolf finds results 'supportive of the hypothesis that ''ownership matters'' in the sense that private ownership encourages better performance and greater efficiency than state ownership does.' (Wolf, 2009 p.2650). Boitani, Nicolini and Scarpa (2013) find that the productivity of mixed ownership firms – hybrid or partnership type arrangements – is determined by the degree of private ownership.

The third driver of efficiency stems from the scale of service delivery. The literature provides a number of reasons to think that the public sector is not well placed to capture economies of scale. Christoffersen, Paldam and Wurtz (2007) suggest that the absence of free market contestability and private ownership mean that public managers are more attuned to pleasing stakeholders than hunting out scale economies. But even with the requisite motivation, public managers may struggle to find scale. For example, although in population terms English local authorities are large by international standards (John, 2010), some of the functions they are responsible for are performed on a relatively small scale. While in theory small jurisdictions could be combined through public-public partnership arrangements, the conflicting accountability arrangements of statutory organisations can make this difficult.

Whether in IT, refuse collection, or general back office functions like the processing of taxes and benefits, the private sector organisations providing local authority services may be considerably larger and more specialised than their public sector clients. Local authorities which partner with these organisations may then be able to enjoy the efficiency gains – apparent in lower prices and higher service quality – which result from providing services on a greater scale (Christoffersen, Paldam and Wurtz, 2007; Warner and Bel, 2008). Of course in formal terms scale economies require neither contracting nor the transfer of ownership to the private sector. Whether for good or bad reasons public organisations find it difficult, however, to collaborate across boundaries in the interests of increased scale. The benefits of scale are, then key to the offer made by large private sector outsourcing businesses. Again the literature provides support for the scale effect. In a study of the cleaning costs of Danish primary schools, Christoffersen, Paldam and Wurtz (2007, p.312) find that the significant differences in the cost of public and private cleaning ‘arises from differences in the ability to exploit economies of scale’.

Taken together these lines of argument suggest that public-private partnerships – manifested to different degrees through contracting, externalisation, or hybrid forms of governance – have the potential to deliver significant efficiency improvements. Even so, there may be several unintended consequences associated with private sector involvement in public service delivery that could problematize their utility for public policy-makers. Private sector involvement may herald staffing reductions, declining service quality or increasing inequity in the distribution of services (see Davies, 2010; Knapp et al., 1999). That is to say a broader understanding of efficiency – embracing distributive, dynamic and allocative senses of the term (Andrews and Entwistle, 2013) – may suggest a rather different calculation of costs and benefits. But even within the relatively narrow remit provided by the notion of productive efficiency, the realisation of any of the putative benefits attributable to public-private partnership will depend on the capacity of public organisations to manage their relationships with the private sector effectively. It is to this question that we now turn.

The role of management capacity

While contestability, ownership and scale arguments all suggest that private organisations might be capable of delivering more efficient services than their public counterparts, there is no guarantee that the public sector can capture those gains in any one case. The translation of potential into realised efficiency improvements depends upon the ability of the local authority to extract and then deploy those savings. That is to say, the realisation of efficiency is contingent upon the management capacity of the local authority. While the blurry boundaries between contracting, partnership and externalisation warn against categorical distinctions, the nature of the management challenge depends upon the type of relationship with the private sector.

Contracting type relationships require principals to specify, monitor and manage the activities of private agents. Incomplete contract theorists point, however, to the problems of contracting for unforeseen eventualities in even short lived contracts (Hart, 2003; Grossman and Hart, 1986; Hart and Moore, 1988). As Carson et al. (2003, p. 48) explain, albeit in a different context: 'Assessing and interpreting the supplier's actions and being able to agree on the nature of profitable revisions depends squarely on the extant knowledge that the client possesses about the tasks in question'. The new partnership forms of procurement are supposed to solve this problem by binding both client and contractor into a high trust relationship which negate the need to anticipate all possible contingencies (Bovaird, 2004; Bajari, McMillan and Tadelis, 2009). In such a way, the management challenge changes from a legalistic one focused on compliance to a relational one requiring the development and maintenance of trust. While externalisation passes the responsibility for service provision to another organisation altogether, the interdependencies between organisations remain. Local authorities might then have a regulatory (Majone, 1994), steering (Osborne and Gaebler, 1992) or stakeholder (Freeman, Wicks and Parmar, 2004) type relationship with the arms-length organisations responsible for delivering formerly public services.

Public management scholars have become increasingly concerned with exploring the ways in which organisations build the administrative or management capacity to deal with public service delivery problems (Ingraham and Donahue, 2000; Ingraham, 2007). Management capacity is particularly important in the administration of contracts or networks because without it the potential efficiencies of working with the private sector might be squandered in economic rent. Brown and Potoski (2004, pp. 665-666) explain: ‘Even under conditions that favor contracting, public managers must have the skills to understand market operations and the tools to address market failures.’ Amirkhanyan (2008, p. 665) too, observes that, ‘as counties minimise their roles as service providers’ they need to put in place arrangements to protect the quality of services and the interests of low income clients. This includes making provision for effective risk management and information-sharing between the public and private partners (see 6, Bellamy and Raab, 2010).

The management capacity of public organisations constitutes their ‘intrinsic ability to marshal, develop, direct, and control its human, physical and information capital to support the discharge of its policy directions’ (Ingraham and Donahue, 2000, p. 294). The organisation-wide potential for action resides principally within the corporate centre of organisations. Since staff within central administrative departments deal with cross-cutting issues, such as finance, performance management and personnel, rather than more narrow functional responsibilities, they are especially well-placed to make a contribution to the broader policy goals of public organisations, such as the management of relationships with the private sector. By investing more time and money in the central administrative office, public organisations can amass a kind of ‘slack’ resource that can be reconfigured, redirected or redeployed in order to respond to management challenges. Central administrative managers may, for example, be moved from task to task in response to changing priorities in a manner especially beneficial for overcoming the challenges of managing and monitoring private organisations involved in public service delivery.

Although the resources devoted to administration are, on average, far lower in local authorities than in some public organizations (e.g. universities, see Andrews and Boyne, forthcoming), the level of expenditure on administration varies considerably between authorities. This is suggestive of some ‘slack’ having been created (or as it is termed in the management literature, ‘absorbed’ (Singh, 1986)) within the corporate centre in some organisations for purposes other than providing a standard package of corporate support services. In this sense, the concept of management capacity signifies the stock of administrative resources that can be mobilised in support of proactive or reactive efforts to shape, or respond to, the business of managing private sector contractors and partners. While it is conceivable that management capacity may itself have a positive independent effect on public service efficiency, its true contribution may be to enable local authorities to deal with core strategic management challenges, such as crosssectoral service coordination. Accordingly, we anticipate that organisations with a larger central administrative component will be better able to reap the benefits of public-private partnerships.

Data and measures

Our units of analysis are English local authorities. These are multi-purpose elected bodies which receive approximately two-thirds of their income from central government. They deliver services in the areas of education, social care, land-use planning, waste management, public housing, leisure and culture, and welfare benefits. During the study period, there were 386 local authorities of five types in England. 32 London boroughs, 36 metropolitan boroughs, and 46 unitary authorities primarily found in urban areas, with a two-tier system in rural areas composed of 34 county councils administering education and social services, and 238 district councils providing welfare and regulatory services. In this study, we focus on single and upper tier local authorities because these organisations are responsible for the large strategic services, such as education and social services, which account for the majority of public expenditure in the local government system.

Dependent variables

Productive efficiency To gauge the productive efficiency of local authorities we seek to create a ratio of the financial inputs to the overall outputs/outcomes delivered by each organisation. We therefore follow Borge, Falch and Tovmo's (2008) approach to measuring the productive efficiency of local authorities by constructing a measure grading the quality of the service output of single and upper tier local authorities in England. To do so, we draw upon the core service performance element of the Comprehensive Performance Assessment (CPA) that was undertaken undertaken by the Audit Commission (a central government regulatory agency) in 2008.

Central government performance classifications, such as the CPA, are important (though contestable) means for assessing the achievements of local governments. While such classifications are arguably susceptible to political bias (Bache 2003), they rely on audited performance indicators, minimizing the potential for external interference in the inspection process. Moreover, the CPA was a performance measure that, rightly or wrongly, mattered to local governments themselves (see Laffin 2008), influencing the tenure of both senior managers (Boyne et al., 2010) and councillors (Boyne et al. 2009).

Six key local authority services (children and young people, adult social care, environment, housing, libraries and leisure, and benefits) were graded 1 (lowest) to 4 (highest) on the basis of statutory performance indicators (Audit Commission, 2002). Each service score was then weighted to reflect its relative importance and budget (children and young people and adult social care = 4; environment and housing = 2; libraries and leisure, and welfare benefits = 1). These weighted scores were then summed to provide an overall service performance judgement, ranging from 14 (11 for county councils which are not responsible for housing or benefits services) to 56 (44 for county councils). To ensure these scores are comparable, we take each organisation's overall score as a percentage of the maximum possible score.

For the input side of the productive efficiency ratio, we draw upon the total service expenditure in 2008 (minus expenditure on central administration) of each local authority. A measure of productive efficiency is then derived by dividing core service performance by the service expenditure measure. This productive efficiency ratio indicates the financial cost of producing a given unit of service output/outcome (Ostroff and Schmitt, 1993). Unlike the contract prices and narrow output measures used in much of the work on productive efficiency (Boyne, 1998), our methodology provides a measure of the quality of public service delivery outputs per unit of expenditure. Organisations which focus purely on maximising outputs or minimising inputs will not perform well against this measure.

Independent variables

Public-private partnerships index: Data on commitment to public-private partnership were drawn from an email survey of managers in English local authorities administered in late 2007. Email addresses for the entire population of senior and middle managers in English local government were drawn from a national contacts database, and questionnaires were then delivered as an excel file attached to an email. Responses were aggregated from senior and middle managers in each organisation to overcome sample bias problems associated with surveying a higher proportion of informants from one organisational level (Walker and Enticott, 2004). The total number of potential informants was 6,975, and the number of actual respondents was 1,082, yielding a response rate of 15.5 per cent. Responses were received from 28 London boroughs, 36 Metropolitan boroughs, 45 unitary authorities, 31 county councils and 188 district councils.

Since only local authorities with responses from each of the two echelons (senior and middle management) were included in our analysis, some cases were lost when we aggregated these echelons up to the organisational level. As a result, our analysis was conducted on 86 out of a population of 148 single and upper-tier local authorities. For this sample, we received on average 5.1 responses per authority, which compares well with the 2-5 responses recommended for multiple informant studies of organisational characteristics (see Wagner, Rau and Lindemann, 2010). No statistically significant differences between our sample and the population of local authorities were found on key characteristics such as deprivation, population and ethnic diversity, so we are able to draw on a representative sample of local authorities. Time-trend tests for nonrespondent bias (Armstrong and Overton, 1977) revealed no significant differences in the views of early and late respondents.

We draw upon three separate measures evaluating the relationships between local authorities and the private sector, which we use to construct an index of commitment to the involvement of the private sector in public service provision. First, the extent to which local authorities *contract services out* to private sector providers was used to tap contestability in service provision. This was gauged by asking survey respondents to indicate on a scale of 1 (strongly disagree) to 7 (strongly agree) that their organisation pursues "a policy of contracting out/outsourcing". This measure provides a good proxy for contracting-out played in the absence of detailed financial accounts of the proportion of services contracted out during the study period. Second, the extent to which local authorities *externalise service provision* or pass them across to private firms was gauged by asking respondents to indicate whether their organisation pursued “a policy of externalisation”. This captures the effects of a commitment to moving services from public to private ownership. Third, we use a broad-based measure to capture commitment to alternative *partnership arrangements with the private sector*. Specifically, we asked respondents to indicate the extent to which their organisation ‘works in partnership with the private sector’.

Drawing on these three measures we construct an index of commitment to public-private relationships using principal components analysis. This index demonstrates strong inter-item scale reliability (Cronbach’s Alpha score of .83, see Nunnally, 1978), which indicates that in combination the separate items are capturing a distinctive empirical construct. The descriptive statistics and the factor loadings for these measures are shown in Table 1.

[Position of TABLE 1]

Management capacity: We measure management capacity in English local authorities as the expenditure on central administration per resident. This is similar to the measure of central staffing capacity used in studies of private organisations (Goold and Campbell, 2002). Data on central administration costs are collected annually in accordance with the Chartered Institute for Public Finance and Accounting (CIPFA)’s Financial Reporting Standard 17. They cover expenditure on central services (e.g. finance, internal audit, legal) and management and support services (e.g. human resources, IT, organisational development). The principal source of this expenditure is staffing costs, thus indicating that a higher level of central administrative spending will likely reflect a larger stock of human resources within the administrative centre of local authorities. Similar results were observed when we used a measure gauging administrative expenditure as a percentage of total expenditure (or the administrative intensity) of each local authority (available on request).

Control variables

The Formula Spending Share (FSS) per resident was used as a measure of *quantity* of service needs. This index of needs was used by central government to distribute grant funding to local authorities and was based on indicators, such as the number of schoolchildren and elderly people in the local population. We also include quintiles for the average ward score on the indices of deprivation in 2007 as a further measure of service need. This captures levels of disadvantage in: income, employment, health, education, housing, crime, and environment.

We measure three dimensions of *diversity* of service needs: age, ethnic and social class. The proportions of the various sub-groups within each of these different demographic categories identified by the 2001 UK national census within a local authority area (e.g. ages 0-4, Black African, Small Employers and Own Account Workers) was squared and the sum of these squares subtracted from 10,000. The resulting measures give a proxy for 'fractionalisation' within an area, with a high score on the index reflecting a high level of diversity (see Trawick and Howsen, 2006).

The *discretionary resources* available to each local authority was derived by dividing its total expenditure by its FSS in the same year. This shows whether councils were spending above or below the level deemed necessary to meet their service needs. The relative *size* of public organisations was measured using population figures for each local area from the 2001 national census. Local authorities serving big populations can accrue economies of scale by distributing fixed costs over more units of output, increasing levels of professional specialisation and expertise, and attracting better quality staff and politicians (Boyne, 1995). While the FSS compensated for the geographical dispersion of clients, local authorities in urban areas may still be able to reap scope economies by offering multiple services from the same site (Grosskopf and Yaisawamg, 1990). Population figures were therefore divided by the area of each local authority to measure *density*. A dichotomous variable coded 1 for local authorities within *London* and 0 otherwise is also included to control for higher labour and capital costs in the capital city. Administrative costs, for example, are marginally higher in London for the sample of local authorities used in this study (t-test for difference in means result at $p.<0.1$).

Finally, the percentage share of the vote gained by the Labour Party in the most recent local election was included to capture the potential impact of a *'collectivist' political disposition* amongst local residents. Labour voters are generally seen as more committed to state provided services than their Conservative or Liberal Democrat counterparts (Clarke *et al*., 2004). The descriptive statistics and data sources for all our variables are listed in Table

2. Before being entered in the statistical model, population and population density were logged to correct for non-normal distributions.

[Position of TABLE 2]

Results

We present two Ordinary Least Squares (OLS) regressions in table 3: in model 1, our measure of productive efficiency is regressed on to the independent and control variables; in model 2, we add a variable that interacts (multiplies together) public-private relationships and management capacity to assess whether the efficiencies to be gained from public-private relationships are contingent on the capacity to manage those relationships. Ramsey's (1969) RESET specification test indicated that the models do not suffer from omitted variable bias.

Most of the control variables have the expected signs and some are statistically significant. Deprivation exhibits a strong negative relationship with productive efficiency, indicating that providing public services in disadvantaged areas is an especially challenging task. The measure of discretionary resources is negatively related to productive efficiency, which signifies that spending beyond the needs of a local population could be seen as an indicator of poor financial performance. Labour vote shares are positively related to productive efficiency, suggesting that in areas where there is a greater willingness to support public services local authorities may find it less difficult to make the best use of their resources. Historically, Labour authorities were seen as cost-inefficient, so it is possible that this finding reflects our use of a measure of efficiency that incorporates the quality as well as the quantity of the outputs produced. The measures of quantity of need, demographic diversity and population size and density are unrelated to efficiency. Local authorities in London too are neither more nor less likely to be efficient than those benefiting from lower input prices outside the capital.

[Position of TABLE 3]

The findings in Table 3 indicate that a commitment to public-private relationships has no observable benefits for this sample of English local authorities. Such a commitment is neither positively nor negatively related to productive efficiency. At the same time, management capacity seems to have no positive or negative statistically significant influence on our measure of efficiency. Even so, it is still conceivable that the benefits (and costs) of public-private relationships are simply contingent upon other inputs, such as management capacity. Correspondingly, it is also possible that capacity itself only produces beneficial outcomes when it is "put to the test" (see Gargan, 1981). To investigate whether management capacity holds the key to the realisation of efficiencies through a commitment to public-private relationships, a variable interacting the two measures is entered in the statistical model.

The coefficient for the interaction between a commitment to public-private relationships and capacity is positive, as anticipated, and statistically significant. Thus, we find strong support for the suggestion that the benefits of a commitment to public-private relationships are more likely to become apparent when local authorities have more capacity for monitoring and managing those relationships. To explore this interaction effect thoroughly, however, it is necessary to calculate the marginal effects of public-private relationships on efficiency at varying levels of management capacity. More specifically, this entails identifying at what level management capacity has a statistically significant impact on the relationship between public-private relationships and efficiency. Graphing the slope and confidence intervals of the marginal effects is the most effective way to present this information (see Brambor, Clark and Golder, 2006). Accordingly, Figure 1 provides a graphical illustration of the moderating influence of management capacity on the relationship between a commiitment to public-private relationships and productive efficiency.

[Position of FIGURE 1]

The centre line in figure 1 illustrates the predicted values of productive efficiency depending upon varying levels of management capacity, while controlling for all the other variables included in our model. The dotted lines represent the upper and lower bounds of the confidence intervals for those predicted values. The area above the upper bound and below the horizontal zero line indicates the presence of a statistically significant relationship. The figure confirms that the relative level of management capacity is likely to have an important moderating effect on the relationship between a commitment to public-private relationships and productive efficiency. In fact, the cost implications of a commitment to public-private relationships become statistically indistinguishable from zero (where the upper confidence interval meets the zero line on the graph) when management capacity is about a standard deviation below the mean level (approximately £13 per resident). Further analysis revealed that sixty-six local authorities had management capacity of this strength or higher (i.e. about three-quarters of the sample).

At the same time, it appears to be the case that productive efficiency gains can be realised from relationships with the private sector. The area below the lower bound of the confidence intervals and above the horizontal zero line indicates the presence of a statistically significant relationship. However, the figure indicates that such gains can only be captured (at the point the lower confidence interval meets the zero line) when local authorities have management capacity which is about two standard deviations above the mean (approximately £60 per resident). Only two authorities had capacity of this strength. When these two authorities were excluded from the analysis, the benefits of capacity emerged at about one standard deviation above the mean (£40 per resident). Nine local authorities had capacity of this strength, which implies that only organisations with an extremely high degree of capacity are able to achieve the anticipated productive efficiency gains from a commitment to private involvement in service delivery; a finding, which calls into question the efficiency case for public-private partnership.

Discussion

We asked two questions at the start of this paper: first, whether a commitment to public-private partnership is associated with greater efficiency; and second whether that efficiency is contingent on the management capacity of the public sector principal. Our analysis suggests that a commitment to public-private partnership of itself does not improve productive efficiency. With appropriate levels of management capacity, public private partnerships can, however, be conducted in such a way as to avoid any potential deterioration of productive efficiency. Indeed, our data suggest that extremely high levels of capacity are needed to realise the productive efficiency gains that public-private partnerships promise.

The statistical results suggest that management capacity, in particular, may play a critical role in managing relationships with the private sector. Previous studies have highlighted the ways in which such relationships may require an expansion of capacity to manage the increased transaction costs associated with monitoring private contractors (O'Toole and Meier, 2004). We add to this evidence base by illustrating how that capacity can only lead to a positive performance pay-off when it has expanded to a very great degree, perhaps to the extent that other dysfunctional effects of 'bureaucratic overload' emerge. Our analysis also contributes to the public management literature in another important way. Public administration scholars increasingly draw attention to the benefits of strong administrative or management capacity for organisational functioning in general (see Ingraham, 2007), but comparatively few provide empirical tests to confirm these notions. We have illustrated the benefits of strong management capacity by theorising and empirically exploring its role in the management of public-private partnerships, thereby illustrating that capacity is an important resource that can be deployed to good effect by public organisations.

The findings provide food for thought for those determined to promote the efficiency case for the involvement of the private sector in public service delivery. They suggest that efficiency savings are far from guaranteed by these arrangements. Rather, the efficiency dividend of public private partnerships is contingent on the capacity of the organisation to manage the relationship and extract efficiency savings from it. Organisations considering these types of reform need to devote as much priority to the development of their capacity as they do the selection of the right partner. This recommendation is likely to be equally, if not more important, for the maintenance of social efficiency in the provision of public services. At the same time, the quality of the management capacity at the centre of the organisation is likely to matter, as well as the sheer quantity of resources available to deal with private sector partners.

Grimshaw et al (2002) highlight that public organizations are often at a disadvantage when negotiating contracts with private contractors, especially those well-versed in the nuances of government contracting. Larger and more experienced firms, in particular, might place a greater burden on the management capacity within local authorities, requiring better negotiating skills and stronger legal controls. Hence, our findings may be more or less applicable depending upon the type of partners with whom local authorities are typically involved. Unfortunately, on this occasion we are unable to capture partner characteristics due to data limitations, and so cannot fully explore the contingent nature of the relationships we identify. Nevertheless, who the right partner is at any given time and in what circumstances and how they should be involved in local service production (if at all) are important questions that could form the focus of subsequent research on this topic. In fact, our findings raise several questions about the connection between public-private relationships, capacity and efficiency that are worthy of further systematic analysis.

We have argued, for example, that a commitment to involving the private sector in service delivery results in a blurring of different organisational forms: from contracting on the one hand, to whole sale externalisation on the other. The efficiency effects of these alternative relationships are in turn likely to be dependent upon different casual mechanisms: from contestability on the one hand to ownership and scale on the other. Our index of public-private relationships deliberately combines different organisational forms and their associated effects to capture the full range of those forms and effects in a single measure. Further work could however seek to unpack these different elements. Exploring, for example, which of the different forms – and which of the different causal mechanisms – works best in terms of delivering productive efficiency. Should local authorities look more to contracting type relationships emphasising contestability than different forms of externalisation focused more on the benefits of non-state ownership?

Similarly, our measure of management capacity – focused as it is on the central administration within local authorities – leaves open the question of what type of capacity works best? Central administrative staff could be drawn from a number of different professional backgrounds and focussed on a bewildering range of different activities. Our data do not allow us to determine whether local authorities should employ financial, legal, human resource or procurement professionals to manage relationships with the private sector much less how those individuals should best spend their time. Detailed case studies in selected authorities could therefore throw extremely valuable light on how public organisations deploy their store of human resources in the central administration to better manage their relationships with the private sector.

Further questions might also be focused on different organisational and national contexts, especially as policies and attitudes towards public-private relationships vary greatly across different policy fields and countries. Systematic comparisons of public-private relationships, capacity and efficiency in these varied settings could therefore make a valuable contribution to the wider literature on the comparative performance of alternative forms of external relationships. In addition, investigation of the reciprocal effects of management capacity and public-private relationships over the medium to long-term would also provide a useful indication to scholars and policy-makers alike of the extent to which each may be responsible for an expansion in the other. To do this effectively, requires a panel data set, which can facilitate longitudinal analysis. Unfortunately, on this occasion, our survey data are restricted to a single year and so permit only cross-sectional analysis.

To sum up, one important conclusion that can be drawn from our study is that further research needs to be conducted to uncover the full range of the organisational dynamics associated with the management of public-private partnerships. This may permit more informed deliberations about the most effective policy responses to the involvement of the private sector in public service provision. However, another conclusion is that the challenges and costs associated with making public-private relationships work, may simply be so great that they outweigh any of the putative benefits from such relationships. As fiscal austerity continues to bite hard in the UK, fresh evidence on the validity of these alternative perspectives on private involvement in public services could therefore play a vital role in shaping the public sector of the future.

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Table 1 Public-private relationships measure

	Mean	Min	Max	S.E.	S.D.	Factor loading
We pursue a policy of contracting out	4.05	1.50	6.50	.13	1.17	.756
We pursue a policy of externalisation	4.11	1.67	6.50	.13	1.16	.907
We work in partnership with the private sector	5.37	2.90	5.37	.09	.89	.912
Eigenvalue						2.23

N=86

Table 2 Descriptive statistics

	Mean	Min	Max	S.D.
Productive efficiency (CPA/spend)	.053	.030	.078	.010
Public-private relationship index	.00	-2.34	2.13	1.00
Administrative capacity	25.45	1.92	84.34	14.57
Control variables				
FSS per resident	1173.44	750.11	2299.57	259.60
Deprivation (quintile)	3.0	1.0	5.0	1.41
Age diversity	8731.71	8536.11	8855.00	59.04
Ethnic diversity	2385.28	372.71	8452.82	209.00
Social class diversity	8783.73	8664.20	8933.46	61.42
Discretionary resources	1.203	.72	1.77	.10
Population	358412.00	34563		
Population density	2151.38	70.91	10545.45	242.99
London	.19	.00	1.00	.39
Labour vote share	28.26	4.44	56.70	10.87

Data sources	
Core service performance	Audit Commission (2008) *Comprehensive Performance Assessment*. London: Audit Commission.
Age diversity, ethnic diversity, population, population density, social class diversity	Office for National Statistics (2003) *Census 2001, National Report for England and Wales*. London: ONS. Age diversity comprised 12 groups: 0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-44, 45-59, 60-64, 65-74, 75-84, 85+. Ethnic diversity comprised 16 groups: White British, Irish, Other White, White and Black Caribbean, White and Black African, White and Asian, Other Mixed, Indian, Pakistani, Bangladeshi, Other Asian, Caribbean, African, Other Black, Chinese, Other Ethnic Group. Social class diversity comprised 12 Socio-Economic Classifications: Large Employers and Higher Managerial Occupations, Higher Professional Occupations, Lower Managerial and Professional Occupations, Intermediate Occupations, Small Employers and Own Account Workers, Lower Supervisory and Technical Occupations, Semi-Routine Occupations, Routine Occupations, Never Worked, Long-Term Unemployed, Full-time Students, Non-Classifiable.
Service expenditure	CIPFA (2009) *CIPFA Finance and General Statistics, 2008/09*. CIPFA: London.
Standard Spending Assessment, discretionary resources	http://www.communities.gov.uk/localgovernment/localgovernmentfinance/
Labour vote share	Rallings, C. and Thrasher, M. (2005). *Local elections handbook 2005*. Plymouth: LGC Elections Centre.

Table 3 Public-private relationships and productive efficiency

Variable	Model 1		Model 2	
	β	s.e.	***B***	s.e.
Public-private relationships (PPR)	-.0003	.0007	-.0031**	.0015
Administrative capacity (AC)	9.48E-06	.0001	-.0004**	.0002
Interaction term				
PPR x AC			.0001**	4.57E-05
FSS per resident	-1.6E-05**	6.89E-06	-1.4E-05**	6.80E-06
Deprivation	-.0025**	.0011	-.0029***	.0011
Age diversity	-2.49E-05	1.74E-05	-1.96E-05	1.72E-05
Ethnic diversity	-9.13E-07	8.50E-07	-8.12E-07	8.32E-07
Social class diversity	-4.89E-06	1.82E-05	-9.84E-06	1.79E-05
Discretionary resources	-.0199**	.0098	-.0205**	.0096
Population (log)	.0021	.0021	.0033*	.0016
Population density (log)	-.0004	.0010	-.0006	.0010
London	.0010	.0029	.0010	.0028
Labour vote share	.0002**	.0001	.0003***	.0001
Constant	.3356**	.1622	.3050**	.1598
F statistic	11.12***		11.10***	
R^2	.65		.67	

Notes: number of observations = 86. * $p \leq 0.10$; ** $p \leq 0.05$; *** $p \leq 0.01$ (two-tailed tests).

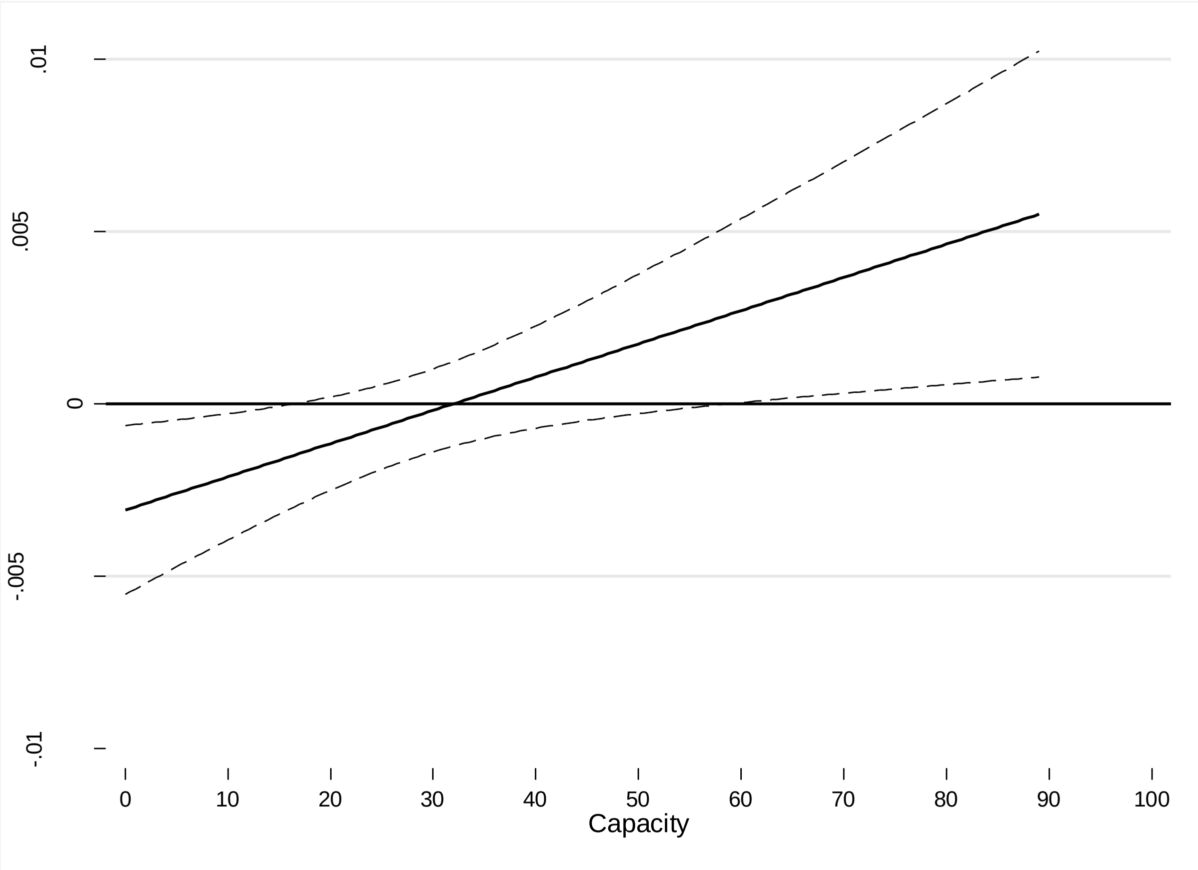

Figure 1. Marginal impact of a commitment to public-private relationships on productive efficiency contingent on administrative capacity