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A longitudinal evaluation

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The Effect of Shared Service Centers on Administrative Intensity in English Local Government: A Longitudinal Evaluation

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Abstract

“Administrative intensity” describes the proportion of total resources that an organization spends on administrative support activities rather than primary production processes. Efficient organizations maintain the lowest administrative intensity necessary to achieve primary goal attainment. Recently, concern has grown that decentralized public sector organizations are over-administered, with resources needlessly spent on back-office rather than frontline activities. Policies to correct this imbalance include encouraging or forcing agencies to amalgamate and “share” back-office functions with one another, in the hope of realizing scale economies in administration without need of full organizational integration. This article reports the first large, longitudinal evaluation of this popular type of collaborative reform, using organizational and financial data from over 300 English local authorities. We employ change-score regression analysis to relate changes in administrative intensity from 2008 to 2016 to the level of participation in inter-organizational shared services, and further test whether reform outcomes are affected by category of local authority and type of administration. While some measures of administrative intensity fell slightly over this period, changes could not be attributed to shared service adoption for any category of local authority. Consequently, the assumptions behind shared service policies should be re-examined.

Key words: Back-office administration; collaboration; efficiency; local government; public management reform

INTRODUCTION

Organizations use scarce resources to achieve complex tasks. Allocating these resources between competing priorities is a primary responsibility of executive management. A recurring dilemma is how much to resource the *administration* of the enterprise – that is, the activities that coordinate and assist organizational members to achieve enterprise objectives, without themselves contributing directly to those objectives. Examples include the personnel and financial management functions, legal counsel, internal audit, and information technology.

Known by organization theorists as the problem of “administrative intensity” (Pondy, 1969; Price, 1997), this balancing of primary and “back-office” expenditure is not easy. Over-administration leads to bureaucracy, inflexibility and expensive overheads, and thus creates opportunity costs in terms of core service or production activities (Ward et al., 1997; Kalseth & Rattsø, 1998). Conversely, under-administered organizations make mistakes, are unpredictable, and fail to deliver major objectives (Chandler, 1962; Rutherford, 2016; Andrews et al., 2017). In theory, successfully navigating this thorny issue means establishing the minimum administrative requirements for an organization to meet its particular goals, and then determining the most efficient mode of delivery – although many uncertainties make this task easier said than done.

Faced with declining budgets and rising demand for public services, governments have become particularly sensitive to questions of administrative resourcing in recent years (Boyne & Meier, 2013; Elston & MacCarthaigh, 2016; Boon & Wynen, 2017). Is the public sector over-administered? Is precious resource wasted on the back office, to the detriment of frontline public services or mounting government debt? Often, policymakers have answered “yes!” and have instigated reforms – sometimes at considerable expense – to curb the perceived excess of administration. Preeminent among these is adoption of the “shared services” model. This involves multiple organizations or organizational divisions amalgamating and sharing their back-office functions, whilst remaining otherwise independent entities. Standardized administrative services are provided to all parties, irrespective of differences in primary tasks and goals. The hope is that economies of scale and scope will result, beyond what organizations can achieve autonomously. This should reduce administrative intensity for everyone without the need for full-scale amalgamation.

Widely adopted in the private sector (Gospel & Sako, 2010; Strikwerda, 2014), and strongly advocated by management consultants and think tanks (AGA & Accenture, 2015; OECD, 2015), shared service centers are appearing in numerous public sectors around the world, including nationally in the USA, UK, and Ireland; in regional government in Canada, Belgium, and Australia; and in many local government systems – including in England, which is the focus of this evaluation. The simplicity of the economy-of-scale logic, combined with persuasive anecdotes about private-sector successes, have assured this rapid and wide-spread adoption. But are expectations matched by achievements? Does administrative intensity decrease after reforms are complete? And do the financial benefits justify the large transition and coordination costs? Research evidence is extremely thin, providing a rather fragile basis for the current policy fashion. Although some studies have tested whether cost savings accrue from joint production of frontline public services by multiple agencies (Andrews & Entwistle, 2010; Bel et al., 2014; Pérez-López et al., 2015), most research into shared back-office administration is qualitative, inductive, and focused on the process rather than the outcome of reforms (Janssen & Joha, 2006; Kennewell & Baker, 2016). The few existing evaluations use small samples, are cross-sectional, and mostly rely on perceptual rather than administrative data (Dollery & Grant, 2009; Schwarz, 2014). Furthermore, while there is a large organization studies literature on the determinants of administrative intensity, this theorizes the coordinative (“staff”) rather than support (“auxiliary”) aspects of administration, and only examines scale economies generated *within* single organizations rather than *across* organizational

collaborations. Consequently, though instructive, this literature offers no clear indication of the likely effects of sharing administrative services between organizations.

These limitations motivate the present study, which is the first large, longitudinal evaluation of the shared services reform trend. Using organizational and financial data from over 300 local authorities in England, we compare changes in administrative intensity from 2008 to 2016 with the level of council participation in inter-organizational shared services. We use several measures of administrative intensity, a new index of shared services participation, and a variety of supplementary tests to determine whether the category of local authority or type of administrative function affect administrative intensity. Our results show that, on most measures, administrative intensity declined slightly over this period, though with much variation between authorities. However, this trend was not related to the adoption of shared services for any category of local authority. Type of administration shared also made no difference to the result. This calls into question the considerable efforts that English councils have put into shared services in recent years, and, more generally, the key assumptions that underpin reform proposals in many other contexts.

The article is structured as follows. The first section reviews existing literature on shared service centers and introduces the empirical case. The second uses organization theory and evidence on the determinants of administrative intensity to generate hypotheses about the effects of shared service adoption on English local government. The third section describes the methods and data, and the fourth tests each hypothesis. The fifth section discusses the implications of the evaluation for public management policymaking and future research.

SHARED ADMINISTRATIVE SERVICES: TRIED BUT UNTESTED

A great deal has been written about shared service centers (hereafter: SSCs), mostly by consultants, management “gurus”, industry bodies and policymakers, and overwhelmingly from position of great enthusiasm (Bergeron, 2003; Accenture, 2005; Chartered Institute of Public Finance & Accountancy, 2010; Partnership for Public Service & Deloitte, 2015; Shared Services Leadership Coalition, 2015). Together, this “grey literature” reveals the considerable popularity of this reform in many contexts, the striking consensus over its definition and key tenets, the breadth of administrative activities thought to benefit from inter-organizational sharing, and the significant cost savings being targeted. For instance, consultants in America recently estimated that greater use of SSCs in federal government would save up to \$47bn from total annual back-office expenditure of \$125bn (AGA & Accenture, 2015). Similarly, reforms in UK central government forecast reductions of 25-40 per cent, amounting to £600m a year (Cabinet Office, 2012). And the business case for Australian federal government reforms anticipates savings of 30 per cent (Australian National Audit Office, 2016).

Various methods are used to generate these forecasts. The simplest is to reference the experience of prior reformers – mostly in the private sector, where shared administrative services were adopted in multidivisional firms from the 1980s onwards. British proposals cite examples of three firms claiming savings of “70 per cent,” “between 50 and 66 per cent,” and “between 35 and 40 per cent” from SSC programs (HM Treasury, 2009, p.7). It is unclear if these figures were independently audited, what explains the inter-firm variation, and whether the examples are representative of private sector experience more generally. An alternative approach is to “benchmark” an organization’s back-office functions against “best-in-class” comparators, in terms of the ratio of support to non-support workforce, or the unit costs for discrete procedures like invoice processing or payroll administration per employee. An example is New Zealand Treasury (2013). Accurate, relevant and comparable data is a challenge here. Moreover, this method assumes that different circumstances impact little on administrative requirements in organizations; everyone should be able to achieve “best practice.” Lastly, some reform proposals disaggregate headline estimates into subcategories, such as workforce reductions and technology acquisition (Partnership for Public

Service & Deloitte, 2015). Forecasting savings for each item involves either close analysis of individual budgets, or, more commonly, the reference-to-prior-experience method already described.

There is little peer-reviewed research on SSCs. Qualitative case studies exploring the process and challenges of reform implementation are most common (Conway et al., 2011; McCracken & Mclvor, 2013; Kennewell & Baker, 2016; Tammel, 2017). More theoretical case research examines the transaction-cost profiles of different types of administrative function (Minnaar, 2014), the evolution of vendor-client and client-client relationships (Banoun et al., 2016), and the impact of specialization and standardization on administrative work and careers (Howcroft & Richardson, 2012). Research also suggests that implementation fidelity is sometimes a problem when organizations attempt to share administrative services. Meijerink et al. (2014) identify several ways in which clients bypassed use of the vendor, or used its products only symbolically, undermining the reform intention. Others observe the development of “shadow teams” in client organizations, duplicating the work of the vendor (Redman et al., 2007). Such departures from the intended SSC design are partly explained by change resistance among employees and managers (McCracken & Mclvor, 2013; Boon & Verhoest, 2017). But recent enthusiasm for SSCs among policymakers has also led to mandated adoption and monopolistic provision that contradicts the market incentives and customer-service logic intended in the “pure” SSC model (Dollery & Grant, 2009).

A few case studies describe reform outcomes. Dollery and Grant (2009) compare several projects in Australia, finding a general absence of relevant data except in cases of multi-million dollar overspend or underachievement against project forecasts. Other studies evaluate individual reforms using quantitative indicators, such as number of staff re-deployed to non-administrative tasks (de Barros Neto, 2017; Tammel, 2017). Although not peer-reviewed, several reports by independent auditors produce similar analyses (Economic Regulation Authority, 2011; Australian National Audit Office, 2016; UK National Audit Office, 2016). Often, these highlight negative outcomes (although selection bias is likely), blaming poor appreciation of upfront investment and transition costs, ICT problems, or defection by dissatisfied clients. Though useful, all of these case analyses only support very limited claims about the impact of SSC adoption on public finances.

This lack of rigorous evaluation has not gone unnoticed (Dollery & Akimov, 2008; Strikwerda, 2014; Richter & Brühl, 2017). Yet, despite the evident popularity of SSCs, the only quantitative research attempting larger-scale evaluation is Schwarz’s (2014) analysis of survey data from 72 public service organizations in America. Respondents reported expected and achieved cost savings, alongside standardized information about reform characteristics. Average reductions were 3.5%, compared with expectations of 11%. But there was considerable variation in the sample, with half of respondents reporting no cost savings or cost increases, and the remainder claiming anything from 5 to 50 per cent savings. Schwarz (2014) relates these findings to various organizational characteristics, but the use of perceptual rather than administrative data is troubling. Reported outcomes correlate strongly with respondent profile, with SSC managers estimating higher savings than customers, who are underrepresented in the sample.

Shared services in English local government

For a larger and more sophisticated evaluation, our research examines SSC adoption in English local government, which is currently made up of 353 separate councils. For some years, British central government policy has encouraged the development of SSCs in English local government. In 2004, the Gershon efficiency report, *Releasing Resources to the Frontline*, argued for their expansion across the public sector, including at the local level. In 2006, the government white paper, *Strong and Prosperous Communities*, encouraged councils to consider sharing back-office services with one another, and the Department for Communities and Local Government (DCLG) published technical

guidance to assist with reform design. By 2012, shared services were ranked first among fifty cost-saving strategies published in the DCLG advisory document, *50 Ways to Save: Examples of Sensible Savings in Local Government*. This came after local government received one of the toughest budget settlements of the Coalition Government's Spending Review in 2010, involving 40 per cent real-terms cuts in the central government grant over four years. In 2013, a worsening fiscal climate led to a further 10 per cent reduction (Hastings et al., 2015). Increases in local taxes, the other main revenue stream for local government, were also capped during this period. Faced with these difficulties, and significant claims about the benefits of SSCs, it is unsurprising that local government embarked upon extensive reform. Nevertheless, there was considerable variation in SSC participation across the sector, making this an ideal case to evaluate whether these reforms have proven successful.

DETERMINANTS OF ADMINISTRATIVE INTENSITY

Theoretical orientation for the evaluation

Decisions about administrative resourcing in organizations have been explained from three main perspectives. A small but growing rational-choice literature examines administrative intensity (hereafter: AI) as a product of bargaining between actors with differing preferences about the size of the enterprise's bureaucratic component (Pondy, 1969; Freeman, 1979; Kalseth & Rattsø, 1998; Boyne & Meier, 2013). Alternatively, from a sociological perspective, "institutional" pressures external to the organization have also been shown to influence administrative design; specifically, fashionable ideas about what good management looks like (Tolbert, 1985; Edelman, 1990). Yet by far the largest body of research on AI draws on structural contingency theory – a functionalist branch of organization science that explains design choices by their consequences for organizational performance (Donaldson, 2001). Since 1950, at least 80 such contingency studies have been published on the determinants of AI in a wide range of organizations (for reviews, see Starbuck, 1965; Travers, 1979; Andrews & Boyne, 2014). These provide an appropriate starting point for the present evaluation, given the functionalist logic shared by contingency theory and SSC reformers, and the mutual interest in administrative economies of scale.

Administration in organizations

"Administration" is a term with multiple meanings (Dunsire, 1973). Contingency theorists generally adopt a multipart definition, encompassing (i) the control of organizational members, (ii) the coordination of their separate efforts into a coherent whole, and (iii) general maintenance or "housekeeping" of the enterprise, including buying materials and recruiting staff, and also technical expertise such as legal advice. This description partly recalls the line-staff-auxiliary distinction of classical management theory, where "line" refers to primary production units, "staff" to coordination and control support for the chief executive, and "auxiliary" to generic back-office tasks of a clerical and technical nature (Simon et al., 1958, pp.280-295). Much research into AI collapses these distinctions and examines administration as one large, heterogeneous task, leading to a broad and dichotomizing explanation of AI as "the amount of an organization's resources or energies which are devoted to coordination of its activities, rather than to performance of its tasks" (Travers, 1979, p.v). Operationally, AI is calculated by the number of personnel in non-production roles, or the budget allocated to non-production departments, relative to total workforce or budget (Price, 1997).

This breadth of empirical definition contrasts with the specificity of the theories developed to explain variation in AI, which focus exclusively on the "staff" rather than "auxiliary" purposes of administration. Explicit coordination of individual members is a defining feature of formal organizations, and staff administrators are crucial in this (Hinings & Bryman, 1974, pp.457-458). Hence, variation in AI is to a significant extent explained by the demand for coordination in the organization, which in turn is a product of structural and technological complexity (Blau, 1970; Blau &

Schoenherr, 1971). While this “staff” focus in the AI literature has paid significant dividends, described below, poor correspondence between the broad empirical and narrow theoretical specification of administration is troubling (Daft, 1978; Freeman, 1979). It is particularly problematic when using this literature to predict the likely impact of SSCs on AI, given that many tasks devolved to SSCs are “auxiliary” in nature and so less obviously affected by complexity.

Primary hypothesis

Much contingency research examines whether larger organizations achieve economies of scale in administration. This is highly relevant to SSC reforms, given the intention is to replicate such economic advantages through inter-organizational collaboration (Elston et al., 2015). Scale economies occur when indivisible factors of production receive fuller utilization from increased output, when greater workload allows specialization of method and personnel, and when quantity discounts are achieved from external suppliers (Shepherd, 1990). Evidence of such economies in administrative work (rather than production) is mixed, although more studies confirm than refute the advantages of scale. Administrative economies have been reported in manufacturing firms (Rushing, 1967; Pondy, 1969), government agencies (Blau & Schoenherr, 1971; Boon & Wynen, 2017), school districts (Holdaway & Blowers, 1971), hospitals (Anderson & Warkov, 1961; Tosi & Patt, 1967), universities (Hawley et al., 1965; Rutherford, 2016), and labor unions (Campbell & Akers, 1970). Conversely, diseconomies of scale – that is, higher AI in larger organizations – have been found in school districts (Terrien & Mills, 1955; Daft, 1978), labor unions (Raphael, 1967), and church administration (Hinings & Bryman, 1974). Moreover, some studies find no association between aggregate AI and size (Baker & Davis, 1954; Child, 1973; Freeman, 1973).

What explains these contradictory results? Research design, inconsistent measurement and statistical error may all have contributed,² but there are also several substantive explanations. One counterargument to the bigger-is-better logic is that scale economies apply more to capital- than labor-intensive activities. Coates and Updegraff (1973, p.578) argue that “indivisibilities of factors ... usually refer to machines and not to men,” and suggest that administrators are more readily repurposed to reduce idle capacity. Thus, small organizations are not necessarily less efficient. Another explanation is that the diverse activities included in the aggregate category “administration” are differently related to size – see Hypothesis 3, below. Finally, research suggests there is a trade-off between the size and complexity of operations (Rushing, 1967; Pondy, 1969; Campbell & Akers, 1970). Increased output generally creates more “differentiated” organizations, with more tasks, more departments and more interdependencies between them (Blau, 1970; Blau & Schoenherr, 1971). This is particularly so if new functions are added rather than existing functions expanded, since the overall diversity of operations increases. Differentiation increases the demand for coordination, which is met by increased administrative effort, meaning that, overall, “large size ... has opposite effects on the administrative component, reducing it because of an economy of scale in supervision, and raising it indirectly because of the differentiation in large organizations” (Blau, 1970, p.201). The balance of gains and losses determines the level of AI and explains at least some of the variation noted above.

From this large body of research on administrative resourcing in organizations, the core argument behind SSC reforms is found to be plausible but not infallible. Several additional assumptions are required if strong efficiency gains to be hypothesized for inter-organizational collaboration. First,

² Over a number of years, scholars debated whether inconsistencies in AI studies were due to the so-called “definitional dependency” problem of using ratio variables with common factors on either side ($[A/A+P] : A+P$) led to inherent bias towards negative correlations (Freeman & Kronenfeld, 1973; Dogramaci, 1977). For a time, these concerns had a large impact on the literature. Latterly, however, they were proven unjustified, and the alternative approaches that had been explored deemed inferior; although another problem of exaggerated measurement error in ratio variables was found (MacMillan & Daft, 1979).

automation of administrative tasks and growing use of labor-saving “enterprise resource planning” software have brought significant capital investments to the modern organizational back-office (Kamal, 2012; Fishenden & Thompson, 2013). Thus, the potential for fuller utilization of indivisibilities through increased output is greater now than historically, making administrative economies of scale more likely. Second, although inter-organizational collaboration increases the need for coordination, similarities between councils – for example, their delivery of similar public services in a comparable policy and regulatory environment – mean that it is the volume rather than the diversity of output that increases. Consequently, the added complexity (and associated costs) of producing administrative services for multiple councils should be limited, again increasingly the likelihood of scale economies.

Therefore, following the major claim of the SSC reform movement, our first hypothesis expects an economy of scale in the administrative functions allocated to an SSC, resulting in a reduction in AI in local authorities that is related to their level of participation in SSCs:

- *Participation in administrative shared service arrangements is associated with a reduction in administrative intensity in local authorities (Hyp₁)*

Supplementary hypotheses

Most research cited above analyses homogenous samples of organizations to pinpoint the effect of output on AI. However, comparative analysis of heterogeneous organizations suggests that organizational technology is also a major determinant (Ward et al., 1992; Ward, et al., 1997). Here, “technology” refers to the processes involved in completing primary production tasks, which vary between manufacturing and service organizations, as well as within these subtypes (Kimberly, 1976, p.594). Commonalities among English local authorities provide a natural control for the influence of technology in our evaluation. However, there are five different categories of local authority, with somewhat distinct service portfolios. Therefore, for a fuller evaluation, it is useful to consider each group separately, as well as the totality. In addition, research already identifies somewhat distinct AI profiles for different types of authority, with district councils having much higher administrative ratios than others (Andrews & Boyne, 2009). Assuming that a higher baseline of administrative resourcing provides greater opportunity for reduction, the potential gains from inter-organizational collaboration are likely to be greatest for district councils. Therefore, our second hypothesis is:

- *The effect of shared service participation on administrative intensity varies by type of local authority, with district councils benefiting most (Hyp₂)*

Administration is a heterogeneous category of work, and different administrative tasks may respond differently to the increased output of a SSC. Thus, type of activity shared could be a third major influence on reform outcomes, after scale and baseline AI. As noted, research tends to adopt a catch-all, dichotomous definition of administration as anything other than “production.” Over time, this simplification was addressed by examining how increased output affected the ratio of individual administrative occupations within organizations (Baker & Davis, 1954; Child, 1973; Ward, et al., 1992), or by grouping administrative occupations into subcategories – generally, managerial tasks, professional and technical tasks, and clerical tasks (Rushing, 1967; Blau & Schoenherr, 1971; Freeman & Hannan, 1975; Emmert & Crow, 1988; Ward, et al., 1997).

Most studies found that managerial administration readily achieves economies of scale (Holdaway & Blowers, 1971; James, 1972; Kasarda, 1974; Ward, et al., 1997; Rutherford, 2016; an exception is Coates & Updegaff, 1973). Clerical staff extend the reach of managers so that they achieve a wider “span of control” without additional effort (Ouchi & Dowling, 1974), and greater reliance on rules and standard procedures (“formalization”) enables coordination and control without additional

supervisors (Andrews & Boyne, 2014). Conversely, research typically finds no scale economy, or a diseconomy, for the professional-technical and clerical categories of administration, (Baker & Davis, 1954; James, 1972; Kasarda, 1974; Daft, 1978). For example, Ward et al (1992) identify a positive association between organizational size and proportion of staff in accountancy, personnel, and purchasing functions for all types of organization barring mass-production industries.

Collectively, this research indicates that SSC reforms may be too optimistic about the breadth of administrative work suited to inter-organizational sharing. SSCs contain many clerical and professional functions (like payroll administration and legal counsel), even though studies find that “staff” rather than “auxiliary” administration most readily achieves scale economies. Nevertheless, as already noted, information technology and robotics have modified the once labor-intensive clerical function, so that there may now be potential for economies where previously there was not. Hence, our third hypothesis expects the benefits of sharing different types of administrative tasks to be ranked thus:

- *The effect of shared service participation on administrative intensity is greater for managerial and clerical administration than for professional administration (Hyp₃)*

DATA AND METHODS

Research design

To test these three hypotheses about the effects of SSC adoption, we performed longitudinal analysis on organizational and financial data from the 317 English local authorities (out of 353) for which sufficient financial data was available. By using the relative *change* in administrative intensity (as defined below) for each local authority between 2008 and 2016, we obtained the advantages of a longitudinal design by comparing each organization with itself over time during a period which saw significant investment in SSC reforms. This is a form of change score analysis (Allison, 1990). Moreover, while limiting external validity, studying only one type of organization holds constant many factors that might otherwise affect levels of AI (Scott, 1975; Kalleberg et al., 1996). Specifically, research suggests that AI is influenced by: economic sector – public, private, hybrid (Rushing, 1976; Emmert & Crow, 1988); organizational growth or decline, and the rate of change (Freeman & Hannan, 1975; Freeman, 1979; McKinley, 1987; DeWitt, 1993); and configuration of political institutions (Kalseth & Rattsø, 1998). All these factors are all broadly constant across our sample, ensuring that any differences in AI are likely to be attributable to the variables of interest.

Variables and Data Sources

Dependent Variables (DVs): Changes in Administrative Intensity

The change in AI from 2008 to 2016 was calculated from the annual Local Government Finance Statistics published by central government.³ Within these, “Management and Support Services” (M&SS) spending covers administrative services such as human resources, finance, legal, and ICT services. Three measures were calculated: (i) total M&SS as a percentage of total gross expenditure⁴ (AI_total); (ii) M&SS employee expenditure as a percentage of total employee expenditure (AI_employee); and (iii) M&SS “running costs” (the “non-employee” component of M&SS costs) as a percentage of total gross expenditure (AI_running_costs). The three measures allowed us to capture whether there was an overall change in administrative spending, or if resources were shifted between staff and non-staff components as a result of SSC participation. All DVs were calculated as

³ Local authority financial years run from April. All dates are given as “financial year ending.”

⁴ Total gross expenditure was calculated net of internal recharges (payments between departments) to avoid double-counting.

the slope of the natural logarithm (ln) of each AI ratio against time from 2008 to 2016, which corresponds to the annual percentage change in AI. Individual AI values were excluded from the analysis if they were zero or negative in a particular year. Cases (36 of 353 LAs) were excluded where (i) M&SS spending was reported as zero in all years from 2008 to 2016, (ii) was zero in the final three years, or (iii) if there were fewer than three data-points in total. Excluded LAs showed no significant differences on any measure of SSC adoption compared to included LAs. Two-tier councils (shire counties and shire districts) were slightly over-represented in the exclusions (11-12 per cent, relative to 6 to 8 per cent of other LA categories).

Independent Variables

The data source used to construct the index of SSC participation was the 2016 edition of the “Shared Services Map” from the Local Government Association. The following variables were obtained by coding the dataset:⁵ (i) the number of administrative activities (collaborative arrangements for non-administrative, productive tasks like social care services were excluded); (ii) whether the SSC involved dedicated organizational resources or was “non-institutionalized” (e.g. a contractual framework for procuring legal services from a third party, or a single shared employee); and (iii) (for testing Hyp₃) categorization of each administrative activity as “clerical,” “professional” or “managerial.” “Clerical” included routine delivery of HR, IT, finance, revenues, pensions, procurement, and facilities functions; “professional” included legal and audit functions, as well as advisory or consultancy roles; and “managerial” comprised shared management teams (but where each LA retained its separate operational staff). Two additional measures, the age of each SSC and the number of participating LAs and other public bodies, were also obtained from the dataset. In a small number of cases, where there was insufficient or incomplete evidence in the LGA dataset, information was obtained online or by contacting the LAs concerned.

The index of participation in SSCs ($Index_{\alpha}$) was constructed as follows.

- i. First, the contribution of each SSC to the index was calculated as follows:

$$Index_{SSC} = (\text{number of administrative activities}) \times \log(\text{participants}) \times (\text{nonlwt})$$

where *nonlwt* was 0.2 for non-institutionalized SSCs (as defined above) and 1.0 for all other SSCs.

- ii. Then, the total index for each LA was calculated as the sum of all contributions of all SSCs in which that LA participated:

$$Index_{LA} = \sum Index_{SSC}$$

⁵ Once the coding categories were agreed, a test set of SSCs was coded by both authors and the coding criteria refined accordingly. Then, the whole dataset (downloaded 18 October 2016) was coded by each author and any discrepancies resolved by discussion. Coder agreement was 75-94% for all coded variables before discussion. The coding procedure resulted in the identification of some duplicate SSCs (and LAs within SSCs) which were removed or corrected before analysis.

- iii. Finally, each LA was assigned a level of participation based on the quartiles of $Index_{LA}$. This level ($Index_Q$) was used as the independent variable and took the following values: 1 = zero, 2 = low, 3 = medium, and 4 = high.
- iv. To test Hypothesis 3, three supplementary indexes were created for each LA in a similar way to $Index_{LA}$, counting only administrative activities falling within each of the categories “clerical,” “professional” and “managerial” as described above. The levels of participation for each index were assigned as follows: $Index_{CLER}$ and $Index_{PROF}$ (zero, low, high), and $Index_{MANAG}$ (zero, non-zero).

We assume that SSCs have no effect on AI in their year of creation or in the following year, and that effects on AI should be most marked in the following four years. Thus, we included only SSCs that were created no more than four years before the start of the period for which we have AI data (2008-2016), and no less than two years before the end. This approach is justified by existing qualitative evidence of the protracted nature of SSC implementation, and by the “learning curves” noted in industrial economies, whereby economies of scale accrue over a period of time as trial and error brings gradual improvements (Shepherd, 1990, pp.218-219).

Another variable expected to influence AI was category of LA. There are five categories in England, each having somewhat different structures and responsibilities. These are either two-tier authorities (Shire Counties (SC) and their associated Shire Districts (SD)), or one-tier: London boroughs (L), metropolitan districts (MD), and unitary authorities (UA).

Other independent variables were included to control for differing social and economic factors that may influence how resources are allocated by individual LAs, especially in a period of spending cutbacks. Included was a proxy for the overall output of each LA (estimated as the population of the area served), the rural or urban nature of the area (estimated as population density), the demographics of the population served (estimated as the ethnic diversity and the age diversity Gini-Simpson indices (Jost, 2006)) and the level of deprivation (estimated as the proportion of lone-parent households). Data were sourced from the Office of National Statistics, with population and household data being mid-2015 estimates, and age and ethnicity taken from the 2011 UK-wide Census. Descriptive statistics for these variables are shown in Table 1, distinguishing unitary and upper-tier authorities (L, MD, SC, and UA) from lower-tier authorities (SD).

Statistical Model

Hypotheses 1, 2 and 3 were tested by ordinary least-squares (OLS) regression using the R statistical package (R Core Team, 2012), and the results are shown in Tables 2 to 5. The dependent variables (the slope of $\ln(AI)$ against time) were leptokurtic (i.e. had “fatter tails” than a normal distribution), and were evenly distributed around zero. These were transformed using an arcsinh function (a signed pseudo-logarithm) to meet normality criteria, as assessed by the Shapiro-Wilk normality test (Lupton et al., 1999; Thode, 2002). Independent variables were transformed where necessary to reduce skewness: positively skewed variables (population, population density and ethnic diversity) were log-transformed, and age diversity, being negatively skewed, was squared. The model fits were found to be homoscedastic (had constant error variance) on the Breusch-Pagan test (Breusch & Pagan, 1979), apart from the model fits including $AI_running_costs$. Robust standard errors were therefore estimated to compensate for heteroscedasticity in those models.

RESULTS

Descriptive Statistics

Total spending in English local authorities over the period 2008 to 2016 increased in real-terms⁶ from 2008 to 2010, then fell by about 17 per cent from 2010 to 2016. Total employee costs fell by about 30 per cent in real terms from 2010 to 2016, while total non-employee (“running”) costs fell by 7 per cent. The category of Management and Support Service spending (M&SS, used to calculate AI) showed similar trends to total expenditure, falling about 20 per cent in real terms from 2010 to 2016. Hence, AI (the ratio of M&SS to total spending) remained relatively constant at about 8-9 per cent of total spending over the whole period.⁷ As shown in Table 1, in 2016, lower-tier LAs (“shire districts,” SD) had on average higher AI than other types of LA (a difference that was statistically significant even after controlling for population), and showed a fall in all three measures of AI (though the fall in AI_running_costs was not quite statistically significant). Upper-tier and unitary LAs, taken as a group, showed no significant change in AI_total or AI_running_costs, but a significant *increase* in AI_employee. Overall, LAs showed slight but significant decreases in AI_total and AI_running_costs.

The level of participation in shared services in 2016 was high, with about three-quarters of LAs participating in one or more relevant SSC, and some taking part in up to eleven. SSCs served between two and over 100 separate clients. SSCs were created throughout the period from 2000 to 2016, but with a substantial majority (78 per cent) appearing since 2010, when local authority retrenchment began. Only SSCs created between 2004 and 2014 were included in our analysis, as described above.

⁶ Costs are corrected for inflation by means of the GDP deflator series produced by HM Treasury.

⁷ The AI averages shown in Table 1 are dominated by the numerous lower-tier LAs and hence do not represent the overall proportions of total local government spending.

Table 1. Descriptive statistics for the English local authorities included in the analysis^a

	All LAs (n = 317)		Unitary and upper-tier LAs (n = 140)		Second-tier LAs (Shire Districts) (n = 177)	
	Mean	StdDev	Mean	StdDev	Mean	StdDev
<i>Administrative intensity in 2016 (Management & Support Services costs as a percentage of relevant total costs)</i>						
AI_total	23.4	18.8	7.9	3.7	36.0	16.6
AI_employee	25.9	20.6	9.4	3.9	39.3	18.9
AI_running_costs	11.6	9.6	4.2	2.7	17.4	9.1
<i>Relative annual percentage change in AI from 2008 to 2016</i>						
Change in AI_total	-1.49** ^b	9.48	-0.47	9.99	-2.29***	9.01
Change in AI_employee	0.25	9.10	3.14***	8.89	-2.04**	8.62
Change in AI_running_costs	-1.37*	11.25	-1.48	13.55	-1.29	9.07
<i>Independent variables</i>						
Index of participation in shared services ($Index_{LA}$)	4.14	5.40	3.43	5.40	4.70	5.36
$Index_Q$ (quartiles of $Index_{LA}$, 1 = no participation to 4 = high participation)	2.58	1.10	2.29	1.13	2.81	1.03
Population	217,868	223,339	356,920	278,086	107,884	30,614
Population density	1,700	2,526	2,876	3,305	769	924
Lone parent households (percentage of all households)	6.60	1.71	7.47	1.87	5.92	1.20
Ethnic diversity index	1,814	1,779	2,709	2,188	1,107	872
Age diversity index	8,787	72	8,772	96	8,798	41

a. 12 unitary or upper-tier LAs and 24 lower-tier LAs were excluded from the analysis as they reported insufficient M&SS data to calculate the relative change in AI over the period.

b. Slopes significantly different from zero: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Hypothesis Tests

Hypothesis 1. Participation in administrative shared service arrangements is associated with a reduction in administrative intensity in local authorities

The results from the OLS regression analysis are presented in Table 2. This shows that there was no statistically significant relationship between $Index_Q$ and the change in AI using any of our three measures (AI_total, AI_employee or AI_running_costs). Thus, level of participation in SSCs was not associated with a change in AI (in either direction), and **Hypothesis 1 was not supported**. The same result was obtained if $Index_Q$ was replaced by a simple count of SSCs for each LA, or by a binary variable (participation / no participation in SSCs). There was, however, a statistically significant positive relationship between population served by each LA and change in AI_total and AI_employee.

Thus, LAs serving larger populations tended to show a smaller decrease (or indeed an *increase*) in their administrative intensity (AI_total and AI_employee) over the period compared with LAs serving smaller populations. As population is a proxy for organizational size, this variable is likely to reflect different types of LA. AI_running_costs showed a marginally significant relationship with age diversity. However, it should be noted that only a very small proportion of the variance in the change of AI was explained by the variables in our model, with R-squared only exceeding 0.1 for the change in AI_employee.

Table 2. Relationship of the change in administrative intensity and the level of participation in shared service arrangements

	Dependent variables								
	Change in ln(AI_total)		Change in ln(AI_employee)		Change in ln(AI_running_costs)				
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error			
(Intercept)	-5.34	4.59	-2.21	3.98	-9.67	4.23	*		
<i>Index_Q</i>	0.07	0.06	0.01	0.05	0.08	0.05			
ln(population)	0.30	0.09	**	0.43	0.08	***	0.08	0.09	
(Age diversity)^2	0.00	0.00		0.00	0.00		0.00	0.00	*
ln(Ethnic diversity)	-0.05	0.11		0.07	0.10		-0.07	0.10	
ln(Population density)	-0.03	0.08		-0.08	0.07		0.03	0.07	
Percentage of lone-parent households	0.02	0.05		0.05	0.04		-0.01	0.05	
N	317		317		317				
F statistic	2.37 on 6 and 310 DF, p= 0.030		6.96 on 6 and 310 DF, p<0.001		1.90 on 6 and 310 DF, p= 0.081				
Adjusted R-squared	0.025		0.102		0.017				
p-value for Studentized Breusch-Pagan test ^a	0.433		0.627		0.025				

Significance codes: * p < 0.05; ** p < 0.01; *** p < 0.001.

^a Where the Breusch-Pagan test indicated heteroscedasticity, robust standard errors gave similar levels of significance.

Including LA type as an explanatory variable (Table 3, LA type = L is the reference category) confirmed that the effect of population was largely due to differences in LA type, with the smallest authorities (Shire Districts, SDs) showing significantly more negative trends in AI_total and AI_employee than the others. So although SDs had a much higher overall AI throughout that period, they managed to cut the ratio of administrative employee costs to total employee costs proportionally much more than did other types of LA. Indeed, Table 1 shows that AI_employee actually rose on average by over three per cent a year for all LA types other than SDs. Nevertheless, controlling for LA type made no difference to the relationships between *Index_Q* and the DVs, which remained non-significant.

Table 3. Relationship of the change in administrative intensity and the level of participation in shared service arrangements controlling for type of local authority

	Dependent variables						
	Change in ln(AI_total)		Change in ln(AI_employee)		Change in ln(AI_running_costs)		
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	
(Intercept)	-9.72	5.36	-4.34	4.52	-11.89	4.94	*
<i>Index_Q</i>	0.09	0.06	0.04	0.05	0.09	0.06	
ln(population)	0.13	0.15	0.06	0.12	-0.11	0.14	
LAtype = MD	-0.54	0.36	-0.56	0.30	-0.39	0.33	
LAtype = SC	-0.50	0.46	0.10	0.39	0.03	0.42	
LAtype = SD	-0.92	0.36	-1.02	0.30	-0.58	0.33	***
LAtype = UA	-0.72	0.34	-0.35	0.29	-0.42	0.32	*
(Age diversity)^2	0.00	0.00	0.00	0.00	0.00	0.00	**
ln(Ethnic diversity)	-0.07	0.11	0.07	0.09	-0.08	0.10	
ln(Population density)	-0.06	0.08	-0.10	0.07	0.02	0.08	
Percentage of lone-parent households	0.00	0.05	0.04	0.04	-0.01	0.05	
N	317		317		317		
F statistic	2.13 on 10 and 306 DF, p=0.020		6.98 on 10 and 306 DF, P<0.001		1.66 on 10 and 306 DF, p= 0.089		
Adjusted R-squared	0.035		0.159		0.021		
p-value for Studentized Breusch-Pagan test	0.483		0.711		0.002		

Significance codes: * p < 0.05; ** p < 0.01; *** p < 0.001.

Hypothesis 2. The effect of shared service participation on administrative intensity varies by the type of local authority involved, with district councils benefiting most.

To test whether the relationship of the DVs and *Index_Q* varied by LA type, interaction effects between LA type and *Index_Q* were included in the regression. The results are shown in Table 4. No significant interaction terms were found, confirming that Hypothesis 2 was not supported. No individual LA type demonstrated a significant relationship of *Index_Q* with change in AI after controlling for explanatory variables, and there was no evidence that district councils (SDs) benefited more from SSC participation, despite their higher baseline AI. The same tests run with LAs split into just two types (shire districts and all other LAs) similarly found no significant interactions between LA type and SSC participation (data not shown).

Table 4. Relationship of the change in administrative intensity and the level of participation in shared service arrangements interacted with the type of local authority

	Dependent variables						
	Change in ln(AI_total)		Change in ln(AI_employee)		Change in ln(AI_running_costs)		
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error	
(Intercept)	-8.16	5.52	-4.14	4.63	-11.50	5.09	*
<i>Index_Q</i>	0.28	0.17	0.03	0.14	0.16	0.16	
LAtype= MD	-0.21	0.72	-1.08	0.61	0.22	0.67	
LAtype = SC	0.17	0.99	0.95	0.83	-0.14	0.91	
LAtype = SD	-0.32	0.60	-0.90	0.51	-0.41	0.56	
LAtype = UA	-0.19	0.62	-0.54	0.52	-0.19	0.57	
ln(population)	0.13	0.15	0.06	0.12	-0.11	0.14	
(Age diversity)^2	0.00	0.00	0.00	0.00	0.00	0.00	*
ln(Ethnic diversity)	-0.07	0.11	0.06	0.10	-0.07	0.10	
ln(Population density)	-0.06	0.08	-0.09	0.07	0.01	0.08	
Percentage of lone-parent households	0.01	0.05	0.04	0.05	-0.01	0.05	
IndexQ:LAtype= MD	-0.12	0.30	0.28	0.25	-0.30	0.28	
IndexQ:LAtype = SC	-0.25	0.30	-0.26	0.25	0.03	0.28	
IndexQ:LAtype = SD	-0.24	0.19	-0.03	0.16	-0.08	0.18	
IndexQ:LAtype = UA	-0.22	0.22	0.10	0.19	-0.10	0.20	
N	317		317		317		
F statistic	1.63 on 14 and 302 DF, p= 0.070		5.28 on 14 and 302 DF, p<0.001		1.28 on 14 and 302 DF, p=0.219		
Adjusted R-squared	0.027		0.159		0.012		
Studentized Breusch-Pagan test	0.775		0.912		0.005		

Significance codes: * p < 0.05; ** p < 0.01; *** p < 0.001.

Hypothesis 3. The effect of shared service participation on administrative intensity is greater for managerial and clerical administration than for professional administration.

No significant relationship was found between any of the subsidiary indexes measuring sharing of different types of administration and the change in AI_total, AI_emp, or AI_rc – with or without explanatory variables. So Hypothesis 3 was not supported. Results for the DV “AI_total” are shown in Table 5.

Table 5. Relationship of the change in administrative intensity and the level of participation in shared service arrangements of different types (“clerical,” “professional,” and “managerial”).

	Dependent variable is change in ln(AI_total)					
	Estimate	Std Error	Estimate	Std Error	Estimate	Std Error
(Intercept)	-9.905	5.372	-10.200	5.344	-10.050	5.374
<i>Index_{CLER}</i>	0.051	0.081				
<i>Index_{PROF}</i>			0.140	0.078		
<i>Index_{MANAG}</i>					0.030	0.202
ln(population)	0.147	0.148	0.144	0.147	0.156	0.148
LAtype = MD	-0.536	0.361	-0.590	0.358	-0.558	0.359
LAtype = SC	-0.459	0.460	-0.461	0.457	-0.450	0.460
LAtype = SD	-0.861	0.358	* -0.918	0.358	* -0.858	0.359
LAtype = UA	-0.697	0.345	* -0.723	0.343	* -0.704	0.345
(Age diversity)^2	0.000	0.000	0.000	0.000	0.000	0.000
ln(Ethnic diversity)	-0.064	0.113	-0.089	0.113	-0.070	0.113
ln(Population density)	-0.062	0.082	-0.035	0.083	-0.058	0.082
Percentage of lone-parent households	-0.006	0.054	-0.020	0.053	-0.010	0.053
N	317		317		317	
F statistic	1.95 on 10 and 306 DF, p=0.038		2.26 on 10 and 306 DF, P=0.015		1.91 on 10 and 306 DF, p= 0.043	
Adjusted R-squared	0.029		0.015		0.028	
p-value for Studentized Breusch-Pagan test	0.518		0.423		0.196	

Significance codes: * p < 0.05; ** p < 0.01; *** p < 0.001.

DISCUSSION

Significant efficiency forecasts, sustained enthusiasm from advisors and central government, and severe budgetary pressure have all made for a large uptake of the SSC model in English local government. Three quarters of local authorities participate in one or more back-office shared service. However, in this first attempt at longitudinal evaluation using administrative rather than perceptual data, we found no significant relationship between SSC participation and change in the proportion of resources spent on administration between 2008 and 2016. This result is consistent across our three measures of AI: change in M&SS costs as a fraction of total gross expenditure; change in M&SS employee costs as a fraction of total employee costs; and change in the “non-staff” component of AI.

Over this period of retrenchment, local authorities on average maintained or slightly reduced AI, so that cuts in total council spending were accompanied by at least proportional reductions in administration, with shire districts showing on average the greatest percentage fall in AI. Since declining organizations generally shed productive functions *faster* than administrative functions, thereby *increasing* AI, this can be regarded as a positive achievement (Freeman & Hannan, 1975; Freeman, 1979; DeWitt, 1993). Nonetheless, we found no significant relationship between trends in

AI and the level of SSC participation for any category of council, or for shire districts versus the rest. Moreover, indexes distinguishing the different types of administration delegated to SSCs (“clerical,” “professional,” and “managerial”) also showed no significant relationships with change in AI. Thus, our three hypotheses were not supported, and we found no evidence of greater financial benefit from participation in SSCs.

There are at least three types of explanation for these results. First, and most contrary to current reform wisdom, is that the shared service logic does not stand up to scrutiny. It will be recalled that extensive prior research into the determinants of administrative resourcing in organizations does not provide unequivocal support for SSCs. Whilst evidence does suggest that larger organizations generally benefit from scale economies in administration, this depends on the costs of increased structural and technological complexity not outweighing the benefits of increased output, and also varies systematically between different subtypes of administrative work. In order to hypothesize significant cost savings from SSC adoption, therefore, two additional assumptions were required – namely, that similarities between English LAs limit the added burden of inter-organizational coordination, and that modernization of back-office tasks, particularly clerical administration, creates large technological indivisibilities that can be shared over greater output.

Although apparently reasonable assumptions, counterarguments are readily available. English councils do have similar public service functions, and inter-council standardization likely increased after 2010 as cutbacks forced closure of discretionary services. But how these functions are performed varies between localities, making for significant structural and technological complexity when two or more parties work collaboratively. The resulting increase in coordination itself requires additional administration (Blau, 1970), so that the net effect is neutral. Furthermore, new institutional economics highlights the “friction” arising in any inter-organizational relation, regardless of inter-party similarities (Williamson, 1985). Increases in transaction costs must be offset by production savings if collaboration is to produce a net benefit, implying that opportunities for up-scaling administration are qualitatively different in single large organizations (the subject of existing AI research) than in collaborations of multiple, smaller organizations.

As for the replacement of labor-intensive with capital-intensive technologies, there have certainly been such investments since most AI research was conducted in the 1950s-1980s. However, systems and processes vary between organizations, and considerable path dependency prevents easy migration from one software platform to another (Dunleavy et al., 2006; Fishenden & Thompson, 2013). Rationalizing this complex ICT provision is costly and a major source of overspend and delay in SSC projects (Elston & MacCarthaigh, 2016). This expenditure might defer and/or outweigh any benefits from sharing indivisibilities among multiple client organizations.

A second set of explanations for the three unsupported hypotheses is potential problems in reform implementation. Lack of implementation fidelity is reported in some SSC research (Redman, et al., 2007; Meijerink, et al., 2014), and failure to reform as intended could explain the gap between expected and actual results. If client organizations avoid using the vendor’s services, or duplicate or double-check its work, cost saving is undermined. Furthermore, even accurate implementation of SSC proposals takes time. Schwarz (2014) only considers an SSC to be fully mature after five years of implementation. If some of the partnerships included in the analysis are still at a relatively early stage of development, savings might not yet have emerged but could do so in future.

Such implementation issues probably explain part of our results, but are unlikely to be fully responsible. Firstly, lack of fidelity is only noted in a small proportion of existing literature. There is no evidence of systemic problems in LA delivery of SSC projects, and the grey literature lists many apparent success stories (for example, Chartered Institute of Public Finance & Accountancy, 2010). Secondly, the qualitative descriptions of SSCs, from which our main independent variable (*Index_Q*)

derives, report current rather than future arrangements, and are written by respondents knowledgeable of day-to-day SSC operations. So our index measures operative more than aspirational SSCs. Thirdly, illicit workarounds or duplications are unlikely to affect the M&SS data, and would instead appear in other, unanalyzed categories of the Local Government Finance Statistics. Even if such practices occur, our model would still report savings. Indeed, this implies that we actually underestimate the negative effects of SSC adoption, since non-administrative employees could now be performing administrative tasks paid for by different budgets (see Meijerink & Bondarouk, 2013, p.500). Fourthly, although reform processes can certainly be disruptive, we minimize such effects by considering changes in AI over eight years and omitting the most recently created SSCs (assuming they had neither positive nor negative effects on AI in their first two years). Still, recent SSCs with significant startup costs and/or prolonged implementation periods could increase AI and confound the analysis. These are questions for future research.

A third, more technical explanation for the results also deserves note. Using financial rather than occupational data to measure AI could hide underlying changes in administrative structure and staffing after SSC adoption. Potentially, automation and specialization mean that fewer personnel are working in higher skilled and better paid roles (see Donaldson, 2001, p.74). This is not regarded as a positive outcome, given the major promise of cashable savings. The only partial reprieve would come if constant expenditure on fewer, more professional staff led to increased *quality* of administrative support. Like most research on AI, our study cannot test this possibility (but see Rutherford, 2016; Andrews, et al., 2017).

Study Limitations

The above explanations provide a theoretically-robust account of the evaluation results. But limits to the sensitivity of our analysis could also play a role.

SSC adoption occurred in a prolonged and piecemeal fashion. Many LAs participate in multiple SSCs, often with different partners; and LAs can join existing partnerships years after they were established. All of this makes robust evaluation extremely challenging. For example, compared with similar studies examining the effects of complete organizational amalgamation on AI, there is no clear “before and after” in SSC adoption. The solution was to opt for change-score analysis rather than repeated-measures models.

Our use of administrative data, analysed longitudinally, is a considerable advance on current SSC literature; but the data is not perfect. The ideal would be for a breakdown of M&SS expenditure into subcategories of administrative work, which could then be matched with specific functions delegated to SSCs. Unfortunately, no such data is available, likely because of the enormous effort required for standardization across such a large sample of organizations. There are also inconsistencies in the data. After removing obvious inaccuracies, we assume the remaining M&SS figures accurately reflect administrative spending in LAs, and were recorded consistently across time and between councils. Others have made similar use of this data in cross-sectional studies (e.g. Andrews and Boyne, 2009). Moreover, we found that administrative spending as a percentage of total spending in 2016 demonstrated a similar relationship with population and LA type as reported by Andrews and Boyne (2009) using 2004 data, indicating that the data source is broadly consistent over time.

Our main independent variable is based on self-reported survey responses published by the Local Government Association. Ninety-six per cent of English LAs are represented,⁸ but this dataset has

⁸ This figure does not necessarily represent a 96 per cent response rate by LAs, as the entry for each SSC listed all of the participating LAs. The LGA undertakes some quality control of the responses, and we identified and corrected a few further inconsistencies during coding.

several limitations. It provides no consistent information about SSC governance (an omitted variable in our study; see Provan & Kenis, 2008), nor does it designate individual LAs as either SSC vendors or clients. It gives only the year in which the SSC was established, rather than the joining date for each LA. And while qualitative descriptions allow coding and comparison of the range of activities delegated to SSCs, they do not disclose the extent of administrative work retained in each LA, so the precise ratio of shared to retained work is unknown. Even successful SSCs that only performed limited functions for LAs would achieve only a small reduction in AI for the organization as a whole. We capture much of this nuance by weighting the SSC participation index according to the number of administrative activities performed by each SSC, and by down-weighting “non-institutionalized” arrangements. Nonetheless, without more precise quantification of work delegated to SSCs, our model is unlikely to be sensitive to small cost savings – for example, those generated by the sharing of management teams (our *Index_{MANAG}*).

CONCLUSION

This evaluation of the financial effects of shared service adoption on English local government is the first of its kind in a number of respects. No previous study has undertaken longitudinal analysis of a large administrative dataset to test the efficacy of this popular but unproven public management reform. No study has invoked the lens of organizational contingency theory, and the large and highly relevant literature on administrative intensity, to understand the aims and hypothesize the possible side-effects of SSC adoption. And, consequently, no study has yet enumerated and critiqued in such detail the assumptions behind SSC adoption, nor raised the prospect of attributing disappointing outcomes to flaws in these assumptions as opposed to problems of implementation and change management.

We analyzed the entire population of English LAs over a period of eight years, barring cases with incomplete data. This made for a large dataset compared with existing studies of AI, and an extremely large one in comparison with the emergent SSC literature. Cases showed considerable variance along the primary independent variables (our novel indexes of SSC participation), while many other relevant variables were held constant due to technological homogeneity. The evaluation results were also robust to the inclusion of demographic controls.

From this methodology, our results are unambiguous: in the aggregate, SSCs have not yet delivered the financial performance promised in the reform literature, either for local government as a whole, or for individual categories of local authority. Given the current enthusiasm for shared back-office administration in public sectors around this world, these findings have significant practical implications. At best, they suggest that the growing number of case studies and audits reporting negative outcomes should not be dismissed as isolated or extreme examples; rather, a more systematic problem may be occurring, which needs to be addressed. At worst, the results indicate the need for a more fundamental rethink about the benefits of inter-organizational collaboration in administrative services, given that critical assumptions appear to be faulty.

Some important questions remain. Firstly, our hypotheses and methods should be repeated on different samples of organizations, ideally with some of the data upgrades noted as desirable above. At this stage, there are diminishing returns to further case study research without better appreciation of the overall efficacy of the SSC model – in both public and private organizations. Secondly, where there is room for further mixed-method research is in understanding why logical assumptions about the benefits of inter-organizational sharing do not appear to be robust. For instance, to what extent are technical difficulties in rationalizing disparate ICT platforms responsible for reform difficulties, compared with, for instance, active resistance by client organizations? Are there circumstances in which the burden of inter-organizational coordination can be reduced enough

to produce positive net effects from SSC adoption? If so, what are the contingency factors? And how critical is time in determining whether or not beneficial effects accrue?

Furthermore, our statistical models captured very little of the variance in the dependent variable – the change in local authority AI over almost a decade. We found no characteristics of LAs that predicted a fall in AI, apart from the observation that lower-tier authorities showed a greater percentage fall on average. Of course, SSC participation is not the only mechanism by which a council might try to achieve economies in administrative spending. Outsourcing, innovative management, or increased use of IT might cut administration costs without SSC participation. Understanding the determinants of change in AI in local government remains an unanswered question.

In the meantime, policymakers should approach SSC reforms with significant caution on the basis of the evaluation reported here – and the extensive administrative intensity literature on which it draws.

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