The Impact of Outsourcing on State School Systems: the Case of the Academies Programme in England

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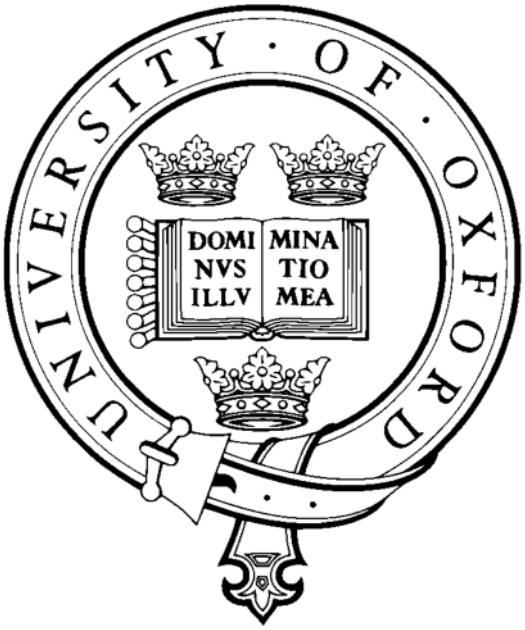

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Abstract

This thesis investigates the consequences of outsourcing the running of state schools to private providers, focusing on the Academies programme in England. The aim of the Academies programme has been to improve the efficiency and effectiveness of state school system by making schools more autonomous of the state. Nevertheless, sociologists of education have feared that Academization is accelerating the commercialization of state education and will have adverse consequences for the workforce, expenditure, and organization of the state school system. However, scholarly understanding of these issues remains limited. This is, in part, because researchers have yet to adequately exploit nationally comprehensive data sources made available by the Department for Education, except in the analysis of pupil performance. In this thesis, analyses of this data reveal that, despite the concerns of critics, Academy leaders have not prioritized the restructuring of their workforces. Academies have not substantially contributed towards the substitution of teachers by cheaper, less qualified colleagues, or the deeper penetration of managerial hierarchies. Moreover, analyses of expenditure patterns fail to find significant relationships between the extent of Academies' commercial connections and

their spending on consultancy or frontline education. Contrary to the fears of critics, corporate connections to Academy Trusts have substantially declined under Conservative-led governments, from 2010, relative to the earlier New Labour era. However, Academy-level autonomy has also declined as governments have encouraged the growth of Multi-Academy Trusts to facilitate the administration of thousands of outsourced schools. Overall, these findings challenge the empirical assumptions and theoretical expectations of both proponents and critics of the Academies programme. In so doing, this thesis makes a significant contribution to the sociology of work and education while providing an in-depth case study of outsourcing reforms of public services at a time when these policies are becoming increasingly popular in state education systems around the world.

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List of Abbreviations

API	Application Programming Interface
CTC	City Technology College
DfE	Department for Education
ESFA	Education and Skills Funding Agency
GCSE	General Certificate of Secondary Education
GIAS	Get Information about Schools Database
LA	Local Authority
LEA	Local Education Authority
LMS	Local Management of Schools
LPT	Labour Process Theory
MAT	Multi-Academy Trust
NASUWT	National Association of Schoolmasters/Union of Women Teachers
NEU	National Education Union
NPM	New Public Management
NUT	National Union of Teachers
OCSPS	Other Community, Social, and Personal Services
OECD	Organization for Economic Co-operation and Development
Ofsted	Office for Standards in Education
ONS	Office for National Statistics
PCT	Public Choice Theory
PISA	Programme for International Student Assessment
QTS	Qualified Teacher Status
RERBA	Real Estate, Renting, and Business Activities
RPT	Related Party Transaction
SAT	Single Academy Trust
SIC	Standard Industrial Classification
SPC	Schools Pupils and their Characteristics Census
SWC	School Workforce in England Census

TA	Teaching Assistant
TLR	Teaching and Learning Responsibility
URN	Unique Reference Number
UTC	University Technical College

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Chapter 1

Introduction

The Academies programme is the largest structural reform of the English school system since the opening of comprehensive schools in the 1960s and 1970s (Ball, 2017). Unlike the vast majority of state funded schools since the 1944 Education Act, Academies are independent of local government control and have a range of freedoms relating to staffing, admissions and spending not available to schools maintained by Local Authorities (LAs). Academies are run by private Academy Trusts which vary greatly in the number of schools under their control, from one to more than sixty (Department for Education, 2020a). The Academies programme is part of a wider international pattern of education reforms which have granted schools more independence from the state (Verger, Fontdevila & Zancajo, 2016). Such education reforms are themselves part of a broader policy shift in many affluent Western states since the 1970s which has aimed at reorganizing public service provision in ways that more closely resemble competitive markets (Hermann & Flecker, 2012; Jessop, 2019).

Academies first opened in 2002 and have subsequently spread rapidly. By 2020, over 9,000 English state funded schools had become Academies, 30% of primaries and 70% of secondaries (DfE, 2020a). A variety of different actors have established Academy Trusts: businesses, entrepreneurs, charities, religious organizations, education professionals, and parents (West and Bailey, 2013; Higham, 2017). The Academies programme aims to improve outcomes for pupils by making state schools more effective and efficient (Adonis, 2012). To achieve these aims, proponents of the Academies programme have sought to reorganize both

the external structure of the English school system and the internal operation of its schools (Adonis, 2012; Briggs & Simons, 2014; DfE, 2016a; Sturdy & Freedman, 2007). However, the evolution of the structure of the school system over the course of the Academies programme - the number, types, and geographical spread of Academies and Academy Trusts – has received inadequate empirical attention (Hill, Dunford, Parish, Rea & Sandals, 2012; Hill, 2010). While research has found mixed results for the impact of Academies on pupil performance (Andrews & Perera, 2017), there is little evidence for how Academies have influenced school workforces or prioritized their resources. Moreover, evidence that does exist on issues other than pupil performance is often lacking in national representativeness or adequate statistical controls (Andrews, 2020; Andrews & Lawrence, 2018; Bubb et al., 2019; Earley et.al., 2012; Salokangas & Ainscow, 2017).

The consequences of the Academies programme are of significant social importance because the state school system touches on the lives of millions of stakeholders: pupils, parents, taxpayers, workers, employers, and state officials. Understanding how the Academies programme has changed school workforces, spending priorities, and the overall structure of the state school system in England, the foci of this thesis, is also important sociologically. For the sociology of work and education, reforms intended to reorganize the school workforce raise questions related to teacher professionalism, professional jurisdictions, and inequalities in access to effective teaching. For the sociology of organizations, the Academies programme raises questions about the impact of privatization and outsourcing reforms. Has the outsourcing and marketization of education created a more autonomous, competitive, and efficient school system? Or, has Academization led to institutional chaos and greater commercial control over schools? To address these issues, for this thesis, new nationally comprehensive, longitudinal datasets of all state-funded schools in England have been constructed and analysed. These datasets contain details of school workforces and pupil populations as well as institutional and

contextual characteristics. For Academies, data was also gathered on expenditure patterns and links to the private sector.

Contrary to the aims of proponents and the fears of critics, results in chapters 3 and 4 reveal that the Academies programme has not had a large impact on the structure of the state school workforce in England. Academies are associated with increases in the percentages of teachers without formal teaching qualifications (chapter 3), increases in the percentage of teachers in managerial positions (chapter 4), and decreases in the number of teaching assistants and teachers per pupil (chapter 4) relative to non-outsourced, LA maintained schools. Estimates of changes to the percentages of teachers without teaching qualifications were greatest in Academies whose autonomy is more restricted by the power of external organizations, Multi-Academy Trusts (MATs) and Academy Sponsors, consistent with expectations that these organizations would bring more innovative approaches to the running of their schools. However, the magnitudes of these associations are small, revealing that Academies have tended to exacerbate existing tendencies rather than transform their workforces.

Concerning spending priorities, chapter 5 reveals that Academies in MATs have devoted a greater proportion of their expenditure to frontline education than those in Single Academy Trusts (SATs), which run just one school. This finding is contrary to fears that a greater commercial orientation in MATs would divert financial resources towards higher managerial salaries and consultancy activities. Moreover, evidence in chapter 5 does not support hypotheses that the extent of Academy Trusts' connections to the private sector or the geographical fragmentation of the schools under their control influence spending patterns in Academies. Concerning the organization of the Academy school system, surprisingly, Academy Trusts' links to the private sector and the geographic fragmentation of their schools declined substantially between the earlier period of the Academies programme under New Labour (2002-2010) and the later period under Conservative-led governments (2010-) (chapter

5). Counter to expectations, results also reveal that MATs in the later period are not more connected to the private sector than SATs. However, the level of autonomy for Academy schools, a core aim motivating the Academies programme, also declined.

The findings of this thesis challenge the empirical assumptions and theoretical expectations of proponents and critics of the Academies programme. In doing so, this thesis makes a significant contribution to the sociology of work and education while providing an in-depth case study of outsourcing reforms of public services at a time when such policies are becoming increasingly popular in state education systems around the world.

The State School System in England

The Academies programme is the latest in a long history of reforms to the state school system in England. Prior to the state's commitment to nationwide primary schooling in Gladstone's 1870 Education Act, schools in England had been run by an uneven patchwork of religious and charitable institutions (Ball, 2017). State secondary schools were later established during the early decades of the twentieth century after the Balfour Education Act of 1902. The 1902 Act also mandated LAs to establish Local Education Authorities (LEAs) which would administer state educational institutions within their jurisdictions. The Butler Education Act of 1944 subsequently reorganized secondary education into a tripartite system of mainly selective grammar schools and non-selective secondary moderns, with a smaller number of technical schools. However, the inequalities that resulted from examinations at age 11 to enter grammar schools led to dissatisfaction, particularly among the growing number of middle-class parents (Benn, 2012). This dissatisfaction helped spur the replacement of grammar and secondary modern schools with all-ability comprehensives, mainly between 1965 and 1979 (Jones, 2003). However, the first government of Margaret Thatcher (1979-1983) halted comprehensive

reforms before the complete replacement of grammars and secondary moderns in some areas, leaving a complicated, geographically uneven pattern of school types across England.

The ideology and education policies of the Conservative governments of Margaret Thatcher (1979-1990) and John Major (1990-1997) were to provide much of the inspiration for the Academies programme (Adonis, 2012; West & Bailey, 2013). The economic crises of the 1970s and the activities of New Right think tanks, such as the Institute of Economic Affairs and the Centre for Policy Studies, had contributed towards renewed interest in the potential for deregulated markets and private enterprise to rejuvenate the British economy (Ball, 2017). This ideological backlash against the post-war settlement provided the intellectual support for the subsequent privatization and of many state-owned enterprises (Jessop, 2019). The administration of services that remained in public control was subjected to de-bureaucratizing reforms aimed at improving efficiency and managerial effectiveness. At the same time, criticism of progressive teaching methods, the apparent underperformance of the comprehensive system, and industrial unrest in the teachers' strikes of the mid-1980s, led to renewed interest in reform of the education system (Benn, 2012). In the late 1980s and early 1990s several reforms were introduced which would leave a long legacy and inspire the Academies programme more than a decade later.

For New Right reformers, LEAs were inefficient bureaucracies whose control over schools and resistance to reform had caused underperformance and waste (Ball, 2017). The 1988 Education Reform Act of Education Secretary Kenneth Baker sought to wrest control of schools away from LEAs through the introduction of the Local Management of Schools, Grant Maintained status, and City Technology Colleges. Until the introduction of the Local Management of Schools, headteachers and school governing bodies had only a small level of discretion over their school budgets, severely limiting their operational autonomy from LEAs. Local management granted school leaders more control over their budgets in the hope that their

interest in improving their schools, rather than serving the political concerns of LEAs, would lead to the more efficient and effective allocation of school resources. Grant Maintained status further weakened the power of LEAs by allowing schools to opt out of LEA control if supported by a parental ballot. However, the first Labour government of Tony Blair subsequently reincorporated Grant Maintained schools into LEA administration as 'foundation' schools. LEAs had also controlled the opening and closing of new schools and the expansion of existing schools, which reformers considered to cause unacceptable supply-side inflexibility. The 1988 Act therefore legislated for the creation of a wave of new City Technology Colleges (CTCs) to be established around the country and run independently of LEAs by sponsoring organizations and individuals from the private sector.

Although only fifteen CTCs eventually opened, their example was particularly influential for the creator of the Academies programme, Andrew Adonis, policy adviser and schools minister in the New Labour governments of Tony Blair (Adonis, 2012). For Adonis, comprehensive reforms and the continued power of LEAs as managers of schools had created a chronically underperforming state school system in England: schools lacked operational autonomy; leadership was weak and ineffective; teacher morale and occupational status was low; standards were lax; class fatalism towards pupils was deeply entrenched; pupils failed to reach their full potential in public examinations; and parental power and choice in school admissions was inadequate. Whereas, independence from LEA control, strong leadership and high standards for pupils had, for Adonis, made CTCs a success. Indeed, a number of CTCs were among the top performing state schools in the country. In addition to the example of CTCs, Adonis acknowledges the influence of independent state school reforms in other countries, particularly Sweden's Free Schools and the USA's Charter Schools in the formulation of the Academies programme (2012). Their model of school governance -

autonomy from local government control and strong leadership from private sector sponsors - is similar to that of CTCs.

The Academies Programme

The City Academies programme was announced by Education Secretary David Blunkett in a speech to the Social Market Foundation in March 2000. The word 'City' was dropped in 2002 to allow the programme to expand into other areas (West & Bailey, 2013). Academies would take over secondary schools with a history of poor performance and would be independent of LEA control. Sponsors would own and operate Academies through private companies with charitable status, Academy Trusts, and would provide around 20% of capital costs for new facilities for their schools (up to £2 million), a requirement dropped in 2009 (West & Bailey, 2013). Sponsors were to include businesses, entrepreneurs, churches, and voluntary sector organizations. Sponsors would have a range of freedoms over staffing, admissions, curricula, and the school calendar not available to schools maintained by LEAs. Academies would not be bound by national agreements on pay or working conditions. Their leaders would also take over responsibility for a range of functions from LEAs (human resources, staff training, facilities management, payroll, pensions, procurement). Academies were legally constituted by the Learning and Skills Act (2002) and Education Act (2002). The first three opened in the academic year 2002-2003 and, by the end of the Labour government in May 2010, just over 200 Academies were in operation throughout England (West & Wolfe, 2018).

With the change of government in May 2010, the nature and scope of the Academies programme also changed. While in opposition, the future Education Secretary (2010-2014), Michael Gove, had been vocally supportive of the Academies programme (West & Bailey, 2013) and a report for Policy Exchange, a think-tank founded by Gove, had called for the

expansion of the programme (Sturdy & Freedman, 2007). Shortly after the 2010 election, the Academies Act (2010) was passed, which aimed at making Academy status 'the norm for all state schools' (DfE, 2010, p.52). The Act therefore transformed the Academies programme from a policy focused on linking underperforming secondary schools with Sponsors, who would provide both the finances and expertise to help turn schools around, to one of mass Academization. For the first time, the 2010 Act permitted schools that were not underperforming, as well as primaries, to become Academies. Moreover, in a significant shift, existing schools that were performing well were not obliged to be linked with a Sponsor when converting to Academy status. These schools became known as Converter Academies. Schools rated 'Outstanding' by Ofsted were pre-approved for conversion and restrictions were quickly relaxed to permit all schools that were performing well to apply to become Converter Academies from April 2011. Thus, while Converter Academies bear the name 'Academy', implying continuity with the pre-2010 reform, these schools differ substantially in their prior performance and their governance arrangements from the earlier Sponsored Academies. Nevertheless, schools performing poorly have been increasingly encouraged and compelled to become Sponsored Academies, as they were before 2010.

In addition to Sponsored and Converter Academies, the 2010 Act created other types of Academy. Free Schools are newly founded Academies, in contrast to Academies which replace existing schools, and are set up by existing Academy Trusts or other groups (businesses, entrepreneurs, churches, parents etc.) which then establish a new Academy Trust. The 2010 Act created two specialist subtypes of Free School: Studio Schools and University Technical Colleges (UTCs). Studio Schools are small establishments with around 300 pupils which teach mainstream qualifications using project-based methods in close collaboration with local employers. UTCs are set up by universities and employers to provide specialist technical education for pupils aged 14-19. Non-Academy schools still maintained by Local Authorities

are known has ‘LA maintained’ schools, the term used to refer to such schools throughout the rest of the thesis. While the government ultimately retreated from the aim in its 2016 White Paper, *Educational Excellence Everywhere,* of making all state funded schools Academies by 2022 (DfE, 2016a), the number of Academies has continued to increase each year. As of the end of the academic year 2019-2020, there were 6,200 Converter Academies, 2,400 Sponsored, 500 Free Schools, 50 UTCs, and 24 Studio Schools in operation; 30% of state funded primary schools and 70% of secondaries (DfE, 2020a).

The Academies programme ostensibly aims at improving pupil performance by granting state schools more autonomy from local government. This autonomy permits school leaders to take more innovative approaches to the management of their schools, which is further encouraged by competition between Academies and Academy Trusts (Adonis, 2012; DfE, 2010). However, it may be objected that schools in England already exercised considerable autonomy before the advent of the Academies programme. Substantial autonomy had been granted to schools via Local Management of Schools arrangements as well as in the legal enshrining of the power of school-level governing bodies’ over school finances and staffing appointments (West & Wolfe, 2018). Indeed, before the mass expansion of the Academies programme from 2010, England’s schools already ranked amongst the most autonomous in the world (OECD, 2010). The ostensible rationale for the Academies programme – that England’s state schools were underperforming because of a lack of autonomy – has therefore been drawn into question by critics, whose concerns about commercialization and workforce degradation are considered in greater detail in the section on theoretical expectations, below.

While there was a sharp discontinuity in the nature and scope of the Academies programme between its earlier (pre-2010) and later (post-2010) phases, there have also been profound, but more gradual, developments concerning the structures that govern Academies, particularly those governing multiple Academies, such as MATs. In the earlier phase of the

Academies programme, and in the first years of the post-2010 programme, Academies were grouped together under a variety of structures which were frequently referred to as 'chains' (Hill, 2010; Hill et al., 2012). As West and Wolfe (2018) have pointed out, the term 'chain' was used imprecisely to refer to a variety of structures: loose 'Collaborative Partnerships' in which Academies informally cooperated with each other; 'Umbrella Trusts' under which groups of legally independent Academy Trusts established a single overarching organization; groups of Academies, potentially in different Academy Trusts, with the same lead Sponsor ('Sponsored Academy Chains'); and Multi-Academy Trusts, single entities legally responsible for running multiple Academies, whether Converter or Sponsored (Hill et al., 2012).

Over time, the importance of Multi-Academy Trusts in the Academy governance landscape has grown in relation to other structures. Under Lord Hill, minister for schools from 2010-2013, MATs were viewed as a particular solution for supporting underperforming schools. In this period, large MATs were encouraged to share their expertise with underperforming schools by building nation-wide networks of schools (Greany & Higham, 2018), while many better-performing schools formed SATs. However, the enormous expansion of the Academies programme in this period and the rapid growth of many MATs contributed towards the underperformance of some Academy Trusts as well as difficulties in ensuring financial probity in the new system (Male, 2017). From 2013-2014, under a new minister, Lord Nash, the growth of large MATs was therefore paused. In addition, the government created eight Regional Schools Commissioners (in 2014) and one National Schools Commissioner (in 2016) to more effectively oversee the new system (Foster & Long, 2016). Regional Schools Commissioners are responsible for organizing the conversion and sponsorship of new Academies and the rebrokering of existing Academies to alternative Academy Trusts in the event of persistent underperformance, the closure, or merging of Academy Trusts.

In this period, both the role and the scope of MATs were reconceptualized. MATs would help to ensure the coherence and effectiveness of the Academies system. In a system which now included thousands of schools, Trusts, and Sponsors, MATs would link together clusters of Academies on a more local scale. In these local MATs, financial oversight and performance management would be less problematic than in their nation-wide counterparts. To encourage schools to join MATs, the government promoted the advantages of membership to the leaders of schools and Academy Trusts: economies of scale, easier collaboration, efficient administration, and professional management (DfE, 2016a). Thus, the role of MATs shifted from being a particular arrangement for supporting underperforming schools, to the standard structure that should govern all schools. From 2017, under Lord Agnew, smaller MATs were encouraged to merge to form MATs of 12-20 schools in order to deliver economies of scale and ensure financial viability (Greany & Higham, 2018). By September 2018, there were 6,400 Academies in MATs and 1,300 Academies in SATs (DfE, 2020a).

Theoretical Expectations

Expectations related to the three principal empirical foci of this thesis - the workforce, spending priorities, and organization of the Academies school system - can be usefully collected into three sets. A first set, ultimately derived from Public Choice Theory, expects significant change relative to the LA-administered system. This change is viewed as a positive contribution to school improvement. A second set of expectations, which draws on Marxist-derived theories of comparative political economy and employment relations, also expected change relative to the LA-administered system. This change is viewed negatively, as it is theorized to be part of the progressive commercialization of state education. A third set of theoretically informed expectations is less certain about the extent of change and more neutral about its implications.

Each of these sets of expectations derives from distinct theoretical traditions and emphasises different facts and value judgments. In the following three subsections, I outline each in turn.

Positive Change

Proponents of the Academies programme have sought to improve the efficiency and effectiveness of state schools by focusing on how the incentive structure of the state education system interacts with the motivations of the actors within it (Adonis, 2012). In doing so, reformers have drawn on Public Choice Theory (PCT), which applies microeconomic analysis to the spheres of politics and public spending. In contrast to the view that public sector workers are motivated by a special ethos of public service, PCT assumes that they are primarily motivated by self-interest (Gamble, 1994). Moreover, according to PCT, the absence of a profit motive in the public sector leaves politicians with little ability to monitor the performance of public services or to control the activities of their administrators (Bach & Kessler, 2012). As the public sector has traditionally been insulated from the disciplining effects of market competition, which ensures firms remain efficient, administrators are believed to engage in status enhancing and bureau-maximizing behaviour with little concern for the cost-effectiveness or quality of services (Gamble, 1994).

The implications of PCT for reforms of the public services, such as the Academies programme, were influentially developed by Julian Le Grand, Professor of Social Policy and senior policy adviser under the governments of Tony Blair (Le Grand, 1993, 2003, 2007). Le Grand argued that public services delivered by providers in competitive markets with choice for service users are of higher quality and more efficient than those directly administered by monopolistic state agencies (Le Grand, 2007). According to Le Grand, for services users to exercise choice effectively there must be publicly visible signals of service quality, such as

performance ratings or league tables. To generate competition, the choices of service users must have consequences for providers. Thus, budgets for providers should not be set by state administrators but should instead reflect demand for their services. Choice fosters competition between providers as they seek to improve the quality of their services to remain attractive to users. The 'knavish' self-serving motivations of providers therefore result in service users being treated like 'queens', with power and freedom to choose over good quality services, in Le Grand's chess metaphor (2003). In contrast, faith in the quality of direct state administration has assumed, often unreliably as Le Grand argues, that providers are motivated by a 'knightly' public service ethos. The lack of choice in directly-administered state systems means service users are treated like 'pawns' with little agency. This theoretical construction was to prove influential in the formation of the Academies programme, and similar arguments had underpinned the creation of independent state schools in the USA (Charter schools) and Sweden (Free schools) (Verger et al., 2016).

Since the late 1980s, reforms of the state school system had already adopted aspects of the PCT-informed choice and competition approach to public service provision. City Technology Colleges, Grant Maintained status, and Local Management of Schools had undermined the extent of direct administration by LAs (Ball, 2017). Ofsted inspection ratings and examination performance league tables - originally piloted by the founder of the Academies programme, Andrew Adonis (2012) - allowed parents to make more informed choices about where to send their children to school. Per pupil funding meant that schools' incomes were dependent on remaining attractive to the parents of potential pupils.

The Academies programme was intended to intensify the effects of mechanisms of choice and competition in the school system. The programme makes schools independent of LA administration and introduces new providers, Academy Trusts, into the system. In contrast to locally monopolistic LAs, Academy Trusts are encouraged to compete with each other

through the use of performance monitoring mechanisms. Parents are therefore empowered to exercise more choice between school providers, whereas choosing to send children to schools in neighbouring LAs is less feasible and exerts little pressure on LAs to improve their schools. Academies take over responsibility for buying in a range of services, such as human resources and accountancy, which had once been provided by LAs, and are free from national agreements on staff pay and conditions. A more competitive approach to sourcing services and freedom to change their workforces were intended to make the operation of schools more efficient and effective. The competitive nature of the system should then ensure that efficiency savings are reinvested in ways calculated to improve Academy performance.

For the framers of the Academies programme, LA control over the operation of schools and pupil admissions prevented competition and restricted parental choice, ultimately leading to the underperformance of the school system (Adonis, 2012; Sturdy & Freedman, 2007). Given the assumptions of the PCT approach, the greater intensity of competitive pressures for Academies and their freedom from LA administration should ensure that Academies adopt innovative approaches to improving outcomes for pupils. However, expectations for the Academy workforce, spending, and the structure of the new system are less clear. Indeed, the inability of outside actors, such as politicians, state administrators, or researchers, to fully understand how to optimize the performance of public services is a core motivation for the use of a quasi-market, choice and competition system. This insight derives from the criticism of state planning in the work of Austrian School economists such as Friedrich von Hayek, whose work influenced NPM reforms under Margaret Thatcher (Gamble, 1994). For Hayek, state administrators lack sufficient knowledge of how to distribute resources efficiently, whereas market competition facilitates efficient distribution by aggregating the partial knowledge of the actors within the system (Gamble, 1996). Thus, competition between Academies, coupled with

operational autonomy, should encourage the leaders of Academies to optimize their performance, but it is not *a priori* obvious which methods will prove to be successful.

To improve outcomes for pupils, Academy leaders may seek to increase or decrease the number of managerial staff, teachers, or teaching assistants in their workforce. They may adopt a managerial culture emphasising autonomy and engagement or one focused on control and monitoring. Concerning expenditure, Academy leaders may wish to use their freedoms to spend more on salaries to attract and retain the best staff or they may wish to devote more money to equipment and infrastructure. The Academies programme has involved a range of different actors in the running of schools: businesses, entrepreneurs, religious groups, charities, universities, and more. This ecumenical approach suggests no clear pattern for the kinds of organization that may be expected to dominate the new school system. Nor does the theoretical literature on choice and competition provide guidance for the size or geographical scope of Academy Trusts. There may be a range of types of Trust that function effectively, and these may themselves change over time. If Trusts with more schools across a wider area are more effective, then schools in this form of organization may be preferrable to parents. If smaller, more local Trusts are more effective then these may become more popular. Nevertheless, proponents of the Academies programme expect change relative to the school system maintained by Local Authorities. This change is viewed positively because it is thought to reflect school leaders' attempts to enhance the effectiveness of their schools (DfE, 2016a; Adonis, 2012; Sturdy & Freedman, 2007).

Negative Change

Research which is critical of expected changes under the Academies programme has taken a less technocratic approach. This critical approach draws on traditions of comparative political

economy and employment relations, though not always explicitly. Two such theoretical approaches, Regulation Theory and Labour Process Theory, are heavily indebted to the Marxist tradition. Hypotheses can be drawn from these theories concerning the direction of change for the workforce, expenditure, and organization of the Academies system.

Regulation Theory is a tradition of comparative political economy which has two principal assumptions: (1) that capitalist market economies are unstable and crisis prone; (2) that large-scale crises precipitate the transformation of the institutional order of capitalist society to permit a new system of accumulation (Howell, 2020; Boyer, 1990). On this view, capitalist socio-economic order exhibits a 'punctuated equilibrium' in which 'accumulation regimes', or 'growth models', are relatively stable for a period of time before becoming exhausted, leading to crisis and transformation (Howell, 2020). Accumulation regimes are distinguished by sets of regulatory mechanisms and institutions, including employment relations systems, which facilitate a characteristic form of capital accumulation. For the purposes of this thesis, the transformation from the Fordist to the post-Fordist, or neoliberal, growth regime is most pertinent.

The ideal typical Fordist growth regime was characterized by wage-led growth in which mass consumption was linked with mass domestic production (Howell, 2020; Jessop, 2002). This linkage was provided by industrial relations systems in which workers were represented collectively by trade unions in wage bargaining with employers. In the coordinated market economies of continental Europe, this took the form of national-level corporatist institutions in which unions, employers, and the state negotiated formal agreements on wages. In liberal market economies, such as the UK, bargaining institutions tended to be at the level of the workplace, but national wage agreements were common in the public sector. For regulation theorists and researchers in comparative political economy, economic crises in the 1970s, resulting variously from oil shocks, declining profits, inflation, and demographic change,

revealed the Fordist accumulation regime to be unsustainable (Jessop, 2002; Hemerijk, 2012). Since then, a 'neoliberal' accumulation regime has emerged which relies on debt, exports, and financialization to generate growth (Baccaro & Pontusson, 2016; Harvey, 2007). In contrast to the Fordist era, capital accumulation under the neoliberal growth regime is far less dependent on the growth of wages in the domestic economy. In the construction of this accumulation regime, the state has therefore actively sought to promote growth through the deregulation of markets and employment relations, and the liberalization of the 'unproductive' public sector. State-owned enterprises have been privatized and the residual public sector has been subjected to marketizing reforms (Carter, 1997a; Jessop, 1997, 2015).

While reforms to the public sector since the 1980s in Western economies have taken different forms in different states and at different times, their broad thrust has been to import private sector practices into the public sector. Researchers have grouped such reforms under the term 'New Public Management' (NPM) (Bach & Kessler, 2012). The aim of NPM has been to make public services more efficient and effective, thereby relieving pressure on public finances and the burden of taxation on the private sector. Reforms have shared a number of common features (Jessop, 2015; Bach & Kessler, 2012). The authority of public service professions over service delivery has been reduced in favour of new managerial strata. Contracts for public sector workers have become less secure and pay has become increasingly tied to performance. Public services have been increasingly contracted out to private providers, replacing the hierarchical governance of large, bureaucratic state agencies. These private providers have been encouraged to compete with each other through the introduction of quasi-market mechanisms, such as performance ratings, league tables, and competitive tendering. Reforms have thereby granted greater private sector access to the public sector and created new profitmaking opportunities in previously 'unproductive' social spending (Carter, 1997a; Sahlberg, 2011). As public services account for very large sums of public expenditure, they

represent very large potential markets for private sector firms. State education accounted for £91 billion of UK state spending in 2018-19 (Britton, Farquharson & Sibieta, 2019).

Researchers drawing on critical political economy and NPM research therefore view reforms which permit greater private sector involvement in state education as reflecting the aim of successive governments to reorganize public services according to private sector principles (Ball, 2017; Gunter & Mills, 2017; Gunter, Hall & Apple, 2017; Sahlberg, 2011; Verger et al., 2016). NPM policies, and the Academies programme in particular, have been accused of instilling a corporatized governance culture into England's schools while preparing the ground for the full-scale takeover of public education by private, profit-seeking businesses contracted by the state (Stevenson, 2011, 2013; Wilkins, 2017). The Academies programme has permitted a range of new corporate actors to become directly involved in the operation of England's state schools (Adonis, 2012; Higham, 2017; Wilkins, 2017), while also giving schools new freedoms to buy in a range of services from the private sector that were once provided by LAs (West & Bailey, 2013). From this critical perspective, it is therefore expected that, under the Academies programme, the school system will become more commercialized and increasingly dominated by Academy Trusts linked to the private sector. Academy Trusts will grow in size as private sector actors seek to maximize economic gains from involvement in the school system, meaning that the system will become dominated by large MATs.

Academies' freedoms to buy in services from the private sector and their corporate governance culture are expected to lead to 'considerable sums of public money [being] funnelled into the private sector' (Stevenson 2013, 419; Ball, 2017). Resources will be diverted away from frontline education, such as teachers' salaries, towards services which can generate private-sector profit, such as consultancy and school equipment, as well as high salaries for Academy Trust executives (Stevenson, 2013; Gunter & Mills, 2017; Bubb et al., 2019).

Moreover, given the assumptions of this approach, such diversions of expenditure should be greater in the more commercially linked, larger MATs.

Concerning the workforce, researchers have argued that NPM and the progressive marketization of state education makes Labour Process Theory (LPT) increasingly relevant for understanding developments in state schools (Carter, 1997b; Carter, Stevenson & Passy, 2010; Harvie 2006; Reid, 2003). While originating in the work of Marx (1867/1976), interest in LPT was revived by Braverman's *Labor and Monopoly Capital* (1974/1998), which argued that, under capitalism, employers must constantly revolutionize production processes to reduce costs and remain competitive. Employers therefore concentrate knowledge of the production process in a group of managers with the aim of routinizing and intensifying the activity of their workers. However, it is not at first clear how such an approach could apply to the public sector, which lacks market competition between profit-seeking firms, or what its implications might be for the Academies programme. While, traditionally, public services were administered by monopolistic state agencies, as with schools and LAs, marketizing reforms have increasing eroded this difference between public and private sectors. In education, schools have been encouraged to compete for pupils through publicly available measures of performance such as examination league tables and Ofsted ratings (Ball, 2017). Competition for pupils has become particularly important because school funding is now dependent on the number of registered pupils. Rather than profits, schools are therefore encouraged to maximize their performance to remain attractive to prospective parents, which requires school leaders to use their resources as efficiently as possible to achieve this goal (Carter et al., 2010).

The Academies programme has further intensified this process by removing schools from non-competitive LA administration and outsourcing them to Academy Trusts competing for pupils. For researchers drawing on LPT, increasing competitivity is leading to the extension of managerial hierarchies deeper into the school workforce to ensure the activities of teaching

staff align with the aim of improving public examination and Ofsted performance (Carter et al., 2010; Mather & Seifert, 2011). As these managers must ensure their workforces are responsive and cost-effective, work in schools is becoming more intense and old job boundaries are becoming blurred. More expensive qualified teachers are being substituted by cheaper, less qualified colleagues, such as teaching assistants (Carter & Stevenson, 2012; Gunter, 2007). Cheaper workers take over lower value-added tasks, such as pastoral roles, meaning that qualified teachers spend more time on relatively more intense teaching activities. Academies' freedoms relating to the organization, pay and working conditions of their staff, combined with their corporatized governance, are expected to exacerbate these trends (Stevenson, 2013). However, it is recognized that middle and lower status occupations in the workforce hierarchy cannot be degraded tout court, as changes to the workforce must be consistent with the aim of improving performance. Star teachers who take on the most important groups of pupils, such as those on the boundaries of acceptable examination grades, can expect to be retained on higher salaries. Tasks deemed less important are increasingly devolved to lower paid, less qualified staff (Stevenson, 2013).

Continuity and Contested Change

However, reformers and critics may not make history as they please. A third set of expectations can be derived from approaches that predict more continuity between Academies and LA maintained schools. Continuity may be expected because of the nature of the pre-existing state school system, institutional inertia, or the unpredictable consequences of struggle between parties with conflicting interests (Abbott, 1988). On this view, expectations of positive and negative change outlined above are derived from macro-sociological theories that are too

deterministic, placing too great an emphasis on the inevitability of change and too little on the agency of school stakeholders (Wrong, 1961; Popper, 1969; Bach, Kessler & Heron, 2007).

Although the organization of the school system will clearly change as Academy Trusts take over schools from LAs, it is not necessarily clear what kinds of Academy Trust will come to dominate the school system, if any. Running schools without the ability to directly extract profit may impose costs that are too burdensome for many private sector organizations to consider establishing Academy Trusts, contrary to expectations of commercialization under the negative change approach. In addition, the pre-existing position of religious organizations which already run thousands of schools across the country, particularly the Church of England and the Roman Catholic Church, may obstruct the theorized tendency towards commercialization. An approach emphasising the openness of possibilities also differs from expectations of positive change because it is not necessary to adopt the view that choice and competition will generate the best of all possible school systems. Pre-existing school providers such as religious organizations, LAs, and older Academy Trusts, may be hard to dislodge for newcomers. The compositions of local governments may affect the pace and nature of Academization differently in different areas (Hicks, 2016) and changes may be contested by workers and other stakeholders. In 2016, large-scale industrial action forced the government to retreat from plans to convert all state schools to Academies by 2022 (DfE, 2016a). In addition, community campaigns have repeatedly thwarted attempts to enforce the conversion of individual schools. Moreover, choice mechanisms may not work as well as theorized (Waslander, Pater & van der Weide, 2010). Parents select schools on criteria other than school performance, such as pupil composition and distance from home (Burgess et al., 2014). Parents may be fatalistic, or realistic, about the value of education for their children (Goldthorpe, 2007), and they may satisfice rather than maximize educational quality (Simon, 1978). These factors

potentially inhibit selection for providers likely to improve school performance and, therefore, the rate of change.

For school spending priorities and the school workforce, there may be more continuity than change because Academy leaders recruit staff from similar labour markets as LA maintained schools while facing similar budgetary constraints and pressures to improve their schools. Indeed, many policies which have created public signals of school performance (school league tables, Ofsted grades) and have increased parental choice over schools, were instituted long before the Academies programme (Ball, 2017). Moreover, prior to Academization, England's state funded schools already operated with substantial autonomy from the state. Indeed, the OECD (2010) found that England's school ranked amongst highest in the world in their control over finances and hiring. In addition, the vast majority of Academies have taken over existing schools and therefore inherit their workforces. Transferred workforces maintain pre-existing contractual conditions under Transfer of Undertakings (Protection of Employment) Regulations 2006, which may slow the pace of change. Academy leaders may also simply not act as expected by optimistic reformers or sceptical critics. Leaders may act more cautiously and conservatively, being neither innovative disrupters nor proto-edu-business executives. Ultimately, what change may occur may be largely idiosyncratic, reflecting the whims of Academy leaders, rather than a systematic, directional shift

Existing Evidence

Existing research has made considerable headway in understanding how the Academies programme has affected the state school system in England. However, it remains unclear which of the three competing visions of the Academies programme just outlined has proved more accurate. A substantial proportion of existing research relates to pupil performance. Although

not the focus of this thesis, as this has already been studied extensively, it is important to summarize these findings because improving outcomes for pupils has been the most salient aim of the reform and has been predicted by its PCT-inspired proponents. If results have improved, then it may be argued that other consequences of the Academies programme are justified even if considered injurious from other perspectives.

Overall, there is a wide variability in Academy performance, but differences between Academies and LA maintained schools have emerged for specific types of Academy. There is a complex pattern by year of opening, phase, pre-Academy performance, whether Converter or Sponsored and whether in a MAT or a SAT, which cannot be fully explicated here for reasons of space and scope. Researchers have found that Academies opening under New Labour (2002-2010) have had a significant positive impact on the performance of secondary pupils relative to LA maintained schools (Andrews & Perera, 2017). In addition, secondary Academies opening in the later period of Conservative-led governments (2010-) which had 'Outstanding' Ofsted ratings prior to becoming Academies have improved outcomes for the pupils. However, these are only a small minority of secondary Academies, the vast majority of which have not been found to affect pupil performance. While research has found no overall impact for primary Academies, Converter primaries in MATs have outperformed equivalent LA maintained primaries (Bernardinelli et al., 2018). The evidence for results is, therefore, only partially consistent with expectations of school improvement from the Academies programme's proponents. In the rest of this section I provide overviews of existing evidence and empirical gaps relating to the main concerns of this thesis, which have received less scholarly attention: the organization of the Academy school system, the Academy workforce, and Academy spending priorities.

Organization and Structure of the Academies System

Central issues related to the organization of the Academies system include: how the numbers of different types of Academy and Academy Trust have changed over time; the size of Academy Trusts; the geographical spread of Academies in the same Trust; the types of organization that have established Academy Trusts and the extent of their commercial connections. These are important issues, in part, because the types of organization and institutional structures in which schools are embedded are known to affect their performance, including Academies (Schleicher, 2019; Bernardinelli et al. 2018). In addition, connections between Academy Trusts and private companies have led to the misuse of public funds (Committee of Public Accounts, 2018a, 2018b; Greany & Scott, 2014).

Government datasets such as the *Get Information About Schools* database and *Open Academies, Free Schools, Studio Schools and UTCs* provide counts for the types of Academy and Academy Trust in operation at any one time. However, these data sources are regularly updated and overwritten as Academies open and close, change status, or move between Trusts. As such, collectively, existing research which relies on this data provides a patchwork of snapshots which hinders a long-term, detailed assessment of trends (DfE, 2012a, 2013, 2014; Cirin, 2014, 2017; Bubb et al., 2019). Longitudinal approaches are becoming outdated or lack detail, as they rely on simple counts of Academies or small samples (Hill et al., 2010, 2012; West & Bailey, 2013). Broadly, it is known that the number of Academy Trusts and Academies was small at the end of the Labour government in 2010. There were 272 Sponsored Academies in operation (West & Bailey, 2013). These early Academies were established mainly by religious groups and business philanthropists (Woods, Woods & Gunter, 2007). The number of Academy Trusts increased rapidly in the early 2010s as many new Converter Academies opened, many of which established new SATs rather than join existing MATs (Hill et al., 2012). New Sponsored Academies in this period increasingly joined MATs instead of creating

SATs (Hill et al., 2012). This rapid, continual change in the structure of the school system since 2010, with thousands of schools leaving LA oversight and joining or establishing new Academy Trusts answerable to the DfE, has been characterized as 'chaotic centralization' by researchers (Greany & Higham, 2018, p8). In addition, the Public Accounts Committee has criticized oversight of the state school system as, 'fragmented and incoherent' (Committee of Public Accounts, 2018a, p8).

To facilitate the more effective administration and oversight of the Academies system, the government has latterly promoted the growth of MATs and encouraged them to take a more hierarchical, corporate approach to managing their schools (Male, 2017; Greany & Higham, 2018). However, it is not known how successful the government has been in encouraging the growth of MATs at the expense of SATs, nor how this growth has affected their geographical spread (Hill et al., 2012). Nevertheless, a non-representative sample of 41 MATs has found that some are attempting to avoid 'incongruous geographic footprints' of Academies spread out over large distances (Male, 2017). Existing evidence also suggests that smaller MATs are more effective, implying that the government's promotion of larger MATs may be in conflict with the Academy system's ability to improve pupil performance (Bernardinelli et al., 2018). While research has found that many Free Schools have been founded by a 'private sector corporate elite', civil society groups and other state schools (Higham, 2017), inadequate attention has been devoted to the organizations and individuals running Academy Trusts.

The Academy Workforce

Two reports for the DfE have assessed the extent to which Academies have hired teachers without Qualified Teacher Status (QTS) (Cirin, 2014, 2017). QTS is a teacher training qualification obtained through the completion of a recognized training route and eligibility

depends on having an undergraduate degree and at least Grade C in English and Maths GCSE. The 2014 report shows that secondary Academies are more likely to hire teachers without QTS than primary Academies and that Sponsored Academies are more likely to do so than Converters. Results show a positive relationship between the length of time an Academy has been open and the likelihood of hiring an unqualified teacher. The second report found that the percentage of Academies that had hired unqualified teachers had risen from 16% to 28% between 2014 and 2016 (Cirin, 2017). The reports also finds that Academies in SATs have been more likely than MATs to increase the number of non-teaching positions in their workforce and to change staff pay structures. Around 40% of both types of Academy have changed school leadership since leaving LA control. However, neither report attempts to compare results with LA maintained schools and both rely on data collected in online surveys with very low response rates (below 33%), raising the possibility that results are driven by response biases.

A small number of studies have compared the workforce in Academies and LA maintained schools. Earley and colleagues (2012) have shown that Academies had larger school leadership teams (assistant-, deputy-, and headteachers) than LA maintained schools in the academic year 2011-2012. Bubb and colleagues (2019) similarly found that secondary Academies had larger leadership teams than LA maintained secondaries, but that the reverse held for primaries. However, an analysis using data from 2016-17 found very little difference in the size and composition of leadership teams (Andrews, 2020). Considering pupil-to-teacher ratios, Bubb and colleagues (2019) found little overall difference between Academies and LA maintained schools. However, Andrews (2020) found increasing pupil-to-teacher ratios in large MATs, faster promotion rates, and higher staff turnover than LA maintained schools. There is therefore conflicting evidence on the impact of the Academies programme on the state school workforce, implying either greater, lesser, or no change in managerial penetration of the

teaching workforce and the number of teachers. However, these studies do not control for differences in demographic and geographical characteristics which could drive or mask differences between the two types of school. Nor do analyses test whether differences are statistically significant.

In the USA, evidence supports the claim that outsourcing of school provision is degrading the school workforce. Teachers in Charter schools are less qualified, less likely to be officially certified as teachers, have less experience, and are more likely to report poor working conditions than those in traditional public schools (Barrett & Harris, 2015; Beabout & Gill, 2015; Burian-Fitzgerald, Luekens & Strizek, 2004). Teacher and principal turnover are also higher in Charters (Sun & Ni, 2016; Stuit & Smith, 2012). However, these differences partly depend on state and local school contexts (Bodine et al., 2008). Despite worse conditions and higher turnover, Charters attract teachers from more prestigious universities (Baker & Dickerson, 2006). However, differences in hiring are not driven by the preferences of school principals (Cannata & Engel, 2012), which implies that institutional reforms are insufficient to bring about cultural change in the teaching profession. Similarly, in Sweden, teachers' working conditions have worsened substantially since the onset of marketizing reforms in the early 1990s (Björklund et al., 2005). However, it is unclear to what extent this can be attributed to independent schools among the broader set of reforms (Björklund et al., 2005).

Spending in Academies

Significant concerns have been raised by the Parliamentary Public Accounts Committee about financial malfeasance in Academy Trusts (Public Accounts Committee, 2018b). Concern has arisen particularly around the issue of related party transactions, in which goods or services are purchased from companies linked to the staff of Academies or Academy Trusts. In 2016, 40%

of Academy Trusts engaged in related party transactions, which totalled £120 million (Committee of Public Accounts, 2018b). Concerns have arisen not only with the probity of financial management in Academy Trusts but also the competence. The Education and Skills Funding Agency (ESFA) has issued nearly one hundred financial notices to improve to Academy Trusts since 2014 (ESFA, 2020). In one 2017 case, Wakefield City Academies Trust, which ran 22 schools, collapsed financially.

Research for the Education Policy Institute (EPI) has found that teaching staff account for similar proportions of expenditure across different phases (primary, secondary) and types of school (LA maintained, MAT, SAT) (Andrews & Lawrence, 2018). Similarly, Davies and colleagues (2019) find little difference in spending priorities between Academies in MATs and SATs. However, they also find that Academies spend less of their budgets on teaching staff and consultancy than LA maintained schools. This contrasts with the conclusions of the EPI report and provides inconsistent evidence for critics of the Academies programme, who expected the outsourcing of schools to divert expenditure from frontline education, such as teachers' salaries, towards consultancy activities.

Since the imposition of austerity policies in 2010, secondary Academies in large MATs have experienced much greater falls in total expenditure than either Academies overall or LA maintained schools (Andrews, 2020). Academy Trust leaders claim to have found efficiency savings in the budgets of their Academies, according to reports commissioned by the DfE (Cirin, 2014, 2017). Savings have been made, in part, through the outsourcing of legal, payroll and human resource operations, which Academies take over from LAs. However, quantitative analyses have failed to find evidence for this (Bubb et al., 2019; Davies et al., 2019). On the contrary, the analysis of Bubb and colleagues (2019) reveals that the larger the Academy Trust, the greater the expenditure per pupil. This is hypothesised to be the result of greater expenditure on senior managerial positions, which is found to have no discernible relationship with school

performance (Bubb et al., 2019). This echoes the concerns of the ESFA (2019), which has issued guidance to Academy Trusts on excessive executive pay. However, as with the Academy workforce, findings in the existing research on Academy expenditure have been inconsistent. Moreover, much of this research fails to control for the simultaneous influence of contextual factors that could affect spending or to test whether differences between Academies and LA maintained schools are statistically significant.

Evidence from Charter schools in the USA suggests that outsourced schools may divert spending from frontline education, but findings are variable across states, school phases, school providers, and the period researched. Charters appear to devote a smaller proportion of their expenditure to pupil instruction than those run by local governments, but a higher proportion to school management, administration, and consultancy (Reed & Rose, 2015; Prince, 1999). However, there is conflicting evidence on total spending, with different researchers finding Charters spend more, less, or the same as non-Charter state-funded schools (Atchison, Levin & Brodziak de los Reyes, 2018; Baker, Libby & Wiley, 2012; Arsen & Ni, 2011). Researchers finding that Charters spend less have argued that their superior results imply that outsourcing schools in the USA has led to a more efficient state education system (Flaker, 2014). However, research on Swedish independent state schools finds no difference in overall spending compared with non-independent, state-funded schools, only modest increases in pupil performance, and significant increases in social segregation (Böhlmark & Lindahl, 2015; Lindbom, 2010; Björklund et al., 2005).

Research Questions

There are, therefore, many empirical gaps in our understanding of the impact of the Academies programme. Much existing research relies on small samples of schools or Academy Trusts,

which may fail to accurately capture the nature of change or continuity in the country as a whole. Research which does use nationally comprehensive data has either focused on pupils' results or, when focused on the workforce or spending, has failed to conduct rigorous statistical analyses. Consequently, it remains unclear which of the three broad sets of expectations outlined above - positive change, negative change, or continuity - has proved the most accurate. Nevertheless, publicly available data of sufficient quality and comprehensiveness does exist which could help resolve these issues. This data has been underutilized, in part, because of the difficulties involved in combining disparate datasets. Linking schools over time and across different data sources is particularly difficult because of the inconsistent use of school and Academy Trust identifiers by the DfE. Difficulties also emerge because many Academies close, merge, or move between Academy Trusts. For this thesis, these data sources have been assembled into nationally comprehensive datasets of English state schools with the aim of answering three sets of questions:

(1) Workforce: How has the Academies programme affected the structure of the state school workforce in England? Does becoming an Academy lead to the increased hiring of teachers without QTS? Does becoming an Academy lead to the substitution of teachers by TAs? Have Academies increased the number of teachers in senior leadership in their workforces? To what extent are there differences between types of Academy (MAT/SAT, Converter/Sponsored)?

(2) School System Organization: How connected to the private sector are Academy Trusts and their directors? To which kinds of company? How has the number of Academies in MATs changed over time? How remote are Academies from the offices of the Academy Trusts which run them?

(3) Expenditure: Are the extent of commercialism, the remoteness from Academy Trusts, the size of Academy Trusts, or type of Academy Trust (MAT/SAT) associated with Academy spending priorities?

These sets of questions are of social importance because the organization of the school system affects the lives of millions of pupils, parents, and workers. In addition, Academies spend considerable sums of taxpayers' money, £25 billion in 2018/19 (DfE, 2020b). It is therefore important to understand how schools are using this money and whether they are doing so effectively. Moreover, the institutional arrangements which govern state schools are known to affect their performance (Schleicher, 2019), a fact which motivated the Academies programme from the beginning (Adonis, 2012). Answering these questions could help researchers understand why the record of Academies in improving pupil performance has been so variable (Andrews & Perera, 2017), surprisingly so from the perspective of proponents of choice and competition. These questions are also important sociologically. Changes to the state school workforce touch upon questions of professional jurisdictions, managerialism, and the 'deprivileging' of the public sector (Bach, 2016). In addition, this thesis addresses the impact of outsourcing reforms on the public sector in a period in which such policies are spreading rapidly in state school systems internationally (Verger et al., 2016).

Chapter Overview

The remainder of thesis is divided into five chapters: a data overview, three empirical chapters, and a conclusion. In the next chapter, the data overview, I discuss in detail how datasets for the empirical chapters were constructed. The three empirical chapters are presented in the form of journal articles, as per university and departmental regulations. The disadvantage of presenting

the thesis in this way is that there is a small amount of overlapping material in the introductory sections of each article. These introductory sections nevertheless emphasise the different elements of the Academies programme that relate to the distinct empirical and theoretical aims of each article.

Chapter 3 - Does Outsourcing School Systems Degrade Education Workforces? Evidence from 18,000 English State Schools

This chapter analyses the relationship between two reforms of the English state school system: (1) the rapid expansion of the Academies programme since 2010, and (2) the abolition of the legal requirement for state schools to hire teachers with QTS in 2012 (NASUWT, 2016). A version of this chapter was published in the British Journal of Sociology of Education in 2019 (Martindale, 2019). Aggregate statistics show that the percentage of teachers without QTS has been consistently higher in Academies than in LA maintained schools. However, it remains unclear whether the higher percentage of teachers without QTS in Academies is the result of schools becoming Academies *per se* or of factors which affect Academizing schools more than those that remain LA maintained. This chapter therefore seeks to assess whether, net of relevant contextual factors, schools that convert to Academy status subsequently increase the proportion of teachers without QTS relative to schools that remain LA maintained. Answering this question is important because of the likely negative effect a growing number of teachers without formal teaching qualifications will have on pupil performance and because of the impact that this is likely to have on the teaching profession (lower wages, lower status).

Drawing on a newly compiled dataset of annual, school-level workforce and pupil censuses (2010-2016), results reveal that, net of contextual factors, schools that have converted to Academy status are associated with statistically significant increases in the percentage of

teachers without QTS relative to schools that remain LA maintained. Moreover, Academy schools with less individual autonomy - those run by MATs and those subject to external Sponsor involvement – have increased the percentage of teachers without QTS faster than Academies in SATs, which have taken over responsibility for their own running without ceding governance powers to external organizations. This is consistent with expectations that Academies run by MATs and Sponsors would be more likely to make changes to their workforce in ways similar to those which have degraded workforces in other outsourced and privatized public services. Findings also reveal that more ethnically diverse schools with poorer pupils are increasing the percentage of teachers without QTS in their workforces faster than schools with lower proportions of these pupils. However, the magnitudes of associations are small, implying that Academies are exacerbating existing trends for all state funded schools rather than driving substantial change. This article is the first to show the impact of the Academies programme on the school workforce while controlling for school contexts. Results contribute fresh evidence to the debates in the sociology of work on the impact of outsourcing of public services and the consequences of relaxing qualification requirements for professional jurisdictions.

Chapter 4 – Austerity, Outsourcing and the Public Sector Workforce: Trends from 20,000 English State Schools

The second empirical chapter investigates changes to the state school workforce in England in more depth, responding to claims made in previous research about the nature and likely direction of these changes. This chapter addresses two main claims made in existing research: (1) the managerial hierarchy has deepened into the teaching workforce, (2) increases in the number of teaching assistants (TAs) and other support staff have led to the substitution of

teachers in the state school workforce. These claims draw on longstanding research programmes within the sociology of work, particularly in relation to the growing presence of managerial hierarchies within professional work and the degradation of the employment conditions of public sector workers. Although, the utility of Labour Process Theory (LPT) for understanding these changes to public sector work has been consistently promoted by researchers in the field since the 1980s, I challenge its suitability in light of the Academies programme, arguing against a range of claims made in the existing school workforce literature.

I argue that the claim of advocates on an LPT approach that the state school workforce has been Taylorized is a partial and misleading characterization, despite the fact that the rapid expansion of the Academies programme since 2010 is a most likely case for this hypothesis. Results reveal that, between the early 2000s and mid-2010s: (i) TAs did not replace teachers or cheapen the teaching workforce; and (ii), while teachers were increasingly likely to be managers, the growth of the school workforce meant that the proportion of workers in management changed only modestly. For the first time, results for the period 2010-2016 reveal that Academies have increased the number of managers in their workforces relative to non-Academy schools, while becoming less reliant on TAs. However, the magnitude of these changes is slight in comparison to the rapid changes that have occurred since the mid-2010s when cuts to school budgets under austerity policies became more severe. Overall, Academy leaders have therefore not prioritized the restructuring of their workforces to improve the performance of their schools. Instead, Academies have accelerated tendencies which exist across state-funded schools in England, whether Academy or not. This article has provided the first combined assessment of the impact of outsourcing and austerity on the school workforce. These findings contribute new insights to debates on teacher professionalism, the role of private providers in state education and the impact of economic crisis on state sector workforces.

Chapter 5 – Outsourcing State Education: Autonomy and Competition, or Chaos and Commercialization?

The third empirical chapter focuses on broader evaluations of the Academies programme. One approach regards the programme as increasing the autonomy of schools and the level of competition between them, thereby making the school system more effective and efficient. A contrary approach fears that the Academies programme has created organizational chaos, commercialized schools, and undermined democratic oversight by outsourcing control to the private sector. This chapter draws on three newly-constructed datasets: (1) of all Academies (2002-2018) and their school-level expenditure patterns (2012-2018); (2) of all Academy Trusts (2002-2018); and (3) of the Trustees of all Academy Trusts (2002-2018). These datasets are analysed to answer three sets of questions: (i) How have the types of Academy Trust which run Academies changed over time? How many MATs and SATs are there? How large are MATs in terms of Academy numbers and distance from their schools?; (ii) How connected are Academy Trusts to the private sector? What kinds of company are they connected to?; (iii) Does the size of Academy Trusts, the extent of the connections to the private sector or their remoteness from their Academies influence the expenditure patterns of their schools?

Contrary to the expectations of critics, findings reveal that commercial connections to Academy Trusts have declined substantially over time, with a stark decrease between the early period of the programme under New Labour and the later period under Conservative-led governments. However, Academy Trusts retain a substantial number of connections to companies involved in management consultancy and professional services, which provides ample scope for the misuse of public funds. MATs have come to dominate the Academy landscape and have grown in size, restricting the autonomy of schools. Surprisingly, however, the expansion of MATs has been accompanied by a decrease in their geographical fragmentation, contrary to fears of the fragmentation of the school system. Moreover,

Academies in MATs have devoted a larger proportion of their expenditure to frontline education than those in SATs and do not spend substantially more money on consultancy. The extent of Academy Trusts' connections to the private sector, their distance from their schools, and the number of Academies under their control are not associated with the proportion of expenditure on teaching staff or consultancy. Results contribute significant, novel empirical findings to debates on the impact of outsourcing state education which challenge both existing supportive and critical evaluations of the Academies programme. Such evaluations are more reflective of the earlier phase of the reform and should be revised given the evidence presented in the chapter.

Conclusion

The concluding chapter includes a discussion of the main findings and their importance. It highlights the contribution that the empirical chapters make towards debates in the sociology of work, education, and the role of outsourcing and privatization on public services. In doing so, the conclusion returns to the theoretical approaches discussed in the introduction and empirical chapters to consider their suitability from a synoptic perspective of the thesis's empirical findings. Limitations of the empirical chapters, and their quantitative, empirical approach, are considered before a discussion of future implications concludes the thesis.

Chapter 2

Data Overview

This chapter explains how the disparate data sources for the analyses in the three empirical chapter were assembled into longitudinal datasets. A detailed description of the process by which datasets were assembled is valuable for the purposes of transparency, replication, and their future use by other researchers. This chapter is divided into three main sections. The first deals with data for the chapters 3 and 4, which focus on the state school workforce in England. The second section deals with data for chapter 5, which focuses on the evolution of the Academy school system, Academy Trust connections to the private sector, and school expenditure. The third section sets out the rationale for using such data to address questions related to the state school system in England. In this section both the advantages and disadvantages of a quantitative approach are considered. The online locations (URLs) of all publicly available datasets are available in Tables 2.1 and 2.2 at the end of this chapter. All assembled datasets and those not publicly available will be placed in an online repository. All data manipulations were carried out using the R programming language in the RStudio user interface.

Data for Chapters 3 and 4

The dataset for the first two empirical chapters was mainly constructed from publicly available, school-level censuses of all workers and pupils in state schools in England from 2010-2011 to 2016-2017. In 2010, the *School Workforce in England Census* (SWC) replaced more disparate

data collection exercises which had previously monitored the school workforce in England. The Department for Education (DfE) has collected data for the SWC in each November since 2010 on school staff in all publicly funded schools in England. Access to individual-level data is restricted by the DfE, but school-level aggregates are publicly released each year. These annual school-level datasets form the basis of the analyses in the first two empirical chapters. School-level SWC datasets contain the name, location, phase (primary/secondary/all-through), type (Academy/LA maintained, alternative provision/mainstream/special) and unique institutional identifiers for each school, as well as information on the number of staff in particular roles, their contractual arrangements, and demographic characteristics. Similarly, *Schools, Pupils and their Characteristics* (SPC) censuses, which are collected each January, contain variables for school characteristics and school-level aggregates of pupil demographics (male/female, age, ethnicity, eligibility for free school meals etc.).

SWC and SPC censuses contain almost all of the variables used in analyses for the first two empirical chapters. The dependent variable for the first empirical chapter, the percentage of teachers without QTS in a school's workforce, is calculated by subtracting the variable for the percentage of teachers with QTS contained in the SWC from 100. For the second empirical chapter, the dependent variable for the percentage of teachers in leadership is calculated by dividing the number of teachers in leadership by the total number of teachers and multiplying the result by 100. The other dependent variables for the second empirical chapter, the number of teachers and TAs per 100 pupils, are calculated by dividing the number of workers by the number of pupils, and then multiplying the result by 100. All counts of staff members and pupils are full-time equivalent figures rather than headcounts. This accounts for the very large number of part-time workers and pupils in schools. The independent variables taken from the SWC are school phase, school Unique Reference Number (URN), and Local Authority. The independent variables taken from the SPC are the total number of pupils, the number eligible

for free school meals (a measure of poverty), the number speaking English as an additional language (a measure of ethnic diversity), and the number with a statement for special educational needs (or an Education, Health and Care Plan, which began to replace statements in 2014-2015).

The construction of a single longitudinal dataset combining seven annual waves of both the SWC and SPC required several stages. First, the annual waves of the SWC (2010-2011 to 2016-17) were stacked into a single dataset. A 'year' variable was created to indicate the annual wave that school-level observations came from. Before becoming Academies, the vast majority of Academies were existing LA maintained schools. As the focus of the first two empirical chapters was on changes to the workforce in schools that had become Academies, their predecessor LA maintained schools had to be identified. To help identify predecessor LA maintained schools, in a second stage, school-level Academy observations in the longitudinal SWC were matched, using URNs, with observations in the *Open Academies and Academy Projects Waiting Approval* ('Open Academies') dataset from October 2016 (later renamed *Open Academies, Free Schools, Studio Schools and UTCs*). The Open Academies dataset provides school-level institutional identifiers for Academies, whether in a MAT or SAT, whether Sponsored or Converter, and the URN(s) of their predecessor school(s). The October 2016 version of Open Academies was used because it contains information on all Academies open by the end of October 2016, immediately before the collection of the last SWC (November 2016) used in the main dataset.

The vast majority of Academies have just one predecessor LA maintained school and therefore just one predecessor URN in the Open Academies dataset. All observations of such Academy-LA maintained school pairs, were given a single value in a new 'Reference URN' variable to link them over time. However, many Academies had more than one predecessor URN or a single predecessor URN which referred to another Academy school rather than an

LA maintained predecessor. These problematic cases were mainly the result of (i) Academies being established by the merging of two or more predecessor LA maintained schools, (ii) already open Academies merging with other Academies or LA maintained schools, and (iii) the moving of an Academy to an alternative Academy Trust with the result that the Academy is assigned a new URN. All such problematic cases were investigated individually using the DfE's comprehensive *Get Information About Schools* (GIAS) online database, which contains institutional information about all schools in England. Relevant problematic cases were also checked against a publicly available dataset of all Academies which have been transferred between Academy Trusts, *Academy Trust Transfers and Grant Funding* ('Transfers'). For the analyses in the first two empirical chapters it was essential that an Academy had just one predecessor LA maintained school so that the Academy workforce could be directly compared with the workforce of its predecessor LA maintained school. Therefore, only those Academies with a single identifiable predecessor LA maintained school which had not subsequently merged with any other Academies were included in the analysis. Schools not included in the main analysis remain in the dataset but were not provided with a single 'Reference URN' which links Academies and predecessor LA maintained schools.

In a third stage, the annual pupil censuses, SPC, were stacked into a single longitudinal dataset with a 'year' variable to identify the annual wave of observations. This longitudinal SPC dataset was then merged with the longitudinal SWC dataset. Observations for individual schools in particular years were matched using the URN and year variables. However, because of the two-month gap between the collection of the SWC and SPC, many schools in the SWC failed to find a match in SPC. In some cases, this was because the school had closed but for most this was because the school had become an Academy in the two-month interim and changed its URN. Other cases involved Academies moving Academy Trust or merging with another school. All individual cases for which a school-year observation in the longitudinal

SWC did not receive a match from the longitudinal SPC were checked against the GIAS database and Transfers dataset. In all cases where schools had changed URN, rather than closing outright, the relevant observation in SPC was identified and matched to the corresponding school-year observation in the longitudinal dataset.

At this stage, school-year observations therefore had variables relating to both the workforce and pupil population of a school in that particular year. Academy observations also had Academy-specific characteristics (MAT/SAT, Sponsored/Converter). However, additional controls for the urban or rural nature of the local area in which schools are located and their Ofsted performance were required for the analyses. The Office for National Statistics' (ONS) six-level *Rural Urban Classification (2011)* ('Mainly Rural' to 'Urban with Major Conurbation') was matched to schools by the parliamentary constituency in which they are located. The political control of LAs in which schools are located was collected from the annual waves of the Elections Centre's council elections dataset.

Ofsted inspection data was taken from a number of different sources to ensure that a comprehensive dataset of all Ofsted inspections was constructed. Sources are listed with access locations in Table 2.1 at the end of this chapter. Ofsted inspection datasets contain inspection outcomes, dates of inspection, and unique inspection identifiers for the most recent and the previous inspection of a given school in the period September 2005 to December 2018. Such a wide range was necessary because many schools receive no Ofsted inspection for several years if they are performing well. Many observations in the combined SWC-SPC dataset for 2010-2011 to 2016-2017, particularly in earlier years, would receive no matching Ofsted data if much earlier years of Ofsted inspections were not included. The separate Ofsted datasets were stacked together, and observations with duplicated inspection numbers were identified and removed. The aim of including Ofsted inspection outcomes in the dataset was to control for the performance of schools when analysing how their workforce changes over time. As Ofsted

inspections occur in a single year, the results of these inspections must be carried forward into future years until a new inspection occurs. In cases where more than one inspection occurred within a single year, the later inspection was retained as more relevant for the future years into which it would be carried forward. However, it is unclear which year the Ofsted inspection value should be matched initially to in the combined SWC-SPC longitudinal dataset. One approach would regard the outcome of an Ofsted inspection occurring between November 2010 and October 2011 to be relevant at the time of the November 2011 SWC because a school may seek to change its staffing practices *after* the outcome of an Ofsted inspection. For this approach, the Ofsted inspection of a previous year should first be matched with the SWC-SPC observation of the following year. Another approach regards an Ofsted inspection occurring between November 2010 and October 2011 as relevant for the SWC-SPC observation of the same year. This is because the Ofsted outcome is regarded as reflecting what was occurring in the school *in the year of inspection*. In this case, an Ofsted outcome should be first matched to a school-level SWC-SPC observation of the same year. Both approaches were used in matching Ofsted data to the SWC-SPC dataset to ensure that results were robust to the selection of approach. In practice, which approach was adopted made little difference because the overall outcome of most inspections is 'Good', the second-best category. There are only three other categories: 'Outstanding', 'Satisfactory' (which became 'Requires Improvement' in 2012) and 'Inadequate'.

The final dataset for empirical chapters 1 and 2 therefore contained observations for all open state-funded schools in England for each year 2010-2011 to 2016-2017. Each school-year observation contained school identifiers, institutional and geographic characteristics, aggregate numbers of staff in different positions, derived variables, the numbers of pupils in different administrative categories, a year variable, a Reference URN which links Academies with their predecessor schools, and schools' most recent Ofsted inspection outcome.

Data for Chapter 5

Datasets for the third chapter contain details of all Academies and their Academy Trusts (2002-2003 to 2017-2018), the expenditure patterns of all Academies (2011-2012 to 2017-2018), and the companies linked to Academy Trusts by shared directors (2002-2003 to 2017-2018). In a first step, Academies open in each of the academic years 2011-2012 to 2017-2018, and their Academy Trusts, were identified using Academy- and Trust-level accounts data, which has been made public by the DfE (sources in Table 2.2). These expenditure datasets contain school-level itemizations of sources income, such as government grants, commercial activities and insurance pay-outs. Datasets also include areas of expenditure, such as the salaries of teaching staff, consultancy, ICT equipment, and facilities management. For the years prior to 2011-2012, detailed accounts data is unavailable. Academies and their Trusts have therefore been identified using the earliest Open Academies dataset (April 2012) acquired by the author in a Freedom of Information request to the DfE, which will be placed in an online repository. As this dataset records Academy school information at a moment nearly ten years after the opening of the original Academies, it was essential to assess whether the data contained remained accurate.

To check whether any Academies had closed, the number of Academies in the April 2012 Open Academies dataset was compared against three *Academies Annual Report* publications, for 2010-2011, 2011-2012 and 2012-2013, from the DfE (2012a, 2013, 2014). These reports state the number of Academies which opened in each academic year since 2002-2003. The number of schools in the April 2012 Open Academies dataset agreed with counts in the annual reports. Next, Academy Trust data for these schools, which is not present in the April 2012 Open Academies dataset, was taken from the earliest Open Academies dataset

which contains Academy Trust names, May 2016. To check whether any of the Academies opening between 2002-2003 and 2010-2011 had moved from their original Academy Trust before May 2016, Academy Trusts were compared against the Transfers dataset, which contains details of all such moves. Academies that had moved Trust had original Trust data reinstated where appropriate. The data was then manipulated to form a dataset in which all Academies opening between 2002-2003 and 2010-2011 had an observation for each year they were open in this period. When combined with data for 2012-2013 to 2017-2018, the complete dataset allows for an accurate time series of all open Academies and their Academy Trusts to be constructed. This has not previously been possible because databases of Academies have been regularly updated and overwritten. Closed Academies and Academy Trusts disappear, and it is difficult to track Academies that have moved Trust.

A comprehensive dataset of all Academy Trusts also allows for an assessment of their connections to the private sector because Academy Trusts are registered with Companies House. To efficiently find data for so many companies on the Companies House website, it was necessary to use their unique company numbers. Company numbers were acquired from a number of different sources to ensure accuracy. Academy Trusts are linked with company numbers in two 'consolidated accounts' documents released by the DfE for the academic years 2012-2013 and 2013-2014 (Table 2.2). In addition, the detailed, school-level accounts datasets for 2016-2017 and 2017-2018 contain Academy Trust company numbers, as does the online GIAS database's entries for Academy Trusts. The Companies House numbers from each of these data sources were merged with the datasets of all Academies using the names of the Academy Trusts. In some cases modifications were made to Academy Trust names to facilitate matches: punctuation (e.g. full-stops for saints' names), word order (e.g. 'The…' vs. '…, 'The'), abbreviations (e.g. 'Multi-Academy Trust' vs. 'MAT'), and case (upper/lower). As some observations received few or no matches, all Academy Trust names were also searched

on the Companies House website (https://beta.companieshouse.gov.uk/) using a script written in the R programming language. The script copied the company number associated with the top search response as well as company details. Company numbers from all sources were then checked against each other and cases with differing numbers were investigated individually.

All unique company numbers were then queried on the Companies House Application Programming Interface (API) (https://developer.companieshouse.gov.uk/api/docs/). The API enables registered users to download data from Companies House in an efficient manner without the need for the scraping of webpages. Using company numbers ensures the accuracy of the collected data, whereas searching for company names frequently yields the wrong firm due to similarities in names and the idiosyncrasies of the search algorithm. For each Academy Trust, data was downloaded on company characteristics (address, date of opening, name(s), nature of business etc.) and on the directors of the company. In the case of Academy Trusts, the directors listed on Companies House are their Trustees (their names correspond to those listed as Trustees with the Charities Commission). This data was collected using a script in the R programming language. Both the data and the script will be placed in a public repository. As the third empirical chapter seeks to assess the extent of Academy Trust links to other companies and the nature of those companies, data collected on the directors of Academy Trusts therefore included details on their directorships of other companies. Data was subsequently collected for these linked companies from the Companies House API using the same method as had been used for Academy Trusts. To categorize the nature of business of these linked companies, their ONS Standard Industrial Categorization (SIC) numbers were assessed. The SICs were found to be a combination of 2003 and 2007 versions of the SIC. Those observations using 2007 categories were translated to the 2003 categorization for consistency.

All collected data for the third empirical chapter was then turned into three separate longitudinal datasets (2002-2003 to 2017-2018): (1) of directors of Academy Trusts, (2) of

Academy Trusts, (3) of Academies. The directors dataset contains observations of each individual appointment of Academy Trust directors to companies on the Companies House website. Only appointments simultaneous with an appointment to an Academy Trust are included. Variables include director identifiers, the details of the company appointed to and the Academy Trust for which they serve as director. Individuals serving on two (or more) Academy Trusts simultaneously have their appointments duplicated, but the variable identifying the Academy Trust on which they serve differs for these duplicated observations.

The Academy Trusts dataset contains variables for the name of the Trust, its company number, the number of schools in the Trust, and two measures of the type of Trust (MAT/SAT). One measure of type labels an Academy Trust as a SAT if it contains only one school in a given year. Another measure labels a Trust as a SAT if it only ever contains one school. Unfortunately, in some cases, there is no definitive answer to whether a Trust is a MAT or a SAT in a given year because DfE data is incomplete and often contradictory. The third dataset, of all open Academies in each year of the Academies programme contains institutional details of the schools (name, URN, LA establishment number, post code), the name and company number of their Academy Trusts, the number of years the schools have been a member of their Trusts, and (in observations for the years 2011-2012 to 2017-2018) income and expenditure variables inherited from the detailed accounts data. In addition, the latitude and longitude of each school is included to facilitate the analysis of the distance of Academies from their Trust headquarters and the other schools in their Trust. Latitude and longitude data were merged onto Academies and Academy Trusts using an ONS dataset of all UK postcodes which links postcodes to geographical markers.

Methodological Rationale

In using these datasets, the empirical analyses in this thesis take a quantitative approach. There are considerable advantages which justify such a methodology, but also disadvantages which must also be borne in mind. Considering the advantages, this quantitative approach has led to the construction of detailed, nationally comprehensive datasets of all Academies from their inception to 2018 which will facilitate future research into areas of the reform not considered in this thesis. The analysis of these novel datasets can both complement and, in some ways, go beyond the existing, predominantly qualitative research into the organization of the Academy system and its workforce.

Typically, interview-based and ethnographic research targets a small number of sites and respondents relative to the population of schools and workers. The sampling of these sites and respondents is usually theoretically informed, to cover areas likely to differ empirically in important ways (e.g., urban/rural, costal/inland, north/south, affluent/deprived, primary/secondary, Academy/LA maintained). These qualitative approaches can provide a rich understanding of how respondents act and relate to the phenomena under investigation. However, small samples draw the representativeness of informants into question. Biases in the sampling of sites and respondents threaten the generalizability of findings. By contrast, a nationally comprehensive approach facilitated by quantitative data is far less susceptible to such problems, providing more reassurance concerning the validity of conclusions. In addition, a quantitative approach allows for the estimation of associations between phenomena controlling for the simultaneous influence of a range of potentially confounding relationships. More or less precise estimates of the strength of relationships can therefore be revealed in a way that is not feasible using a qualitative approach. As such, the nationally comprehensive and quantitative methodology adopted in this thesis can be used to test the implications of existing qualitative research while also providing relatively precise and representative

conclusions. In addition, the detailed, longitudinal nature of the datasets allows for a reassessment of existing, cross-sectional quantitative studies, which have at times yielded contradictory conclusions (Earley et al., 2012; Bubb et al., 2019; Andrews, 2020)

While a quantitative approach therefore has considerable benefits, it is also subject to a number of significant drawbacks. In particular, such an approach is restricted by the available data. Whereas a qualitative approach can generate data related to a chosen theme, the approach adopted in this thesis depends on existing data sources compiled by the DfE and Companies House, limiting the range of possible analyses. For example, workforce censuses frequently suppress measurements of the proportion of older workers, preventing an assessment of the extent to which Academization may affect the age profile of the workforce. Nor do counts of the number of workers in particular categories permit an assessment of what these workers are doing or how their job roles have changed over time. Moreover, while quantitative analyses can establish statistically robust associations between phenomena, establishing the causal mechanisms which link these phenomena is much more difficult using such data. Nevertheless, existing data sources do provide measures for a range of substantially important aspects of the state school system in England which are of interest researchers, such as the number of workers of different types, school spending priorities, the size and geographical scope of Academy Trusts, and connections to the private sector. Moreover, controlling for different types of school, primary/secondary, SAT/MAT, Converter/Sponsored, can help analyses to address the question of the mechanisms generating associations.

Table 2.1 Data Sources for Empirical Chapters 1 and 2

Name	Location
School Workforce Censuses (SWC)	
School Workforce in England November 2010	https://www.gov.uk/government/statistics/school-workforce-in-england-november-2010-provisional
School Workforce in England November 2011	https://www.gov.uk/government/statistics/school-workforce-in-england-november-2011
School Workforce in England November 2012	https://www.gov.uk/government/statistics/school-workforce-in-england-november-2012
School Workforce in England November 2013	https://www.gov.uk/government/statistics/school-workforce-in-england-november-2013
School Workforce in England November 2014	https://www.gov.uk/government/statistics/school-workforce-in-england-november-2014
School Workforce in England November 2015	https://www.gov.uk/government/statistics/school-workforce-in-england-november-2015
School Workforce in England November 2016	https://www.gov.uk/government/statistics/school-workforce-in-england-november-2016
School Pupil Censuses (SPC)	
Schools, Pupils and their Characteristics January 2011	https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2011
Schools, Pupils and their Characteristics January 2012	https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2012
Schools, Pupils and their Characteristics January 2013	https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2013
Schools, Pupils and their Characteristics January 2014	https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2014
Schools, Pupils and their Characteristics January 2015	https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2015
Schools, Pupils and their Characteristics January 2016	https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2016
Schools, Pupils and their Characteristics January 2017	https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2017
All Open Academies, Free Schools, Studio Schools and UTCs	https://www.gov.uk/government/publications/open-academies-and-academy-projects-in-development
Get Information About Schools	https://get-information-schools.service.gov.uk/

Academy Trust Transfers and Grant Funding	https://www.gov.uk/government/publications/academy-trust-transfers-and-grant-funding
Rural Urban Classification (2011) of Westminster Parliamentary Constituencies in England	https://ons.maps.arcgis.com/home/item.html?id=1858f82f2e6d4f28bbf1952fd5973bff
Political Control of Local Authorities	http://www.electionscentre.co.uk/?page_id=3802
Ofsted Inspection Outcomes	
Management information – schools – 1 September 2005 to 31 August 2015	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 March 2016	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 August 2016	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 December 2016	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 March 2017	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 August 2017	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 December 2017	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 March 2018	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 August 2018	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes
Management information – schools – 31 December 2018	https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsteds-school-inspections-outcomes

Table 2.2 Data Sources for Empirical Chapter 3

Name	Location
Academy and Academy Trust-Level Accounts	
Income and Expenditure in Academies in England: 2011 to 2012	https://www.gov.uk/government/statistics/income-and-expenditure-in-academies-in-england-academic-year-2011-to-2012
Income and Expenditure in Academies in England: 2012 to 2013	https://www.gov.uk/government/statistics/income-and-expenditure-in-academies-in-england-2012-to-2013
Income and Expenditure in Academies in England: 2013 to 2014	https://www.gov.uk/government/statistics/income-and-expenditure-in-academies-in-england-2013-to-2014
Income and Expenditure in Academies in England: 2014 to 2015	https://www.gov.uk/government/statistics/income-and-expenditure-in-academies-in-england-2014-to-2015
Income and Expenditure in Academies in England: 2015 to 2016	https://www.gov.uk/government/statistics/income-and-expenditure-in-academies-in-england-2015-to-2016
Income and Expenditure in Academies in England: September 2016 to August 2017	https://sat1prsfb.blob.core.windows.net/sfb/SFB_Academies_2016-17_download.xlsx
Income and Expenditure in Academies in England: September 2017 to August 2018	https://sat1prsfb.blob.core.windows.net/sfb/SFB_Academies_2017-18_download.xlsx
Academy Trusts Consolidated Accounts	
Academy Trusts Consolidated into the Department's Accounts. Year end: 31 March 2013	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/271938/DfE_list_of_consolidated_ATs_2012-13.pdf
Academy Trusts Consolidated into the Department's Accounts. Year end: 31 March 2014	https://dera.ioe.ac.uk/21842/2/2013-14_List_of_academy_trusts_consolidated.pdf
All Open Academies, Free Schools, Studio Schools and UTCs	https://www.gov.uk/government/publications/open-academies-and-academy-projects-in-development
Academy Trust Transfers and Grant Funding	https://www.gov.uk/government/publications/academy-trust-transfers-and-grant-funding
Get Information About Schools	https://get-information-schools.service.gov.uk/

Standard Industrial Categorization of Economic Activities (SIC)	
Standard Industrial Categorization of Economic Activities 2003	http://www.ons.gov.uk/ons/guide-method/classifications/archived-standard-classifications/uk-standard-industrial-classification-1992--sic92-/uk-sic-2003.pdf
Standard Industrial Categorization of Economic Activities 2007	https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007
Standard Industrial Categorization codes used on Companies House	https://github.com/companieshouse/api-enumerations/blob/develop/constants.yml
Office of National Statistics Postcode Lookup (May 2018)	https://geoportal.statistics.gov.uk/datasets/national-statistics-postcode-lookup-may-2018

Chapter 3

Does Outsourcing School Systems Degrade Education Workforces? Evidence from 18,000 English State Schools

Abstract

Critics claim that outsourcing the running of 9,000 state funded schools under England's Academies Programme has caused a rapid increase in the number of pupils taught by teachers without Qualified Teacher Status (QTS). However, it is unclear whether Academies are simply more exposed to contexts associated with higher rates of teachers without QTS than schools still controlled by local government. Analysis of a newly compiled dataset reveals that, net of context, the percentage of teachers without QTS is increasing in Academies relative to non-outsourced schools, and that business-style governance is associated with greater Academy divergence from non-outsourced schools. Moreover, the Academies programme is widening inequalities in pupils' access to qualified teachers. However, the magnitudes of estimated divergences between Academies and non-outsourced schools are slight in comparison to increases in teachers without QTS across state schools in England as a whole. This research, the first nationally comprehensive assessment of the impact of Academies on school workforces, draws into question the merits of policies which outsource public services and undermine systems of professional accreditation.

Introduction

Since the 1980s, liberalizing reforms have fundamentally altered the role of the state in the provision of public services and the regulation of employment relations. In education, market-oriented reformers have pushed for the outsourcing of state schooling through the establishment of privately run, publicly funded schools, such as Academies in England, Free Schools in Sweden, and Charter Schools in the US (Mundy et al., 2016). In England, the first Academies opened in 2002 and have rapidly expanded in number since 2010, accounting for 70% of secondary and 30% of primary state schools by September 2018 (Department for Education, 2020a).

Market-oriented reformers have also sought to transform employment practices in public education, which they consider an obstacle to the transformation of an underperforming school system (Adonis, 2012; Department for Education, 2012b). In particular, Qualified Teacher Status (QTS) is considered to give teachers too easy a route to secure employment (Freedman, Lipson & Hargreaves, 2008). Candidates achieve QTS once they have met the formal Teachers' Standards of the National College of Teaching and Leadership. QTS is obtained through the completion of a recognized teacher training route and eligibility depends on having an undergraduate degree and at least Grade C in English and mathematics GCSEs. In 2012, the Department for Education (DfE) took a significant step towards recasting school employment practices by effectively abolishing regulations restricting the hiring of teachers without QTS (DfE, 2012b). Since the change of policy, of the 12,000 additional teachers in the English state school workforce 8,000 (67%) lack QTS (DfE, 2017a). The government stressed that ending the QTS requirement would 'help schools improve faster' by providing them with 'additional flexibility' to employ 'great linguists, computer scientists, engineers and other specialists' (DfE, 2012b). This contrasts sharply with criticism from teachers' unions, who have contended that schools may employ teachers without QTS as cheap alternatives to

qualified staff as they seek to address recruitment problems under tightening financial constraints (NASUWT, 2016; NUT, 2015). Studies of pupil attainment in the US also contradict the government's position as these have shown that pupils perform better when taught by teachers with relevant qualifications and classroom experience (Allen et al., 2016).

Academies have received criticism from senior political figures, trade unions and pressure groups for the greater percentage of teachers without QTS in their workforces compared with Local Authority (LA) maintained schools (Coughlan, 2015). As the ostensible aim of the Academies programme is to improve pupil performance (DfE, 2016a) and pupils perform better when taught by qualified teachers, there appears to be a paradox: Academies aim to improve results while seemingly degrading the quality of the teaching workforce. However, it remains unclear whether the higher percentage of teachers without QTS in Academies is caused by schools becoming Academies *per se* or by factors affecting Academizing schools more than those that remain LA maintained, such as being located in areas of deprivation or having particularly reform-minded managements. Given the rapid growth in the number of Academies and teachers without QTS, it is critical that their relationship be scrutinized. This article therefore seeks to answer the question of whether, net of contextual factors, becoming an Academy is associated with an increase in the percentage of teachers without QTS in a school's workforce.

In answering this question, this article contributes to the growing international debate on the role of the private sector in the provision of public education (Ainscow & Salokangas, 2017; Mundy et al., 2016; Stahl, 2017) and provides a fresh approach to long established debates on the degradation of teacher professionalism (Carter & Stevenson, 2012; Beck, 2009; Bach, Kessler & Heron, 2006). The article makes two key contributions to the understanding of the evolution of the teaching workforce in England: the first demonstration of the impact the Academies programme on school workforces, and the first assessment of the simultaneous

influence of pupil characteristics, local political context, and Ofsted performance on the presence of teachers without QTS in schools. Results derive from the analysis of a newly-compiled dataset of pupil and school workforce censuses in England, the use of which constitutes a fresh methodological departure in the study of the state school workforce, which has often relied on case studies in a small number of LAs, limiting the generalizability of findings (Carter & Stevenson, 2012; Bach et al., 2006).

Results reveal that, net of context, the percentage of teachers without QTS is increasing in Academies relative to LA maintained schools. Academies in more business-style structures – Sponsored and in Multi-Academy Trusts – are associated with greater increases than those that remain more accountable to local stakeholders. Schools that have become Academies also exacerbate the tendency for schools with poorer pupils to hire more teachers without QTS, widening inequality in access to qualified teachers. Academies are associated with more than 1,700 additional teachers without QTS who, consequently, will have taught many thousands of pupils. However, relative to the length of time studied (2010-2016), changes attributable to Academization have been slow. While these changes may have adversely affected thousands of pupils, compared to the size of the state school workforce as a whole, the impact of Academies on the proportion of teachers without QTS has not been substantial.

The Academies Programme

The Academies programme heralds a profound transformation in the governance of England's state schools. Following the 1944 Education Act, Local Authorities (LAs) in England were responsible for establishing and maintaining state funded schools (Ball, 2017). LAs held a significant amount of power over the running of schools, including in pupil admissions, funding arrangements, the nomination of school governors, and in owning school land and premises.

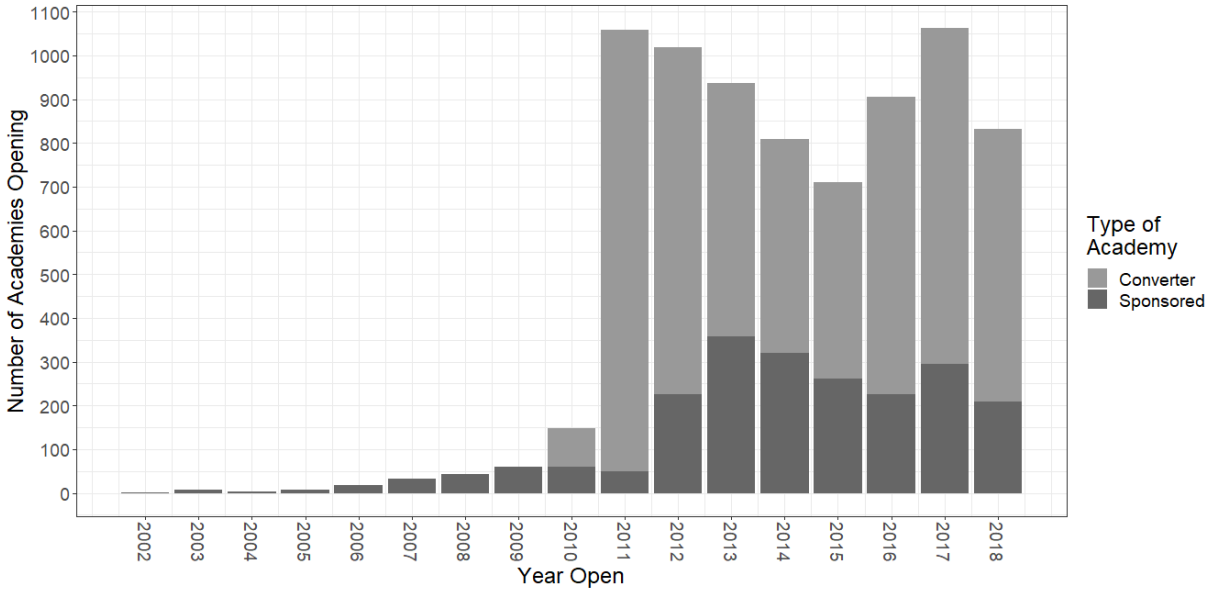
By contrast, the Academies programme, launched under New Labour in 2000, removes participating schools from LA control. Academies are still state funded but owned and operated by Academy Trusts, private companies with charitable status which hold contracts to run schools directly with central government. Academies enjoy a range of freedoms in setting their curricula, admissions policies, and working conditions which are not available to LA maintained schools. These freedoms aim at giving Academy managements more control over their schools to help them improve pupil performance (Adonis, 2012).

The programme was initially limited in scope. Its aim was to improve educational outcomes for failing secondary schools in deprived, urban areas by removing them from LA control and by linking them with Sponsor organizations which were to use their organizational expertise to turn their schools around. Before the change of government in 2010, all Academies were founded with the support of Sponsors, which include businesses, individuals, churches, voluntary bodies, and educational organizations (West & Bailey, 2013). Consequently, these schools are known as Sponsored Academies. Sponsors nominate the trustees of the Academy Trusts which own and operate Academies, giving them a significant level of control over their schools. Sponsored Academy managements have often overhauled the pre-existing workforces in their schools as part of improvement plans and have introduced corporate-style managerial practices (Ainscow & Salokangas, 2017). By the end of the Labour administration in 2010 there were 272 Sponsored Academies in operation (West & Bailey, 2013).

Over the course of the Coalition (2010-2015) and subsequent Conservative administrations the scope of the programme widened substantially. The Academies Act (2010) provided the legal basis for all LA maintained schools to become Academies, including primaries. In addition to the focus on the conversion of underperforming schools to Sponsored Academies in the first phase of the programme, the second phase has focused on the conversion of schools that are already performing well, those judged ‘Outstanding’ or ‘Good’ by the

schools' inspectorate Ofsted. For these schools there has been no requirement to be Sponsored when converting to Academy status. Such schools are known as Converter Academies. Figure 3.1 shows the number of Academies opening as either Converter or Sponsored since 2002. By September 2018, there were 5,500 Converter and 2,200 Sponsored Academies in operation (DfE, 2020a).

Figure 3.1: Converter and Sponsored Academy Openings (2002-2018)



Source: 'Open Academies, Free Schools, Studio Schools and UTCs: September 2018' gov.uk/government/publications/open-academies-and-academy-projects-in-development (Accessed 2019-01-31)

All Academies belong to a Single Academy Trust or a Multi-Academy Trust. Single Academy Trusts (SATs) comprise of one Academy which has taken over responsibility for its own running from the LA. An Academy in a SAT is fully autonomous within the confines of its funding agreement with the DfE. Multi-Academy Trusts (MATs), by contrast, comprise of two or more Academies governed by one Trust which has a significant degree of centralized control over the operation of its schools. MATs have full discretion over which responsibilities, if any, are delegated to school-level governing bodies and many have 'prescribed models of governance and leadership largely derived from the private, and to a lesser extent, voluntary

sectors' (Greany & Higham, 2018, p.15). By September 2018, there were 6,400 Academies in MATs and 1,300 Academies in SATs (DfE, 2020a).

Researchers have found overall positive effects on pupils' results for Academies opening before 2010 but no overall effect for those opening since 2010 (Andrews & Perera, 2017). Underlying average trends is a very wide variability in performance, with some Academies and MATs responsible for an improvement and others for a deterioration in pupil performance. However, the impact of the Academies programme on the school workforce has been largely neglected. Existing research on the school workforce in England has highlighted a trend towards the degrading of the teaching profession, in part through the substitution of teachers by teaching assistants, which researchers have attributed to managerial attempts to contain costs (Carter, Stevenson & Passy, 2010; Mather & Seifert, 2011; Carter & Stevenson, 2012; Stevenson, 2013). This research has drawn on Labour Process Theory (LPT), to argue that restricted budgets and increasing competitivity in the state school system are compelling school leaders to focus school resources ever more efficiently on public measures of performance. As such, professional boundaries between qualified teachers and their cheaper, less qualified colleagues are becoming increasingly blurred as managers redistribute tasks less central to the core mission of improving results away from qualified teachers. While increased competitivity and a more business-like approach to school governance are theorized to be accelerating these trends in Academies (Stevenson, 2013), research has so far failed to demonstrate this empirically or assess the possibility that Academies are contributing towards degrading through the hiring of teachers without QTS.

Given the pressures on schools to demonstrate good outcomes for pupils, Academies may not diverge significantly from LA maintained schools in hiring teachers who have not formally demonstrated the skills required for QTS. However, it is also possible that Academies may raise the percentage of teachers without QTS in their workforces relative to LA maintained

schools because of business-like, cost-cutting practices (Stevenson, 2013). The rhetoric surrounding the Academies programme has lauded the infusion of private-sector practices into the state school system, while introducing private provision in other public services has frequently involved the restructuring of workforces to reduce costs (Sturdy & Freedman, 2007; Bach, 2002). Close links between Academy Trusts and private sector organizations, many of which have been involved in outsourcing and workforce restructuring elsewhere, suggest this is one route to containing costs which may be attractive to Academy managements. As in other outsourced industries, Academies must also find money from their budgets to pay for the high salaries of their executives and senior leaders (Owen, 2017). As the wages of teaching staff continue to account for more than half of school budgets and salaries for teachers without QTS are at least 25% (£6,000) lower than those of their qualified colleagues, Academy managements may increasingly rely on cheaper teachers to balance the books (DfE, 2015; NEU, 2017).

Reduced local stakeholder control may also facilitate the hiring of teachers without QTS in Academies. LA maintained schools are overseen by LAs which are accountable to their electorates. LAs appoint a portion of the members of the governing bodies which oversee the running of individual schools. Governing bodies include parents, school leaders, and teacher representatives, a structure which gives local stakeholders influence over the running of schools. Academies, by contrast, are overseen by a board of trustees. Trustees have a significant degree of centralized control over the operation of their schools, which can number more than sixty in the case of the largest MATs. Evidence suggests that trustees have reduced the involvement of governors in the running of schools, in some cases abolishing boards of governors altogether (George, 2018).

Qualified Teacher Status

Until 2012, regulations permitted Academies and LA maintained schools to employ teachers without QTS only in restricted circumstances. With the exception of trainee teachers and those with overseas qualifications, these regulations allowed teachers without QTS to work in schools 'only for such period of time as no suitable qualified teacher […] is available' (*The Education (Specified Work and Registration) (England) Regulations 2003 (SI 2003/1663)* 2003, sch 2(4)(3)). In 2012, the DfE removed the requirement for new Academies to abide by these regulations and invited those that had opened earlier to apply to have their contracts modified. The DfE also effectively abolished restrictions for LA maintained schools, removing the requirement for teachers without QTS to be replaced when qualified candidates become available, which has left the hiring of teachers without QTS at the discretion of school leaders (NASUWT, 2016).

Despite the government's claim that the freedom to hire teachers without QTS would help schools improve (DfE, 2012b), there is scant evidence on the effectiveness of teachers without formal accreditation. Contradicting the government's assertion, studies in the US find that teachers with teaching qualifications are more effective (Goldhaber & Brewer, 2000; Kane, Rockoff & Staiger, 2008; Clotfelter, Ladd & Vigdor, 2010). Research also shows that pupils perform better with teachers who have more experience, pedagogical training, and subject knowledge (Kraft & Papay, 2014; Henry, Bastian & Fortner, 2011; Baumert et al., 2010; Wayne & Youngs 2003). However, a Freedom of Information request made by the author to the DfE reveals that teachers without QTS have significantly lower levels of subject knowledge than their qualified counterparts. QTS requires possession of at least an undergraduate degree, but the percentage of teachers without QTS who have a degree declined from 81% to 66% in primaries and from 85% to 78% in secondaries between 2011 and 2017. Moreover, as these teachers lack professional teaching qualifications, it is highly likely that they have received less

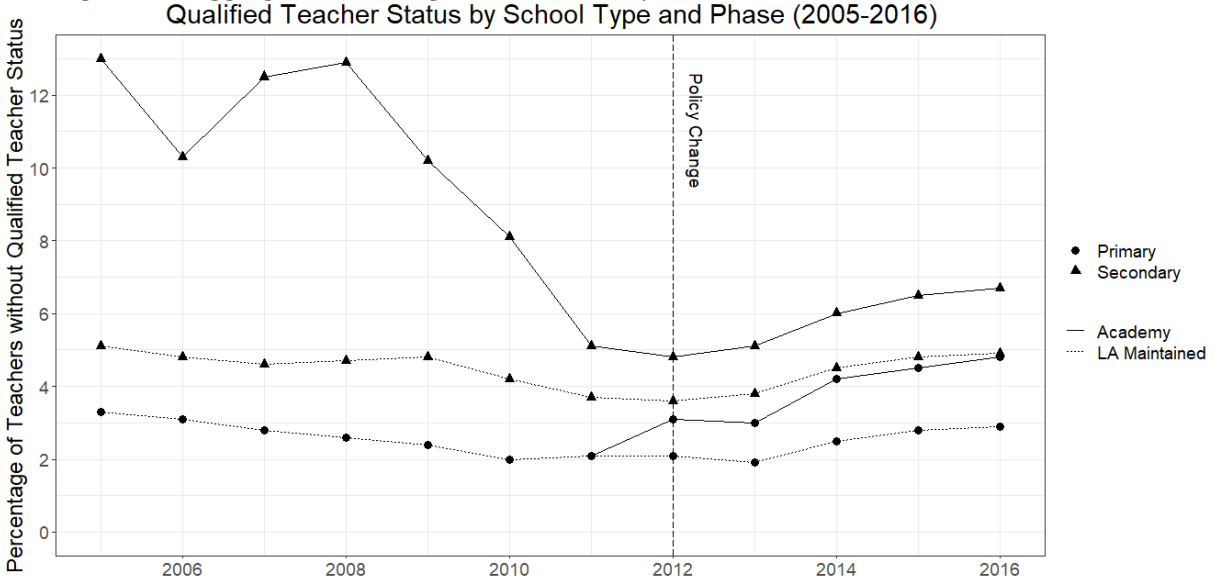
pedagogical training than their qualified colleagues. Overall, therefore, there is strong reason to believe that teachers without QTS are less effective than their qualified colleagues.

Teachers without QTS could include employment-based trainees and teachers from abroad who have not claimed QTS, which might mitigate criticism of their competence. However, teachers from Australia, Canada, New Zealand, the USA, and countries in the European Economic Area can claim QTS without further training. Given that there are salary benefits of at least £6,000 for having QTS, many overseas teachers do so: nearly 7,000 in 2015-2016 (DfE, 2016b). Teachers from other countries must complete a teacher training course to obtain QTS, during which time they would appear as teacher trainees in the workforce data. Although the number of trainees in school-based schemes has greatly expanded over the past decade, statistics from the DfE's *School Workforce in England* censuses show that the percentage of trainees has remained consistently between 10% and 14% of teachers without QTS since 2010. The vast majority of teachers without QTS are therefore unlikely to be trainees or qualified overseas. Nevertheless, their relative lack of training or experience as well as the fact that they have not yet formally demonstrated that they meet the Teachers' Standards leaves room to doubt that trainees are as effective as qualified teachers.

Aggregate, annual statistics from *School Workforce in England* censuses have been the main source for criticism of increases in the employment of teachers without QTS, particularly in Academies. These reveal that the number of teachers without QTS in primary state funded schools almost doubled between 2010 and 2016, from 3,900 to 7,600. In secondaries there was an increase from 10,000 (2010) to 12,800 (2016). However, Figure 3.2 shows that, although higher in Academies than LA maintained schools, the percentage of teachers without QTS in secondary Academies declined towards 2012 and that the overall difference between Academies and LA maintained secondaries narrowed. Nevertheless, it is likely that contextual factors can explain this decline. The initial wave of Academizations, before May 2010,

included relatively few (272) schools and targeted secondaries in areas of deprivation, where it is harder to recruit qualified teachers. Since 2010, thousands of better-performing schools in wealthier areas have converted to Academy status, causing the aggregate percentage to decline rapidly. However, the gap between Academies and LA maintained schools begins to widen from 2012. This is noteworthy because the conversion of thousands of LA maintained schools to Academy status might have been expected to further equalize the two types of school. The persistent gap could be due to the percentage of teachers without QTS rising after schools become Academies or to the conversion of a disproportionate number of schools with higher percentages of teachers without QTS (or a combination of both). It is not possible to judge between these interpretations using aggregate statistics, suggesting the need for multivariate analysis at school level.

Figure 3.2: Aggregate Percentage of Full-Time Equivalent Teachers without Qualified Teacher Status by School Type and Phase (2005-2016)



Source: School Workforce in England (2010-2016)

The importance of controlling for school contexts is underlined by a DfE report (2016c), which shows that schools located in urban and deprived areas have a higher percentage

of teachers without QTS in their workforces than those in more rural and wealthier areas. If schools in such contexts are also more likely to become Academies, then context rather than Academization *per se* may well explain the apparent association between Academies and teachers without QTS. However, there are also a number of challenges that schools of all types have faced in the last decade, which are likely reflected in the fact that the percentage of teachers without QTS is rising for all of the four groups of school in Figure 3.2. Firstly, there have been significant shortfalls in teacher supply. Recruitment targets are regularly missed in many subject areas (Worth & Van den Brande, 2019). In 2017, three quarters of schools were reported to be suffering from serious teacher supply problems, which have been linked to poor school performance, geographical remoteness, and the affordability of housing (DfE, 2017b). Secondly, there have been significant problems with teacher retention, which have been particularly linked with workload and other working conditions, such as poor pupil behaviour (DfE, 2017b, 2017c). Moreover, there have been substantial changes to initial teacher education, with a rapid increase in employment-based training and a decrease in higher education institution-based training. The DfE has found that 20% of the country is more than ten miles from a training provider (DfE, 2017b). Drastic changes to initial teacher education may therefore be disrupting established recruitment channels for schools. As many schools have been facing difficulties with both the recruitment and retention of teachers, hiring a teacher with QTS may be the only option in some cases.

Increases in the percentage of teachers without QTS in both Academies and LA maintained schools can be understood within theoretical frameworks that have developed around the professions and public sector reform. For qualified teachers, the policy change represents the loss of legal control of their 'jurisdiction', their exclusive right to practice their profession (Abbott, 1988). Consequently, the capacity of the profession to enforce 'exclusionary closure'

(Parkin, 1983), the ability of a dominant group (qualified teachers) to exclude opportunities to subordinate ones (those without QTS), has diminished. This situation highlights the fragility of claims to professional jurisdictions when these depend on established legal structures that can be redefined by political actors on behalf of the state. The government's unilateral ending of qualification requirements reflects the imbalance of power between the state and the teaching profession. This imbalance is such that, although the teachers' unions still make the case for the importance of QTS (NASUWT, 2016), membership of the new (in 2017) National Education Union, the largest teachers' union in England, is open to unqualified teachers, while its main predecessor, the National Union of Teachers, was not.

To the extent that the number of teachers without teaching qualifications has increased and may increase in the future, teaching in England has experienced a de-professionalization (Beck, 2009). Additional competition from cheaper, less qualified workers puts pressure on pay and working conditions for qualified teachers, which is doubly significant in the context of the rapidly increasing number of Academies, which are not bound by national agreements on pay and working conditions. This change is just one element in a range of policies aimed at 'deprivileging the public sector' (Bach, 2016, p.1) which, in education, has also included pay-freezes and stricter appraisal systems. While for some scholars these changes are politically contingent and connected to particular visions of public service reform (Bach, 2016; Bach et al., 2006), for those working in the tradition of Labour Process Theory, these developments reflect the progressive degradation of the teaching profession as a strategy for enhancing managerial control over the school workforce (Stevenson, 2013; Carter et al., 2012).

Hypotheses

Given the rhetoric of private sector efficiency that surrounds Academies, their close relationship with the private sector, and their insulation from stakeholder scrutiny, it is hypothesised that:

H1: *Academies increase the percentage of teachers without QTS in their workforces relative to LA maintained schools.*

Differentiating between types of Academy may reveal what it is about these schools that could be driving changes to their workforces. Sponsored Academies may be more likely to employ teachers without QTS than Converter Academies. Sponsored Academy managements have often overhauled their existing workforces as part of school-improvement plans and have introduced corporate-style managerial practices into their schools (Ainscow and Salokangas, 2017). Converter Academies, on the other hand, are schools that were judged to be performing well and may therefore be less likely to change existing hiring policies or overhaul their workforces.

H2: *Sponsored Academies increase the percentage of teachers without QTS in their workforces more than Converter Academies.*

There may be significant differences between Academies in Single Academy Trusts (SATs) and Multi-Academy Trusts (MATs). Schools that establish SATs on conversion to Academy status may be less likely to change their hiring practices because policy decisions continue to rest with schools' existing managements rather than moving to a higher authority, as in MATs, which may have new, more business-like priorities and less input from school-level stakeholders.

H3: *Academies in MATs increase the percentage of unqualified teachers in their workforces more than those in SATs.*

Data and Methods

The analysis draws on a newly compiled dataset which combines annual, school-level *School Workforce in England* with *Schools, Pupils and their Characteristics* censuses (2010-2016). Academies are linked with predecessor LA maintained schools using the DfE's *All Open Academies* dataset, which supplies school-level information on Academies. The analysis aims to assess the hypothesis that becoming an Academy is associated with an increase in the percentage of teachers without QTS. To capture schools converting to Academy status and compare them with those remaining LA maintained, the analysis includes mainstream primary and secondary schools reporting as LA maintained in the November 2010 workforce census and then as either LA maintained or Academy in the 2016 census: 18,158 schools.[1] Summary statistics are reported in Table 3.1.

Table 3.1: Percentage of Teachers without QTS by School Type

Phase	Type	N	2010	2016	Change
Primary	LA maintained	12,331	1.8	2.3	+0.5
	Academy	3,177	1.7	4.1	+2.4
	Converter MAT	1,657	1.5	3.7	+2.2
	Converter SAT	618	2.2	3.3	+1.1
	Sponsored MAT	886	1.8	5.6	+3.8
	Sponsored SAT	16	1.2	4.4	+3.2
Secondary	LA maintained	1,023	4.0	4.0	0.0
	Academy	1,627	4.1	5.0	+0.9
	Converter MAT	575	4.3	5.2	+0.9
	Converter SAT	766	3.6	4.1	+0.5
	Sponsored MAT	274	5.0	7.1	+2.1
	Sponsored SAT	12	4.8	5.0	+0.2

$$Y\_2016_{ij} = \alpha + \beta Academy_{ij} + \gamma Academy\_Years_{ij} + \lambda Y\_2010_{ij} + \sum_{k=1}^{n} \theta_k X_{ijk} + \tau_j + \varepsilon_{ij} \quad (1)$$

The unit of observation in the model above is the individual school, *i*, clustered by Local Authority, *j*. The dependent variable is the percentage of teachers without QTS in a school's workforce in 2016. The impact of a school becoming an Academy is jointly captured by two variables: $Academy_{ij}$ and $Academy\_Years_{ij}$. $Academy_{ij}$ is a dummy variable for whether school *i* in LA *j* has converted to Academy status by the 2016 workforce census. The coefficient on this variable captures a one-off association between the percentage of teachers without QTS and a school becoming an Academy, relative to remaining LA maintained. $Academy\_Years_{ij}$ is the number of years a school reports as being an Academy between 2010 and 2016. The coefficient on this variable captures any ongoing, year-on-year changes in the percentage of teachers without QTS associated with schools that have converted to Academy status. As $Academy_{ij}$ and $Academy\_Years_{ij}$ variables are highly correlated (primaries: r = 0.88; secondaries: r = 0.90), to assess whether Academies diverge from LA maintained schools in the hiring of teachers without QTS, the combined impact of the two variables must be considered. Therefore, their joint significance will be tested. To analyse associations for different types of Academy, in a second stage, I replace $Academy_{ij}$ with dummies for the four types of Academy (Converter MAT, Converter SAT, Sponsored MAT, and Sponsored SAT) and replace $Academy\_Years_{ij}$ with four corresponding variables for the number of years a school reports as being a particular type of Academy.

Schools may increase the percentage of teachers without QTS in three ways: by hiring more teachers without QTS, by not replacing qualified teachers who leave, and by encouraging qualified teachers to leave. The analysis does not distinguish between these possibilities. Increases in teachers without QTS may also come about through teacher selection. The greater public emphasis on Academies' freedom to hire teachers without QTS than on the removal of

restrictions for LA maintained schools may make it more likely for teachers without QTS to apply to work in Academies. Nevertheless, the decision to hire must be taken by school leaders. Additionally, Academies may be more (or less) attractive than LA maintained schools to teachers with (or without) QTS. The extent to which this may be due to contextual differences between Academies and LA maintained schools is addressed using a range of control variables. All control variables are measured in the baseline year 2010, the earliest year for which school-level data is available. The model therefore seeks to explain the change in the percentage of teachers without QTS in a school's workforce between 2010 and 2016 as a combination of its baseline characteristics in 2010, whether the school went on to become an Academy and, if so, for how many years it was an Academy. Taking the earliest available year for the baseline (2010) maximizes the number of schools and years for which schools may be observed as Academies. Selecting later years as the baseline does not substantially change the results for primary Academies, but fewer associations are significant for secondaries after 2010 (see Appendix A).

The model includes a control for the baseline percentage of teachers without QTS in 2010, Y_2010_{ij}, because the percentage of teachers without QTS in 2016 is likely to be dependent on the level in 2010. The model includes controls for a range of other factors, X_{ijk}, known or likely to be associated with the percentage of teachers without QTS in a school's workforce. As larger schools with greater ethnic diversity and poorer pupils have on average higher percentages of teachers without QTS, to control for these features I include variables for the total number of pupils in a school, the number speaking English as an additional language and the number eligible for free school meals (FSM). Although these variables are used by councils to assess funding for schools, and therefore help to control for the effect of school-level differences in funding on staffing practices, FSM-eligibility has been criticized as a proxy measure for poverty because it fails to capture some pupils from 'working poor'

families (Hobbs & Vignoles, 2010). Nevertheless, subsequent research has shown that FSM 'correlates highly with other measures of socio-economic disadvantage' and that its predictive power for achievement is only 'marginally lower' than richer but less readily available measures (Ilie, Sutherland & Vignoles, 2017, 253). For secondaries, a control for the number of pupils aged seventeen and over is also included because funding for pupils in sixth forms has been cut much more drastically than for school-age pupils (Belfield, Farquharson & Sibieta, 2018).

Political control of LAs could affect school staffing practices because LAs have traditionally had a significant role in the governance of state-funded schools and they retain influence over LA maintained schools. To test for this and to control for the party-political control of LAs, models include dummy variables for Conservative, Liberal Democrat, Independent (for primaries only), and 'No Overall' control, using Labour as reference. As the performance of a school is likely associated with its attractiveness to qualified teachers and the likelihood of staffing overhauls, I control for Ofsted rating, using dummy variables for 'Good', 'Satisfactory' (renamed to 'Requires Improvement' from 2012), and 'Inadequate', with 'Outstanding' as reference. Models include an Office for National Statistics rural/urban classifier with six levels at constituency level, ranging from 'Mainly Rural' (reference category) to 'Urban with Major Conurbation', to control for differing labour market characteristics due to location. Random effects at LA-level, represented in the model by τ_j, control for unobserved effects due to location not captured by other variables, including differences in LA-specific school funding formulae.

Results

Primaries

A Wald chi-square test reveals that the coefficients on *Academy* and *Years Academy* in Model 1 in Table 3.2 are jointly statistically significant ($\chi^2 = 184.8$; $p < 0.001$). These results imply a 1.32 percentage point one-off increase in the percentage of teachers without QTS for a primary that becomes an Academy with smaller increases (0.11 percentage points) for every year the school has been an Academy. The primary Academy panel of Figure 3.3 plots the estimated combined effect of these variables over the range of years (1-6) for which a primary Academy could be an Academy in the data. By 2016, the mean primary Academy had been so for 3.3 years, implying an estimated 1.65 percentage point increase in teachers without QTS relative to LA maintained schools. This substantively equates to exchanging 781 qualified teachers for teachers without QTS in these Academies.[2] As the average primary class size was 27.1 pupils in 2016, assuming conservatively that each pupil had one teacher would mean that more than 21,000 pupils were taught by teachers without QTS due to primary Academies in 2016.

Turning to coefficients for contextual variables, which measure effects across all primaries, Academy and LA maintained, Model 1 reveals that primaries with more pupils from poor and ethnic minority backgrounds recruit a greater percentage of teachers without QTS, revealing inequalities in access to qualified teachers net of other contextual variables. For every one hundred poor and ethnic minority pupils in a primary school in 2010, there are respectively 1.4 and 0.4 percent more teachers without QTS in 2016. An interaction, reported in Model 2, Table 3.2, reveals that schools that become Academies are associated with wider inequality between richer and poorer pupils in access to qualified teachers than LA maintained schools. For every 100 pupils eligible for FSM in LA maintained schools, 1.2 percent of teachers do not have QTS, but this increases to 1.9 percent (100 * (0.012 + 0.007)) in Academies. Models 1 and 2 in Table 3.2 also reveal that, primaries in urban areas with major conurbations as well as those with a city and a town are recruiting more teachers without QTS than those in the most rural areas, which may reflect a greater demand for primary teachers in towns and cities.

Schools with ‘Inadequate’ Ofsted grades tend to go on to hire more teachers without QTS than those with ‘Outstanding’ ratings, which implies that poorly performing schools struggle to recruit qualified teachers. There are no significant associations for the political control of LAs.

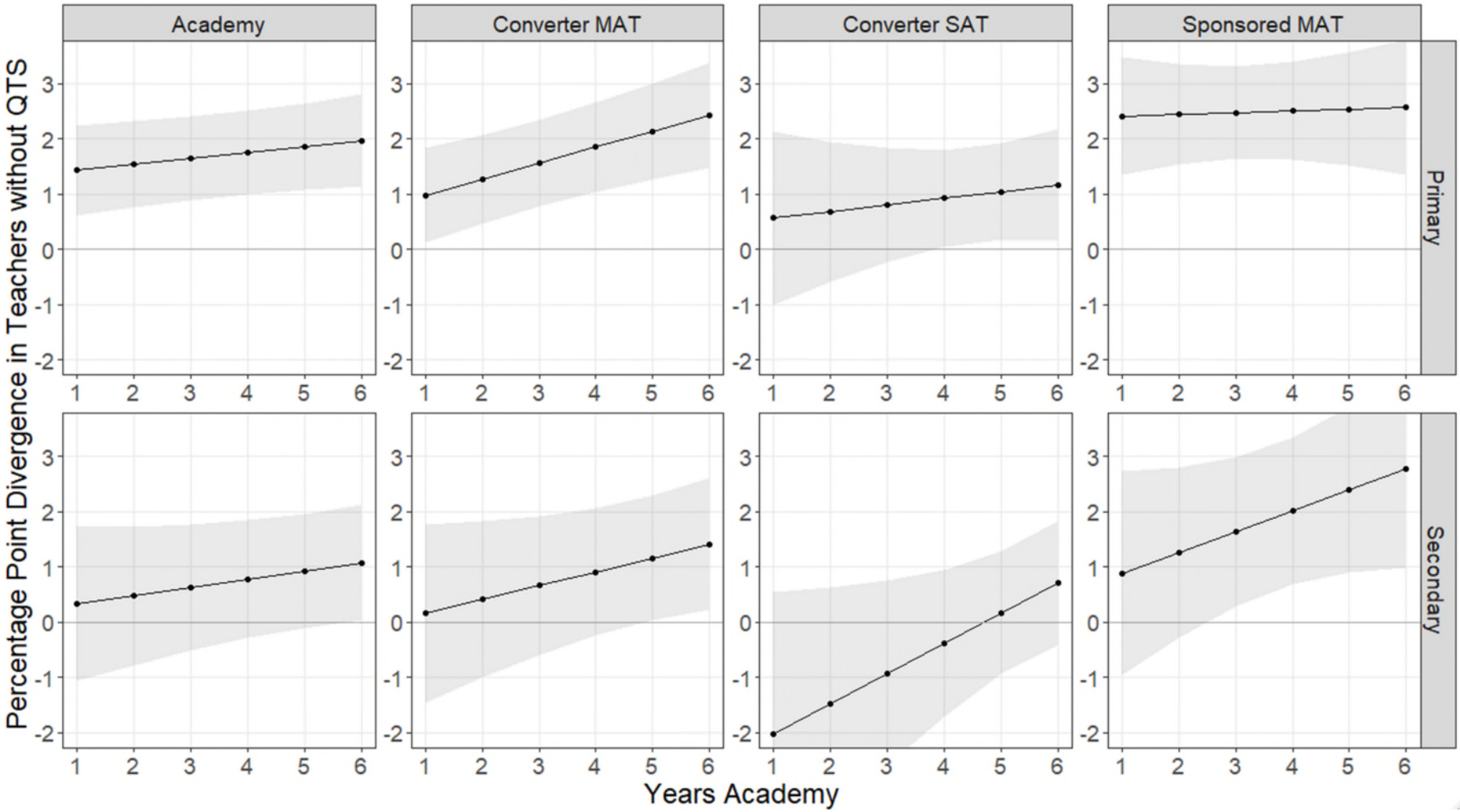
For Model 3 in Table 3.2, tests of joint significance reveal that the pairs of variables for three types of Academy are statistically significant, Converter MATs ($\chi^2 = 102.4$; $p < 0.001$), Converter SATs ($\chi^2 = 16.6$; $p < 0.001$) and Sponsored MATs ($\chi^2 = 139.5$; $p < 0.001$). These results imply increases in teachers without QTS relative to otherwise equivalent LA maintained schools. The remaining three panels in the primary row of Figure 3.3 show estimates for the impact of the different types of Academy.[3] These reveal that both types of primary MAT are significantly different from LA maintained schools from their first year as Academies, while Converter SATs only became distinguishable from their fourth year. These results are supportive of the hypothesis that MATs are associated with greater increases in teachers without QTS than SATs. However, overlapping confidence intervals indicate that the percentage of teachers without QTS in MATs is not statistically significantly higher than in SATs. Consistently higher estimated effects for *Sponsored* MATs compared with *Converter* MATs, suggest an important role for the combination of Sponsorship and MAT membership in hiring teachers without QTS, consistent with the hypotheses above.

Table 3.2: Determinants of Percentage of Teachers without QTS in Primary and Secondary State Schools in 2016

	Dependent variable:					
	Teachers Without QTS 2016					
	Primary			Secondary		
	(1)	(2)	(3)	(4)	(5)	(6)
Academy	1.324***	1.006***		0.176	-0.842	
	(0.248)	(0.270)		(0.586)	(0.688)	
Academy Years	0.107	0.102		0.150	0.185	
	(0.067)	(0.067)		(0.113)	(0.114)	
Converter MAT			0.697*			-0.093
			(0.299)			(0.784)
Converter MAT Years			0.288**			0.251
			(0.089)			(0.159)
Converter SAT			0.446			-2.565
			(0.884)			(1.448)
Converter SAT Years			0.120			0.547*
			(0.188)			(0.265)
Sponsored MAT			2.384***			0.509
			(0.531)			(1.026)
Sponsored MAT Years			0.031			0.378
			(0.158)			(0.257)
Sponsored SAT			5.691			-1.703
			(4.689)			(5.788)
Sponsored SAT Years			-1.415			0.310
			(1.118)			(1.180)
Teachers Without QTS 2010	0.102***	0.102***	0.103***	0.265***	0.265***	0.262***
	(0.010)	(0.010)	(0.010)	(0.021)	(0.021)	(0.021)
Total Pupils	-0.002***	-0.002***	-0.001**	-0.002***	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Total Pupils 17+				0.006*	0.006*	0.005*
				(0.003)	(0.003)	(0.003)
Pupils Eligible for Free School Meals	0.014***	0.012***	0.013***	0.010***	0.007**	0.008***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Pupils Eligible for Free School Meals * Academy		0.007**			0.006**	
		(0.002)			(0.002)	
Pupils Speaking English as Additional Language	0.004***	0.004***	0.004***	0.002	0.002	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Ofsted Rating (Reference = 'Outstanding')						
Ofsted Good	0.035	0.033	0.004	0.568	0.543	0.548
	(0.136)	(0.136)	(0.136)	(0.321)	(0.321)	(0.322)
Ofsted Satisfactory	0.220	0.220	0.139	1.211***	1.163**	1.000**
	(0.150)	(0.150)	(0.151)	(0.368)	(0.368)	(0.373)

Ofsted Inadequate	1.015**	0.986**	0.884**	1.742*	1.660*	1.384
	(0.325)	(0.326)	(0.328)	(0.718)	(0.717)	(0.741)
Rural/Urban (Reference = 'Mainly Rural')						
Urban with Major Conurbation	0.858**	0.874**	0.859**	-0.824	-0.842	-0.780
	(0.310)	(0.310)	(0.309)	(0.593)	(0.592)	(0.591)
Urban with Minor Conurbation	-0.011	-0.00003	-0.028	-0.675	-0.730	-0.753
	(0.460)	(0.460)	(0.460)	(1.071)	(1.070)	(1.068)
Urban with City and Town	0.385*	0.394*	0.370	0.013	-0.011	-0.016
	(0.195)	(0.195)	(0.195)	(0.472)	(0.471)	(0.471)
Urban with Significant Rural	0.223	0.224	0.202	-0.516	-0.543	-0.589
	(0.199)	(0.199)	(0.199)	(0.527)	(0.527)	(0.526)
Largely Rural	0.230	0.230	0.223	-0.487	-0.513	-0.536
	(0.204)	(0.204)	(0.204)	(0.528)	(0.527)	(0.527)
Political Control of LA (Reference = Labour)						
Conservative LA	0.254	0.218	0.235	0.972	0.874	0.942
	(0.730)	(0.730)	(0.730)	(0.632)	(0.631)	(0.627)
Independent LA	7.850	7.786	7.771			
	(4.781)	(4.782)	(4.779)			
Liberal Democrat LA	0.316	0.284	0.307	-0.038	-0.151	-0.108
	(0.826)	(0.827)	(0.827)	(0.678)	(0.677)	(0.673)
No Overall Control LA	-1.291	-1.354	-1.301	0.096	-0.034	0.024
	(1.489)	(1.490)	(1.490)	(1.200)	(1.198)	(1.191)
N: Local Authorities	152	152	152	150	150	150
N: Schools	15508	15508	15508	2650	2650	2650
Variance: Local Authorities	12.7	12.7	12.7	5.1	5.1	5
Variance: Residual	32.4	32.3	32.3	36	35.9	35.9
AIC	98525	98528	98499	17260	17265	17250

Figure 3.3: Estimated Divergence from LA Maintained Schools in Teachers without QTS (with 95% Confidence Intervals)



Secondaries

A Wald chi-square test reveals that the coefficients on *Academy* and *Years Academy* in Model 4 are jointly statistically significant ($\chi^2 = 12.1$; $p < 0.002$). For secondary schools that become Academies, there is a 0.18 percentage point one-off increase and smaller increases (0.15 percentage points) for every year the school has been Academy. The secondary Academy panel in Figure 3.3 plots the estimated association between being a secondary Academy and the percentage of teachers without QTS. Although smaller than for primaries in percentage point terms, the association for secondary Academies is still substantively interesting because of the greater number of teachers working in secondary schools. By 2016, the mean secondary Academy had been so for 4.8 years, implying a 0.9 percentage point increase in the percentage of teachers without QTS. This equates to exchanging 959 qualified teachers for teachers without QTS in secondary Academies.

Turning to contextual variables across all secondaries in Model 4, the number of pupils aged seventeen or over in a school is associated with more teachers without QTS, possibly reflecting the heavier per-pupil funding cuts for this age group. Model 4 also reveals that secondaries with more pupils eligible for FSM tend to hire more teachers without QTS, as in primaries. An interaction (reported in Model 5) again reveals that this relationship is almost double in Academies (0.007 + 0.006) that in LA maintained schools (0.007), revealing a role for Academies in widening inequality between richer and poorer pupils in access to qualified teachers. As with primaries, secondaries with poor Ofsted ratings ('Satisfactory'/'Requires Improvement' and 'Inadequate') go on to hire more teachers without QTS relative to schools with 'Outstanding' ratings. There are no significant relationships for the number of pupils from ethnic minority backgrounds, the urban or rural setting of secondary schools, or the political control of LAs.

Tests of joint significance for secondary Academy types in Model 6 are only statistically significant for Converter MATs ($\chi^2 = 11.5$; $p < 0.003$) and Sponsored MATs ($\chi^2 = 19.4$; $p < 0.001$). This is consistent with the hypothesis that MATs are associated with greater increases in teachers without QTS than SATs. The three remaining panels of the secondary row of Figure 3.3 display estimated effects for types of secondary Academy. Sponsored MATs are significantly different from LA maintained schools by their third year as Academies, while Converter MATs are only so by their fifth year. This is consistent with the hypothesis that Sponsored Academies would be associated with greater increases in teachers without QTS than Converters, however overlapping confidence intervals mean the difference between the two types of MATs are not statistically significant. Nevertheless, as with primaries, there appears to be an important role played by the combination of Sponsorship and MAT membership in increasing the percentage of teachers without QTS in Academy schools.

Controlling for Unobserved Confounders

Nevertheless, it remains possible that increases in the percentage of teachers without QTS in schools that became Academies relative to those remaining LA maintained are due to unobserved features of Academies which are not controlled for in the model, rather than the effect of becoming Academies *per se*. For example, schools with particularly activist managements may seek to convert to Academy status and to restructure their workforces. To control for this possibility, in a further stage, the analysis was restricted to only those schools that become Academies by 2016, discarding those that remained LA maintained for the whole period 2010-2016. Equation 1 was then re-estimated for both primaries and secondaries, but taking as the dependent variable the percentage of teachers without QTS in 2014 rather than 2016. As schools which became Academies in 2015 and 2016 had not converted by 2014, they

act as LA maintained schools in the model, against which Academies open earlier are compared, the aim being to more closely match schools that become Academies on their unobserved characteristics. Summary statistics and results reported in Appendix A.

Significance tests revealed that both primary and secondary schools that had become Academies by 2014 were associated with statistically significant increases in the percentage of teachers without QTS in their workforces relative to schools that were not yet Academies in 2014 (primary: $\chi^2 = 30.2$; $p < 0.001$; secondary: $\chi^2 = 7.8$; $p = 0.020$). These findings lend greater support to the conclusion that the Academies have increased the percentage of unqualified teachers as such analyses help to control for unobserved features of the schools became Academies. Additional support for this conclusion is provided by further analyses, also reported in Appendix A which use school (and year) fixed effects to control for unobserved confounders in a difference-in-difference approach which includes observations for both Academy and LA maintained schools in all years 2010-2016. In these analyses both primary and secondary schools which become Academies are significantly associated with increases in the percentage of teachers without QTS, with magnitudes slightly smaller than in the main analysis for the average Academy in each phase. Regarding types of Academy, associations for Sponsored MATs are significant in both phases, as is the association for Converter MATs in primaries. This lends support to the hypothesis that joining a MAT leads to increases in teachers without QTS.

Discussion

This article has sought to answer the question of whether Academies are increasing the percentage of teachers without QTS in the state school workforce in England relative to LA maintained schools. For the first time, analyses have shown that, controlling for a range of

relevant contextual factors, Academies are associated with over 1,700 more teachers without QTS than LA maintained schools. Many thousands of pupils have been taught by teachers without QTS as a result. Moreover, estimated divergences between schools that became Academies and those that remained LA maintained were driven by schools adopting the less autonomous paths within the Academy system, those which are Sponsored and/or in a Multi-Academy Trust. Although it is possible that these results are attributable to qualified teachers selecting against joining these Academies, models have controlled for a range of school characteristics which may be related to such decisions. Rather, Sponsorship and membership of a MAT distance school managers from local stakeholders and likely bring more business-like, cost-conscious approaches to school governance, which could be making the hiring of teachers without QTS more likely.

Although findings have revealed statistically significant divergences in the percentage of teachers without QTS in schools that become Academies and those that remain LA maintained, the magnitude of changes is small relative to both the size of the teaching workforce and the length of time considered (2010-2016). An estimated increase of 781 teachers without QTS in primary Academies between 2010-11 and 2015-16 amounts to only 0.25 teachers per Academy, 0.4% of all primary teachers, or only 130 teachers per year. For secondary Academies, an estimated increase of 959 teachers without QTS is only 0.6 teachers per Academy over six years, 0.5% of all secondary teachers, or 160 teachers per year. Therefore, while the direction of the estimated relationships is consistent with expectations from Labour Process Theory for the accelerated degradation of teacher professionalism and the substitution of teachers by cheaper, less qualified workers in Academies, for the teaching profession as a whole, these changes are largely insubstantial. Nevertheless, the greater increases in the percentage of teachers without QTS across all state schools in England since

2012, shown in Figure 3.2, are consistent with expectations from Labour Process Theory (Carter et al., 2010; Stevenson, 2013).

Despite only slight changes to the workforce attributable to Academization, an increase of over 1,700 teachers without QTS in Academies relative to LA maintained schools is, nevertheless, likely to have had a considerable impact on the quality of education received by many thousands of pupils in Academies. Increases in teachers without QTS have likely undermined the quality of education that pupils receive because such teachers have less pedagogical training and less subject knowledge than their qualified colleagues. Faster increases in the percentage of teachers without QTS may have played a role in the underperformance of some Academies, a subject that future research should seek to address. Moreover, the paradox, that Academies were ostensibly created to improve educational outcomes for pupils, particularly in poorer areas, but hire more teachers without QTS than LA maintained schools, cannot be explained away by contextual factors affecting Academies more than LA maintained schools. On the contrary, results deepen the apparent paradox because Academies with poorer pupils increase the percentage of teachers without QTS relative to those with more privileged pupils, who tend to achieve better results (Department for Children, Schools and Families, 2009). Across both Academy and LA maintained schools, results have shown that schools with poorer pupils and primaries with greater ethnic diversity hire more teachers without QTS relative to those with more privileged pupils in less diverse areas, revealing inequalities in access to qualified teachers across the English school system. The degrading of the teaching profession, encouraged by the government's relaxation of regulations on teacher qualifications and the Academies programme, is serving to widen inequalities in access to qualified teachers.

Greater increases in the percentage of teachers without QTS in Academies with poorer pupils could be the result of a greater number of employment-based teacher trainees in these

schools. Programmes such as Teach First were specifically established to encourage employment-based training in areas of deprivation. However, it was not possible to assess to the extent to which trainees are responsible for this relationship because the vast majority of the school-level data on trainees in workforce censuses is missing or suppressed by the DfE. Nevertheless, as aggregate data revealed that only between 10% and 14% of teachers without QTS were in training between 2010 and 2016, it is unlikely that a disproportionate number of trainee teachers is wholly responsible for the divergences found here. Moreover, as trainee teachers are yet to prove their competence against formal Teachers' Standards and because they lack training and experience relative to their qualified colleagues, a greater proportion of trainees among teachers without QTS does not necessarily imply they are as effective as qualified teachers.

Conclusion

The Academies programme is the largest structural reform of English state education since the introduction of the comprehensive system. The programme's supporters expect that it will infuse the state education system with the efficiency and dynamism of the private sector (Adonis, 2012). However, Academies have been criticised by politicians, unions, and activists for the higher percentage of teachers without Qualified Teacher Status in their workforces because of the potential negative impact of these teachers on both pupil outcomes and working conditions for qualified teachers. It was unclear, however, if this higher percentage was simply due to contextual factors affecting Academies more than LA maintained schools.

Here, for the first time, it has been demonstrated that, net of a range of contextual factors, Academies have increased the percentage of teachers without QTS in their workforces relative to LA maintained schools. Academies in the most business-like structures – Sponsored

and in Multi-Academy Trusts – are associated with the greatest divergence from LA maintained schools. Academies also exacerbate the trend for the percentage of teachers without QTS to be higher in areas with poorer pupils. However, the magnitude and speed of changes attributable to Academization has been slight in comparison to changes in the state school workforce as a whole. The number of teachers without QTS has risen considerably across all types and phases of state school in England. Overall, policies which seek to liberalize employment relations in the public sector by outsourcing the management of the education system and undermining professional accreditation are degrading the teaching workforce and widening inequality in access to qualified teachers.

These findings have important implications for researchers and political actors. For researchers, these results show that the Academies programme is a critical area for research on the privatization and outsourcing of public services. Future research should investigate the effect of the Academies programme on other aspects of the school employment relations, such as pay and working conditions, as well as the potential impact of teachers without QTS on pupil performance. As differences between primary and secondary Academies have appeared at both an overall level as well as between types of Academy, researchers should be careful to distinguish between phases and types of Academy when hypothesising about the effects of the programme. For political actors, these results are the first evidence of the impact of Academies and the freedom to hire teachers without QTS on the state school workforce and, by extension, its pupils. On this basis, it is now possible to take a more informed position on the merits of such policies in the context of a global reform movement pressuring states to open education and other public services to market forces.

Chapter 4

Austerity, Outsourcing and the Public Sector Workforce: Trends from 20,000 English State Schools

Abstract

Marketization and austerity have transformed the public sector around the world. Although employing nearly one million workers, it is unclear how these policies have affected the state school workforce in England, which has witnessed the outsourcing of more than 9,000 schools and budget cuts of 8% since 2010. Using nationally comprehensive data sources, analyses reveal that changes under austerity have been drastic and have been compounded by outsourced Academies. Long-term increases in the number of teachers and support staff have gone into reverse while managerial teams have continued to grow. This research has important implications for our understanding of how marketization and austerity affect public sector workforces.

Introduction

Since the 1980s a combination of economic, technological, and political change has transformed public sector workforces around the world (Hermann & Flecker, 2012). Public sector employees are working longer and harder and the creation of new job roles has shifted

established patterns in the division of labour (Felstead et al., 2012; Bach and Kessler, 2012). In education, governments have sought to improve the efficiency and effectiveness of state school workforces through reforms inspired by the private sector (Verger et al., 2016). These reforms have aimed at encouraging greater innovation and creativity in approaches to improving pupil outcomes by increasing school leaders' flexibility in the deployment of financial and human resources (Ball, 2017). Research has shown that these reforms have substantially altered the division of labour in schools: the power of managerial teams has increased and the range of job roles in the workforce has expanded, particularly among non-teaching support staff (Sharma & Salend, 2016; Hall et al., 2015; Blatchford et al., 2012; Bach et al., 2006; Gewirtz, 2002).

However, existing research on the impact of reforms of the school workforce in England has frequently focused on case studies in a small number of schools, drawing the representativeness of findings into question (Ainscow & Salokangas, 2017; Carter & Stevenson, 2012; Bach et al., 2007). Moreover, existing research draws on evidence which pre-dates the major political and economic changes that have occurred since the end of the Labour government in 2010. In particular, the consequences of the outsourcing of thousands of state schools under the Academies programme and the imposition of public sector austerity policies for the state school workforce are yet to be adequately assessed. Austerity policies have cut per pupil funding by 8% in real terms since 2010, placing schools under pressure to save money (Belfield et al., 2018). As staffing costs account for three-quarters of all school expenditure (DfE, 2019), austerity is likely to have had a considerable impact on school workforces.

The Academies programme, a major structural transformation of the English state school system, has greatly expanded since the end of the Labour government in 2010. Academies are privately-run, state-funded schools that now account for 30% of primary and 70% of secondary schools (DfE, 2018a). Proponents of the Academies programme have sought

to free schools from local government control to allow them to adopt novel organizational and leadership practices to raise performance standards (Adonis, 2012). While scholars have therefore speculated that workforce practices in Academies differ from non-Academy schools (Stevenson, 2013), there has been little empirical research of the impact of programme on the school workforce (Bubb et al., 2019; Ainscow & Salokangas, 2017; Earley et al., 2012).

Drawing on nationally comprehensive censuses of employees and pupils in English state schools, this article analyses the impact of austerity and outsourcing on a public sector workforce nearly one million strong. The article brings knowledge of the state school workforce up to date through the analysis of trends since the early 2000s. Contrary to the expectations of researchers who have viewed reforms to the school workforce through the theoretical lenses of Taylorism and workforce degradation (Carter et al., 2010), findings reveal that less-qualified support staff have not replaced professional teachers or contributed towards a cheapening of the school workforce. As the number of support staff increased rapidly between the early 2000s and the mid-2010s, the number of teachers also increased, substantially raising overall wage costs in state education. Results also reveal that teachers have been progressively and extensively incorporated into managerial hierarchies, further contributing towards higher wage costs. Since the imposition of austerity policies in the 2010s, the proportion of teachers in expensive senior management positions has, counterintuitively, continued to grow. However, the numbers of support staff and classroom teachers per pupil have entered very rapid declines, which will likely have a negative impact on pupils and the workload of the remaining workforce. For the first time, the analysis reveals that schools which have been outsourced under the Academies programme have accelerated the growth of senior managerial teams and cuts to the size of the teacher and teaching assistant workforce.

This article provides the first combined assessment of the impact of outsourcing and austerity on the school workforce in England. Findings contribute new evidence to growing

international debates on the effects of economic crisis on public and private sector workforces (Bach, 2016; Slater, 2015; Roche & Teague, 2014) and the transformation of employment relations through the marketization of public services (Elwick, 2018; Stahl, 2017; Howell & Givan, 2011; Bach, 2002). This is particularly important in an era of intense international policy cross-fertilization in state education (Gunter et al., 2016; Verger et al., 2016; Lange & Alexiadou, 2010). These findings are significant not only because of the evidence they bring to bear on the adequacy of theoretical orientations promoted in existing research to explain changes to the public sector workforce, but also because of the substantive impact the processes revealed here have had on the lives of the nearly one million employees in the state school system in England.

Growing Managerialism

In an era of increasing international comparison of the effectiveness of state education systems, for example in the OECD's PISA tests, states are seeking to reform their school systems in an attempt to improve their performance (Hall et al., 2015; Martens et al., 2007). As evidence has consistently pointed towards the role of effective school management as second only in importance to the quality of classroom teaching for pupil outcomes (Day et al., 2016; Earley et al., 2012), a major component of reforms to education workforces has been an increase in the prominence and authority of school-level managerial teams (Gewirtz, 2002; Hall et al., 2015). In England, the power of school leaders has been enhanced by the increased use of performance targets, lesson observations, and the analysis of pupil performance data, initiatives that Gewirtz (2002) has dubbed 'managerialism'. Through this greater supervision of the content and execution of teachers' tasks, school leaders *have sought to* align teachers' efforts with the aim of improving public examination and school inspection results (Mather & Seifert, 2011).

Researching the impact of workforce reforms in the first decade of the 2000s, Carter and Stevenson (2012) have argued that the English government's drive to improve school performance has led to an increase not only in the power of school leaders but also a growth in the size of school managerial teams. More managers have been required to carry out the increasing amount of work involved in supervising tasks, monitoring performance, and overseeing the growing number of support staff. In senior leadership, assistant headteacher positions were introduced in 2000 to complement existing deputy- and headteacher roles. In middle management, a new system of Teaching and Learning Responsibility (TLR) payments was created in 2006. Teachers receive TLRs for taking on additional responsibilities above those of a classroom teacher, for example as head of a subject area or as Key Stage coordinator. Permanent, higher-level TLR-1 and 2 awards involve managerial responsibilities, while this is not necessarily the case for cheaper, fixed-term TLR-3s (introduced in 2013) (DfE, 2018b).

This 'creeping managerialism' (Carter & Stevenson, 2012, p.491) is argued to have had profound consequences for both teacher professionalism and the organization of the labour process in England's schools. In drawing an increasing number of teachers into managerial positions, these reforms have Taylorized work in schools by concentrating workplace authority with a group of managers who plan and monitor the work of their subordinates, Braverman's 'separation of conception from execution' (Braverman, 1998, p.86; Carter et al., 2010; Mather & Seifert, 2011). However, an increase in the size of school managerial teams may not be compatible with the characterization that the school workforce has been Taylorized. According to the tradition of Labour Process analysis within which these suppositions are framed, control over the workforce under Taylorist management is exercised through a small, elite group of managers who design systems to monitor and control the work of their subordinates. Such systems increase control over the workforce but can lead to *less* need for direct management by other workers (Grint & Nixon, 2015). Moreover, a large expansion in the number of

expensive managerial positions runs counter to a core aim of Taylorist management: the reduction of production costs.

An alternative perspective sees the growth of school managerialism as a way to cope with growing operational responsibility at school level. From this perspective, as the power of Local Authorities has been rolled back and individual schools have become increasingly responsible for their own governance, particularly with respect to administration and staffing, the work of the headteachers and senior school managers has intensified. Even before the outsourcing of school provision under the Academies programme (discussed in more depth below), state-funded schools in England had already been granted substantial operational autonomy from the state (OECD, 2010). For Gronn (2000, 2002), this process has led to more distributed forms of leadership, in which greater school-level operational responsibilities have been shared among a growing number of senior managers. Thus, school leadership teams have grown not out of a desire for greater control over the workforce, but in order to cope with the additional responsibilities that come with added school autonomy.

Irrespective of its cause(s), the extent to which managerial hierarchies have penetrated the teaching profession remains an important issue. The proliferation of formal roles of greater or lesser responsibility increases status differentiation among teachers and constitutes a shift from an egalitarian and collegial professionalism to a more hierarchical and managerial one (Evetts, 2009). Increasing status differentiation may also serve to undermine professional solidarity among teachers by formally distancing those of different occupational grades (Stevenson, 2013). For example, senior school leaders can join unions which exclude classroom teachers. However, rather than a threat to the teaching profession, increases in the number of managerial roles may be interpreted as enhancing professionalism: teachers increasingly receive recognition and payment for formally codified roles that go beyond traditional classroom responsibilities (Bach & Kessler, 2012; Oesch & Rodríguez Menés,

2011). Moreover, as the quality of school management is known to have a considerable influence on pupil outcomes (Day et al., 2016), enhancing the capacity of managerial teams may be interpreted as an important step towards the improvement of English state school performance.

Despite interest in changes to public sector professionalism and the rise of managerialism, nationally comprehensive data on school workforces is yet to be used to assess claims in the existing literature of increasing managerialism (DfE, 2018c). Moreover, falls in funding since the imposition of austerity policies may have led to cutbacks in expensive managerial positions. Indeed, the government has issued guidance to schools on 'creating a leaner and more effective leadership team' (Education Funding Agency, 2016). Having grown at 5% per year in both primary and secondary phases under Labour, school spending was effectively frozen by the Coalition government between 2010 and 2015, when per pupil funding grew by only 3% in primaries and fell by 1% in secondaries (Belfield et al., 2018). Since then, per pupil funding has fallen rapidly, by 4% between 2015 and 2017 (Belfield et al., 2018). Assessing the extent to which managerial teams have or have not shrunk in response to austerity is important because of what this may reveal about the spending priorities of senior public sector managers and because of the impact changes may have had on the capacity of schools to improve and on the teaching profession itself.

Substituting Teachers

The use of teaching assistants (TAs) to provide additional support to pupils and improve the inclusiveness of schools is increasingly common in state education systems (Giangreco, 2013; Sharma & Salend, 2016). In England, the number of TAs and support staff (pupil welfare officers, cover supervisors, administrative staff, technicians and site/facilities staff) *g*rew

rapidly from the early 2000s as the government attempted to address teachers' concerns about rising workloads and related recruitment and retention problems (Bach & Kessler, 2012; Ball, 2017). As part of the 2003 Workload Agreement, the government granted funding for 50,000 extra support staff and formally removed twenty-five administrative tasks from teachers' job roles. The growth in the number of TAs in school workforces has raised debate between researchers who view them as either a complement or a threat to teachers' professionalism.

Bach and colleagues (2006) found that teachers in England greatly valued the support they received from TAs and that there was minimal fear that they would encroach on core aspects of teaching, such as leading classes. Similarly, Blatchford and colleagues (2012) found that teachers believed TAs had helped relieve their workloads, particularly in relation to administrative tasks. However, *Carter and Stevenson* (2012, p.489) *have highlighted a* 'deliberately permissive system' in England's schools where there has been a clear 'financial imperative' to allow cheaper support staff to encroach on teachers' work and substitute them in the workforce. Drawing on Labour Process Theory, Carter and colleagues (2010) argue that, instead of employing more teachers, the government has sought to encourage school leaders to deploy their workforce more efficiently by reassigning lower value-added tasks (administrative, pastoral and some teaching activities) from teachers to cheaper support staff. The fragmentation and redistribution of teachers' responsibilities have aimed at 'dividing the craft' of teaching and 'cheapen[ing] its individual parts' (Braverman, 1974/1998, pp.55–56; Carter et al., 2010). Such changes in the division of labour represent a loss for teachers of their professional jurisdiction over core pastoral and teaching responsibilities in the shifting competition over occupational territory (Abbott, 1988; Bach et al., 2007)

The argument that more support staff have been hired instead of teachers to cheapen teaching labour implies that the number of teachers in the English state school workforce has either decreased or, at the very least, not increased relative to the number of pupils. An increase

in the number of teachers per pupil would represent an overall increase in the costs of teaching, contrary to the aim of cheapening teaching labour. However, researchers have yet to exploit the wealth of nationally comprehensive data made available by the DfE on the evolution of the structure of the school workforce in England to address the extent to which this is the case. In addition, the existing debate on the role of TAs has focused on the period of New Labour's remodelling of the workforce in the first decade of the 2000s, when funding for schools was rising. It remains unclear, therefore, whether the growth in the number of TAs has been sustained *in a period of public sector austerity during which school spending was first frozen and then cut* (Belfield et al., 2018).

Examining trends in the structure of school workforces under austerity contributes towards an understanding of how schools have approached spending priorities within their increasingly constrained budgets. Have school leaders prioritized retaining teachers over TAs? Or, if TAs are employed to cheapen the costs of teaching, have TAs been retained over teachers? Assessing the extent to which there have been staffing retrenchments in England's schools is important both because of the potential negative consequences they have for pupils and because of the likely impact on the workloads of the staff who remain.

Outsourcing Schools

Governments around the world are increasingly turning towards private-sector-style organizational practices to improve the performance of their state school systems (Verger et al., 2016*)*. Such reforms include the use of school league tables, increased parental choice, the deregulation of employment contracts, and the outsourcing of state school provision itself to private providers, as in the case of Charter Schools (US) and Free Schools (Sweden). In England, the major structural transformation of the state school system of the past two decades

has the been the outsourcing of school provision under the Academies programme (Elwick, 2018). Traditionally, Local Authorities (LAs), local government entities, have had responsibility for maintaining state-funded schools in England. Academies operate independently of LAs but are still state funded. The first Academies opened in 2002 and now account for 70% of secondary and 30% of primary schools in England *(DfE, 2018a)***.** The vast majority of Academies have converted from existing LA maintained schools.

The Academies programme aims to drive up pupil performance by intensifying competitive pressures between schools while freeing them to adopt novel organizational and leadership practices from outside the state sector (Adonis, 2012; Greany & Higham, 2018). The earlier introduction of quasi-market reforms to state education, such as school examination league tables and Ofsted inspection ratings, also aimed at encouraging school leaders to concentrate their resources on improving school performance through the intensification of competitive pressures (DfE, 2016a; Department for Education and Skills, 2005). Researchers have argued that that these marketizing reforms have driven the trends identified above: the substitution of teachers by support staff and the growth of managerialism (Ball, 2017; Stevenson, 2013; Gewirtz, 2002). Given that the Academies programme is itself a marketizing reform aimed at increasing competitive pressures, the outsourcing of schools under the Academies programme represents a most-likely case for those who believe that the school workforce is being restructured in this way. Indeed, supporters of the programme regard Academies' exemption from national agreements on pay and working conditions and their freedom to employ innovative leadership and staffing practices as fundamental to their role in transforming the English state education system, which they believe has been held back by restrictive employment and organizational practices (DfE, 2016a; Sturdy & Freedman, 2007). As such, the outsourcing of state schools in England forms part of the long-term trend toward the marketization of employment relations in the public sector, which has had the ostensible

aim of improving the efficiency and effectiveness of public services, but which has also seen the state retreat from the role of model employer (Bach, 2016; Howell & Givan, 2011; Bewley, 2006; Bach, 2002).

The organization of the workforce in Academies was therefore intended to diverge from established practices in LA maintained schools, but researchers have yet to devote adequate empirical attention to whether Academies have taken advantage of their greater autonomy to do so. For the academic year 2011/12, Earley and colleagues (2012) have shown that school leadership teams were larger in Academies than in LA maintained schools. Using data from 2015/16, Bubb and colleagues (2019) have shown that leadership teams were larger in secondary Academies than secondary LA maintained schools, but that the reverse held for primary schools. While these studies help to shed some light on the impact of the outsourcing of England's schools, they do not attempt to assess whether differences between Academies and LA maintained schools are statistically significant. Nor do they control for the simultaneous influence of contextual factors, such as school size, location, poverty, or ethnic diversity, which affect school funding and, consequently, school workforces. Moreover, the cross-sectional nature of these studies means that they cannot address how workforces in schools change after being outsourced. This suggests the need for longitudinal and multivariate analysis of school workforces. As more and more schools convert to Academy status and as systems of outsourced state schools expand around the world, it is increasingly important to investigate to what extent their workforces diverge from traditional state schools.

Data and Analyses

Analyses draw on data from the *Schools, Pupils and their Characteristics* and the *School Workforce in England* censuses from the DfE. These censuses provide data on the pupils and

workers in all state-funded schools in England. For all years since 2002, the DfE has publicly released nationally aggregated and school-level data from the pupil census. The workforce census has been carried out in every November since 2010, when it replaced more disparate workforce data collection exercises. School-level workforce data is therefore only available since November 2010. For the years prior to the collection of the workforce census, nationally aggregated data on the school workforce is available from tables released with the post-2010 censuses. The analysis below is divided into two sections. The first investigates long-term trends in the structure of the school workforce in England using nationally aggregated data (2002-2017). The second analysis uses school-level data to assess the impact of outsourcing schools under the Academies programme on the school workforce (2010-2017).

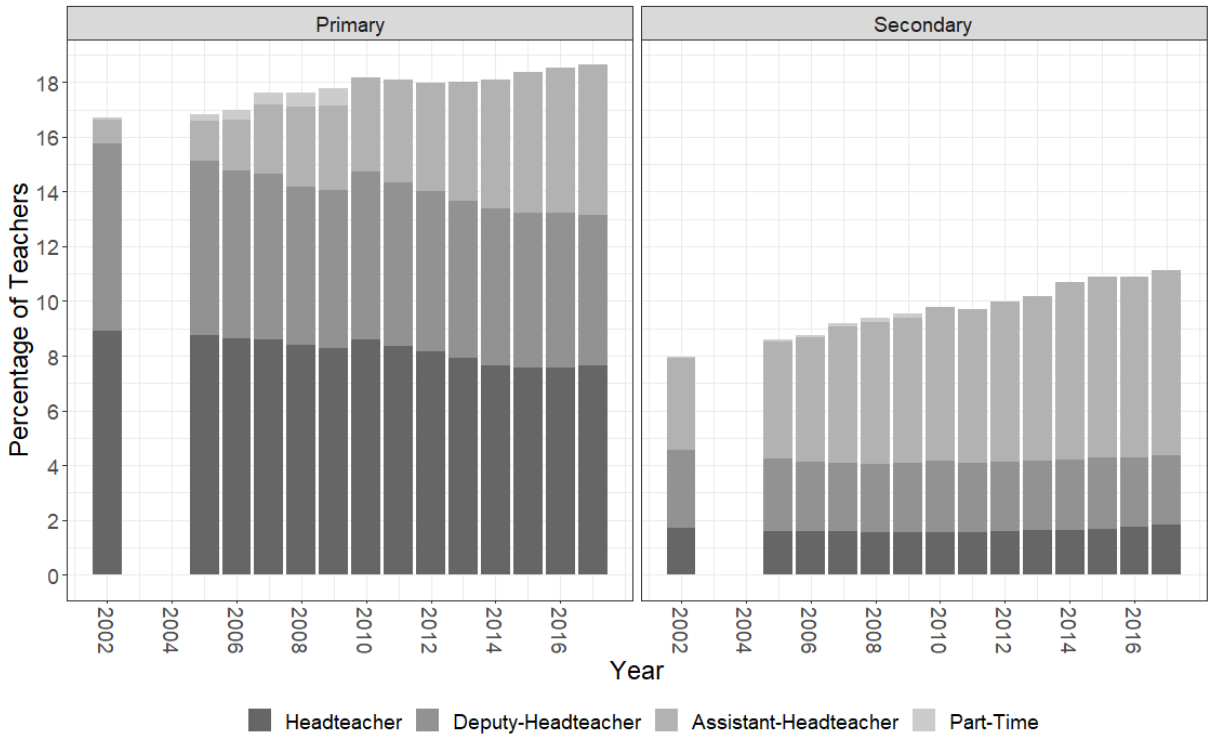
The School Workforce in England (2002-2017)

To calculate the percentage of teachers in senior managerial positions the number of teachers in assistant-, deputy- or headteachers positions (full-time equivalent) was divided by the total number of teachers (full-time equivalent). Figure 4.1 reveals that the percentage of teachers in senior management increased steadily between 2002 and 2017, from 17% to 19% in primaries and 8% to 11% in secondaries. Increases have continued in the period after 2015 when austerity policies have led to significant budget cuts. Assistant-headteachers are driving the growth: from 1.0% to 5.5% of teachers in primaries and from 3.4% to 6.8% in secondaries. While the percentage of teachers who are senior leaders has increased, the size of the school workforce has also grown. The proportion of managers in the whole school workforce may therefore not have increased as substantially as within the teaching profession itself. It is difficult to assess the proportion of the total school workforce in senior managerial positions because data on the number of non-teacher managers such as a bursars and business managers is not available from

the *School Workforce in England* census. Nevertheless, it is possible to calculate that the number of teachers in leadership as a percentage of the total workforce fell by 1.8 percentage points in primaries between 2002 and 2017 and rose slightly (0.9 percentage points) in secondaries.

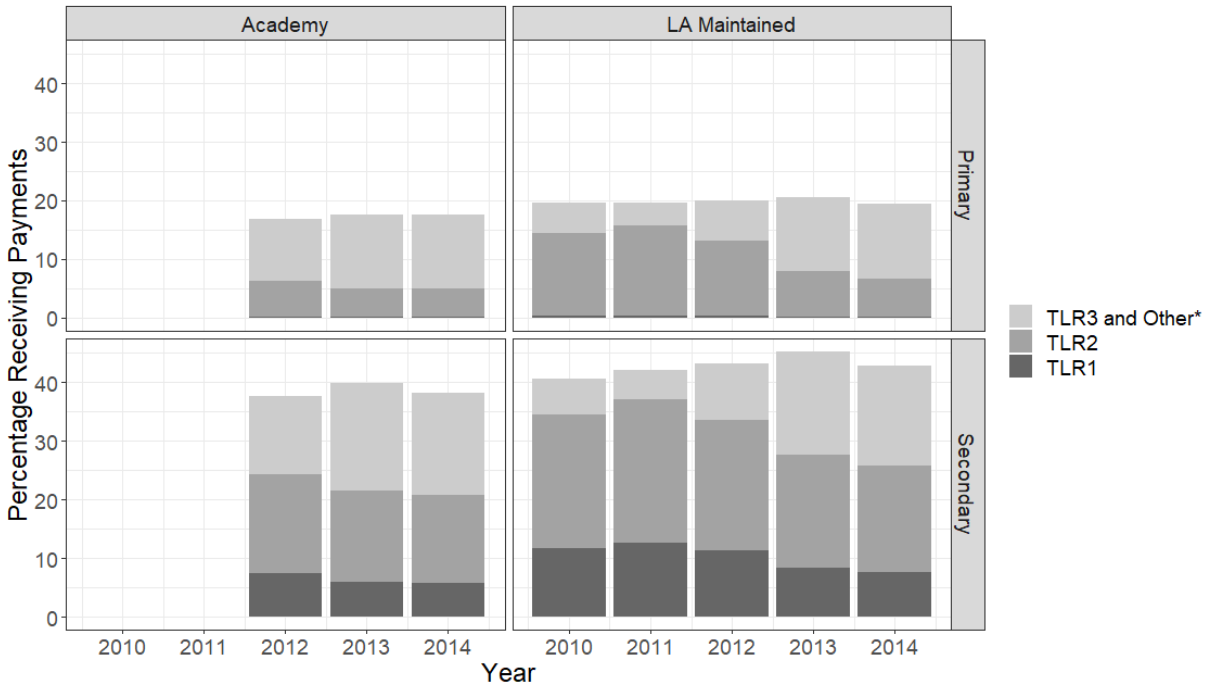
Figure 4.2 shows that the percentage of full-time, qualified teachers receiving middle-management TLR payments was large between 2010 and 2014, particularly in secondary schools. In primary schools in 2014, 19% of full-time qualified teachers in LA maintained schools and 18% in Academies received TLRs. In secondaries, 43% in LA maintained and 38% in Academies received the payments. There have been falls in the percentage of teachers receiving either TLR-1 or 2 payments only. These declines are offset by the increase in the percentage of teachers receiving 'TLR-3 and Other' payments, which include fixed-term TLR-3s, combinations of TLR-1 or 2 with TLR-3 and smaller payments. As TLR data is unavailable after 2014, to assess whether austerity has affected the proportion of teachers receiving the payments, Figure 4.3 shows the school-level data on 'allowance' payments (2010-2017). Allowances mainly include TLRs (70%) but also Special Educational Needs (SEN) and recruitment and retention payments.[1] In primaries, the percentage of qualified teachers receiving allowances has been stable during the period since 2015 when budget cuts have affected primaries. In secondaries, there has been a slight decline of 3.2 percentage points since a peak in 2013, which may reflect that fact that spending per pupil has been falling in secondaries for longer (Belfield et al., 2018).

Figure 4.1: Types of Leader as a Percentage of all Teachers (2002-2017)



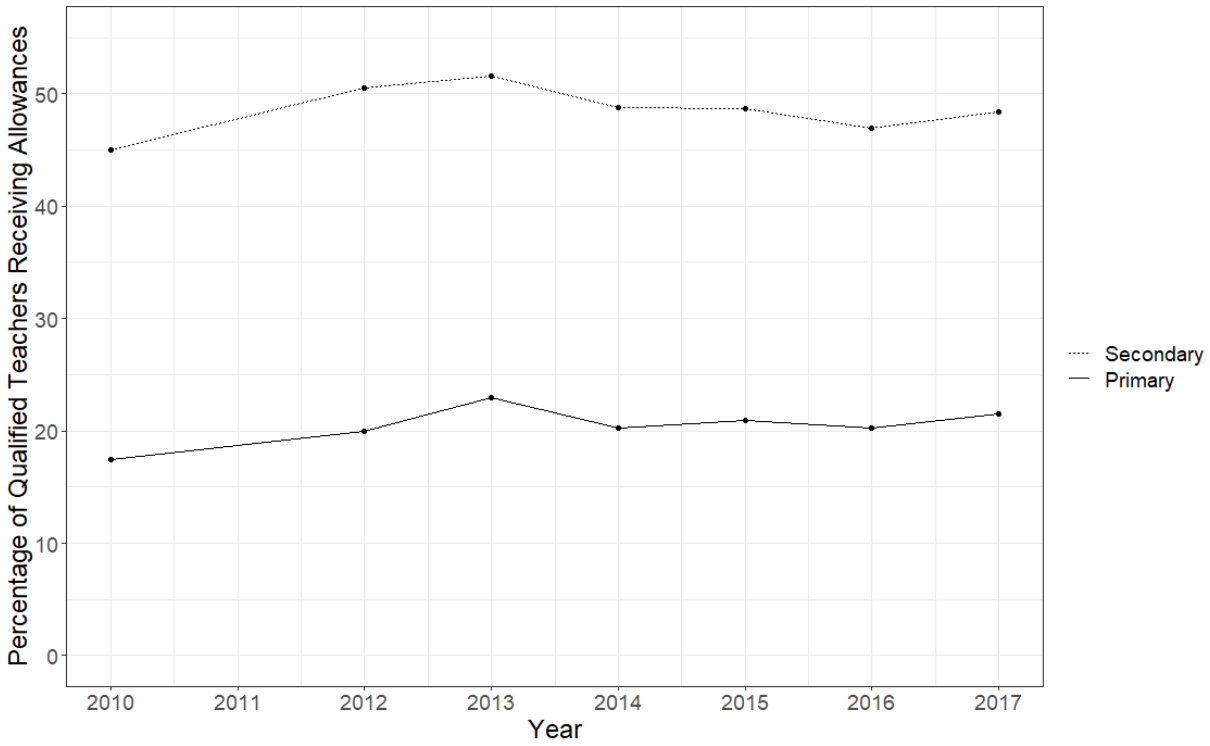
Source: School Workforce in England November 2011, 2017, and 2018
Notes: From 2010 part-time leaders (full-time equivalent) are included with their colleagues

Figure 4.2: Percentage of Full-Time, Qualified Classroom Teachers Receiving Managerial Payments (2010-2014)



Source: School Workforce in England 2010 Table 7, 2011-2014 Table 7a
Notes: Figures for Academy in 2010 and 2011 are not separated by phase and are therefore omitted.
* Includes amounts smaller than TLR1/2 and combinations of TLR3 with TLR1/2.

Figure 4.3: Percentage of Qualified Teachers Receiving Allowances (2010-2017)

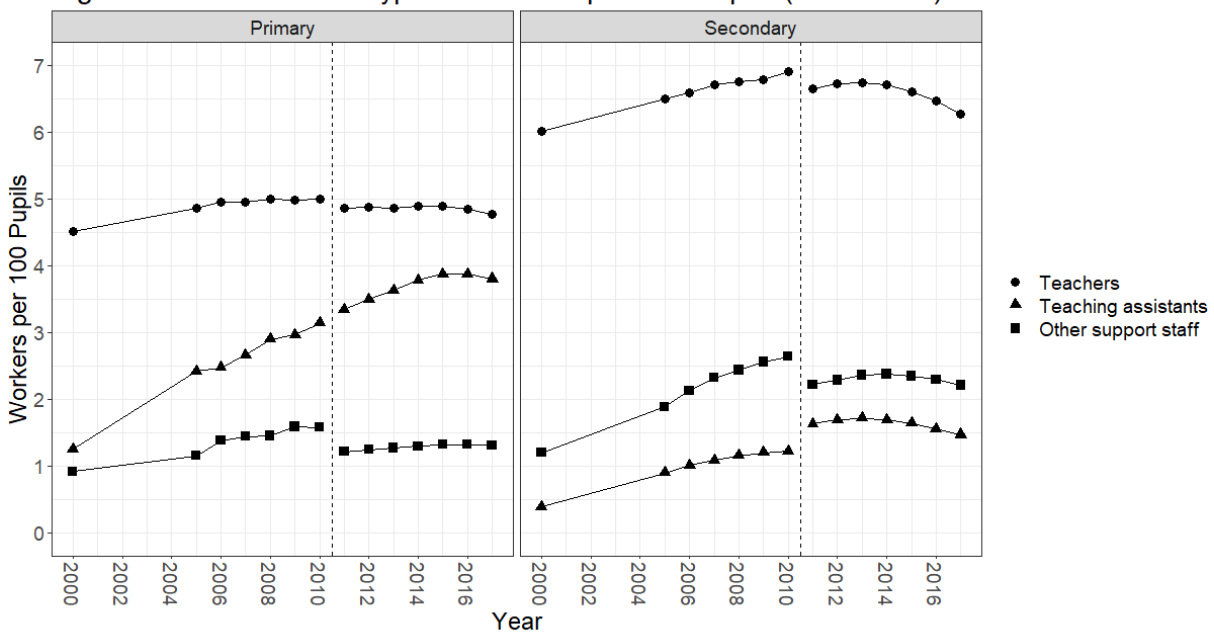


Source: School Workforce in England (2010-2017)
Notes: Figure does not include value for 2011 as the underlying data for this year is corrupted.

To calculate teacher- and TA-to-pupil ratios the total numbers of teachers and TAs (full-time equivalent) in November workforce censuses were divided by the total number of pupils (full-time equivalent) in the pupil census of the same academic year, carried out each January. Figure 4.4 reveals that there was long-term growth in the number of TAs and other support staff per pupil in both primary and secondary phases between 2000 and the mid-2010s. However, the number of teachers per pupil also grew between 2000 and the mid-2010s, though primary growth plateaued around 2009. Increasing and stable teacher-to-pupil ratios run counter to the claim that TAs and other support staff were replacing teachers in the school workforce in this period. Rather increases in TAs and support staff have been additional to the state school workforce, substantially increasing its size relative to the pupil population. Staffing costs have therefore increased dramatically. Spending on teachers and support staff increased by 17% and 138% respectively between 2002 and 2016 (DfE, 2018d).

Increases in the primary teacher- and TA-to-pupil ratios since the early 2000s were due to increases in the primary pupil population being more than matched by increases in teachers and TAs. However, since the onset of budget cuts to primary schools in 2015, small increases in the number of teachers (1,100) and TAs (1,700) have not kept pace with the increase in the number of pupils (130,000). Teacher- and TA-to-pupil ratios have therefore declined in primaries. There were 5,300 fewer teachers and 3,300 fewer TAs in primary schools in 2017 than if the teacher- and TA-to-pupil ratios had remained at their 2015 levels.[2] This equates to around one fewer teacher per three primary schools and one fewer TA per five primary schools. Changes have been more drastic in secondaries. Between 2015 and 2017, the pupil population increased by 65,000 but the number of teachers and TAs declined by 6,000 and 4,500, respectively. These declines equate to 11,000 fewer teachers and 5,600 fewer TAs than if ratios to pupils had remained at their 2015 levels. This is the equivalent of each secondary school losing more than three teachers and more than one and a half TAs.

Figure 4.4: Numbers of Types of Worker per 100 Pupils (2000-2017)



Source: School Workforce in England 2017 Table 1; Schools Pupils and their Characteristics January 2010 and 2017, Table 2a
Notes: Between 2010 and 2011 there was a change in the way staff numbers are calculated. See note 2 in School Workforce in England 2017, Table 1. 'Other support staff' includes those responsible for pupil welfare and out-of-classroom support, technicians and administrative staff. Until 2010, includes higher level teaching assistants, special needs and minority ethnic pupils support staff. After 2010, includes facilities and catering staff.

Academies (2010-2016)

Since 2010 the DfE has publicly released school-level data from the *School Workforce in England* and *Schools, Pupils and their Characteristics* censuses. This period corresponds with the rapid expansion of the Academies programme: from 0% of primary schools in 2010 to 20% in 2016 and from 6% to 65% of secondary schools (DfE, 2018a). The analysis uses this data to assess whether the workforce in schools that became Academies diverges significantly from those that continued to be maintained by LAs. The analysis therefore includes schools that were recorded as LA maintained in 2010 and then as either LA maintained or Academies in 2016 (18,500 schools). Academies are linked with their predecessor LA maintained schools using the *Open Academies* dataset.

Model 1 below takes as its unit of observation the individual school, *i*, clustered by LA, *j*. The model is estimated separately for primary and secondary schools on three dependent variables measured in 2016: (i) the percentage of teachers on the leadership pay range:

assistant-, deputy-, and headteachers (including executive headteachers at the school which holds their contract); (ii) the number of teachers per hundred pupils; and (iii) the number of TAs per hundred pupils. It should be noted that the measure for the percentage of teachers on the leadership pay range excludes a number of senior, non-teacher managerial roles, such as bursars and business managers. In addition, senior managerial staff employed centrally by Academy Trusts, such as CEOs and Trust-level subject leaders, are not included. This measure therefore likely understates the total size of managerial teams in schools and the total size of the managerial stratum in the Academy Trust-led system as a whole. Nevertheless, as the measure does capture teachers in the same senior managerial positions across different types of school, it can be measured consistently in both Academy and LA maintained schools and can assess the extent to which the managerial hierarchy has penetrated the *school-level teaching workforce*, which is the object of investigation in this study. Descriptive statistics for the dependent variables can be found in Table 4.1.

$$Y\_2016_{ij} = \alpha + \beta Academy_{ij} + \gamma Academy\_Years_{ij} + \lambda Y\_2010_{ij} + \sum_{k=1}^{n} \theta_k X_{ijk} + \tau_j + \varepsilon_{ij} \quad (1)$$

Table 4.1 Descriptive Statistics for Workforce Dependent Variables

Dependent Variable	School Phase	School Type (2016)	Mean 2010	Mean 2016	Difference 2010:2016
Teachers in Leadership (%)	Primary	LA maintained	21.0	20.6	-0.40
		Academy	19.6	20.1	+0.43
	Secondary	LA maintained	10.3	11.3	+1.05
		Academy	10.0	11.3	+1.28
Teachers Per 100 Pupils	Primary	LA maintained	5.1	5.1	-0.04
		Academy	5.0	4.9	-0.09
	Secondary	LA maintained	6.7	6.6	-0.15
		Academy	6.7	6.4	-0.24

TAs Per 100 Pupils	Primary	LA maintained	3.1	3.9	+0.84
		Academy	3.1	3.9	+0.82
	Secondary	LA maintained	1.3	1.7	+0.43
		Academy	1.1	1.5	+0.35

The extent of any divergence between Academies and LA maintained schools is captured jointly by the variables $Academy_{ij}$ and $Academy\_Years_{ij}$. $Academy_{ij}$ is a dummy variable for whether a school has become an Academy by 2016. Its coefficient captures a one-off association between schools that become an Academies by 2016 and the dependent variables. $Academy\_Years_{ij}$ is the number of years for which a school reports as an Academy between 2010 and 2016. Its coefficient captures the association between how long a school has been open as an Academy and the dependent variables. As these two variables are highly correlated (primaries: r = 0.88; secondaries: r = 0.90), their joint significance will be tested when attempting to assess whether Academies diverge significantly from LA maintained schools.

Apparent differences between the workforces of Academies and LA maintained schools may be the result of contextual differences between the two types of school. The Academies programme originally aimed at improving educational standards for pupils in deprived, often ethnically diverse, urban areas where school performance was below expected standards (Adonis, 2012). Schools in these areas have tended to receive more funding per pupil than those in wealthier, more rural areas (Belfield et al., 2018). This may have differentially influenced Academies' capacity to hire teachers, support staff and senior managers. A range of variables, X_{ijk}, are therefore included in the model to control for the potential effects of school contexts. All control variables are measured in the earliest year for which school-level data is available, 2010. The model therefore seeks to explain the change in the number of teachers, TAs, and

leaders in a school's workforce between 2010 and 2016 as a combination of its baseline characteristics in 2010, whether the school went on to become an Academy and, if so, for how many years it was an Academy. Taking the earliest available year for the baseline maximizes the number of schools and years for which the impact of Academization may be observed.

Controls are included for the percentage of pupils receiving free school meals (a measure of poverty) and the percentage speaking English as an additional language (a measure of ethnic diversity), which affect the level of funding schools receive. Funding has been cut more severely for pupils in sixth forms. Models for secondary schools therefore include a control for the percentage of pupils aged over 16. When estimating the model for the percentage of teachers in leadership positions, a control is also included for the total number of pupils in the school, which directly affects school funding. In models for teachers and TAs per pupil the number of pupils is already taken into account in the denominators of the dependent variables. As a school's performance is likely related to changes in its staffing structure, controls for Ofsted rating are included in the model. To control for differing labour market conditions due to location, models include Office for National Statistics rural/urban classifiers to control for the rural/urban nature of the constituency in which schools are located. A control for the dependent variable in the baseline year, Y_2010_{ij}, is included because the number of leaders, teachers and TAs in a school in 2016 is likely to depend on the number in 2010. Finally, as the amount of funding that schools receive depends on the varying formulae used by England's 152 Local Authorities, random effects at LA-level, τ_j, are included, which also control for unobserved effects due to location not captured by other variables.

Figures 4.5 and 4.6 plot the combined estimated effects of $Academy_{ij}$ and $Academy\_Years_{ij}$ on the three dependent variables. Full results are reported in Table 4.2. Figure 4.5 reveals that primary schools that became Academies have reduced the number of teachers per pupil relative

to those that remained LA maintained (χ^2 = 19.5; p < 0.001). However, the association for secondary Academies is not statistically significant (χ^2 = 4.2; p = 0.121). The estimated divergence for primary Academies implies 700 fewer teachers than if these schools had remained LA maintained, or one teacher per five Academies.[3] Figure 4.5 also reveals that primary and secondary Academies have reduced the number TAs per pupil relative to LA maintained schools and that the longer a school has been an Academy the greater the reduction (primaries: χ^2 = 49.9; p < 0.001; secondaries: χ^2 = 26.5; p < 0.001). Over an average of 3.2 years as an Academy, a primary school has 0.16 fewer TAs per hundred pupils. This substantively equates to 1,300 fewer TAs in primary Academies than if they had remained LA maintained, or 0.4 fewer TAs per Academy. The estimated divergence in secondaries is much greater. A decrease of 0.14 TAs per hundred pupils in 4.8 years equating to an overall loss of 2,400 TAs, or one and a half TAs per Academy.

Figure 4.6 shows that both primary and secondary schools that became Academies are associated with increases in the percentage of teachers in leadership positions relative to schools that remained LA maintained. Wald chi-squared tests for the joint significance of the coefficients on $Academy_{ij}$ and $Academy\_Years_{ij}$ reveal that these relationships are statistically significant (primaries: χ^2 = 25.2; p < 0.001; secondaries: χ^2 = 9.8; p = 0.008). Among primaries, schools that have been Academies for longer have larger divergences. For secondaries, however, somewhat puzzlingly, results suggest that on becoming an Academy the percentage of leaders in a school increases, but gradually returns to a level similar to that of consistently LA maintained schools. In both phases, the divergences are small. By 2016, the average primary Academy had been so for 3.2 years, implying an increase of 0.8 percentage points in teachers in leadership. This substantively equates to 300 more senior leaders in primary Academies by 2016 than if they had remained LA maintained, or one leader per ten primary Academies. The average secondary Academy had been so for 4.8 years by 2016, implying a

0.4 percentage point increase in teachers in leadership. This equates to 500 more senior leaders associated with secondary Academies, or one leader per three Academies.

Table 4.2 Determinants of Workforce Characteristics in Primary and Secondary State Schools in 2016

	Dependent variable:					
	Teachers in Leadership (Percentage)		Teachers Per 100 Pupils		TAs Per 100 Pupils	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
Academy	0.297	1.149**	0.001	-0.040	0.005	-0.032
	(0.323)	(0.411)	(0.044)	(0.086)	(0.052)	(0.062)
Academy Years	0.144	-0.147	-0.026*	-0.008	-0.050***	-0.022
	(0.087)	(0.079)	(0.012)	(0.017)	(0.014)	(0.012)
Baseline Teachers in Leadership Percentage	0.263***	0.251***				
	(0.008)	(0.026)				
Baseline Teacher-Pupil Ratio			0.526***	0.396***		
			(0.008)	(0.022)		
Baseline TA-Pupil Ratio					0.395***	0.347***
					(0.008)	(0.018)
Total Pupils	-0.018***	-0.002***				
	(0.001)	(0.0003)				
Percentage Pupils Receiving Free School Meals	-0.030***	0.048***	0.010***	0.023***	0.033***	0.020***
	(0.005)	(0.012)	(0.001)	(0.003)	(0.001)	(0.002)
Percentage Pupils Speaking English as Additional Language	0.019***	-0.023***	-0.0003	-0.005**	0.0001	-0.004***
	(0.005)	(0.007)	(0.001)	(0.001)	(0.001)	(0.001)
Percentage Pupils Over 16		-0.023		0.007		-0.020***
		(0.019)		(0.004)		(0.003)
Ofsted Rating (Ref. = Outstanding)						
Ofsted Good	-0.224	0.171	-0.025	0.065	-0.073**	0.110**
	(0.178)	(0.228)	(0.024)	(0.048)	(0.028)	(0.034)
Ofsted Satisfactory	-0.554**	0.862***	-0.058*	0.057	-0.101**	0.087*
	(0.197)	(0.259)	(0.027)	(0.054)	(0.031)	(0.039)
Ofsted Inadequate	-0.471	0.322	-0.153**	-0.032	-0.105	0.101
	(0.429)	(0.507)	(0.059)	(0.106)	(0.068)	(0.075)
Rural/Urban (Ref. = Mainly Rural)						
Urban with Major Conurbation	0.072	0.421	-0.340***	-0.080	-0.183**	-0.203***
	(0.304)	(0.363)	(0.043)	(0.073)	(0.059)	(0.059)
Urban with Minor Conurbation	-0.160	-0.191	-0.416***	-0.122	-0.033	-0.017

	(0.519)	(0.674)	(0.074)	(0.137)	(0.092)	(0.108)
Urban with City and Town	-0.614*	0.194	-0.333***	-0.171**	-0.044	-0.008
	(0.243)	(0.317)	(0.033)	(0.065)	(0.039)	(0.049)
Urban with Significant Rural	-0.446	0.569	-0.242***	-0.172*	-0.145***	-0.087
	(0.250)	(0.362)	(0.034)	(0.075)	(0.040)	(0.055)
Largely Rural	0.036	0.196	-0.196***	-0.229**	-0.090*	-0.051
	(0.257)	(0.364)	(0.035)	(0.076)	(0.041)	(0.055)
N: Local Authorities	152	150	152	150	152	150
N: Schools	15877	2647	15873	2647	15868	2641
Variance: Local Authorities	1.727488	0.85996	0.046715	0.025631	0.225145	0.042406
Variance: Residual	56.888695	18.347744	1.064928	0.817673	1.433585	0.400857

Figure 4.5: Estimated Divergence of Academies from LA Maintained Schools in the Number of TAs and Teachers Per Pupil (with 95% Confidence Intervals)

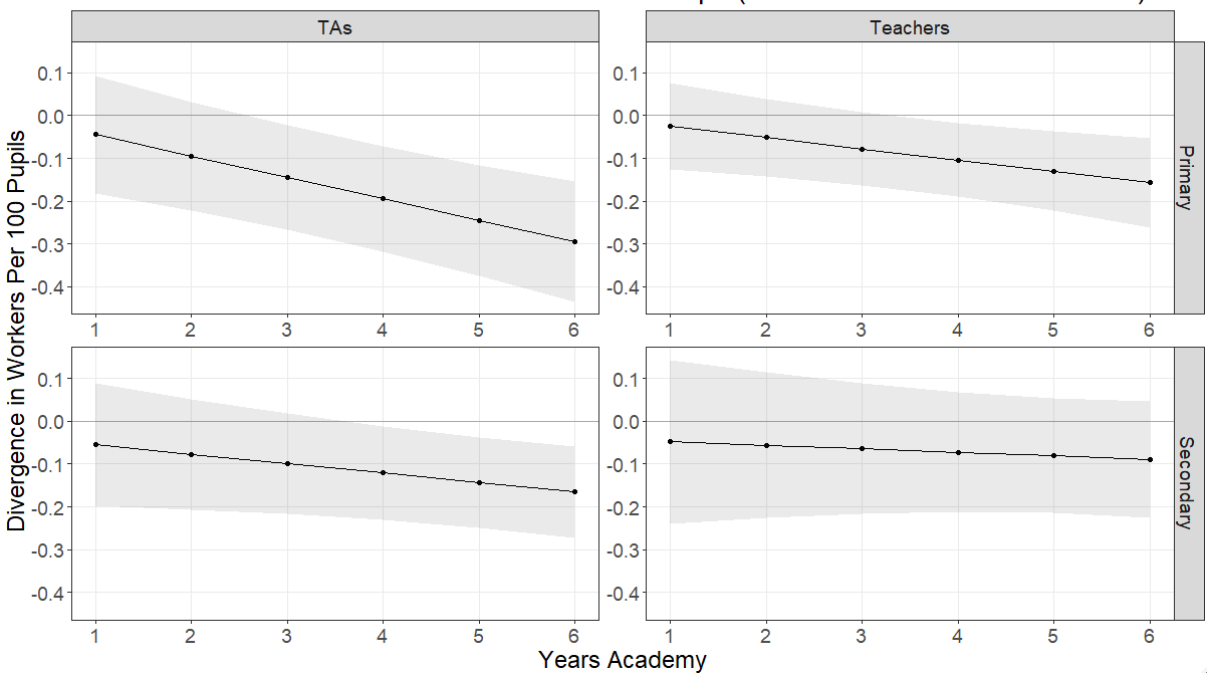
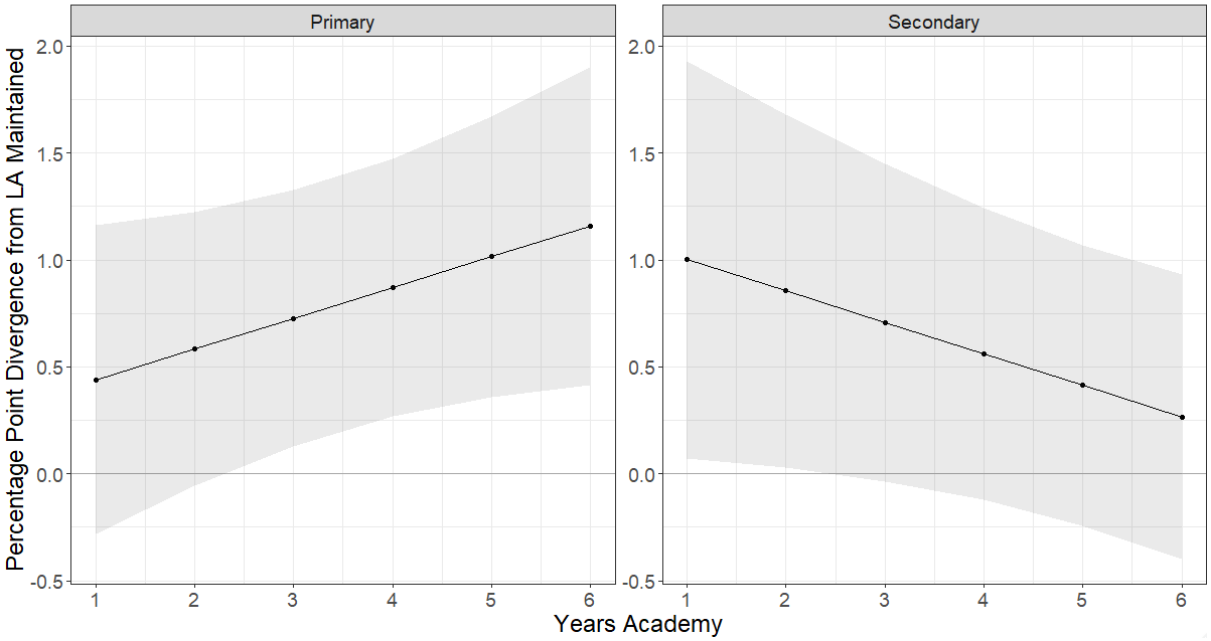


Figure 4.6: Estimated Divergence of Academies from LA Maintained Schools in the Percentage of Teachers in Leadership Positions (with 95% Confidence Intervals)



To test the sensitivity of the results reported here, two sets of alternative analyses were conducted for each of the three dependent variables. Full results for these analyses are included in Appendix B. In the first alternative analysis, models were estimated using observations for later baseline years than the 2010 year used in the analysis. These results largely confirm those of the main analysis above. Statistically significant divergences between Academies and LA maintained schools are found for the same phases and dependent variables for baseline year 2011, and for all but the association between secondary Academies and the number of TAs in baseline year 2012. In later years, fewer of the associations are significant, reflecting the limited time during which Academies could diverge.

While the preceding analyses control for a range of factors likely to be related to schools becoming Academies and changes to their workforces, there may still exist unobserved confounding variables which could be responsible for the reported associations. To control for time-invariant unobserved characteristics of Academies, a final longitudinal, difference-in-difference analysis, which includes school-level (and year) fixed effects was carried out (Appendix B). This analysis finds significant associations for Academies in both phases with all dependent variables: more teachers in leadership, and fewer teachers and TAs per pupil. It is therefore unlikely that the associations found for Academies are a result of unobserved characteristics of these schools. Nevertheless, as in the main analysis, the magnitude of associations remains small.

Discussion

There has been a long-term growth in the number of TAs and other support staff in the school workforce in England, despite more recent reductions under austerity. The work of state school education has therefore become more distributed among non-teacher workers. However, it is

unlikely that this has simply been a case of 'dividing the craft' of teaching or 'cheapen[ing] its individual parts' as has been claimed by advocates of Labour Process Theory (Carter et al., 2010, p.141). As the number of teachers per pupil grew alongside the number of TAs and support staff, teachers have not been replaced in the school workforce and, therefore, a cheapening of the workforce has manifestly not been achieved. Instead, inflation-adjusted, per pupil spending on teachers and support staff increased substantially, by 17% and 138% respectively between 2002 and 2016 (DfE, 2018d). The simultaneous growth in the numbers of these workers implies that changes to the workforce have enhanced the operational capacity of schools rather than simply dividing pre-existing tasks (Blatchford et al., 2012).

Evidence has revealed that teaching is a very managerial profession. A large percentage of teachers receive middle-management TLR payments and there has been a long-term increase in the percentage of teachers in senior leadership positions, driven by the growth of assistant-headteacher roles. The proliferation of managerial roles of different status is moving the teaching profession away from an egalitarian and collegial structure to one based on formal, hierarchical authority (Evetts, 2009). Nevertheless, this development may also be considered an enhancement of the profession as a growing proportion of teachers are receiving formal recognition and additional pay for assuming responsibilities that go beyond those of the traditional classroom teacher (Bach & Kessler, 2012). While the number of managers has grown, the size of the school workforce has also increased. The proportion of managers in the whole school workforce has therefore changed less dramatically than within the teaching profession itself, which had been overlooked in previous discussions of growing managerialism in schools (Gewirtz, 2002; Ozga, 2008). This is not to suggest that managerialist practices such as performance appraisals and lesson observations have not become more common (Clapham et al., 2016; Mather & Seifert, 2011), only that limited changes to the proportion of managers

fit poorly with the idea of managerial responsibility deepening into the school workforce (Carter et al., 2010).

Schools have, nevertheless, become more stratified by occupational status: more teachers are occupying an increasingly differentiated range of managerial positions in a workforce with a growing number of non-teacher staff. This proliferation of roles of differing status and contractual conditions may serve to undermine collective solidarity among education workers (Stevenson, 2013), particularly because of the existence of unions catering exclusively for senior school managers. However, this changing landscape has already led to changes in the way school unions are organizing the workforce. Since its formation via the amalgamation of the largest and third largest school unions in 2017, the National Education Union has welcomed non-teacher school workers as members, a key change in policy from its main predecessor, the National Union of Teachers. While increasing stratification may also be argued to resemble the fragmentation of labour processes associated with Taylorism, this has been achieved through substantial increases in both the size of the workforce and the costs per unit: more managers, more teachers, and more TAs. These changes may be better understood as the result of education's labour-intensive nature, which hampers improvements in productivity.

For the first time, results have shown that outsourced Academy schools have increased the percentage of teachers in senior leadership and reduced the numbers of teachers and TAs per pupil in their workforces relative to non-outsourced schools. That differences between Academies and LA maintained schools remained after controlling for a range of factors associated with the structure of school workforces suggests that raw differences in the size of Academy and LA maintained managerial teams found in previous research (Bubb et al., 2019; Earley et al., 2012) cannot simply be accounted for by contextual differences between the two types of school. Differences between Academies and LA maintained schools were,

nevertheless, small. Increases in the numbers of senior leaders over seven years (2010-2016) were substantively equivalent to one leader per three secondary Academies and per ten primary Academies. While this reveals only a limited difference in the extent to which managerial hierarchies have penetrated the teaching workforce in Academies relative to LA maintained schools, it should be borne in mind that the measure considered here does not account for a range of other managerial roles, such as bursars and business-managers, or Academy Trust-level positions such as CEOs or subject leads. Results should therefore not be interpreted as touching on the broader question of the extent of the overall managerial hierarchy in the Academy system.

While there was one fewer teacher per five primary Academies, declines in the numbers of TAs relative to LA maintained schools were larger: two fewer TAs per five primary Academies and one and half fewer TAs per secondary Academy. Such declines in the number of TAs may reflect the concern of researchers that the deployment of TAs has contributed towards the poorer performance of the pupils they support (Blatchford et al., 2012; Webster & Blatchford, 2013). Researchers have found that TA support contributes to underperformance because TAs are often poorly trained and poorly prepared for supporting pupils, particularly those with special educational needs. In addition, pupils supported by TAs tend to have less interaction with their pedagogically trained teachers or with their peers. The need to allocate resources effectively to promote pupil performance and their supposedly more innovative approaches to school organization may be leading to cuts in the number of TAs in Academies.

While findings for Academies are consistent with the expectation that outsourcing school provision would lead to greater managerialism and a redistribution of resources towards the upper end of the school hierarchy (Stevenson 2013), they may be better understood as evidence that Academy senior managerial teams have not prioritized the restructuring of their workforces as part of their efforts to improve the performance of their schools. While this may

frustrate those who expected that the outsourcing of state schools would lead to a transformation in staffing practices, these results are in line with previous research which has found only moderate changes to staffing levels in public sector services following outsourcing and privatization (Hermann & Flecker, 2012). Indeed, these results lend support to the theory that substantial change is unlikely in labour intensive industries which are less amenable to productivity increases through technological modernisation (Hermann & Flecker, 2012). Moreover, significant changes to the number of teachers and TAs per pupil are hindered by statutory requirements on both class sizes and personal support for pupils with statements of special educational needs.

Since the imposition of budget cuts under austerity policies, falls in the number of teachers and TAs per pupil have been much more drastic than those associated with the outsourcing of schools. There were 15,000 fewer teachers and 9,000 fewer TAs in the school workforce in 2017 than if the ratios of these workers to pupils had remained at their 2015 levels. While in primaries this equates to only one teacher fewer per three schools and one TA fewer per five schools, these reductions were achieved in only two years. In secondaries, the reductions have been much starker: three fewer teachers per school and one and half fewer TAs. Austerity-induced reductions in the numbers of teachers and TAs per pupil are significant because, consequently, class sizes will have increased and pupils with special needs will have received less support, potentially damaging education outcomes. The much faster decline in teacher- than TA-to-pupil ratios in both phases is evidence that school leaders have prioritized retaining TAs over more expensive teachers. This runs counter to the expectations of researchers who argued that, in the event of a deterioration in public finances, school leaders would have to reduce the number of TAs in their workforces to focus on fulfilling their statutory requirement to provide a teacher to lead each class (Bach et al., 2006). Indeed, this development may represent a belated vindication of the view derived from Labour Process Theory that

teachers are being substituted in the school workforce by cheaper, less qualified TAs (Carter & Stevenson, 2012). It is too early to say, however, whether these austerity-era changes will come to represent a 'critical conjuncture', a moment of radical, long-term transformation of the school workforce, which outsourcing had failed to deliver, or a short-term adaptation to immediate budgetary constraints (Roche & Teague, 2014).

While the number of TAs and teachers per pupil has fallen, as might be expected as schools seek to save money from shrinking budgets, the percentage of teachers in senior leadership has, puzzlingly, continued to grow. The remaining teachers in the school workforce are therefore relatively more expensive. What can explain this tendency? In primaries, assistant-headteachers have at least partially supplanted more expensive deputy-headteachers, which may have made primary senior leadership teams less expensive. However, in secondaries, assistant-headteachers have been additional, raising costs. The continued growth could be a result of the imbalance of power between classroom teachers and senior leaders, who are more able to shape decisions on staffing or could reflect the continued priority given to managerially oriented reforms: more teachers as managers, despite the cost. This development could also reflect lower job turnover in more senior teaching positions, making it harder to reduce the size of senior leadership teams. Or, does the retaining of managers imply that, as LAs have been rolled back and schools have become more autonomous, schools have continued to need larger, distributed leadership teams to deal with their additional responsibilities (Gronn, 2000, 2002)? This final approach may also help to explain why leadership teams have grown in Academies relative to LA maintained schools. The evidence considered here cannot adjudicate between these potential explanations, suggesting the need for further research.

Conclusion

Over the past three decades, marketizing reforms, outright privatizations and, most recently, austerity policies have reshaped public sector workforces around the world (Hermann & Flecker, 2012). Although employing nearly one million workers, it was unclear from existing research how these forces had influenced the school workforce in England which had witnessed the outsourcing of more than 9,000 state schools and a real terms budget cut of 8% since 2010 (Belfield et al., 2018; DfE, 2018a).

Using nationally comprehensive data sources, analyses have revealed that there were long-term increases in the numbers of teachers and teaching assistants (TAs) per pupil in England's state schools from the early 2000s until funding cuts due to austerity policies in the mid-2010s. The simultaneous growth in the numbers of teachers and TAs, and associated staffing costs, drew into question the claim that TAs were substituting teachers in the school workforce to cheapen teaching labour (Carter & Stevenson, 2012). The percentage of teachers in managerial positions also steadily increased. Taken together, these trends reflect attempts by successive Labour governments to improve the performance of England's state education system, in part, through additional investment in schools. This stands in stark contrast with developments since the imposition of austerity policies of Conservative-led governments. Between 2015 and 2017, the numbers of teachers and TAs per pupil declined rapidly. This has increased class sizes and reduced the level of support provided to pupils, which is likely to negatively affect educational outcomes. While these declines will help schools save money from shrinking budgets, there was likely little change in the proportion of middle managers and continued increases in the percentage of teachers in senior leadership. It is unclear why schools have prioritized retaining relatively expensive managers, suggesting the need for further research.

For the first time, analysis of the workforce of schools that have been outsourced under the Academies programme revealed statistically significant decreases in the numbers of teachers and TAs per pupil relative to schools still maintained by LAs. Academies were also associated with increases in the percentage of teachers in senior managerial roles. However, divergences were small and slow, particularly relative to changes since the imposition of budget cuts under austerity. This implies that, contrary to expectations, Academy senior managerial teams have not prioritized changes to the structure of the school workforce.

This article has provided the first combined assessment of the impact of outsourcing and austerity on the school workforce. Results have revealed that the impact of budgets cuts on the structure of school workforces has been much more significant than changes associated with the outsourcing of school provision. These findings contribute new evidence to growing international debates on the role of private providers in state education (Elwick, 2018; Hatcher, 2006; Stahl, 2017) and the impact of economic crisis and budget cuts on workforces (Bach, 2016; Roche & Teague, 2014; Slater, 2015). This is particularly important in an era in which the influence of the private sector in state education has grown significantly and in which many governments have reacted to economic crisis with public sector austerity (Verger et al., 2016).

Notes

1. For breakdowns of allowance payments see *School Workforce in England* Table 7 (November 2010) and Table 7a (November 2011, 2012, 2013, 2014)
2. The numbers of teachers and TAs fewer in 2017 relative to if teacher- and TA-to-pupil ratios remained at 2015 levels are calculated by (i) multiplying the 2015 teacher- and TA-to-pupil ratios by the number of pupils in 2017 to give the number of teachers and TAs in 2017 if the ratios of these workers had remained at 2015 levels, (ii) calculating

the difference between these numbers and the actual 2017 numbers of teachers and TAs. Figures per school divide these differences by the number of schools.

3. Estimates of the number of TAs and teachers fewer due to Academization are calculated by adding the $Academy_{ij}$ coefficient to the $Academy\_Years_{ij}$ coefficient multiplied by the mean number of years Academies report as Academies and then multiplying the result by the total number of pupils in the Academies in the model in 2016.

   Estimates of the number of additional leaders due to Academization are calculated by adding the $Academy_{ij}$ coefficient to the $Academy\_Years_{ij}$ coefficient multiplied by the mean number of years Academies report as Academies, then dividing this by 100 and multiplying the result by the total number of teachers in the Academies in the model in 2016.

Chapter 5

Outsourcing State Education: Autonomy and Competition, or Chaos and Commercialization?

Abstract

Does outsourcing state education improve the governance of schools by increasing autonomy and competition? Or, does outsourcing create chaos, obscure accountability, and commercialize schools? After twenty years of England's Academies programme, which has outsourced over 9,000 schools, it remains unclear which view has proved more accurate. This article addresses these issues by analysing newly compiled datasets of all Academy Trusts, their Academies, commercial connections, and expenditure. There was a substantial fragmentation of the school system in the early 2010s as thousands of schools converted to Academy status and established new, independent Academy Trusts. However, in recent years, the government has been successful in reducing the number of separate Trusts while fostering the growth of Multi-Academy Trusts (MATs). While the growth of MATs has come at the expense of more autonomous Single Academy Trusts (SATs), MATs have become more local in their focus and less connected to the private sector. Contrary to critics, MATs have also devoted more of their expenditure to frontline education than SATs. These findings challenge existing evaluations of the Academies programme and contribute fresh empirical insights to the sociology of education reform and research on the impact of privatization.

Introduction

Over the past thirty years, governments around the world have outsourced and privatized many services once provided exclusively by the state (Hermann & Flecker, 2012). In the US, Sweden and England, outsourcing has transformed the institutional arrangements which govern state schools and has engaged many new actors in their operation (Verger et al., 2016). Since 2002, over 9,000 of England's 20,000 state schools have been outsourced under the Academies programme. Academies are state funded but owned and operated by private Academy Trusts which hold contracts directly with the Department for Education (DfE). Schools that join Academy Trusts are no longer maintained by the Local Authorities (LAs), local government entities which have traditionally overseen state schools in England. Academy Trusts vary greatly in size, from one to more than sixty schools, and have been established by a variety of actors: entrepreneurs, businesses, religious organizations, charities, education professionals, and parents.

For proponents, the Academies programme is revitalizing an underperforming state school system by increasing school autonomy, strengthening competitive pressures, and engaging a broader range of civil society actors in the running of schools (DfE, 2016a; Adonis, 2012; Sturdy & Freedman, 2007). The programme thereby aims to upgrade the governance of England's schools and improve outcomes for pupils. However, for critics, Academies threaten to fragment, delocalize, and commercialize the education system (West & Wolfe, 2018; Gunter et al., 2017; Greany & Higham, 2018; Stevenson, 2013). On this view, outsourcing is damaging the effective governance of schools by obscuring lines of accountability, undermining local collaboration, and privileging markets over democratic interests. Understanding the new actors and institutional arrangements which govern England's schools is important because Academy

Trusts are responsible for spending considerable sums of public money, £25 billion in 2018-2019 (DfE, 2020b). It remains unclear, however, whether reforms have led to more effective use of these resources (Andrews, 2020; Bubb et al., 2019). Moreover, as the institutional arrangements under which schools are governed are known to influence their performance (Schleicher, 2019), assessing the extent of school autonomy, delocalization, and system fragmentation will help researchers and political actors better understand the overall ability of the Academy school system to improve outcomes for pupils. Indeed, these factors may help to explain why Academy performance has, to date, been so variable (Andrews & Perera, 2017). The issues of effective governance, school autonomy, fragmentation, and commercialization undergird broader evaluations of the Academies programme. Accurate assessments of these issues will enable actors to hold more empirically grounded evaluations of the role of outsourcing in state education.

Research on the outsourcing of the school system has been hindered by the availability of suitable data. Existing data sources are disparate and difficult to link over time. This article overcomes these limitations by using a newly compiled dataset of all Academies and their Academy Trusts to map the evolution of the English state school system. The analysis answers questions about the extent to which the Academies programme has made the school system more autonomous, delocalized, or fragmented. Secondly, a new dataset of all directors of Academy Trusts and their links to other businesses enables the first large-scale assessment the extent to which the Academy Trusts have commercialized English state education. Thirdly, the article makes the first assessment of the extent to which these factors influence Academy spending priorities.

Results reveal a complexity which belies straightforward positive or negative evaluations. Overall, the original aims of increasing school autonomy and market competition are being superseded by recent governments' preferences for a more predictable and tractable

system. Academies initially enjoyed significant autonomy but were run by remote organizations with extensive links to the private sector. However, autonomy has declined substantially since 2010 as Conservative-led governments have promoted Multi-Academy Trusts (MATs) to counter problems of oversight and accountability induced by the very rapid expansion of the Academies programme. As MATs have grown, they have also become more local in their focus. The distance between Academies in MATs has fallen rapidly over time. Although critics had also feared that Academy Trusts' links with the private sector would lead to the commercialization of the school system and the diversion of school resources from the educational frontline, Academies have become less commercially linked over time. Moreover, the extent of private-sector connections is not significantly associated with Academies' expenditure on either teaching staff or educational consultancy.

The Academies Programme in Theory: Autonomy and Markets

The Academies programme began as a response to the perceived failings of the LA-dominated comprehensive school system in England (West & Bailey, 2013; Boliver & Swift, 2011). Formulating the programme in the late 1990s, Andrew Adonis, policy adviser to the New Labour government and future schools minister, accepted the argument that schools in which headteachers and teachers have more operational control tend to perform better than those directly administered by the state (Adonis, 2012). Autonomous schools are argued to perform better because headteachers and teachers are more sensitive to the needs of their schools and less concerned with broader political goals (Whitty, 1997). For Adonis, England's one hundred and fifty LAs had too much control over the budgets, staffing practices, and pupil admissions of the hundreds of state schools in their jurisdictions (Adonis, 2012). In seeking to improve the

effectiveness of the English state school system, the Academies programme would therefore aim to make schools more independent of LAs.

However, school-level autonomy from LAs had already been a concern for state education reformers long before the advent of the Academies programme (Whitty, 1997). New Right reformers of the 1980s considered Local Education Authorities (LEAs, later known as LAs) to be overly bureaucratic and ineffective at improving school performance (Benn, 2012). The 1988 Education Reform Act of Education Secretary Kenneth Baker therefore introduced a range of measures aimed at reducing LEA control over schools (Ball, 2017). Amongst these measures was the Local Management of Schools, which significantly enhanced school-level power over budgetary and staffing decisions. Consequently, before the rapid expansion of the Academies programme, England's state schools were already among the most autonomous in the developed world (OECD, 2010). The ostensible rationale for the Academies programme – that England's state schools were underperforming because of a lack of autonomy – has therefore been drawn into question by critics, whose concerns about commercialization and fragmentation of the school system are considered in greater detail below (Stevenson, 2013). Nevertheless, schools in the LA maintained system lack operational autonomy in a range of areas: admissions, the curriculum, the length of the school day, term dates, the purchasing of back-office services (e.g., accountancy, legal advice, human resources), and contractual relations with staff, which are subject to nationally negotiated conditions. Academies, by contrast, would have much more freedom to set their own policies in these areas.

In addition to the emphasis on school autonomy, a second strand of influential research on which Adonis drew in formulating the Academies programme claims that schools operate more effectively when competing for students in markets than when admissions are organized through state administration (Le Grand, 2003). On this view, competition forces schools to concentrate on improving their performance to remain attractive to parents. Both market

competition and school autonomy were especially attractive because proponents claim that, in addition to improving effectiveness, markets and autonomy offer better routes to egalitarian policy goals than state-dominated provision (Le Grand, 2007). In contrast to the perceived ineffectiveness and fatalism of LAs, competition and parental choice are argued to incentivize all schools to improve regardless of context or past performance (Sturdy & Freedman, 2007). In addition, choice and competition generate more dynamism in the school system which helps to prevent more privileged families monopolizing admission to the best state schools (Le Grand, 2007).

Schools in England were already subject to a number of quasi-market mechanisms before the Academies programme. Per pupil funding, introduced in the late 1980s, has meant that schools' financial viability is linked to their ability to attract the parents of prospective pupils (Ball, 2017). Competitive pressures intensified in the 1990s with the publishing of league tables of school examination results as well as monitoring grades from the schools inspectorate Ofsted. The Academies programme would seek to further intensify these market pressures by introducing a range of new providers, Academy Trusts, to replace non-competitive LAs. In contrast to perceived fatalism of locally monopolistic LAs (Adonis, 2012), allowing competition between school providers should ensure that schools seek to improve their pupils' performance as they seek to remain attractive to prospective parents. Parents are therefore empowered to exercise more choice between school providers, whereas choosing to send children to schools in neighbouring LAs is less feasible and exerts little pressure on LAs to improve their schools.

The Academies Programme in Practice: Two Phases

Academies are state funded but run by Academy Trusts, which have a range of freedoms relating to pupil admissions, staff working conditions, curricula and the school calendar that are not available to schools maintained by LAs (West & Bailey, 2013). The history of the Academies programme can be divided into two distinct phases: a first phase under New Labour (2002-2010) and a second under Conservative-led governments (2010-). The first phase of the programme targeted underperforming secondary schools in areas of deprivation. In this period, all Academies were linked with Sponsoring organizations: businesses, entrepreneurs, charities, religious groups, and education organizations. Sponsors set up Academy Trusts, which have legal responsibility for running Academies, and provide support to schools to help them improve their performance. Such schools are known as Sponsored Academies. The inclusion of these Sponsors aimed at incorporating a broader set of skills and experience in the running of the state school system (Adonis, 2012; DfE, 2010; Sturdy & Freedman, 2007). The first Academies opened in 2002 and, by the end of the Labour government in 2010, there were just over 200 in operation.

While only a small number of Academies opened in the first eight years of the programme, in the second phase (2010-) more than 9,000 of England's 20,000 state schools have converted to Academy status, 70% of secondaries and 30% of primaries (DfE, 2020a). In contrast to the targeted approach of the first phase, in the second phase, the government has encouraged mass Academization, with the aim of making Academy status the norm for all state-funded schools (DfE, 2010, 2016a). Schools of all types have been encouraged, and often compelled, to convert to Academy status, including those performing well and primaries. While poorly performing schools are still linked with Sponsors when they become Academies, in the second phase of the programme, converting schools that were already performing well have not been linked with Sponsors. These schools are known as Converter Academies.

In the early years of the second phase of the programme (2010-2013), the number of Academies increased particularly rapidly. By September 2013, more than 3,300 Academies were open, compared with just over 200 at the time of the 2010 election (DfE, 2020a). In this period, many leaders of schools that were performing well chose to convert to Academy status and, in doing so, established Single Academy Trusts (SATs). A SAT has responsibility for managing just one Academy. However, many poorly performing schools were encouraged, or compelled, to join 'chains' of Academies run by the same lead Sponsor (Hill et al., 2012). Under Secretary of State for Schools Lord Hill (2010-2013), many of these Academy chains were encouraged to grow quickly across large geographical areas, taking over dozens of schools. For example, Academies Enterprise Trust went from running 11 schools in 2010 to more than 70 across England by 2013. Other chains that expanded in this period were still running dozens of schools in 2020: ARK Schools (38 Academies), E-ACT (28), Harris Federation (49), The Kemal Academies Trust (45), Oasis Community Learning (52), Ormiston Academies Trust (40), and United Learning Trust (74) (DfE, 2020a).

Consequences

For proponents, the combination of greater autonomy and enhanced competitive pressures in the new Academies system should ensure that schools are run more effectively than in the LA maintained system. However, evidence for the impact of Academies on pupil performance is mixed. Researchers have found that secondary Academies opening before 2010 and Ofsted 'Outstanding' schools converting since 2010 have had positive effects on the performance of their pupils (Andrews & Perera, 2017). These schools are only a small minority of secondary Academies, the majority of which have had no overall effect on pupil performance. Moreover, there have been many cases of individual Academies failing to improve, or even deteriorating,

as well as cases of poor academic performance across whole Academy chains (Greany & Higham, 2018). In some cases, the rapid expansion of chains, both in the number and geographical spread of their schools, has been acknowledged as a factor in their underperformance, including by those running Academy Trusts (Male, 2017).

The rapid increase in the number new Academy Trusts and the growth of many of the larger Academy chains has also led to concern among researchers, policymakers, and school leaders that the state school system has become fragmented and delocalized (Male, 2017; West & Wolfe, 2018). Before the Academies programme, state-funded schools were overseen by a system of 150 Local Authorities, but each individual Academy Trust holds a contract to run schools directly with the Department for Education. Such fragmentation makes it harder to hold schools and Academy Trusts responsible for their academic and financial performance. Moreover, the administrative headquarters of Academy Trusts and the other Academies within the Trust are often tens or hundreds of miles away. As local input may be crucial to school improvement (Ozga, 2009), the delocalization of the school system may undermine performance. This may be the result of reduced understanding of the particular needs of the school, the reduced power of local actors who do understand the school's needs, or less collaboration with other local schools not in the same Academy Trust.

Delocalization also involves a reduction in local democratic input into schools (West & Wolfe, 2018). LA maintained schools are overseen by LAs, which are accountable to local electorates, and run by governing bodies, which typically include school leaders, local volunteers with relevant skills, LA appointees, and elected teacher and parent representatives. Academy Trusts, on the other hand, are run by a board of appointed Trustees who have discretion over which powers, if any, are delegated to school-level governing bodies. Many Academy Trusts have reduced the power of governing bodies and, in some cases, abolished them altogether (George, 2018). Critical researchers have therefore sought to frame the

physical and institutional distance of those running Academies from their schools, but their close connection to the private sector, as privileging markets and private interests over democracy and community interests (Gunter et al., 2017; Stevenson, 2013). Indeed, many Trusts have been founded by individuals and organizations with strong business links. To take two examples of larger Trusts: ARK Schools was founded by hedge-fund financiers, and Harris Academies was founded by the owner of Carpet Right.

Changing Policy

While these concerns persist, policy in the second phase of the Academies programme has changed over time to address issues of accountability and the unwieldiness of a fragmented school system. Under a new schools' minister, Lord Nash (2013-2017), the DfE created eight Regional Schools Commissioners (RSCs) and a National Schools Commissioner, whose offices took charge of the oversight of the Academies system and the conversion of LA maintained schools (Foster & Long, 2016). RSCs have the power to move failing Academies to alternative Academy Trusts and to compel failing LA maintained schools to convert to Academy status. The growth of the larger Academy chains was paused in this period and underperforming chains had Academies removed from their control. E-ACT, for example, had ten of its Academies taken away in 2014 (Adams, 2014).

In addition, the role of Academy chains was reconceptualized to ensure greater accountability. Until the mid-2010s, Academies had been governed under a variety of organizational structures which were imprecisely and inconsistently referred to as 'chains' (Hill, 2010; Hill et al., 2012). The term 'chain' could refer to: informal groupings of Academies in 'Collaborative Partnerships'; 'Umbrella Trusts' set up as overarching organizations for legally independent Academy Trusts; 'Sponsored Academy Chains' of multiple schools with

the same lead Sponsor; and Multi-Academy Trusts (MATs), single legal entities that held legal responsibility for running multiple Sponsored or Converter Academies (Hill et al., 2012). Since 2013, there has been a shift away from these varied and flexible models of Academy chain governance, to an increasing focus on formal, hierarchical Multi-Academy Trusts, the CEO of which is ultimately accountable for the performance its Academies (Greany & Higham, 2018). Whereas Academy chains were seen as a particular solution to help underperforming schools in the earlier period of the Academies programme, hierarchical MATs are now promoted as a universal solution for school governance. For the DfE, more Academies belonging to fewer Academy Trusts should simplify administration and help maintain accountability. The government has therefore promoted the advantages of MAT membership to the leaders of schools and Academy Trusts: easier collaboration, efficient administration, and professional management (DfE, 2016a). However, there would be no return to the over hasty expansion of national-scale chains of the 2010-2013 period. Instead, MATs have been encouraged to grow locally and sustainably (Greany & Higham, 2018). Nevertheless, from 2017, SATs and smaller MATs have been encouraged to merge to achieve financial viability through economies of scale.

In research conducted for the DfE, leaders of MATs report that they have been able to make efficiency savings in the budgets of their schools (Cirin, 2017). This has been accomplished, in part, through the outsourcing of legal, payroll, and human resource operations which Academies take over from LAs. However, this contrasts with quantitative analyses of expenditure in Academies, which has found little evidence for economies of scale (Davies et al., 2019; Bubb et al., 2019). Moreover, very little difference has been found between the spending priorities of Academies in MATs and those in SATs (Davies et al., 2019). However, there are some indications that, relative to LA maintained schools, Academies are spending more on back office administration, for which they have taken over responsibility from LAs,

and less on teacher salaries and consultancy. This presents a mixed picture for critics of the Academies programme who expect resources to be diverted from frontline education, particularly in corporate-style MATs, towards profitmaking opportunities for the private sector, such as in consultancy (Stevenson, 2013; Gunter & Mills, 2017).

The DfE report also finds that MAT leaders believe that schools have joined their Trusts principally to achieve greater autonomy from LAs and for opportunities to collaborate with other schools (Cirin, 2017). However, SAT leaders report being wary of joining MATs for fear of losing the autonomy gained from leaving LAs. The report lends credence to this concern in revealing that Academies in SATs have made greater use of their autonomy to change curricula and staffing structures than those in MATs. This latter finding is consistent with independent research which has found that MATs are setting increasingly strict limits on school-level autonomy at the prompting of RSCs and the DfE (Male, 2017; Greany & Higham, 2018). Researchers have also pointed out that on joining a MAT a school ceases to exist as a legally independent entity and has no power to secede (West & Wolfe, 2018). The benefits of MATs promoted by the government - managerial effectiveness and administrative coherence - are therefore in tension with school autonomy, an aim that originally motivated the Academies programme. It remains unclear, however, how effective the government has been at encouraging converting schools and existing Academies in SATs to join local MATs.

The government outsourced schools, in part, to encourage private sector partners to take innovative approaches to the administration of their Academies (Adonis, 2012; DfE, 2010). One aim of this approach was for schools to make better use of their budgets outside of the constraints of the LA maintained system. However, in addition to concerns about fragmentation and delocalization, there are growing concerns about the financial competence and probity of those who run Academy Trusts. Since 2014, the Education and Skills Funding Agency has issued Academy Trusts with nearly one hundred financial notices to improve and published

guidelines on Academy Trust executive pay, which it has criticised as excessive (ESFA, 2019, 2020). Conflicts of interest are leading to financial crime in some Academies (Committee of Public Accounts, 2018b; Greany & Scott, 2014). In 2016, 40% of Academy Trusts engaged in a total of £120 million of related party transactions, in which schools purchased services from companies associated with Academy Trust directors or school staff (Committee of Public Accounts, 2018b). These transactions have led to several high-profile cases of fraud and the Public Accounts Committee has concluded that 'rules around related-party transactions are too weak to prevent abuse' (Committee of Public Accounts, 2018b). This lends credence to fears that the increasing influence of commercial interests in Academies and the administration of the Academies system may be consuming resources which could be better spent on frontline education (Bubb et al., 2019; Gunter & Mills, 2017; Stevenson, 2013). While previous research has demonstrated that the social and commercial networks of company directors influence their behaviour (Bond et al., 2010), it remains unclear who is running Academy Trusts and to what extent they represent either a remote, commercial elite or something more diverse and local (Higham, 2017).

Data

Concerns about accountability, system coherence, and commercialization have led policymakers and researchers to become increasingly interested in understanding the new Academy Trust-led 'middle tier' of the education system (Bubb et al., 2019). However, a detailed, nationally comprehensive evaluation of how the middle tier has evolved over time has been hindered by the inadequacy of existing data sources for mapping changes to the system. While the DfE has made public a vast array of data on the finances, pupil performance, pupil demographics, and the workforce of schools, it is extremely difficult to link this data over time

due to the inconsistent use of school and Academy Trust identifiers. These difficulties are compounded by the opening and closing of Academies and Academy Trusts as well as the movement of existing Academies between Academy Trusts.

Analyses below overcome these difficulties by using nationally comprehensive datasets, newly constructed by the author, of all Academies, Academy Trusts, directors of Academy Trusts, and school-level expenditure patterns. Academies and their associated Academy Trusts (2011-2018) have been identified using the publicly available accounts data for individual Academies. As some existing Academies move between Trusts during the academic year, associated Academy Trusts are taken to be those responsible for schools at the end of the Academic year. For the years 2002-2010, when accounts data is not available, Academies and Trusts have been identified using the earliest *Open Academies* dataset (April 2012), made available by the DfE in a Freedom of Information request by the author. To ensure that the correct number of Academies has been identified in these earlier years, counts were checked against *Academy Annual Report 2011-12* (DfE, 2013), which contain tallies of Academies by year of opening. To ensure that Academies had not moved Trust by April 2012, records were checked against a publicly available dataset of Academies which have changed Trusts. Records of all directors of all Academy Trusts (2002-2018) were collected from the Companies House Application Programming Interface. Companies House data was also collected for firms sharing at least one director with an Academy Trust. School characteristics (location, phase, religious character, pupil demographics, and workforce) are taken from annual censuses of pupils and workers in English state schools.

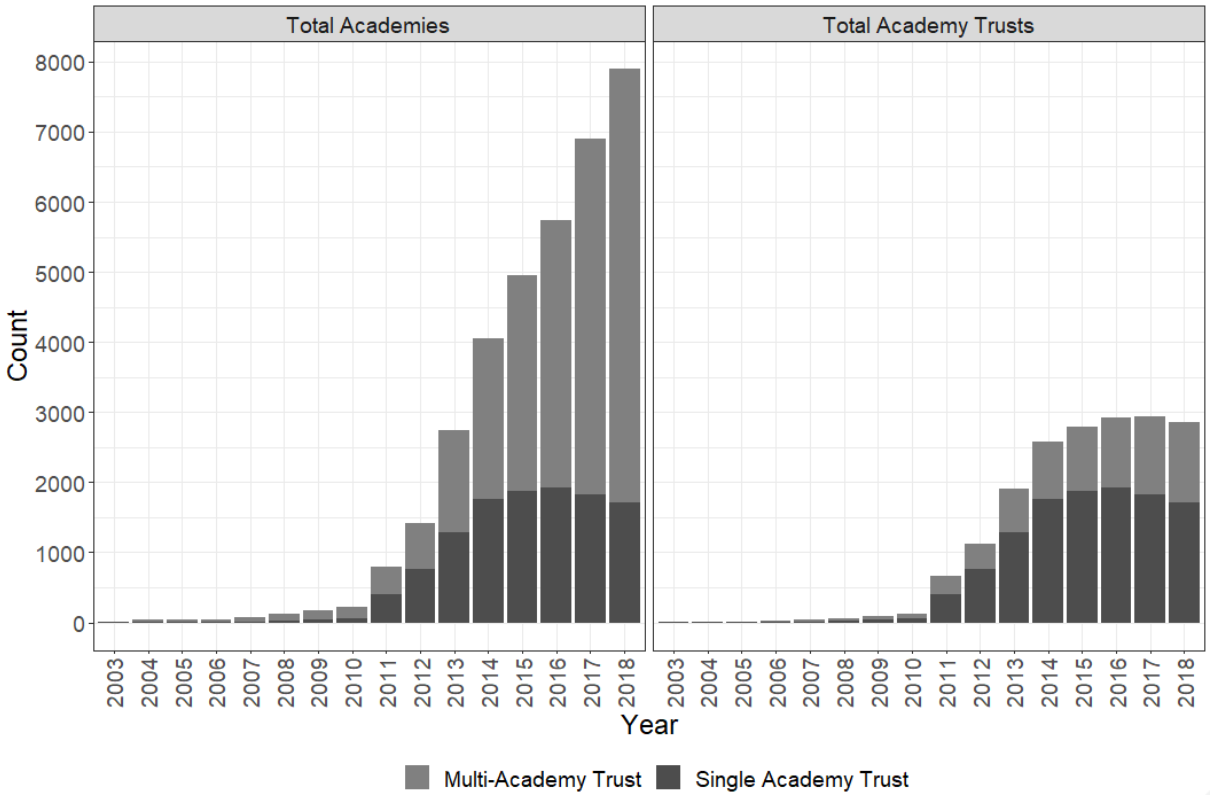
The analyses below are grouped into three sections. The first deals with the evolution of the Academies system, answering questions about the extent of autonomy, fragmentation, and delocalization. The second analysis addresses commercialization. The third uses metrics

developed in the first two analyses to investigate the determinants of Academy spending on teaching staff and consultancy activities.

Evolution of the Academies System

Figure 5.1 reveals that the number of Academies in SATs and MATs increased at a similar rate until 2013. Since then, the number in SATs has plateaued and then declined from a peak of 1,900 in 2016 to 1,700 in 2018.[1] In recent years, the government has therefore been successful in slowing and reversing the growth of the number of Academy Trusts holding contracts with the DfE. This has reduced the level of fragmentation in the Academies system even as the number of Academies has rapidly increased. However, if schools in SATs are more autonomous than those in MATs, as previous research suggests (Cirin, 2017; Greany & Higham, 2018; West & Wolfe, 2018), then these developments imply that the level of autonomy in the Academies system was initially very high, when half of Academies were in SATs, but has fallen rapidly in more recent years.

Figure 5.1: Total Academy Trusts by Type and their Academies (2003-18)



The rapid increase in the number of Academies while the growth in the number of Academy Trusts has gone into reverse means that MATs are growing in size. From a mean of 1.6 (median, 1) Academies in 2011, the average size of a MAT had more than trebled to 5.4 (median, 4) schools by 2018. However, the expansion of MATs has not increased the distance between MAT head offices and their schools. While some researchers feared that the remoteness of MAT governance may harm school performance and reduce the influence of local stakeholders, Figure 5.2 shows that the distance between MAT offices and their schools has declined dramatically when compared to the early phase of the Academies programme. This is consistent with the government's aim of promoting more local MATs. Increased localism may be the result of Academy Trusts disproportionately adopting schools in more urban areas. However, the slight decline in the average distance between LA offices and their schools since 2010 is contrary to what would be expected if schools are converting to Academy status mainly in dense urban areas. Nor can the proximity of Academies in MATs to their

Trusts' offices be explained away as the result of MATs being founded by and led from a single Academy, whose distance to its own offices is zero. Removing these zero-distance Academies from the analysis still reveals a long-term decline in the distance between Academies and MAT offices (Figure 5.3). Despite the expansion of MATs, there has therefore been no significant increase in the extent to which the Academies system is delocalized. Figure 5.2 also reveals that Academies in MATs are on average closer to their offices than non-Academy schools are to the education offices of their LA.[2] Although the relationship between a MAT head office and its Academies is much stronger and involves greater levels of centralized authority than the relationship between an LA and the maintained schools within its jurisdiction, this finding may nevertheless be surprising for those concerned with delocalization with the Academies system.

Figure 5.2: Distance Between Schools and Administrative Head Offices (2003-18)

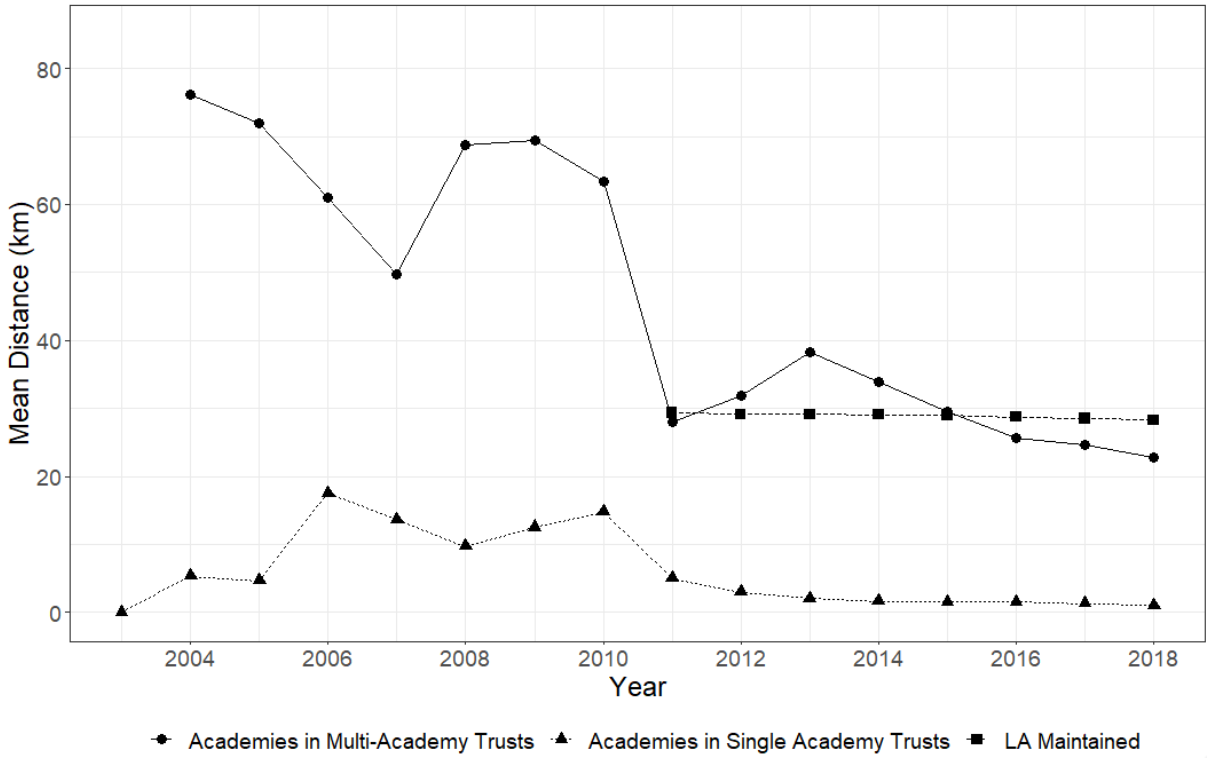
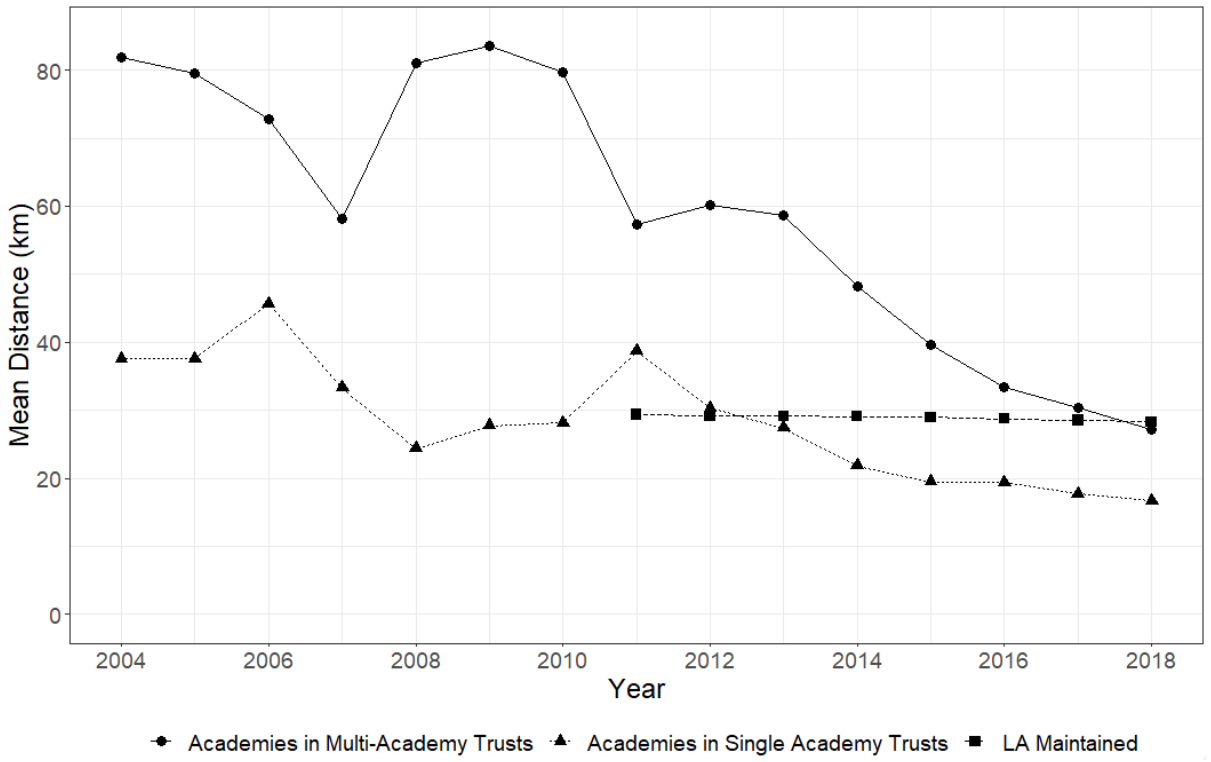


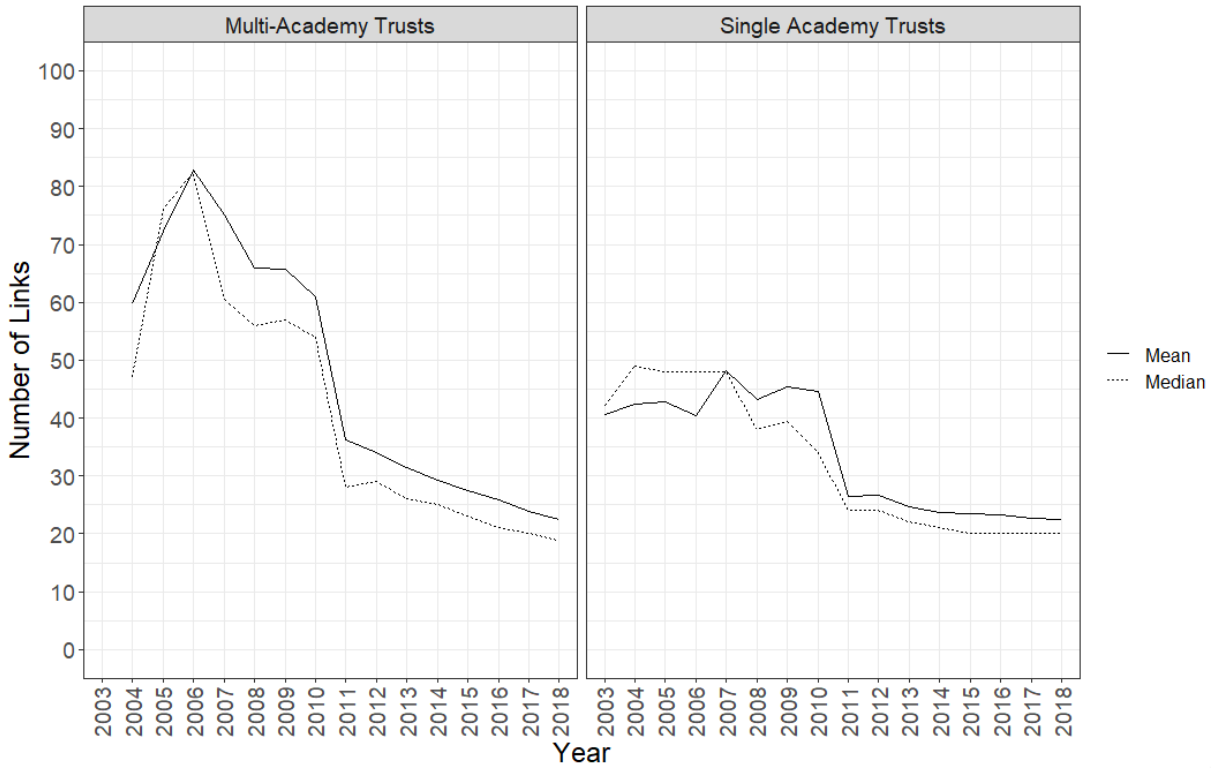
Figure 5.3: Distance Between Schools and Administrative Head Offices Excluding Schools with Zero Distance (2003-18)



Commercialization

The Academies programme has sought to more closely connect schools with private sector organizations and their leaders to improve the running of schools. This has raised concerns about the commercialization of state education. To assess the extent to which Academy Trusts are connected to the private sector, Figure 5.4 plots the number of links between Academy Trusts and other companies registered with Companies House. The number of links per Academy Trust was calculated by summing the number of directorships held by directors of Academy Trusts simultaneously on the boards of other companies. Figure 5.4 reveals that, in the early phase of the Academies programme before 2010, Academy Trusts were much more connected to the private sector than in the period after 2010. Moreover, MATs were much more connected to the private sector than SATs. In 2009, the directors of a MAT were simultaneously on the boards of 65 other firms, while for SATs the figure was 45. However, the number of connections declined substantially in the later period and the two types of Academy Trust have gradually equalized at a mean of 23 links. This is, nevertheless, a substantial number of connections to the private sector from a small group of directors. MAT boards had an average of 9 directors in 2018, SATs 12. Despite fears that the turn towards MATs would lead to the greater commercialization, evidence here does not support the claim that MATs are more closely related to the private sector than SATs in the later period of the Academies programme.

Figure 5.4: Number of Academy Trust Links to Other Companies by Shared Directors (2003-18)



A single drop between 2010 and 2011 accounts for a significant part of the overall decline in the number of connections to the private sector. This indicates that the kinds of director in the early phase of the programme under New Labour and in the later phase under Conservative-led governments are distinct. Indeed, the average number of links to other businesses for each director has halved from four to two across the two phases of the Academies programme. Moreover, during the later period (2011-2018) 69%-71% of Academy Trust directors held no simultaneous directorships with other companies, contrasting with 43%-47% for 2002-2010. It is therefore much easier to claim for the later period that the Academies programme is devolving power over schools to a broad section of civil society, rather than to an elite group of well-connected businesspeople.

Concern over connections between Academy Trusts and the private sector arose from the fear of the misuse of public funds and the diversion of spending from frontline education. This raises the question of what types of companies are connected to Academy Trusts. Table

5.1 reveals that Academy Trusts have mainly been connected to businesses grouped under three sections of the 2003 Standard Industrial Classification (SIC): section M, 'Education'; section K, 'Real Estate, Renting and Business Activities' (RERBA); and a smaller proportion in section O, 'Other Community, Social and Personal Services' (OCSPS). By 2018, 30% of the businesses connected to MATs were involved in education, 28% in RERBA, and 10% in OCSPS. Whereas, for SATs, more were involved in RERBA (32%) than 'Education' (24%), with 11% in OCSPS. To better understand the types of company which are contained in these three broad groupings, Table 5.2 contains information on a more detailed SIC level for the top ten types of linked company in these three larger categories.

Table 5.1: Types of Company Linked to Academy Trusts by Shared Directors (2018)

Standard Industrial Classification (2003)	Multi-Academy Trusts		Single Academy Trusts	
	Percentage of Links	Total Links	Percentage of Links	Total Links
AB Agriculture Hunting Forestry and Fishing	0.5	70	0.5	97
C Mining and Quarrying	0.1	25	0.1	13
D Manufacturing	2.4	399	2.7	571
E Electricity Gas and Water Supply	0.4	65	0.3	85
F Construction	2.4	444	3.4	772
G Wholesale and Retail Trade Repair of Motor Vehicles Motorcycles and Personal and Household Goods	2.9	498	3.4	626
H Hotels and Restaurants	1.6	281	1.7	353
I Transport Storage and Communication	5.6	951	6.3	1,274
J Financial Intermediation	3.1	650	2.8	733
K Real Estate Renting and Business Activities	28.2	4,791	31.5	6,446
L Public Administration and Defence Compulsory Social Security	0.2	46	0.3	53
M Education	30.4	4,542	24.1	4,020
N Health and Social Work	5.0	799	5.1	929
O Other Community Social and Personal Service Activities	9.9	1,711	10.9	2,119
P Private Households Employing Staff and Undifferentiated Production Activities of Households for Own Use	0.0	6	0.1	12
Q Extra territorial Organisation and Bodies	0.0	6	0.0	4
Z Dormant and Non-Trading Companies	4.5	987	4.4	1314
Not Classified	2.8	510	2.5	593
Total	100.0	16,781	100.0	20,014

Table 5.2: Types of Company Most Linked to Academy Trusts (2018)

Type of Company (2003 Standard Industrial Classification)	Total Links	Number of Companies with N Links to Academy Trusts				
		5+	4	3	2	1
Real Estate, Letting and Business Activities						
Management consultancy activities other than financial managmnt.	2,080	3	8	16	180	1,494
Other business support service activities not elsewhere classified	1,989	5	18	35	175	1,360
Other letting and operating of own or leased real estate	1,226	5	8	11	105	814
Residents property management	878	1	3	5	64	689
Activities of head offices	615	1	4	6	60	428
Other professional, scientific and technical activities not else. class.	587	0	1	5	47	431
Buying and selling of own real estate	554	1	0	3	43	383
Management of real estate on a fee or contract basis	412	0	1	6	46	265
Accounting and auditing activities	365	0	0	2	34	249
Solicitors	202	0	0	0	19	157
Education						
General secondary education	2,222	63	48	113	287	623
Educational support services	1,844	48	41	84	209	614
Primary education	1,818	54	36	56	228	565
Other education not elsewhere classified	1,465	29	28	56	164	552
Pre-primary education	368	5	1	8	53	155
Technical and vocational secondary education	255	2	4	10	33	106
Cultural education	137	0	1	4	10	74
Sports and recreation education	132	2	2	4	8	55
First-degree level higher education	122	2	1	1	21	47
Post-secondary non-tertiary education	103	1	0	4	10	49
Other Community, Social and Personal Services						
Other service activities not elsewhere classified	768	3	6	11	66	518
Activities of other membership organisations not elsewhere class.	493	3	3	9	53	299
Activities of religious organisations	384	12	9	10	35	170
Operation of sports facilities	285	5	5	9	31	127
Other sports activities	224	0	0	3	20	160
Activities of business and employers' membership organisations	192	4	2	2	19	110
Other amusement and recreation activities not elsewhere classified	185	0	1	3	21	108
Performing arts	179	1	0	7	14	100
Activities of sport clubs	174	1	2	2	12	122
Operation of arts facilities	160	2	1	3	17	82

Considering the RERBA category first, the most connected companies are management consultancies, with more than 2,000 links by shared directors to Academy Trusts. Other types of business in this category mainly include services (e.g. solicitors, accountants, premises management) for which Academy Trusts have taken over responsibility from LAs. Connections with the directors of management consultancies and professional services companies may support Trusts with in-house expertise on the running of large organizations. However, these relationships provide significant potential for the misuse of public funds through related party transactions. The prominence of management consultancies also raises the possibility that Academy Trusts may be likely to divert spending from frontline education to consultancy activities. However, it should be noted that there are very few individual RERBA companies with more than five links to Academy Trusts, the vast majority have just one link. Therefore, although there are a substantial number of business connections to Academy Trusts, these connections are spread between many smaller, local firms rather than concentrated with large national ones. Indeed, the top three linked management consultancies are headquartered in Chester, Nottingham and Derby, unlike larger firms which are headquartered in London.

For linked companies in the education sector, the types of company most connected to Academy Trusts are other organizations providing secondary and primary education. These companies are mainly Christian Diocesan Boards of Education and other Academy Trusts (Cambridge Meridian Educational Trust, Cromwell Community College, and St. Augustine's Catholic Academy Trust each have at least 15 links). The total number of connections is on the same scale as to management consultancies and RERBA businesses, but each individual education company tends to have many more links. This implies that the level of fragmentation in the Academies system may be lower than appears in official tallies of Academy Trusts. Joint

directorships of Academy Trusts may contribute to the sharing of expertise across Trusts and a more cohesive Academies system. Finally, companies in the OCSPS category also include other Academy Trusts and religious organizations. Conflicts of interest are more likely with OCSPS than education businesses, however, as a large number of links are with companies running sports and artistic facilities, which may be in direct competition with schools looking to rent out similar facilities outside of normal school hours.

Determinants of Academy Spending

Both the influence of the private sector and the difficulties involved in overseeing an Academies system of 3,500 separate Trusts have raised concerns about the use and misuse of school financial resources. There are fears that Academies in larger MATs whose leaders are remote from day-to-day school management but close to the private sector may divert resources away from frontline education. To address this issue, the analysis assesses the extent to which commercialization, delocalization, and autonomy influence the percentage of Academy expenditure devoted to educational staff or consultancy activities in the school year ending August 2018. The percentage of expenditure which is devoted to teaching staff (teachers and teaching assistants) is an indicator of the extent to which frontline education is prioritized in Academy budgets. Teaching staff accounted for 45% of primary Academy spending in 2018, a mean of £670,000. For secondary Academies, the equivalent figures were 54% and a mean of £3,140,000. Spending on consultancy is an indicator of the extent to which school resources are being used for activities less directly connected with day-to-day teaching. This is not to say that consultancy is necessarily wasteful spending. School leaders hire consultants to help improve curricula, behaviour management, pedagogy, administration, and facilities management. The use of consultants is, however, an approach to organizational leadership

derived from the private sector (Gunter & Mills, 2017). Consultancy represented less than 1% of Academy expenditure in 2018, with means of £12,000 in primaries and £35,000 in secondaries.

Separate multi-level models were estimated for Academy-level spending on teaching staff and consultancy. The influence of Academy autonomy is captured by a dummy variable for whether in a MAT or a SAT. Delocalization is captured by the distance between Academies and the headquarters of their Academy Trust. Commercialization is captured by the number of links a school's Academy Trust has to other companies. A continuous variable for the number of Academies in the same Academy Trust as the observed school is included to assess the extent to which economies of scale – a key aim of government policy in promoting MATs - influence spending priorities. Schools are clustered by Academy Trust and LA. LA random effects are necessary because LA-level funding formulae were still used in 2018 to calculate the resources made available to Academies and may therefore influence expenditure patterns. Models include controls for other determinants of school funding and factors likely to influence expenditure on teaching staff and consultancy. Controls include the total number of pupils, the number of pupils receiving free school meals (FSM) (a measure of poverty), speaking English as an additional language (EAL) or with special educational needs (SEN), whether the school has a religious affiliation, the extent to which the local area is rural or urban, and the number of years an Academy has been a member of its Trust.[3]

Table 5.3 reveals that membership of a MAT is associated with a greater percentage of school expenditure devoted to teaching staff in both primary and secondary Academies, contradicting expectations from critics of MATs. Spending on teaching staff in Academies in MATs is 1.7 and 1.1 percentage points higher in primaries and secondaries, respectively, than Academies in SATs. This equates to an extra £25,000 in primaries and £64,000 in secondaries, or roughly the salaries of one and two early career teachers, respectively. However, it is

unlikely that this reflects the ability of schools to devote more resources to teaching staff because of economies of scale as the coefficient for the number of schools in the Trust is not significant. Nor can this result be explained by a larger number of senior leaders in schools in MATs, as the inclusion of this as a control does not alter the result and does not reveal a statistically significant relationship between the number of leaders and spending priorities (results in Appendix C).[4] However, Academies that join MATs instead of SATs may have higher expenditure on teaching staff due to factors that it was not possible to include in the analysis, for example as the result of policies set by senior school leaders in schools before joining MATs. These estimates should therefore not necessarily be treated as causal effects. Nevertheless, the approach here controls for a large range of potential other causes. Full results for all analyses, can be found in Appendix C.

A greater number of schools in an Academy Trust is associated with greater school-level expenditure on consultancy activities in secondary Academies. However, the magnitude of this association is very small. For every additional school in an Academy Trust, there was 0.01 percentage points additional spending on consultancy. Results do not support the hypotheses that delocalization or commercialization have influenced spending priorities. There are no significant associations for the distance between schools and their Trust's headquarters or the number of links between the Academy Trust and other companies. These results are robust to the inclusion an alternative measure of delocalization, the mean distance between schools in the same Trust (Appendix C). Results are also robust to an alternative measure for commercialization, the number of links to companies categorized as 'Real Estate, Renting and Business Activities', which were found above to largely include management consultancy and professional services (Appendix C).

Table 5.3 Determinants of Academy Spending on Teaching Staff and Consultancy

	Teaching Staff		Consultancy	
	Primary	Secondary	Primary	Secondary
	(1)	(2)	(3)	(4)
Years in Academy Trust	0.028	-0.048	0.001	-0.005
	(0.071)	(0.059)	(0.012)	(0.012)
Multi-Academy Trust	1.740***	1.109**	0.109	0.060
	(0.477)	(0.387)	(0.071)	(0.071)
Number of Academies in Trust	0.023	-0.006	0.007	0.011*
	(0.040)	(0.031)	(0.006)	(0.005)
Distance School to Trust (km)	0.006	0.002	0.001	-0.001
	(0.004)	(0.004)	(0.001)	(0.001)
Links to Other Companies	0.017	0.00000	-0.001	-0.001
	(0.016)	(0.011)	(0.002)	(0.002)
Controls? †	Yes	Yes	Yes	Yes
N: Local Authorities	149	150	149	150
N: Academy Trusts	1521	1464	1521	1464
N: Schools	4114	2259	4114	2259
Variance: Local Authorities	1.647	1.888	0.042	0.008
Variance: Academy Trusts	41.194	16.816	0.724	0.255
Variance: Residual	25.189	27.710	0.797	1.414

Note: *p<0.05; ** p<0.01; *** p<0.001

† Controls include number of pupils, numbers of FSM, EAL, SEN pupils, religious denomination, rural/urban locality, whether Converter/Sponsored/Free School

Discussion

Proponents of the Academies programme claim that the outsourcing of state school provision has improved the governance of England's schools by increasing their autonomy, generating competitive pressures, and incorporating a range of new actors into their administration (Adonis, 2012; Sturdy & Freedman, 2007). However, critics maintain that outsourcing has created a chaotic, commercialized school system under the control of a remote, unaccountable elite (West & Wolfe, 2018; Ball, 2017; Higham, 2017; Stevenson, 2013). Results have revealed that the impact of the Academies programme has been more complex than either of these

optimistic or the pessimistic evaluations. Autonomy was initially very high, with a large proportion of Academies in SATs. However, the number of SATs is now in decline, and MATs have grown rapidly, restricting the autonomy of schools. Larger MATs are not only in conflict with school autonomy but also potentially with the fostering of market competition, another of the original aims of the Academies programme. As MATs have paradoxically become more local as they have expanded, local areas may experience less competition and parents may be less able to exercise choice. Nevertheless, as MATs have grown and autonomy has shrunk, the fragmentation of the school system has also diminished, making oversight of Academies easier for the DfE and RSCs.

In response to problems of accountability and oversight created by the rapid proliferation of Academy Trusts, recent government policy has therefore successfully prioritized system coherence (in the form of larger MATs) over the unpredictability of truly autonomous schools. This may reveal that the volatility and complexity involved in the provision of public services by autonomous private providers competing in markets is not politically sustainable. Political accountability for public spending and the statutory duty to provide a good standard of education for all pupils may preclude the full operation of market forces among schools. The way that the English government has attempted to manage tensions between autonomy and markets on the one hand and system coherence and accountability on the other can be characterized as the state's own Polanyian double movement (Polanyi, 1944/2001) in which (i) the unpredictability of markets leads to adverse consequences for stakeholders, and (ii) adverse consequences encourage actors to attempt restrain the unpredictability markets. For Polanyi, the commodification of social relationships in market systems leads to adverse consequences for their participants. For example, Polanyi argues that traditional moral economies sustained agricultural workers during economic downturns, but in market systems workers can simply be laid off by their employers. For Polanyi, these adverse

consequences lead to opposition from those affected and attempts to re-embed marketized relationships into moral and social frameworks, through welfare provision, for example. Concerning Academies, the institutional dis-embedding of school provision through the diminution of traditional LA administration and the prioritization of market competition in the earlier phase of the Academies programme led to adverse consequences for stakeholders, including the state itself. The system became chaotic and difficult to administer. In the later period, the government has therefore attempted to re-regulate and re-embed schools in more predictable, hierarchical, institutional relationships.

Researchers feared that the commercialization of education through the outsourcing of schools to private providers would divert resources from frontline education, particularly in more business-like MATs (Bubb et al., 2019; Gunter & Mills, 2017; Stevenson, 2013). However, a greater proportion of MAT expenditure in 2018 was devoted to teaching staff than in SATs. Contrary to critics, the recent growth in the number of MATs may therefore enable a greater focus of financial resources on the educational frontline. The cause of this greater expenditure remains unclear, however. Greater expenditure on teaching staff may be due to MATs using their exemption from national agreements on pay and conditions to set higher salaries for teaching staff, as has been found for some larger Trusts (Cirin, 2014). However, Trusts with more schools were not associated with greater expenditure on teaching staff, implying that economies of scale are not the source of greater expenditure. The analysis thus confirms previous claims about the absence of economies of scale in MATs (Bubb et al., 2019; Davies et al., 2019). However, results are not consistent with the hypothesis that greater expenditure in MATs is due to a more senior leaders in their schools (Bubb et al., 2019). It also remains possible that Academies joining MATs spend more on teaching staff due to selection biases which are not controlled for in the model.

Larger Trusts were found to spend more on consultancy activities, but only in secondaries and only slightly, confirming previous findings which are based on older data (Davies et al., 2019). Spending on consultancy may have raised concerns about the potential misuse of public funds, particularly because of the large number of management consultancy firms that are linked to Academy Trusts. However, the number of links between Academy Trusts and other companies was not significantly associated with expenditure patterns in Academies. Moreover, by 2018, 70% of Academy Trust directors had no appointments as directors of other companies, implying that they are largely not a remote, commercial elite. While commercialization has not systematically influenced patterns of school expenditure, the links to other companies of the remaining 30% of directors provide substantial opportunities for the misuse of public funds through related party transactions (Committee of Public Accounts, 2018b; Greany & Scott, 2014). Future discussions of the commercialization of schools should also note that the types of company linked to Academy Trusts tend to be smaller, local firms or other education providers.

This difference between the earlier and later phases of the Academies programme in the extent of commercial connections likely reflects the change in scope of the Academies programme itself. Under New Labour, the programme was a targeted intervention designed to help turn around underperforming secondary schools in deprived areas. The programme's architect, Andrew Adonis, particularly sought out philanthropic entrepreneurs and businesses who would use their organizational expertise as Academy Sponsors to improving the running of schools (Adonis, 2012). Whereas, in the latter period of under Conservative-led governments, the programme has aimed at rapid, mass Academization. There has therefore been substantially less targeted recruitment of entrepreneurs and businesses to run Academies in this period, contributing towards the decline in private-sector connections post-2010.

Conclusion

Does outsourcing state school provision make schools more autonomous, increase competitive pressures, and devolve power to civil society? Or, do outsourced schools become increasingly beholden to commercial interests in delocalized, chaotic education systems? After nearly two decades of outsourcing under the Academies programme in England, it was unclear whether an optimistic or pessimistic evaluation was more accurate. This situation was partly the result of difficulties in analysing available data sources, particularly in linking them across time. This article has overcome these limitations by compiling and analysing new datasets which track Academy schools, Academy Trusts, directors of Academy Trusts, and Academy spending from the beginning of the Academies programme.

Results have revealed major differences between the earlier period of the programme (2002-2010) under New Labour and the later period under Conservative-led governments (2010-2018). The earlier period was characterized by a high degree of Academy autonomy and remote, commercially linked Academy Trusts and directors. This reflected the aims of the Academy programme's founders to free schools from LA control, encourage competition, and reinvigorate the running of schools with practices from the private sector. However, the number of Academies remained small in this period, stopping far short of systemic change. The later period saw an initial fragmentation of the school system with the creation of thousands of small Academy Trusts. Concerns about accountability and oversight latterly led to the government's successful fostering of larger MATs. While this has reduced the level of autonomy in the Academies system, the remoteness and commercialism associated with Academy Trusts in the early phase have also substantially declined. Despite a decline in the number of links between Academy Trusts and other companies, a substantial percentage of Academy Trust directors

(30%) still hold positions on the boards of companies which may seek to sell services to or compete with schools. These connections provide ample opportunity for the misuse of public funds, which has previously led to parliamentary investigations of the volume of related party transactions (RPTs) in Academy Trusts (Committee of Public Accounts, 2018b). Finally, contrary to expectations of critics, Academies in MATs have devoted more of their spending to front line education than those in more autonomous SATs. The positions of both proponents and critics of the Academies programme are more reflective of the earlier period under New Labour and should be substantially revised considering the empirical evidence on the programme's subsequent evolution presented here.

Results suggest several avenues for future research. First, the local growth of MATs may restrict school competition and parental choice, but competition between Academy Trusts in local areas is poorly understood. Researchers are also yet to assess how vertical integration via the incorporation of secondary schools and their primary feeder schools into the same MATs may affect the ability of parents to exercise choice. Secondly, Companies House data revealed that many Academy Trust directors hold simultaneous positions in multiple Trusts. The level of fragmentation in the Academies system may therefore be less than it appears because shared directorships may provide routes for the sharing of expertise across Trusts. However, little is known about who these directors are, why they sit on multiple boards, which Academy Trusts they link, or whether these relationships affect how Trusts operate. Thirdly, research on the impact of Academization on pupil performance has, to date, found mixed results (Andrews & Perera, 2017), while findings here have revealed significant variation between Academy Trusts and over time in the extent of autonomy, localism, and commercialism. Could the greater autonomy and commercial expertise in the earlier phase of the Academies system have contributed towards improvements in performance recorded by Academies opening before 2010?

The evidence presented in this article is important because the state school system touches the lives of millions of different stakeholders: pupils, parents, workers, taxpayers, and politicians. A range of findings has challenged both supportive and critical views of the outsourcing of state schools. These results can contribute towards better empirically informed evaluations of the impact of the Academies programme and, therefore, towards policies which ensure that the school system better meets parents' and pupils' needs. As outsourcing and privatization spread beyond the education systems in which they are already advanced, such as the USA, Sweden and England, the results of this article will become increasingly significant to researchers and policymakers interested in the sociology of education reform and the private provision of public services.

Notes

1. SATs are taken as Academy Trusts only ever containing one Academy. Academy Trusts that in one year have only one Academy but subsequently expand to include more are considered MATs.

2. A similar trend is evident in the distance between Academies in the same MAT.

3. Models also control for whether the Academy is sponsored, a converter or a free school. For reasons of space, a discussion of these distinctions is not made in this article.

4. It is unlikely that this is due to there being older teachers in MATs. Data for the age of teachers in the School Workforce Census is substantially incomplete, and therefore not included in the model, but the percentages of teachers over fifty in MATs and SATs are 18% and 21%, respectively.

Chapter 6

Conclusion

This thesis has aimed to enhance our understanding of the consequences of outsourcing state school provision by investigating the Academies programme in England. To do so, the thesis has addressed questions relating to three principal themes: the workforce of Academies, their expenditure patterns, and their organization. These issues are important for policymakers because millions of stakeholders are affected by how the state school systems operates: pupils, parents, taxpayers, and workers. For sociologists, outsourcing the state school system raises questions concerning access to effective teachers, the remodelling of public sector workforces, the commercialization of education, and the governance of public services. However, existing research on the Academies programme had largely focused on its effects on pupil performance or, when focused on other issues, had often taken a case study approach, limiting the generalizability of findings. To overcome these limitations, this thesis has analysed nationally comprehensive datasets which have been assembled from publicly available data sources on the workforces, pupils, spending, private sector connections, and institutional characteristics of England's state schools. The conclusions and contributions of these analyses are summarized in the next section, after which their limitations are considered. The final sections of the thesis address implications for future research and policy.

Conclusions and Contributions

The Academy Workforce

The Academies programme aimed to change traditional approaches to staffing in England's state schools, which were believed to have contributed to their underperformance (Adonis, 2012). However, critics feared that the marketization of the school system would have adverse consequences for the teaching workforce: the substitution of teachers by less qualified colleagues and increased status differentiation within the teaching profession due to the deeper penetration of managerial hierarchies (Stevenson, 2013). Existing research had claimed that Academies were increasingly hiring teachers without QTS (Cirin, 2014, 2017) but had reached contradictory conclusions on the number of senior leaders, teachers, and TAs per pupil (Earley et al., 2012; Bubb et al., 2019; Andrews, 2020). However, these analyses were subject to several limitations: they relied on non-representative samples, analysed differences between current Academies and LA maintained schools at only a single point in time or did not conduct statistical tests.

Chapters 3 and 4 have therefore provided the first nationally comprehensive assessments of how the workforce changed in schools that became Academies relative to those that remained LA maintained. Findings revealed statistically significant divergences, controlling for a range of contextual variables. Schools which became Academies subsequently increased the proportions of teachers in senior leadership and teachers without QTS but decreased the number of TAs and teachers per pupil. In addition, estimates of increases in the proportion of teachers without QTS were higher in schools that became Sponsored Academies and joined MATs than those that became Converter Academies and formed SATs.

These findings are broadly, though not completely, consistent with expectations derived from Labour Process Theory (LPT), which assumed that the managerial hierarchy was penetrating deeper into the teaching workforce to enable greater control and improvements in pupil performance (Carter & Stevenson, 2012; Mather & Seifert, 2011). At the same time, less qualified workers were assumed to be substituting the remaining teachers as school leaders

sought to make their workforces more cost efficient (Carter et al., 2010, Gunter, 2007). Academies, particularly those in MATs, were expected to accelerate this process because of their greater freedoms over their workforces, private sector managerial practices, and insulation from local stakeholders. Increases in the proportion of cheaper teachers without QTS and decreases in the number of teachers per pupil in schools that became Academies are consistent with the prediction of teacher substitution. However, faster decreases in the number of cheaper TAs are not consistent with this hypothesis. Declines in the numbers of both teachers *and* TAs may indicate a more aggressive approach to cost-cutting than the mere substitution of teachers. Although differing from the substitution hypothesis, such a conclusion would nevertheless be consistent with an LPT approach which emphasises the need to reduce costs in public services.

However, despite their statistical significance, the magnitudes of estimated divergences from LA maintained schools were small, implying only very limited changes to the structure of the Academy workforce relative to LA maintained schools. This implies that Academies have not adopted private-sector-style managerial practices to the extent to which LPT's adherents believed would drive changes to the workforce. The expectations of proponents of the Academies programme were also for substantial changes to the Academy workforce. Proponents had adopted an approach derived from Public Choice Theory (PCT) to claim that England's state schools were underperforming due to the competition-dampening effects of administration by LAs and associated constraints on schools' ability to modify staffing practices (Adonis, 2012; Sturdy & Freedman, 2007). Change was therefore expected because Academies enjoy a range of freedoms relating to the organization of their workforces and because Academy Trusts are subject to greater competitive pressures to improve their performance. However, the lack of substantial change relative to LA maintained schools reveals that Academy leaders have not prioritized workforce restructuring as a means to improve pupil performance. This lack of change implies that Academy leaders do not believe

that school underperformance has been caused by traditional staffing practices. However, it should be borne in mind that a lack of change to the structure of workforces may mask substantial changes to cultures and practices, a subject that requires further research.

Results therefore largely vindicate expectations of continuity in the workforces of schools that become Academies. The lack of substantial divergence may be due to the fact that the vast majority of Academies (and the ones tested in chapters 3 and 4) have inherited their workforces from pre-existing LA maintained schools. The conditions of the pre-existing workforce, which often include permanent contracts, are protected under Transfer of Undertakings (Protection of Employment) Regulations 2006, making change slower. Alternatively, Academy leaders may be wary of making significant changes to the structure of their workforces because untried methods could lead to adverse consequences for pupils' results or school Ofsted inspection ratings. For market-oriented reformers, such conservativism would represent a perverse consequence of competitive pressures.

Chapters 3 and 4 also contributed empirical insights on the longer-term evolution of the structure of the workforce in England's state schools, whether Academy or not. Adherents of LPT had argued that rising numbers of TAs since the early 2000s aimed to substitute teachers in the school workforce with less qualified staff to reduce costs in state education (Carter et al., 2010). However, chapter 4 revealed that the number of teachers per pupil also increased between the early 2000s and the mid-2010s, though less dramatically. Per pupil expenditure on teaching staff therefore increased substantially in this period. The claim that teachers were being substituted in the workforce to reduce costs was therefore shown to be misleading for this period. Nevertheless, these findings contribute empirical support to claims that the school workforce was becoming more differentiated by occupational status (Carter et al., 2010; Evetts, 2009). The proportion of teachers in relatively expensive senior leadership positions grew and,

even within growing managerial strata, there was evidence of growing status differentiation in senior leadership and middle management.

A further empirical contribution of chapter 4 has been to reveal that long-term increases in the number of teachers and TAs have gone into reverse following cuts to school spending since the mid-2010s. Declines in the number of TAs have been much less severe than for the number of teachers. In addition to continued increases in the proportion of teachers without QTS, these developments suggest that the claim that teachers are being substituted by less qualified colleagues is a more accurate reflection of trends in the school workforce under budgetary austerity than when school spending was increasing.

Evolution of the Academy System

The Academies programme aimed to reorganize the state school system in England to ensure that schools are run more efficiently and effectively. To do so, the programme has sought to increase school autonomy by making them more independent of local government control. However, critics drawing on theoretical traditions in critical political economy feared that the outsourcing of school provision would lead to the progressive commercialization of education. This commercialization hypothesis led to the expectation of increasing penetration of the private sector into the school system via connections to Academy Trusts. Trusts were expected to grow in size as private sector actors sought to maximize economic gains from involvement in the school system. As a result, the system would become increasingly dominated by geographically extensive, commercially linked MATs running large numbers of schools. However, existing data and evidence had provided a patchwork of snapshots of the new Academy system at specific points in time, hindering the assessment of long-term changes in the number and types of Academy and Academy Trust (DfE, 2012a, 2013, 2014; Cirin, 2014,

2017; Bubb et al., 2019). Existing longitudinal analyses were inadequate because of their focus on small samples of schools, on simple counts of the number of Academies without differentiation, or on the early period of the Academies programme before its rapid expansion after 2010 (Hill et al., 2010, 2012; West & Bailey, 2013). Moreover, there was little evidence on the geographical scope of Academy Trusts, the Trustees who run them, or their links to the private sector (Male, 2017; Higham, 2017).

A central contribution of chapter 5 is therefore to have rigorously assembled a dataset containing records of all open Academies in all years of the programme (2002-2018), their Academy Trusts, their institutional characteristics, their connections to the private sector, and details of their expenditure in more recent years (2012-2018). This dataset has enabled analyses to make novel empirical contributions on the issues of school autonomy, fragmentation, delocalization, and commercialization. Findings revealed that the Academies programme was initially characterized by a high degree of school autonomy. Until the mid-2010s, half of all schools that became Academies formed SATs and did not therefore cede operational power to a larger, more remote MAT. However, since the mid-2010s, the proportion of Academies in MATs has increased rapidly. As Academies have increasingly tended to join existing MATs rather than form new Academy Trusts, MATs have grown in size. The level of school autonomy in the Academy system has therefore declined. However, the level of fragmentation in the system has also declined: the number of separate Academy Trusts, particularly SATs, has fallen from a peak in the mid-2010s. Despite the growth of MATs, analyses revealed that the distance between Academies and their Academy Trust offices declined substantially over time. This development runs counter to the fears of critics that Academies would be run by organizations which are increasingly remote from their schools and reflect the success of government policy to promote more localized MATs.

Chapter 5 revealed substantial numbers of connections between Academy Trusts and private sector firms via shared directors. This has likely increased the level of commercial connections to the state school system as these directors represent a new stratum of school administrators not present in the LA maintained system. A substantial proportion of these connections are to firms which could supply Academies with professional services (legal, accountancy, management consultancy, training, facilities management etc.), the responsibility for which Academies have taken over from LAs. This provides substantial scope for the misuse of public funds. A smaller proportion of Academy Trusts' connections were nevertheless with non-commercial companies such as other Academy Trusts or Christian diocesan boards of education. The sharing of Trustees with other Academy Trusts and diocesan boards revealed that the governance of the Academy system is less fragmented than appears in counts of apparently separate Academy Trusts.

Findings on commercialization revealed even starker differences between the earlier and later periods of the Academies programme than those for autonomy, fragmentation and delocalization. During the early period under New Labour (2002-2010), the average MAT had more than sixty links the private sector via shared directors, while the average SAT had more than forty. However, the extent of these connections decreased markedly in the later period of the programme under Conservative-led governments (2010-2018). The average number of connections for SATs halved, the number for MATs in 2018 was less than a third of its pre-2010 peak, and the difference between the average MAT and the average SAT disappeared. Moreover, by 2018, 70% of Academy Trust directors had no appointments to other companies, contrasting with 45% in the period before 2010. The declining trend in connections to other companies and the absence of difference between MATs and SATs are inconsistent with critics' expectations of increasing domination of the school system by commercialized MATs. Instead, the large drop in the number of links to the private sector between the earlier (pre-

2010) and later (post-2010) phases of the Academies programme reflects the change in scope of the programme from New Labour and to Conservative-led governments. Under New Labour, the Academies programme was aimed turning around a targeted group of underperforming secondary schools in deprived areas by linking them with Sponsors, who were often successful entrepreneurs and businesses. However, under Conservative-led governments, the programme became one of mass, rapid Academization, during which there has been less emphasis on linking schools with successful businesspeople, particularly in the case of Converter Academies which have no Sponsor.

Overall, expectations derived from the theoretical traditions of critical political economy are more representative of the earlier period of the Academies programme under New Labour (2002-10). In this period, there was a greater volume of commercial connections to Academy Trusts, MATs were more connected than SATs, and MAT offices were remote from their schools. In the later period under Conservative-led governments (2010-), the Academies system has come to reflect more of the pluralism envisioned by its proponents and its founder, Andrew Adonis (2012). As of 2018, there was a complex mixture of different school providers of different sizes, some more commercially linked, some religious, and they are run by a mixture of business elites, education professionals, and local people. The substantial number of connections with religious and charitable institutions which have traditionally had a substantial role in the operation in England's state schools also suggests greater continuity than theories of commercialization would expect. The school system may not have become as commercialized as critics had feared because it remains forbidden to make profits directly from running state schools in England. Moreover, competitive tendering policies and a statutory duty to report related party transactions both hinder the exploitation of school budgets for commercial gain. Therefore, running state schools likely remains more costly than profitable.

Spending in Academies

Expectations for spending in Academies derived from PCT were for greater efficiency through the reorganization of workforces and the purchasing of services (human resources, accounts etc.) from the private sector which had previously been provided by monopolistic LAs (DfE, 2016a; Adonis, 2012). Pressure to improve results would then encourage Academy leaders to reinvest such savings elsewhere in their schools to improve their performance. Academies in larger MATs were expected to generate greater efficiencies by benefiting from economies of scale. However, expectations derived from theories of critical political economy were for spending to be diverted from frontline education to pay for expensive services from the private sector and high wages for a new class of Academy managers and administrators, particularly in larger, more business-like MATs (Bubb et al., 2019, Stevenson, 2013).

Analyses in chapter 5 have revealed that Academies in MATs spend more of their budgets on teaching staff than those in SATs, controlling for school contexts, contrary to expectations from critics and findings based on older spending data (Davies et al., 2019). However, this higher expenditure was not the result of economies of scale, as expected by proponents, nor of larger of senior managerial teams, as expected by Bubb and colleagues (2019). Moreover, neither the extent of commercialization nor the remoteness of Academy Trusts from their schools were significantly associated with expenditure on either teaching staff or consultancy. This is inconsistent with expectation from critical political economy that greater commercialization would lead to the diversion of public funds into the private sector (Stevenson, 2013). Nevertheless, spending on consultancy was significantly positively associated with the number of schools in an Academy Trust. However, the magnitude of the association was small and was not statistically significant for primaries. While results have not been consistent with the theoretical expectations of either critics or proponents, analyses did

not attempt to compare spending in Academies with LA maintained schools, so results do not reveal how spending changes when schools become Academies.

Much of the existing research on Academy spending had presented descriptive data on overall spending and spending on teaching staff for various types of Academy (MAT/SAT, Sponsored/Converter) but had not tested whether differences between them were statistically significant (Andrews, 2020; Bubb et al., 2019; Cirin, 2014, 2017). While more sophisticated quantitative analyses had found little difference between MATs and SATs (Davies et al., 2019), previous researchs had not attempted to assess how fragmentation, delocalization, or commercialization affect spending. A significant contribution of Chapter 5 is therefore to have shown statistically significant differences between types of Academy Trust in their spending priorities while testing the influence of commercialization and delocalization on school spending. These empirical contributions were made possible through the assembly of a novel, comprehensive dataset of spending in all Academies and Academy Trusts.

Overall, expectations from the negative change approach, which drew on Regulation Theory and LPT, have fared poorly against empirical findings on the impact of the Academies programme. This implies that a commercialized managerial culture has not penetrated Academy school functioning in the way that critics expected. Nor have expectations been met for the positive change approach, which used PCT to argue that Academy leaders would be encouraged to innovate due to increasing market competition and greater autonomy from the state. Academy leaders have not prioritized the restructuring of workforces to improve their schools' performance, implying that restrictions under the LA maintained system are not considered to have undermined performance. Therefore, while the broad thrust of reforms to the public services in the UK since the 1980s may have been to import private sector practices

and values, expectations from such a general trend cannot simply be extended into the state school system. Instead, there has been much more continuity under the Academies programme than had been expected by either proponents or critics.

There are a range of possible explanations for why the Academies programme may have instilled less commercially oriented approaches to running state schools than expected. First, the system remains an unattractive prospect for private businesses, despite accounting for £91 billion of spending in 2018-19 (Briton, Farquharson & Sibieta, 2019). It is still not legally permissible to make profits directly from the running of schools, in contrast to health services. Second, non-commercial religious and charitable organizations, which have traditionally run many schools in England, have been well placed to establish and expand their own Academy Trusts, limiting the extent of change. Third, many schools formed SATs on their conversion to Academy status, meaning that existing managements took over control of their schools without the involvement of new external partners. Fourth, the contractual conditions of staff in schools which become Academies are protected by Transfer of Undertakings (Protection of Employment) Regulations 2006, which slows the pace of changes to workforces and expenditure. Finally, little change may have occurred because, perversely for market-oriented reformers, intense competition over external examination performance and Ofsted ratings may make school leaders wary of making substantial, innovative, but untested changes to the running of their schools.

Limitations

The conclusions set out in the previous section are subject to a number of limitations concerning the quantitative approach of the analyses, the validity of the quantitative measures analysed, and the interpretation of estimated statistical relationships. While the quantitative

methodologies of the empirical chapters have enabled the thesis to make the contributions outlined in the previous section, such an approach also has serious disadvantages which should be borne in mind.

Although datasets for the thesis were compiled into a usable form by the author, these datasets were constructed from existing sources which have been made available by the government. Such an approach limits the scope of what can be analysed and, therefore, what might be concluded about the Academies programme. For example, data on wage distributions within Academies and LA maintained schools is not publicly available (or even easily accessible with special permission). Moreover, although quantitative analyses have estimated associations between different variables, such as becoming an Academy and the number of different types of worker in schools, it has not been possible to firmly establish the reasons behind decisions to modify or not modify workforces and spending. In attempting to identify the mechanisms linking associated variables, analyses have been restricted to teasing out the relationships for different types of Academy. A qualitative approach may have been better able to grasp these processes by interviewing school leaders themselves.

To ensure the validity of comparisons between the workforce of schools which became Academies and those which remained LA maintained, statistical models in chapters 3 and 4 controlled for alternative factors that could affect the composition of school workforces. In addition, robustness checks were carried out using different baseline years from which workforce changes were measured. These approaches should ensure that the small divergences between the workforces of LA maintained schools and Academies were not due to differences in their baseline workforce characteristics or to different contexts which may affect how their workforces change over time. However, unobserved school characteristics may exist which confound the relationship between becoming an Academy and changes in the school workforce. For example, models do not contain measures for the motivations of school

managements, which are not available. Managements motivated to convert their school to Academy status may also be more motivated to change their workforces. Such unobserved confounding factors could be the causal mechanism(s) underlying small divergences between Academies and LA maintained schools. The conclusions made in chapters 3 and 4 about the effect of Academization cannot therefore be claimed to be completely internally valid, that is, the association between becoming an Academy and changes to the workforce cannot be assumed to be causal. Nevertheless, the methodological approach controls for many alternative explanations.

Chapter 3 argued that an increase in the proportion of teachers without QTS is a threat to the quality of education received by their pupils. To support this claim, the chapter drew on evidence from the US that teachers without formal credentials are less effective than their qualified colleagues. Additionally, the chapter highlighted that teachers without QTS are unlikely to have teaching qualifications from abroad and that the percentage of teachers without QTS in formal training programmes has remained low. Nevertheless, it should be noted that research has yet to assess whether teachers without QTS are less effective than their qualified colleagues. Moreover, given persistent recruitment and retention pressures in the English school system it is unclear to what extent the hiring of teachers without QTS has been a necessity for school leaders rather than a choice. Therefore, it cannot necessarily be assumed that the true counterfactual to pupils being taught by teachers without QTS is to have had a qualified teacher. Even assuming teachers without QTS are less effective than their qualified colleagues, a teacher without QTS may provide the best education that a pupil could have received in the circumstances.

Chapters 3 and 4 analysed changes to the structure of the school workforce: the number of TAs, teachers, teachers without QTS, and senior leaders. Analysing the structure of the workforce was important because researchers had expected substantial changes, and these

changes could have significant consequences for teacher professionalism and the quality of education pupils receive. However, researchers have also been interested in how workforce practices have changed. How are tasks divided between different categories of worker? Are TAs substituting teachers by taking over some of the tasks they have traditionally performed in the workforce such as pastoral roles? How do school managements exert control over their workforces? Trends in the number of workers in chapters 3 and 4 cannot answer such questions. Nevertheless, chapter 4 did highlight trends which were incompatible with the claim that TAs were substituting teachers to cheapen the workforce.

The demonstration of the growth in the number of managers in chapter 4 aimed to test claims about the deepening of managerial hierarchies into the teaching workforce. Findings were consistent with the claim that managerialism is increasing in the teaching workforce, but analyses did not directly investigate managerial control strategies. Nor can this analysis be understood as providing evidence on the size of the overall managerial workforce in schools beyond the *teacher* workforce. Analyses of the size of managerial hierarchies were restricted to teachers in senior and middle leadership roles within schools. These analyses therefore underestimate the size of in-school managerial teams by not taking into account non-teacher managers such as bursars or business-managers. Moreover, as Academy Trust-level managers, such as subject-leads and CEOs, are not included in the analysis, chapter 4 cannot be interpreted as providing evidence for the comparative sizes of managerial hierarchies in the Academy and LA maintained school systems.

Chapter 5 claimed that the level of autonomy in the Academies system declined over time because of the assumption that Academies in MATs are less autonomous that those in SATs. It was further assumed that larger MATs are likely to grant less autonomy to their schools. Autonomy was assumed to mean control of the operation of a school for school-level leaders. However, there may be substantial heterogeneity in the extent to which Academy-level

leaders in MATs have control over their schools. Moreover, school-level control may not simply be anticorrelated with the number of other Academies in a MAT. Nevertheless, assumptions about lower autonomy in MATs are supported by previous research (Cirin, 2014, 2017; Greany & Higham, 2018; West & Wolfe, 2018). An additional problem relates to the fact that analyses in chapter 5 did not investigate how the numbers of Sponsored and Converter Academies had varied over time and how this interacts with MAT or SAT membership. Sponsored Academies have less autonomy than Converters because a Sponsor is an external organization which takes over a substantial amount operational control over an Academy. An assessment of the number of Sponsored and Converter Academies was not attempted in chapter 5 because data of sufficient quality was not available to rigorously trace whether Academies were Sponsored or Converters over the full period 2002-2018. Nevertheless, in September 2018, the percentage and number of Academies in SATs that were Sponsored were low (4.7%, 67). Many more Academies in MATs were Sponsored (31%, 2,114). Academies in SATs are therefore more likely to be autonomous that those in MATs both because they are less likely to be Sponsored and because they have not ceded operational powers to a MAT.

There are also limitations to the validity of measures of delocalization and commercialization. Concerning the delocalization of the school system, distances between Academy Trusts and their schools do not necessarily reflect the internal operation of Trusts. Geographic remoteness may not correlate with organizational remoteness. Schools which are far from their Trust's or LA's offices may be in more or less regular contact that those that are physically closer. Some larger Trusts also use regional hubs or more informal local groupings of schools to overcome geographical remoteness, which are not accounted for in the analyses. Academy Trusts may therefore be closer to their schools than found in chapter 5, which would strengthen the conclusions reached in the chapter. Such internal structures would also suggest that the level of fragmentation in the Academies system is less than appears in simple counts

of Academy Trusts. Concerning commercialization, counts of Academy Trust directors' simultaneous positions on the boards of other companies have revealed one aspect of the commercialization of the school system. However, analyses did not investigate the commercial links of other relevant actors, such as headteachers, governors, or their relatives, because adequate data does not exist to make such an assessment. The absence of such data also prevents a full comparison of the extent of commercial connections in Academies and LA maintained schools, and therefore prevents a full assessment of the extent to which the Academies programme is responsible for greater commercialization.

A similar limitation applies to the analyses of Academy spending. Chapter 5 does not assess differences in spending between Academies and LA maintained schools. It is methodologically difficult to make such comparisons robustly because the financial reporting year for the two types of school is different. (This issue is returned to in the section on implications for future research below.) Moreover, although Academies in MATs are associated with greater levels of expenditure on teaching staff than those in SATs, such a finding is compatible with a range of explanations. Additional spending on teaching staff could be the result of higher salaries distributed evenly across the workforce, higher salaries for particular groups of workers, or more teaching staff. This finding is, however, incompatible with the expectation of critics that MATs would divert expenditure away from frontline education.

Implications for Future Research

Trends identified in the workforces of Academies and LA maintained schools suggest four areas for further research. The extent to which differences between the workforces of Academies and LA maintained schools could be attributed to Academization was low. This

raises the question of why so little change has been attributable to Academization, contrary to the expectations of both proponents and critics? Second, chapter 3 revealed a sharp rise in the number of teachers without QTS in the English state school workforce. However, it is unclear why these teachers are being hired instead of those with teaching qualifications. The abolition of restrictions on their hiring was publicly intended to help state schools emulate private schools in recruiting highly qualified and experienced specialists from the private sector who lack teaching credentials. In contrast, education unions have warned that school leaders may use the absence of regulations to employ poorly qualified, inexperienced individuals as teachers to address persistent recruitment and retention issues. However, little is known about teachers without QTS. What are their qualifications? How much work experience do they have? A better understanding of teachers without QTS is important because of their potential negative impact on outcomes for pupils. Could their greater presence in Academies have contributed to pupil underperformance? Could the faster rise in the percentage of these teachers in areas with poorer and more ethnic minority pupils imply growing inequality in access to effective teachers?

Third, Bach and colleagues (2006) argued that, in the event of tighter future public finances, school leaders would have to prioritize the retention of teachers over TAs because of their statutory duty to provide a teacher to every class. This argument was posed as a refutation of the claim that TAs were substituting teachers in the school workforce. However, when faced with budgetary austerity, state funded schools in England have cut back on teachers more rapidly than TAs. Does this vindicate the view that teachers are being substituted in the school workforce? Could this reflect the relaxation of regulations on teacher qualifications and the lower wages paid to TAs and unqualified teachers? A fourth remaining workforce puzzle concerns the retention of teachers in senior leadership positions over cheaper classroom teachers. Why have comparatively more expensive teachers in leadership positions been retained during a period of budget cuts? Could this reflect lower turnover of teachers in senior

leadership, the greater power of senior leaders in the workforce to shape staffing decisions and avoid being laid-off, or the large volume of managerial work that must be carried out within schools?

Turning to the organization of the school system, the findings in this thesis suggest avenues for future research concerning the extent to which Academies are autonomous, the potential for anti-competitive practices by Academy Trusts, and the links between Academy Trusts by shared trustees. The increasing centrality of MATs to the Academies system means that analysing how they operate is becoming more important. Conclusions relating to Academy autonomy in chapter 5 assumed that those in MATs were less autonomous that those in SATs. This assumption was made given the legal status of schools in MATs (West & Wolfe, 2018), and findings from previous research (Greany & Higham, 2018; Male, 2017). However, there is likely to be substantial heterogeneity within and between MATs in the autonomy their Academies enjoy. Given that the Academies programme was premised, in part, on the idea that schools with more autonomy perform better, it is important for researchers to assess the extent to which Academies in MATs are autonomous. While a conventional understanding of autonomy has focused on autonomy from the state, developments within the Academies programme highlight the need for a greater conceptual separation between autonomy as control for school-level actors and autonomy as independence from state control. Autonomy as independence from state control remains compatible with extensive private, hierarchical control. One possible approach to investigating the extent to which Academies in MATs have school-level autonomy, could use the spending data assembled for this thesis to assess the extent to expenditure patterns vary in these schools (controlling for contexts). Comparisons should also extend to LA maintained schools to assess the extent to which Academies use their autonomy from state control.

Findings in chapter 5 revealed that, despite their growth, MATs have become more local: their offices are closer to their schools; their schools are closer to each other. While this development may alleviate concerns about the delocalization of the school system, there could be adverse consequences for school competition in areas where a small number of MATs, or even a single MAT, dominate(s). Competition may be particularly threatened, and the power of parental choice curtailed, in areas where MATs become vertically integrated through the take-over of both local primary and secondary schools, or the creation of 'all-through' (all age) schools. Such developments could reduce competition-induced incentives for schools to improve. The datasets created for this thesis could be analysed to assess whether vertical integration is occurring and the extent to which local areas are served by competing providers. Moreover, the apparent fragmentation of the Academies system into thousands of separate Academy Trusts may be overstated. Data on shared directorships in chapter 5 revealed many Academy Trustees serve on the boards of multiple Trusts simultaneously. Such shared directors could be facilitating high-level collaboration between separate Academy Trusts. However, little is known about who these Trustees are, which Academy Trusts they serve, why they serve on multiple Trusts, or whether this has any practical consequences for the way Trusts are run. Data collected for this thesis could be used to identify the full population of these individuals, who could then be sampled and contacted for interview.

Finally, research is yet to adequately assess the extent to which converting to Academy status affects the expenditure of schools. Methodological challenges relating to differences in reporting years for Academies and LA maintained schools have hindered such an assessment. Annual data on Academies accounts is for academic years (September to August), but financial years (April to March) in LA maintained schools. Nevertheless, comparisons between the two types of school may be possible by combining LA maintained school spending data for consecutive years in the ratio 7:5 (Andrews, 2019). Figures would also need to be adjusted for

inflation and wage changes between the two Academic years (Bubb et al., 2019). In the first published quantitative comparison of Academy and LA maintained school expenditure to control for school contexts, it remains unclear how financial years were harmonized (Davies et al., 2019).

Implications for Policy

Findings on the impact of the Academies programme and the trends revealed in the workforce of all state schools in England have several implications for policy. Market-oriented reformers have sought to make the teaching workforce more flexible though the greater differentiation of roles within the workforce and the removal obstacles to teacher supply, such as QTS requirements. While the aim of these policies has been to allow school leaders to be more autonomous in their staffing decisions to help them improve school performance, the combination of deregulation and austerity policies may be undermining the quality of the teaching workforce. The number of teachers per pupil has declined rapidly since school budget cuts under austerity, while the proportion without QTS has continued to increase. However, it remains unclear how effective teachers without QTS are relative to their qualified colleagues. If teachers without QTS are less effective, as argued in chapter 3, faster increases in the proportion of such teachers in schools with pupils from more deprived and ethnic minority backgrounds may alarm policymakers concerned to ensure equality of access to effective teachers in the school system.

The principal finding of this thesis has been the lack of significant change in the structure of the state school workforce in England which can be attributed to Academization. For proponents of market-oriented school reforms, this implies that structural reforms may be insufficient to bring about the reorganization or flexibilization of the workforce. Rather,

policymakers should be aware that large-scale changes to the school workforce have been achieved more rapidly through (i) the modification of workforce regulations, as seen in the rapid rise in the number of teachers without QTS, and (ii) changes to school budgets, both in the pre-austerity era of increased spending and in the era of cuts.

Changes to the Academy workforce were intended to help support improvements in outcomes for pupils. However, improvements in outcomes for pupils due to the Academies programme have, to date, been modest (Andrews & Perera, 2017; Bernardinelli et al., 2018). Nevertheless, converting existing schools to Academies and opening new Academies has proved extremely costly, more than £745 million since 2010 (Public Accounts Committee, 2018a; Bubb et al., 2019). The irony of a policy intended to harness the efficiency inducing powers of autonomous markets being implemented by politicians and state officials at so high a cost to the taxpayer while failing to deliver substantive change should ultimately leave policymakers questioning the value of such reforms.

Appendix A

Additional Results and Tables for Chapter 3

This appendix contains additional results and tables for chapter 3. The appendix is split into three sections. The first substantiates the claim that the choice of baseline year in the analysis does not substantially affect the conclusions reached in the chapter. The second section contains results for analyses which attempt to control for unobserved confounding variables at school-level by analysing only those schools which became Academies. The third section contains results for differences in differences analyses which control for school-level characteristics.

Section 1: Analyses with Different Baseline Years

Tables A.1 to A.4 compare estimates of the model in the 'Data and Methods' section for different baseline years, 2010 to 2015. A.1 shows results for the model for primary schools with Academy and Academy Years variables, equivalent to Model 1 in Table 3.2 in the main text. A.2 shows results for different types of primary Academy, equivalent to Model 3 in Table 3.2 in the main text. A.3 and A.4 show, respectively, the same results for secondary Models 4 and 6 in Table 3.2. The same controls were included as in the main analysis but are not shown in the tables for the sake of brevity.

For baseline years 2010-2014, Table A.5 shows the chi-squared test statistics and significance levels for Wald tests of the joint significance of the pairs Academy variables in

each model e.g. Academy and Years Academy in A.1, Sponsored MAT and Sponsored MAT Years in A.2. Results in the table reveal that, for primary Academies (top row), the choice of baseline year does not affect the joint significance of the Academy and Academy Years variables. For the primary Academy type variables, the choice of baseline year does not affect the joint significance of either the Sponsored MAT or the Converter MAT variables. The Converter SAT variables are not jointly significant in two of the three latter years (2012 and 2014). This is broadly consistent with the estimated effects for this type of Academy when taking 2010 as a baseline, plotted in Figure 3.3, which show that primary Converter SATs are not significantly different from LA maintained schools until four years after becoming Academies. For secondaries, the Academy and Academy Years variables as well as the pairs of variables for Sponsored MATs and Converter MATs are only significant when taking early years as a baseline (mainly 2010 and 2011). This is broadly consistent with plotted estimated associations in Figure 3, which reveal that these schools only significantly diverge from LA maintained schools afters several years as Academies.

For the Academy types in both primary and secondary models (Tables A.2 and A.4), as four tests of joint significance are made in each model, one for each type of Academy, a Bonferroni correction should be applied, which means that these tests of significance should be stricter. In practice, this means that instead of using the conventional cut-off for statistical significance, $p < 0.05$, the cut-off should be at $0.05 / 4 = 0.0125$, as four tests have been made in each model. However, as only two of the tests for Academy types are significant at the 0.05 but not the 0.01 level, only associations for secondary Converter MATs (baseline 2011) and secondary Sponsored MATs (baseline 2012) fail to meet this additional strictness. This again implies that results for secondary Academies are much more dependent on selecting earlier baseline years that for primary Academies.

Note that tables A.1 to A.4 do not have an estimate for Academy Years with 2015 as a baseline and A.5 does not contain a column for the baseline year 2015. This is because the Academy Years variable is dropped from models with 2015 as the baseline year due to collinearity with the Academy variable i.e. these two variables are identical when Academies can only have been so for one year. There is also no estimate for Sponsored SAT Years for the baseline year 2014 due to the very small number of these schools in the data for this baseline year (n = 2 in both primaries and secondaries).

Table A.1: Primary State School Determinants of Percentage of Teachers without QTS by Baseline Year

	Dependent variable:					
	Teachers Without QTS 2016					
	2010	2011	2012	2013	2014	2015
Academy	1.456***	1.044***	1.142***	1.058**	0.557	1.027***
	(0.270)	(0.289)	(0.311)	(0.367)	(0.512)	(0.216)
Academy Years	0.106	0.242**	0.207	0.237	0.740*	
	(0.073)	(0.086)	(0.109)	(0.168)	(0.331)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	152	152	152	152	151	152
N: Schools	13625	13548	13287	12749	12002	11840
Variance: Local Authorities	12.7	12.9	13.5	13.6	10.4	4.6
Variance: Residual	33.6	33.5	30.7	28.3	25.1	21.1
Note:			*p<0.05; ** p<0.01; *** p<0.001			

Table A.2: Academy Type Determinants of Percentage of Teachers without QTS in Primary State Schools by Baseline Year

	Dependent variable:					
	Teachers Without QTS 2016					
	2010	2011	2012	2013	2014	2015
Converter MAT	0.812*	0.272	0.297	0.752	0.422	0.916***
	(0.328)	(0.349)	(0.378)	(0.434)	(0.595)	(0.241)
Converter MAT Years	0.308**	0.526***	0.531***	0.228	0.552	
	(0.098)	(0.116)	(0.148)	(0.210)	(0.393)	
Converter SAT	0.192	-0.403	-0.043	-3.060	0.191	-0.869
	(0.938)	(1.160)	(1.429)	(1.891)	(2.871)	(1.260)
Converter SAT Years	0.216	0.375	0.201	1.636*	-0.269	

	(0.200)	(0.280)	(0.407)	(0.714)	(1.711)	
Sponsored MAT	2.786***	2.726***	3.109***	3.091***	1.779	1.884***
	(0.575)	(0.577)	(0.616)	(0.751)	(1.078)	(0.507)
Sponsored MAT Years	-0.088	-0.107	-0.255	-0.281	1.095	
	(0.171)	(0.173)	(0.209)	(0.330)	(0.674)	
Sponsored SAT	5.939	5.994	0.213	-7.651	-0.429	-2.591
	(4.823)	(4.813)	(5.212)	(6.252)	(3.543)	(3.294)
Sponsored SAT Years	-1.657	-1.717	0.880	6.801*		
	(1.164)	(1.161)	(1.547)	(3.265)		
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	152	152	152	152	151	152
N: Schools	13625	13548	13287	12749	12002	11840
Variance: Local Authorities	12.7	12.9	13.5	13.5	10.4	4.6
Variance: Residual	33.5	33.4	30.6	28.3	25	21.1
Note:				*p<0.05; ** p<0.01; *** p<0.001		

Table A.3: Secondary State School Determinants of Percentage of Teachers without QTS by Baseline Year

	Dependent variable:					
	Teachers Without QTS 2016					
	2010	2011	2012	2013	2014	2015
Academy	-0.021	-0.064	0.506	1.549	2.009	0.447
	(0.633)	(0.631)	(0.650)	(0.837)	(1.125)	(0.457)
Academy Years	0.207	0.182	-0.119	-0.783*	-1.102	
	(0.123)	(0.150)	(0.206)	(0.373)	(0.693)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	150	147	147	144	142	141
N: Schools	2351	1758	1416	1247	1119	1059
Variance: Local Authorities	5.1	6.1	3.9	7.2	3.4	2.2
Variance: Residual	38.6	29.7	22.6	21.8	18.9	13.9
Note:				*p<0.05; ** p<0.01; *** p<0.001		

Table A.4: Academy Type Determinants of Percentage of Teachers without QTS in Secondary State Schools by Baseline Year

	Dependent variable:					
	Teachers Without QTS 2016					
	2010	2011	2012	2013	2014	2015
Converter MAT	-0.271	-1.007	-0.462	0.864	2.786	0.383
	(0.854)	(0.839)	(0.863)	(1.079)	(1.467)	(0.559)
Converter MAT Years	0.315	0.496*	0.128	-0.545	-1.781	
	(0.176)	(0.217)	(0.299)	(0.506)	(0.963)	

Converter SAT	-2.570	-1.055	3.415	1.553	-2.260	-4.082
	(1.568)	(2.000)	(2.620)	(4.425)	(9.173)	(3.873)
Converter SAT Years	0.564*	0.218	-1.213	-0.667	1.026	
	(0.287)	(0.430)	(0.723)	(1.651)	(4.780)	
Sponsored MAT	0.169	0.737	0.941	2.705	1.298	0.757
	(1.092)	(1.046)	(1.046)	(1.408)	(1.873)	(0.788)
Sponsored MAT Years	0.468	0.233	0.127	-1.204	-0.423	
	(0.277)	(0.289)	(0.350)	(0.645)	(1.104)	
Sponsored SAT	-3.473	-6.265	-1.508	20.273	-1.314	
	(7.374)	(8.160)	(9.910)	(17.468)	(4.455)	
Sponsored SAT Years	0.650	1.344	-0.783	-10.086		
	(1.452)	(1.962)	(2.994)	(6.898)		
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	150	147	147	144	142	141
N: Schools	2351	1758	1416	1247	1119	1059
Variance: Local Authorities	4.9	6	3.8	7.2	3.4	2.2
Variance: Residual	38.5	29.6	22.4	21.8	18.9	13.9

Note: *p<0.05; ** p<0.01; *** p<0.001

Table A.5: Wald Chi-Squared Test of Joint Significance Statistics and Significance Levels for Academy and Academy Type Variables in Tables A.1 to A.4

Phase	Type	2010	2011	2012	2013	2014
Primary	Academy	178.4***	166.1***	136.5***	93.2***	85.2***
	Converter MAT	104.4***	105.7***	81.3***	40.0***	36.2***
	Converter SAT	20.4***	15.0***	3.5	9.7**	0.1
	Sponsored MAT	121***	108.0***	101.5***	73.3***	86.7***
	Sponsored SAT	2.2	2.4	2.6	5.8	-
Secondary	Academy	12.7**	6.0	0.7	4.4	3.2
	Converter MAT	11.8**	8.5*	0.3	1.3	3.6
	Converter SAT	5.3	0.3	5.2	0.2	0.1
	Sponsored MAT	16.5***	11.1**	8.2*	3.8	1.1
	Sponsored SAT	0.2	0.6	2.6	4.0	-

Note: *p<0.05; ** p<0.01; *** p<0.001

Section 2: Analyses Including Academies Only

In this analysis, observations are included only from those schools which became Academies by 2016. All consistently LA maintained schools are dropped. The aim is to match Academies more closely on their unobserved pre-conversion characteristics to help control for their potential association with changes to the percentage of teachers without QTS in their workforces. Instead the 2016 value for the dependent variables, the 2014 values are used. The baseline year is still taken to be 2010. As such, those schools which became Academies only in 2015 and 2016 are still LA maintained in 2014. These schools act as LA maintained schools in the model, their Academy dummy is zero and their Academy Years value is zero. School becoming Academies between 2011 and 2014 are therefore compared against those becoming so only later. This follows an approach adopted in analyses of Academy performance by Eyles, Hupkau and Machin (2016). Tests of joint significance for the coefficients on *Academy* and *Academy Years* in Table A.6 reveal that by 2014 those schools that became Academies before 2014 had statistically significantly increased the percentage of teachers without QTS in their workforce relative to those becoming Academies only in 2015 and 2016 (primaries: $\chi^2 = 30.0$, $p < 0.001$; secondaries: $\chi^2 = 7.1$, $p = 0.029$). Among primaries, Converter MATs ($\chi^2 = 10.4$, $p = 0.005$), Converter SATs ($\chi^2 = 8.1$, $p = 0.018$) and Sponsored MATs ($\chi^2 = 42.5$, $p < 0.001$) significantly diverge. For secondaries, only Sponsored MATs diverge ($\chi^2 = 8.0$, $p = 0.018$). These findings lend additional support to the claim in the main text that Academization leads to increases in the percentage of teachers without QTS rather than this being the result of unobserved characteristics of those schools which became Academies.

Table A.6: Determinants of Percentage of Teachers without QTS in Schools that Became Academies by 2016

	Dependent variable:			
	Teachers Without QTS 2014			
	Primary		Secondary	
	(1)	(2)	(3)	(4)

Academy by 2014	0.958**		0.232	
	(0.334)		(0.616)	
Academy Years by 2014	0.089		0.232	
	(0.124)		(0.154)	
Converter MAT		0.062		-0.337
		(0.792)		(1.338)
Converter MAT Years		0.180		0.234
		(0.185)		(0.250)
Converter SAT		0.905		-1.126
		(1.080)		(1.375)
Converter SAT Years		-0.013		0.352
		(0.222)		(0.244)
Sponsored MAT		0.002		-0.857
		(1.150)		(1.714)
Sponsored MAT Years		0.488		0.509
		(0.297)		(0.377)
Sponsored SAT		-0.963		11.824
		(8.539)		(10.442)
Sponsored SAT Years		0.913		-1.924
		(1.930)		(1.951)
Teachers Without QTS 2010	0.193***	0.194***	0.393***	0.390***
	(0.022)	(0.022)	(0.024)	(0.024)
Total Pupils	-0.001	-0.001	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)
Total Pupils 17+			0.009***	0.009***
			(0.003)	(0.003)
Pupils Eligible for Free School Meals	0.017***	0.014***	0.011***	0.010***
	(0.003)	(0.003)	(0.002)	(0.002)
Pupils Speaking English as Additional Language	0.004*	0.004*	0.001	0.001
	(0.002)	(0.002)	(0.001)	(0.001)
Ofsted Rating (Reference = Outstanding)				
Ofsted Good	-0.238	-0.335	0.685*	0.661*
	(0.285)	(0.286)	(0.319)	(0.320)
Ofsted Satisfactory	0.029	-0.270	1.426***	1.278**
	(0.308)	(0.317)	(0.385)	(0.396)
Ofsted Inadequate	0.511	-0.028	1.287	0.962
	(0.547)	(0.563)	(0.723)	(0.763)
Rural/Urban (Reference = Mainly Rural)				
Urban with Major Conurbation	1.187*	1.221**	0.794	0.832
	(0.461)	(0.461)	(0.522)	(0.523)
Urban with Minor Conurbation	-0.579	-0.634	0.539	0.559
	(0.761)	(0.759)	(0.876)	(0.875)
Urban with City and Town	0.263	0.288	0.626	0.609

	(0.351)	(0.350)	(0.451)	(0.451)
Urban with Significant Rural	-0.714	-0.638	0.385	0.406
	(0.396)	(0.396)	(0.521)	(0.521)
Largely Rural	-0.062	-0.051	0.190	0.188
	(0.414)	(0.414)	(0.527)	(0.528)
Political Control of LA (Reference = Labour)				
Conservative LA	0.037	-0.061	0.704	0.665
	(0.539)	(0.538)	(0.498)	(0.497)
No Overall Control LA	-0.315	-0.437	-0.210	-0.225
	(0.608)	(0.607)	(0.548)	(0.547)
Liberal Democrat LA	-1.497	-1.575	-0.284	-0.310
	(1.027)	(1.024)	(0.928)	(0.926)
N: Local Authorities	147	147	145	145
N: Schools	3188	3188	1632	1632
Variance: Local Authorities	3.5	3.5	1.3	1.3
Variance: Residual	28.2	28.1	24.6	24.6

Note: $^{*}p<0.05$; $^{**}p<0.01$; $^{***}p<0.001$

Section 3: Difference in Difference Analysis

The differences in differences approach controls for the effect of both time and unit-specific factors, here years and schools, using fixed effects. The aim is to control for unobserved school-level factors which could result in those schools which became Academies diverging from LA maintained schools in the percentage of teachers without QTS in their workforce for reasons other than becoming an Academy *per se*. Using school-level fixed effects (α_i in equation A.1) controls for differences in the characteristics of schools, including the baseline percentage of teachers without QTS. Using year fixed effects (γ_t in equation A.1) controls for trends affecting all schools over time. The approach exploits the assumption that the treated group of units (schools that became Academies) would have followed the same time trend (in the percentage of teachers without QTS) if they had not been treated (become Academies). Therefore, the dummy variable for school *i* being an Academy in year *t* in equation A.1 ($Academy_{it}$), is an estimate for the time-averaged impact of becoming an Academy on the percentage of teachers

without QTS in a school's workforce. The model also controls for time-varying variables at school-level, X_{kit}. Results are reported in Table A.7.

$$Percentage\_without\_QTS_{it} = Academy_{it} + \alpha_i + \gamma_t + \sum_{k=1}^{n} \theta_k X_{kit} + \varepsilon_{it} \quad \text{(A.1)}$$

An alternative specification allowing for unit-specific time trends through the inclusion of an interaction between school-level fixed effects and a continuous year variable allows for the assumption of parallel trends to be relaxed. For brevity, results are not reported here, but interpretations of Academy and Academy Type coefficients are not substantively different from Table A.7.

Table A.7 Difference in Difference Estimates of Determinants of Teachers without QTS (2010-2016)

	Dependent variable:			
	Teachers Without QTS			
	Primary		Secondary	
	(1)	(2)	(3)	(4)
Academy	1.130***		0.498**	
	(0.108)		(0.161)	
Converter MAT		0.850***		0.262
		(0.139)		(0.253)
Converter SAT		-0.025		0.079
		(0.226)		(0.148)
Sponsored MAT		2.353***		1.694***
		(0.213)		(0.432)
Sponsored SAT		2.319		-0.194
		(1.387)		(0.741)
Year Dummies (Reference = 2010)				
2011	0.073	0.088	-0.637***	-0.549***
	(0.046)	(0.046)	(0.108)	(0.108)
2012	-0.259***	-0.234***	-1.100***	-0.976***

	(0.047)	(0.047)	(0.142)	(0.140)
2013	-0.380***	-0.356***	-0.601***	-0.479**
	(0.057)	(0.057)	(0.159)	(0.164)
2014	-0.101	-0.084	-0.397*	-0.279
	(0.059)	(0.059)	(0.176)	(0.176)
2015	0.066	0.077	-0.192	-0.094
	(0.067)	(0.067)	(0.184)	(0.185)
2016	0.283***	0.293***	0.012	0.100
	(0.070)	(0.070)	(0.198)	(0.196)
Total Pupils	0.006***	0.006***	-0.0004	0.0002
	(0.001)	(0.001)	(0.001)	(0.001)
Total Pupils Aged Over 16			0.004	0.004
			(0.004)	(0.004)
Total Pupils Eligible for Free School Meals	-0.017***	-0.017***	-0.004*	-0.004
	(0.002)	(0.002)	(0.002)	(0.002)
Total Pupils Speaking English as Additional Language	0.006*	0.005*	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Ofsted Rating (Reference = Outstanding)				
Ofsted Good	-0.239**	-0.240**	0.019	0.025
	(0.092)	(0.092)	(0.146)	(0.147)
Ofsted Satisfactory	-0.376***	-0.378***	-0.035	-0.036
	(0.107)	(0.107)	(0.185)	(0.185)
Ofsted Inadequate	-0.291	-0.444**	0.356	0.249
	(0.173)	(0.172)	(0.355)	(0.353)
Political Control of LA (Reference = Labour)				
Conservative LA	-0.253*	-0.228*	-0.187	-0.144
	(0.098)	(0.098)	(0.229)	(0.228)
Liberal Democrat LA	-0.265	-0.242	-0.882	-0.777
	(0.192)	(0.193)	(0.520)	(0.515)
No Overall Control LA	-0.446***	-0.425***	-0.067	-0.023
	(0.096)	(0.096)	(0.268)	(0.265)
Fixed Effects for Schools	Yes	Yes	Yes	Yes
Degrees of Freedom	96,896	96,893	16,659	16,656
Note:				*p<0.05; **p<0.01***; p<0.001

Appendix B

Additional Results and Tables for Chapter 4

This appendix contains additional results and tables for chapter 4. The appendix is split into two sections. The first substantiates the claim that the choice of baseline year in the analysis does not substantially affect the conclusions reached in the chapter. The second section contains results for analyses which attempt to control for unobserved confounding variables at school-level in a differences in differences approach which controls for school-level characteristics.

Section 1: Analyses with Different Baseline Years

Tables B.1 to B.6 compare estimates of the model in the 'Academies (2010-2016)' and 'Data and Analyses' sections for different baseline years, 2010 to 2015. Tables B.1 to B.3 show results for primary schools for the three dependent variables, percentage of teachers in leadership, teachers per 100 pupils, and TAs per 100 pupils, respectively. Tables B.4 to B.6 show results for secondary Academies. Table B.7 shows results from Wald chi-squared tests for the joint significance of the Academy and Academy Years variables in Tables B.1 to B.6. These results are discussed in the main text of chapter 4.

Table B.1: Primary State School Determinants of Percentage of Teachers in Leadership by Baseline Year

	Dependent variable:

	Teachers in Leadership 2016 (Percentage)					
	2010	2011	2012	2013	2014	2015
Academy	0.256	0.381	0.376	0.323	0.509	-0.017
	(0.340)	(0.363)	(0.394)	(0.472)	(0.652)	(0.255)
Academy Years	0.182*	0.149	0.139	0.043	-0.320	
	(0.092)	(0.108)	(0.139)	(0.217)	(0.423)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	152	152	152	152	152	152
N: Schools	13929	13592	13300	12876	12283	11830
Variance: Local Authorities	1.7	1.6	1.3	1	0.8	0.3
Variance: Residual	55.1	54	50.3	48.5	42.5	31
Note:				*p<0.05; ** p<0.01; *** p<0.001		

Table B.2: Primary State School Determinants of Number of Teachers Per 100 Pupils by Baseline Year

	Dependent variable:					
	Teachers Per 100 Pupils 2016					
	2010	2011	2012	2013	2014	2015
Academy	0.002	-0.005	-0.030	-0.024	-0.073	0.012
	(0.047)	(0.053)	(0.058)	(0.070)	(0.099)	(0.039)
Academy Years	-0.029*	-0.038*	-0.023	-0.011	0.041	
	(0.013)	(0.016)	(0.020)	(0.032)	(0.064)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	152	152	152	152	152	152
N: Schools	13926	13893	13437	12917	12408	11981
Variance: Local Authorities	0.048	0.103	0.045	0.04	0.038	0.014
Variance: Residual	1.057	1.165	1.09	1.06	0.979	0.726
Note:				*p<0.05; ** p<0.01; *** p<0.001		

Table B.3: Primary State School Determinants of Number of Teaching Assistants Per 100 Pupils by Baseline Year

	Dependent variable:					
	TAs Per 100 Pupils 2016					
	2010	2011	2012	2013	2014	2015
Academy	0.024	0.016	0.022	-0.044	-0.136	-0.030
	(0.055)	(0.057)	(0.062)	(0.072)	(0.097)	(0.037)
Academy Years	-0.056***	-0.057***	-0.066**	-0.026	0.045	
	(0.015)	(0.017)	(0.022)	(0.033)	(0.062)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes

N: Local Authorities	152	152	152	152	152	152
N: Schools	13909	13588	13397	12903	12396	11950
Variance: Local Authorities	0.227	0.182	0.182	0.166	0.136	0.084
Variance: Residual	1.43	1.315	1.225	1.109	0.924	0.631
Note:						*p<0.05; ** p<0.01; *** p<0.001

Table B.4: Secondary State School Determinants of Percentage of Teachers in Leadership by Baseline Year

	Dependent variable:					
	Teachers in Leadership 2016 (Percentage)					
	2010	2011	2012	2013	2014	2015
Academy	1.370**	1.383**	0.488	-0.086	-0.354	0.499
	(0.434)	(0.458)	(0.539)	(0.676)	(0.844)	(0.346)
Academy Years	-0.188*	-0.152	0.181	0.569	0.605	
	(0.084)	(0.108)	(0.171)	(0.301)	(0.521)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	150	147	147	144	143	141
N: Schools	2349	1756	1415	1247	1148	1056
Variance: Local Authorities	0.8	0.5	0.5	0.7	0.2	0.3
Variance: Residual	18.9	16.6	16.2	15.2	11.5	8.4
Note:						*p<0.05; ** p<0.01; *** p<0.001

Table B.5: Secondary State School Determinants of Number of Teachers Per 100 Pupils by Baseline Year

	Dependent variable:					
	Teachers Per 100 Pupils 2016					
	2010	2011	2012	2013	2014	2015
Academy	-0.053	-0.171	-0.088	0.018	0.135	0.044
	(0.092)	(0.110)	(0.124)	(0.161)	(0.221)	(0.098)
Academy Years	-0.006	0.035	0.004	-0.059	-0.107	
	(0.018)	(0.026)	(0.039)	(0.072)	(0.136)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	150	148	147	144	143	141
N: Schools	2349	1790	1415	1247	1148	1059
Variance: Local Authorities	0.027	0.055	0.043	0.039	0.022	0.011
Variance: Residual	0.863	0.954	0.856	0.864	0.781	0.677
Note:						*p<0.05; ** p<0.01; *** p<0.001

Table B.6: Secondary State School Determinants of Number of Teaching Assistants Per 100 Pupils by Baseline Year

	Dependent variable:					
	TAs Per 100 Pupils 2016					
	2010	2011	2012	2013	2014	2015
Academy	-0.027	-0.032	-0.071	-0.001	-0.028	-0.091
	(0.066)	(0.069)	(0.082)	(0.098)	(0.131)	(0.052)
Academy Years	-0.030*	-0.019	-0.005	-0.039	-0.017	
	(0.013)	(0.016)	(0.026)	(0.044)	(0.081)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N: Local Authorities	150	147	147	144	143	141
N: Schools	2342	1743	1409	1245	1147	1057
Variance: Local Authorities	0.044	0.018	0.02	0.016	0.004	0.001
Variance: Residual	0.418	0.369	0.369	0.32	0.275	0.195
Note:						*p<0.05; ** p<0.01; *** p<0.001

Table B.7: Wald Chi-Squared Test of Joint Significance Statistics and Significance Levels for Academy and Academy Type Variables in Tables B.1 to A.6

			Baseline Year				
Dependent Variable	Phase	Type	2010	2011	2012	2013	2014
Teachers in Leadership (%)	Primary	Academy	28.8***	24.3***	17.2***	4.1	0.6
	Secondary	Academy	11.5**	17.4***	18.1***	17.8***	5.1
Teachers Per 100 Pupils	Primary	Academy	20.1***	27.8***	12.3**	2.4	0.6
	Secondary	Academy	3.9	2.4	1.8	3.0	0.7
TAs Per 100 Pupils	Primary	Academy	46.4***	42.3***	35.3***	10.0**	4.8
	Secondary	Academy	33.9***	12.3**	5.2	4.5	1.5

Note: *p<0.05; ** p<0.01; *** p<0.001

Section 2: Differences in Differences Analysis

The differences in differences approach controls for the effect of both time and unit-specific factors, here years and schools, using fixed effects. The aim is to control for unobserved school-level factors which could result in those schools which became Academies diverging from LA maintained schools in the workforce dependent variables for reasons other than becoming an Academy *per se*. Using school-level fixed effects (α_i in equation B.1) controls for differences in the characteristics of schools, including baseline values of the dependent variable. Using year fixed effects (γ_t in equation B.1) controls for trends affecting all schools over time. The approach exploits the assumption that the treated group of units (schools that became Academies) would have followed the same time trend in the dependent variable had they not been treated (become Academies). Therefore, the dummy variable for school *i* being an Academy in year *t* in equation B.1 ($Academy_{it}$), is an estimate for the time-averaged impact of becoming an Academy on the percentage of teachers without QTS in a school's workforce. The model also controls for time-varying variables at school-level, X_{kit}. Results are reported in Table B.8.

$$Y_{it} = Academy_{it} + \alpha_i + \gamma_t + \sum_{k=1}^{n} \theta_k X_{kit} + \varepsilon_{it} \quad \text{(B.1)}$$

An alternative specification allowing for unit-specific time trends through the inclusion of an interaction between school-level fixed effects and a continuous year variable allows for the assumption of parallel trends to be relaxed. For brevity, results are not reported here, but interpretations of Academy coefficients are not substantively different from Table B.8.

Table B.8 Differences in Differences Estimates of Determinants of Workforce Characteristics in Primary and Secondary State Schools (2010-2016)

	Dependent variable:					
	Teachers in Leadership Percentage		Teacher-Pupil Ratio		TA-Pupil Ratio	
	(1)	(2)	(3)	(4)	(5)	(6)
Academy	0.694***	0.315**	-0.048**	-0.084***	-0.047*	-0.051**
	(0.123)	(0.097)	(0.016)	(0.026)	(0.018)	(0.017)
Year Dummies (Ref. = 2010)						
2011	-0.064	-0.058	-0.080***	-0.194***	0.355***	0.507***
	(0.049)	(0.058)	(0.009)	(0.025)	(0.009)	(0.014)
2012	-0.236***	-0.046	0.026***	0.021	0.510***	0.550***
	(0.056)	(0.077)	(0.008)	(0.019)	(0.010)	(0.017)
2013	-0.378***	0.173	0.036**	0.049*	0.626***	0.578***
	(0.067)	(0.097)	(0.011)	(0.024)	(0.011)	(0.018)
2014	-0.102	0.645***	0.072***	0.024	0.783***	0.566***
	(0.076)	(0.102)	(0.011)	(0.024)	(0.012)	(0.019)
2015	0.055	0.797***	0.078***	-0.052*	0.867***	0.505***
	(0.083)	(0.108)	(0.014)	(0.026)	(0.014)	(0.020)
2016	-0.026	0.766***	0.070***	-0.183***	0.888***	0.421***
	(0.094)	(0.116)	(0.014)	(0.028)	(0.015)	(0.021)
Total Pupils	-0.015***	-0.004***	-0.004***	-0.002***	-0.002***	-0.001***
	(0.001)	(0.001)	(0.0002)	(0.0002)	(0.0002)	(0.0001)
Percentage Pupils Aged Over 16		-0.059*		0.022*		-0.006
		(0.027)		(0.009)		(0.004)
Percentage Pupils Eligible for Free School Meals	-0.028***	0.002	-0.006*	0.003	-0.006***	0.006**
	(0.007)	(0.012)	(0.002)	(0.004)	(0.002)	(0.002)
Percentage Pupils Speaking English as Additional Language	0.014	0.030**	0.005***	-0.003	0.002	-0.0005
	(0.009)	(0.011)	(0.001)	(0.003)	(0.001)	(0.002)
Ofsted Rating (Ref. = Outstanding)						
Ofsted Good	-0.086	-0.221	0.033	-0.034	0.050**	0.001
	(0.117)	(0.119)	(0.017)	(0.032)	(0.018)	(0.018)
Ofsted Satisfactory	0.091	-0.332*	0.092***	0.021	0.073***	0.039
	(0.130)	(0.141)	(0.020)	(0.038)	(0.020)	(0.022)
Ofsted Inadequate	0.047	-0.329	0.086*	0.021	0.130***	0.056
	(0.203)	(0.206)	(0.036)	(0.054)	(0.033)	(0.033)
Fixed Effects for Schools	Yes	Yes	Yes	Yes	Yes	Yes
Degrees of Freedom	97,290	98,358	97,879	16,650	16,757	16,633

Note: *p<0.05**p<0.01***p<0.001

Appendix C

Additional Results and Tables for Chapter 5

This appendix contains additional results and tables for chapter 3. Table C.1 contains the full results from Table 5.3 in the main text. Models 1 to 4 in Table 5.3 correspond, respectively, with Models 1, 3, 5, and 7 in Table C.1. The even numbered models in Table C.1 are alternative forms of the preceding odd numbered model (i.e. Model 2 is the alternative form of Model 1) which include alternative measures of delocalization and commercialization. These alternative measures are mentioned in the main text in the final paragraph of the 'Determinants of Academy Spending' section.

Table C.1 Determinants of Academy Spending on Teaching Staff and Consultancy

	Teaching Staff				Consultancy			
	Primary	Primary	Secondary	Secondary	Primary	Primary	Secondary	Secondary
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years in Academy Trust	0.028	0.039	-0.048	-0.045	0.001	-0.0002	-0.005	-0.005
	(0.071)	(0.076)	(0.059)	(0.061)	(0.012)	(0.013)	(0.012)	(0.012)
Multi-Academy Trust	1.740***	1.621**	1.109**	1.110**	0.109	0.094	0.060	0.072
	(0.477)	(0.533)	(0.387)	(0.413)	(0.071)	(0.079)	(0.071)	(0.075)
Number of Academies in Trust	0.023	-0.004	-0.006	-0.046	0.007	0.005	0.011*	0.011
	(0.040)	(0.049)	(0.031)	(0.037)	(0.006)	(0.007)	(0.005)	(0.006)
Distance School to Trust (km)	0.006		0.002		0.001		-0.001	
	(0.004)		(0.004)		(0.001)		(0.001)	
Distance Between Academies in Trust (km)		0.013		0.016		0.001		0.000

		(0.014)		(0.009)		(0.002)		(0.001)
Links to Other Companies	0.017		0.000		-0.001		-0.001	
	(0.016)		(0.011)		(0.002)		(0.002)	
Links to Other Companies in RERBA Category		0.030		0.031		-0.002		-0.009
		(0.048)		(0.033)		(0.007)		(0.006)
Sponsored Academy (Ref. = Converter)	-0.259	-0.283	-1.190**	-1.388**	-0.032	-0.032	-0.014	-0.027
	(0.244)	(0.258)	(0.416)	(0.432)	(0.042)	(0.044)	(0.085)	(0.088)
Free School (Ref. = Converter)	-2.247***	-2.424***	-2.137***	-2.433***	-0.243*	-0.251*	0.240*	0.254*
	(0.656)	(0.664)	(0.580)	(0.606)	(0.108)	(0.109)	(0.114)	(0.119)
Religious School (Ref. = No Religious Character)	-0.333	-0.261	-0.180	-0.223	0.113*	0.117*	-0.038	-0.080
	(0.328)	(0.361)	(0.409)	(0.435)	(0.053)	(0.057)	(0.079)	(0.084)
Total Pupils	0.009***	0.009***	0.004***	0.004***	-0.001***	-0.001***	-0.0003***	-0.0003***
	(0.001)	(0.001)	(0.0005)	(0.0005)	(0.0002)	(0.0002)	(0.0001)	(0.0001)
Total Pupils Eligible for Free School Meals	-0.025***	-0.025***	-0.012***	-0.011***	0.002***	0.002***	0.001**	0.001*
	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)	(0.0004)	(0.0005)
Total Pupils Speaking English as Additional Language	-0.004**	-0.004**	0.001	0.001	0.0004	0.0003	0.00003	0.00002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Total Pupils with Special Educational Needs	-0.089***	-0.083***	-0.020	-0.017	-0.003	-0.005	0.002	0.001
	(0.020)	(0.021)	(0.012)	(0.012)	(0.003)	(0.004)	(0.002)	(0.002)
Rural/Urban (Ref. = Mainly Rural)								
Urban with Major Conurbation	-2.406***	-2.684***	0.140	-0.103	0.247**	0.268**	0.100	0.132
	(0.513)	(0.543)	(0.596)	(0.631)	(0.084)	(0.085)	(0.106)	(0.113)
Urban with Minor Conurbation	-2.330**	-2.483**	-0.511	-0.553	-0.012	-0.021	-0.168	-0.134
	(0.789)	(0.860)	(1.017)	(1.065)	(0.131)	(0.136)	(0.181)	(0.191)
Urban with City and Town	-1.792***	-1.964***	-1.267*	-1.352*	0.130	0.177*	0.105	0.134
	(0.404)	(0.432)	(0.527)	(0.557)	(0.068)	(0.071)	(0.098)	(0.104)
Urban with Significant Rural	-0.979*	-1.142*	-0.918	-1.295*	0.152*	0.212**	0.090	0.118
	(0.441)	(0.467)	(0.603)	(0.635)	(0.074)	(0.077)	(0.115)	(0.122)
Largely Rural	-1.172**	-1.365**	-0.027	-0.171	0.036	0.077	-0.054	-0.051
	(0.436)	(0.466)	(0.606)	(0.639)	(0.074)	(0.078)	(0.115)	(0.122)
N: Local Authorities	149	148	150	150	149	148	150	150
N: Academy Trusts	1521	1237	1464	1339	1521	1237	1464	1339
N: Schools	4114	3621	2259	2112	4114	3621	2259	2112
Variance: Local Authorities	1.647	1.791	1.888	1.921	0.042	0.027	0.008	0.010
Variance: Academy Trusts	41.194	40.845	16.816	17.955	0.724	0.701	0.255	0.261

Variance: Residual	25.189	25.851	27.710	28.716	0.797	0.808	1.414	1.468

Note: $^{*}p<0.05$; $^{**}p<0.01$; $^{***}p<0.001$

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