

# The impact of academies on educational outcomes

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## About the Education Policy Institute

The Education Policy Institute is an independent, impartial and evidence-based research institute that aims to promote high quality education outcomes, regardless of social background.

Education can have a transformational effect on the lives of young people. Through our research, we will provide insights, commentary and critiques about education policy in England - shedding light on what is working and where further progress needs to be made. Our research and analysis will span a young person's journey from the early years through to higher education and entry to the labour market. Because good mental health is vital to learning, we also have a dedicated mental health team which will consider the challenges, interventions and opportunities for supporting young people's wellbeing.

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## Foreword

The Education Policy Institute is an independent, impartial and evidence based research institute that aims to promote high quality education outcomes for all, through analysis that both informs and influences the policy debate in England and internationally.

This paper looks at the impact of academies on educational outcomes, using the EPI's own analysis, combined with research undertaken by a team from the London School of Economics – Andy Eyles, Gabriel Heller Sahlgren, Stephen Machin, Matteo Sandi and Olmo Silva. We are very grateful to the LSE team for their co-operation on this project.

The academies programme has been one of the largest reform programmes in English education over the last 20 years, involving significant change in the structure of the education system. These changes have been highly controversial, with the impacts on attainment and social segregation being contested – not least by politicians. Unfortunately, the Department for Education has made only limited attempts to publicly monitor and rigorously evaluate the changes it has overseen – which is why controversy and lack of clarity have persisted for so long.

The LSE and EPI research which we summarise here helps to inform the debate about the performance of academies, and enables this debate to be underpinned by evidence rather than by hunch, assertion or potentially misleading statistics.

Our hope is that this research will be of value to analysts, commentators and policy-makers in both England and abroad – where there is presently a keen interest in structural reform of schools systems.

At EPI, we intend to continue publishing data on the performance of MATs and local authorities, and we will carry out more work to understand the features of effective groups of schools.

As ever, we welcome comment on the analysis and conclusions of this report, and this will help inform future work in this area.

Rt. Hon. David Laws

Executive Chairman

Education Policy Institute

# Executive summary

## Background

The expansion of the academies programme has been one of the biggest changes to the English education system in a generation. 3.4 million children are now taught in either a sponsored or a converter academy. Those children will have been educated in schools with different governance arrangements, potentially a different curriculum and different approaches to teaching practices, structures and qualifications.

This report brings together research conducted in 2016 by both the London School of Economics and the Education Policy Institute on both the performance of different types of academies as well as that of Multi-Academy Trusts and local authorities.

## The Evidence

Our principal finding through this extensive study is that academies do not provide an automatic solution to school improvement. As we demonstrate throughout this report, there is significant variation in performance at both different types of academies and Multi-Academy Trusts.

## Sponsored academies

As we discuss in Chapter 2, the LSE research shows that the early sponsored academies, which opened under the Labour government between 2002 and 2010, had, on average, a positive effect on pupils' end of secondary school attainment. For these academies, we find that:

- There is an overall positive effect, equivalent to a pupil achieving one grade higher in each of five GCSE subjects; and, the longer a pupil has been in the academy, the greater the improvement in his or her GCSE scores.
- There is, however, significant variation in the performance of the pre-2010 sponsored academies. We find that the difference in improvement between the best and worst of these academies ranges from improvements of around one GCSE grade in seven subjects to reductions of around one GCSE grade in four subjects.
- Once a pre-2010 sponsored academy has been open for four years, pupils who attended that academy were around 30 per cent more likely to attend a non-Russell Group university. We find no effect, however, on enrolment to Russell Group universities.

In the case of sponsored academies that opened both before and after 2010, our analysis also finds that schools attracted higher performing pupils (as measured by end of primary school test scores) once they became an academy. This suggests that these academies become more attractive to parents of relatively higher attaining pupils than had previously been the case.

For the academies that opened after 2010, the evidence on the impact on GCSE attainments is less conclusive.

Chapter 3 reports the LSE findings on the impact of sponsor academies that were established between 2010 and 2014 under the Coalition government. It shows an initial improvement in results in the year prior to the school becoming an academy (equivalent to around one GCSE grade in one

subject). This increases further in the year during which the school becomes a sponsored academy, but then that improvement tails off over the following four years. The analysis does not enable us to identify the cause of this initial improvement, or the subsequent tapering off, but possible reasons could include intensive and focused action taken by schools in order to avoid becoming an academy or informal intervention from academy sponsors in the knowledge that the schools would soon be converting.

## Converter academies

In 2010, the Coalition government passed a new law – the Academies Act – which allowed higher performing schools to convert to academy status, giving them greater autonomy and freedom from local authority control.

As summarised in Chapter 4, the LSE research finds that:

- The effect of these newer converter academies on GCSE attainments is far smaller than the effects of the pre-2010 sponsored academies and is, in some cases, undetectable.
- The academies that were rated as ‘outstanding’ by Ofsted in the latest inspection prior to June 2010 – when the Academies Act was passed – improved pupils’ attainment by almost one grade in each of two subjects.
- There is variation in the performance of outstanding converter academies – from improvements of one grade higher in each of four GCSEs to reductions of one grade lower in one GCSE.
- The LSE research finds no evidence of a positive effect on GCSE attainments of converter academies which were rated as ‘good’ or ‘satisfactory / requires improvement’.

## Multi-Academy Trusts

We then consider whether Multi-Academy Trusts (MATs) are having a discernible impact on outcomes for young people. In Chapter 5, we review the analysis produced by Jon Andrews, for the Education Policy Institute, which compares the performance of MATs with local authorities at both primary and secondary phases.

We find considerable variation in the performance of both MATs and local authorities. Indeed, the variation within MATs and local authorities is far greater than the variation between the two groups. While many of the highest performing school groups at primary and secondary level are MATS, MATs are also over-represented amongst the lowest performing school groups.

## Conclusion and Recommendations

The main conclusion that we draw from this research is that academies have not provided a panacea to school improvement. In the early days of the programme, potentially due to additional resources and improved leadership and governance, sponsored academies recorded a discernible positive impact on pupils’ attainment. This has not, however, been sustained in new academies as the programme has expanded since 2010. With the exception of outstanding convertor academies, we do not observe any visible, positive impact on outcomes amongst any other type of academy (both sponsored and convertors).

The significant variation in performance between different types of academies and within Multi-Academy Trusts should be explored further. It is evident that the structure of the school is less meaningful to the outcomes of pupils than what is happening within those schools. Features of effective practice and process should be identified through rigorous analyses in order to draw the right conclusions from this programme. Such research should also consider whether and to what extent academies are using their greater freedoms in order to drive improvements.

This first part of this report looks solely at the performance of secondary academies. As the number of primary academies increases, a logical next step would be to consider whether we see any evidence of improvement by the end of Key Stage 2.

## Chapter 1: The policy context

The academies programme has been one of the biggest changes to the English education system of the last few decades.

Introduced in 2002 under the then Labour government, academies were initially envisaged as raising educational standards in disadvantaged communities and areas of low performance. This first tranche of academy schools can be thought of as a school improvement programme targeted at the worst performing schools in England. By taking these failing schools out of local authority control, bringing in sponsors (including businesses, faith groups, voluntary organisations and philanthropists) and introducing greater freedoms for head teachers and new governance arrangements, the academies programme was aimed at improving educational outcomes through an operating model involving autonomy. In a report published by the Education Policy Institute's predecessor organisation, CentreForum, the then Schools Minister and architect of the academies programme, Lord Adonis, described academies as *'injecting the best of the DNA of private schools into the state-funded sector'*.<sup>1</sup> By the end of the Labour Government in May 2010, there were 203 academies in England. The vast majority of these had replaced previously failing local authority schools.

Between 2002 and 2010, some sponsors took on several schools, and so the emergence of multi-academy trusts began. By August 2010, seven sponsors (Ark, E-ACT, United Learning Trust, the Harris Federation, the Ormiston Trust, Oasis and the Academies Enterprise Trust) sponsored six or more academies. United Learning Trust sponsored the largest number, at seventeen academies.<sup>2</sup>

### The expansion of the academies programme since 2010

Since May 2010, the academies programme has significantly expanded and evolved. One of the first pieces of legislation introduced by the Coalition Government was the Academies Act 2010, which enabled all primary, secondary and special schools to apply to become an academy, with schools rated as 'outstanding' by Ofsted to be considered first. Over time this expanded to allow schools rated 'good with outstanding features' to convert and any school, irrespective of Ofsted grade, to convert if it partnered with an excellent school or a trust with a strong track record of improvement. The Coalition Government also continued with the forced academisation of low performing schools.

By the end of March 2016, there were 5,459 academies, including free schools, university technical colleges and studio schools. That month also saw the Education and Adoption Act receive Royal Assent, which required any school deemed by Ofsted as 'inadequate' – meaning it has serious weaknesses or requires special measures – to be issued with an academy order. The Act also gave the Secretary of State, working through the Regional Schools Commissioners, the power to intervene in 'coasting schools'.

Convinced that the academy system was now 'sufficiently mature', the Department for Education set out its vision that same month that every school should be an academy (or in the process of becoming an academy) by 2020.<sup>3</sup> The Department also stated that most schools would form or join a

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<sup>1</sup> J. Astle and C. Ryan (eds.), 'Academies and the Future of State Education', CentreForum, 2008, p.x.

<sup>2</sup> National Audit Office, 'The Academies Programme', September 2010, p.14.

<sup>3</sup> Department for Education, 'Educational Excellence Everywhere', March 2016, p.15.

multi-academy trust, with an expectation that there would be 'many more' MATs with oversight of around 10 to 15 academies.

The announcement requiring all schools to become academies was highly controversial and faced strong resistance in Parliament. As a result, in early May 2016, the Secretary of State announced a U-turn on the universal conversion programme, stating that the Department would no longer seek to require all schools to become academies. Instead, it would introduce new legislative powers to trigger an area-wide conversion to academies if a local authority was deemed to be under-performing or if it was no longer financially viable for the authority to run its own schools (because a critical mass has already converted to academy status).<sup>4</sup> This proposal was, in-turn, abandoned in the autumn of that year.

By June 2017 there were 4,541 converter and 1,857 sponsored academies and over 400 free schools, UTCs and studio schools open in England.

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<sup>4</sup> Department for Education, 'Next steps to spread educational excellence everywhere announced', 6 May 2016: <https://www.gov.uk/government/news/next-steps-to-spread-educational-excellence-everywhere-announced>.

## Chapter 2: The impact of pre-2010 sponsored academies on educational attainment

By Andrew Eyles, Gabriel Heller Sahlgren, Stephen Machin, Matteo Sandi and Olmo Silva

### Summary of findings

In this section, we document the strong positive effects on GCSE attainments that academies sponsored under the Labour government gained – in the order of around **one grade in each of five GCSE subjects four years after conversion**.

But we also find considerable variation amongst this group of academies. While almost two thirds of pre-2010 sponsored academies showed improvements in their GCSE outcomes (up to around one grade in each of seven subjects), just over a third of those academies performed worse than the control group.

There are also significant changes to the intake of pupils once an academy has opened, suggesting that these academies start to attract relatively higher attaining pupils once established. This trend continues for the sponsored academies that converted after 2010 (albeit to a lesser extent) as we explore in the next chapter.

Finally, there is also evidence that more children went to university from these sponsored academies relative to the control group. While small in numbers, this finding is promising.

### How the performance of pre-2010 sponsored academies is assessed

In studying the performance of schools that were sponsored under the Labour government, we considered 208 schools in our sample. Although 244 schools were actually approved to be sponsored academies under the Labour government, 36 have been excluded from the sample – these are a small number of schools that were previously city technology colleges (CTCs, which were already operating in a highly autonomous mode) and schools that were either conversions from private schools or newly built schools to which we cannot apply our research design (because of the lack of pre-conversion data).<sup>5</sup>

Of the 208 schools remaining, this analysis compares the performance of 152 schools which were sponsored and running as an academy before the general election in May 2010 (our treatment group) with 56 sponsored academies that were approved under the Labour government but opened after May 2010, under the Coalition government. This group of 56 academies acts as the control group.

At the beginning of the analysis period, both the treatment group and the control group featured similar characteristics in terms of pupils' prior attainment at Key Stage 2, outcomes at Key Stage 4, proportion of pupils eligible for free school meals and the proportion of pupils with special educational needs. This means that the pupils in both sets of schools are comparable for the

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<sup>5</sup> A very small number of schools (seven) were also excluded because of lack of complete data.

purpose of this analysis. This is shown in the table below and a detailed explanation of the methodology applied is set out in **Annex A**.

**Table 2.1: Characteristics of pre-2010 sponsored academies in 2001/02 (the beginning of the observation period)**

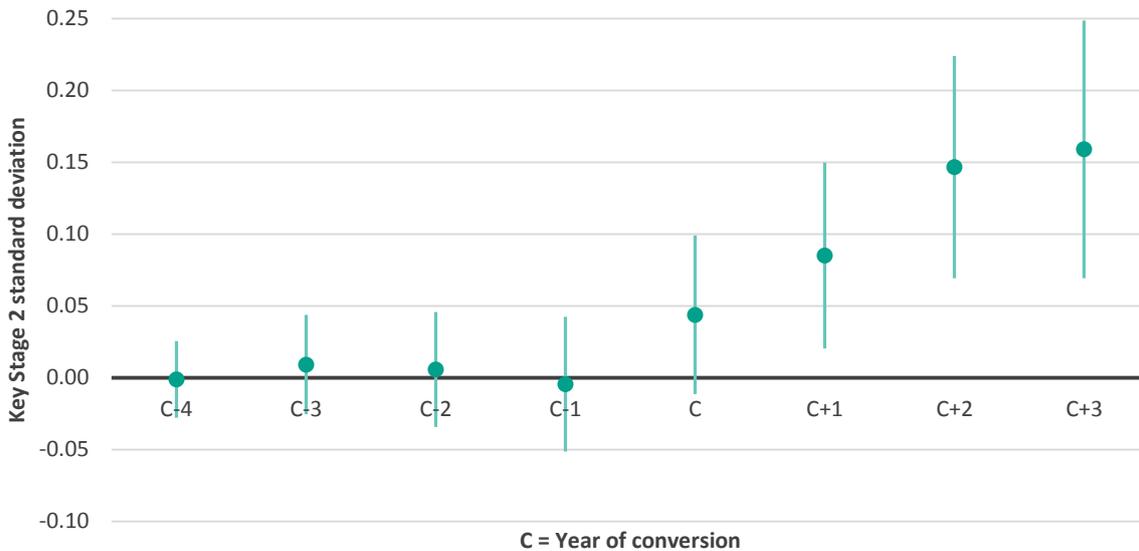
	Key stage 2 points score	Key stage 4 points score	Proportion getting 5 or more A*-C GCSEs or equivalents	Proportion eligible for free school meals	Proportion special educational needs	Number of Schools
All Secondary Schools	63.25	40.22	49.9%	14.0%	17.6%	3134
All Secondary Schools Except 208 Sample Schools	63.82	40.92	51.6%	13.2%	17.0%	2926
Treatment Academies	55.79	30.43	27.3%	32.0%	27.2%	152
Control To Be Academies	56.56	31.22	28.5%	28.2%	28.0%	56
Treatment – Control Difference (standard error of difference)	-0.771 (0.812)	-0.786 (0.741)	-0.012 (0.016)	0.044 (0.022)	-0.009 (0.020)	

## The impact of pre-2010 sponsored academies

The first thing we look at is whether the intake of pupils changed after schools became sponsored academies. Figure 2.1 shows a discernible positive change in the prior attainment of pupils (measured by end of primary school pupil performance) following the conversion to academy status relative to the control group.<sup>6</sup> In the year of conversion (C), the average Key Stage 2 score of pupils in year 7 rises slightly. Starting from the year of conversion, the effect increases over time: three years after conversion, pupils' prior attainment appears 0.159 of a standard deviation higher than it was five years prior to conversion.

<sup>6</sup> All figures that present 'event study' evidence of the impact of academisation in the years leading up and following conversion display point estimates (green dots) and 95% confidence intervals (vertical bars) coming from regressions presented and discussed in Appendix A to this booklet.

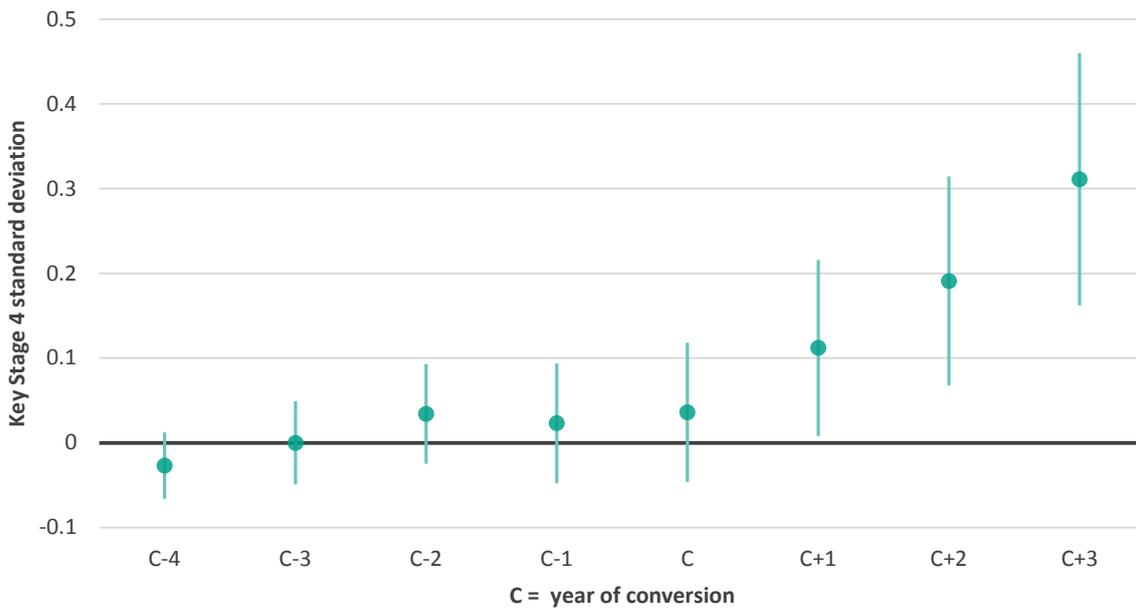
**Figure 2.1: Changes in intake after conversion: pupils prior (Key Stage 2) attainment**



This change in intake of pupils of sponsored academies creates a problem when trying to identify any causal effects of attending an academy as it means the treatment group (the 152 sponsored academies) now has a different pupil composition to that of the control group (the remaining 56 schools). To deal with this, for both treatment and control schools, the analysis includes only the attainment of pupils who were enrolled in the school before it became an academy. We call this group the ‘legacy enrolled pupils’. This means that our results are not contaminated by an influx of higher attaining pupils into our observed group of sponsored academies. This approach is similar to the ‘grandfathering’ method used by Adulkadiroglu et al. (2016) to study the effects of charter ‘take-overs’ in the US context.

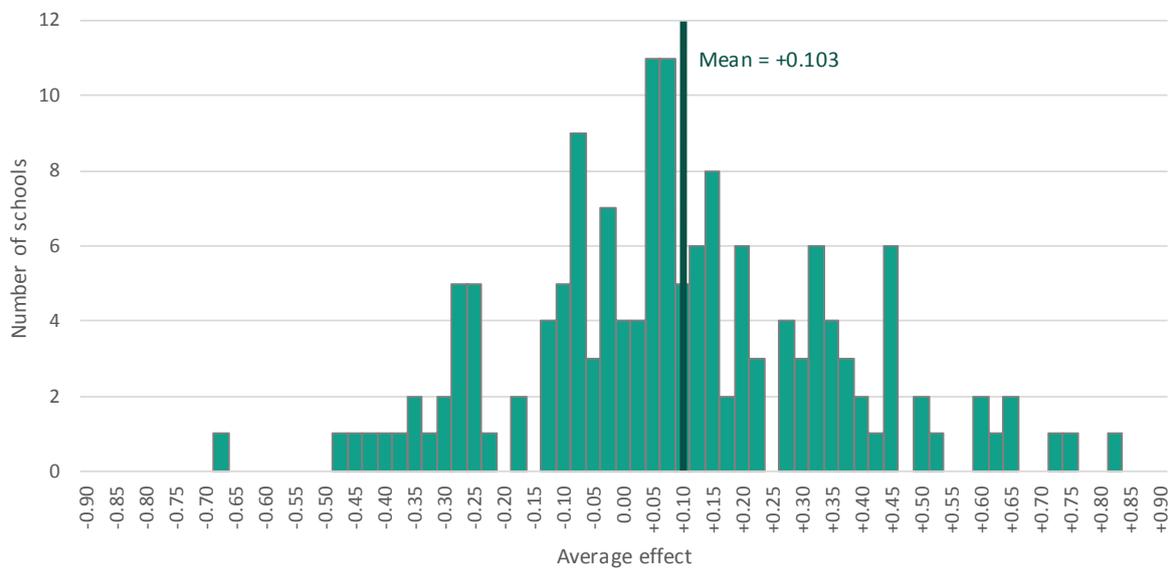
When focussed on the legacy enrolled pupils, the analysis finds that pupils who attended academies that were sponsored prior to 2010 showed significantly improved Key Stage 4 results compared to the control group. On average, this improvement is equivalent to around one grade in 2 GCSE subjects. The positive effect also increases over time. As shown in Figure 2.2, the improvement in the year of conversion is 0.036 of a standard deviation, or more than half a grade in one GCSE subject (although this effect is not statistically significant), increasing to 0.311, or one grade in each of five GCSE subjects, in the fourth year of operating as an academy (and clearly statistically significant). This indicates that the longer a pupil has been in the academy, the greater the improvement observed in his or her results, relative to the control group.

**Figure 2.2: The impact of the pre-2010 sponsored academies on Key Stage 4 outcomes**



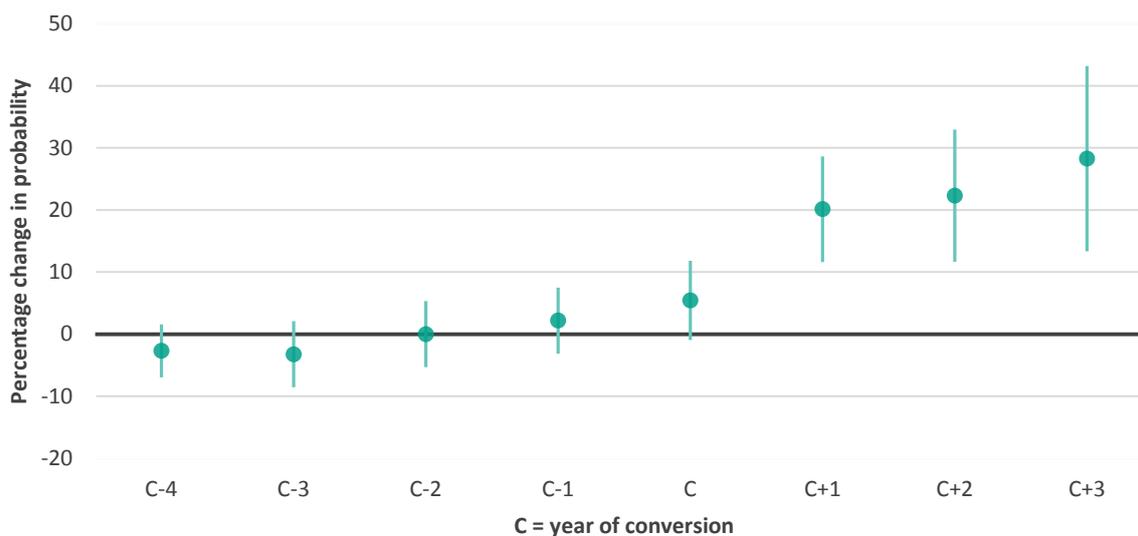
But there is also wide variation in performance across this group of sponsored academies. The bottom deciles and quartile (ranked by Key Stage 4 performance) showed a decrease in pupil scores by 25 and 6 per cent of a standard deviation, respectively on average since opening. In GCSE grade equivalents, **the difference in improvement between the best and worst pre-2010 sponsored academies ranges from improvements of around one grade in each of seven subjects to reductions of around one grade in each of four subjects.**

**Figure 2.3: The variation of performance in pre-2010 sponsored academies**

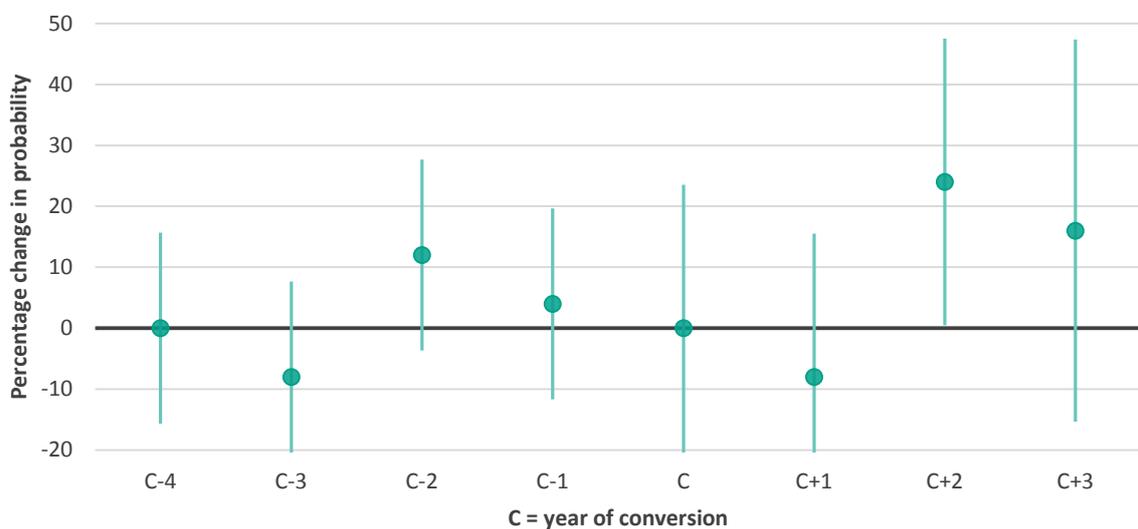


Because the earliest sponsored academies had been open for longer than seven years, we are also able to assess whether attendance at a pre-2010 sponsored academy has an effect on the likelihood of pupils entering higher education.<sup>7</sup> **We find that, four years after opening, pupils who attended one of these academies are around 30 per cent more likely to enrol in a non-Russell Group university compared to the control group.** The analysis does not find any effect on enrolment into Russell Group universities. This is shown in Figure 2.4.

**Figure 2.4: The impact of conversion on the likelihood of attending a non-Russell Group university (from a pre-2010 sponsored academy)**



**Figure 2.5: The impact of conversion on the likelihood of attending a Russell Group university (from a pre-2010 sponsored academy)**



<sup>7</sup> For this analysis, we compare outcomes of the 94 academies that opened between 2002/3 to 2008/9 with those of the remaining 114 academies that were yet to open under the Labour government.

## Chapter 3: The impact of post-2010 sponsored academies on educational attainment

### Summary of findings

This section documents the effect of post-2010 conversion to sponsored academies on pupil intake and GCSE attainments.

Our evidence points to an initial (and significant) improvement in GCSE scores in the year prior to and after becoming a sponsored academy. However, we cannot attribute this trend to anything that may have been implemented by the academy sponsor – as it, in part, occurred before academisation. It may however be a result of the incentives generated by the academisation policy, which the government may well argue is a success in itself. Alternatively, it could be that these schools were improving in any case (perhaps as a result of competitive pressures or other interventions targeting schools likely to be subject to ‘forced’ sponsored academy conversion), and so the fact that they became academies is not relevant. Further analysis is required to try and establish whether there is a direct, causal impact of a school becoming a sponsored academy on attainment.

We also find some evidence of changes in pupil intake – although quantitatively in terms of magnitude this is less marked than for pre-2010 sponsored academies.

### How the performance of post-2010 sponsored academies is assessed

As with the pre-2010 sponsored academies, we use a similar research design to identify the effects of enrolment into the academies that were sponsored after May 2010 under the Coalition government. The ‘treatment’ group in this instance consists of 205 academies that were approved to be sponsored after the May 2010 General Election and opened by December 2014. We compare these schools with a control group of 49 sponsored academies that opened after this period. When focussing on Key Stage 4 outcomes, only pupils who took their GCSEs or equivalents by the summer of 2015 are included in the analysis in both treatment and control groups.

While the post-2010 sponsored academies had more deprived pupils (measured by their eligibility for free school meals) than the average for all secondary schools (18 per cent compared to 13 per cent) in 2005/06, when our observation window commences, the deprivation levels are still considerably lower than those observed in the pre-2010 sponsored academies (at 32 per cent). Five years prior to becoming an academy, the Key Stage 2 results of the treatment group are more than 20 per cent of a standard deviation below the national average and their GCSE results 30 per cent of a standard deviation below (i.e., one grade lower in five subjects). In general, the control group performed better than the treatment group at the start of our observation window, which is consistent with the government policy to intervene in the most underperforming schools first.

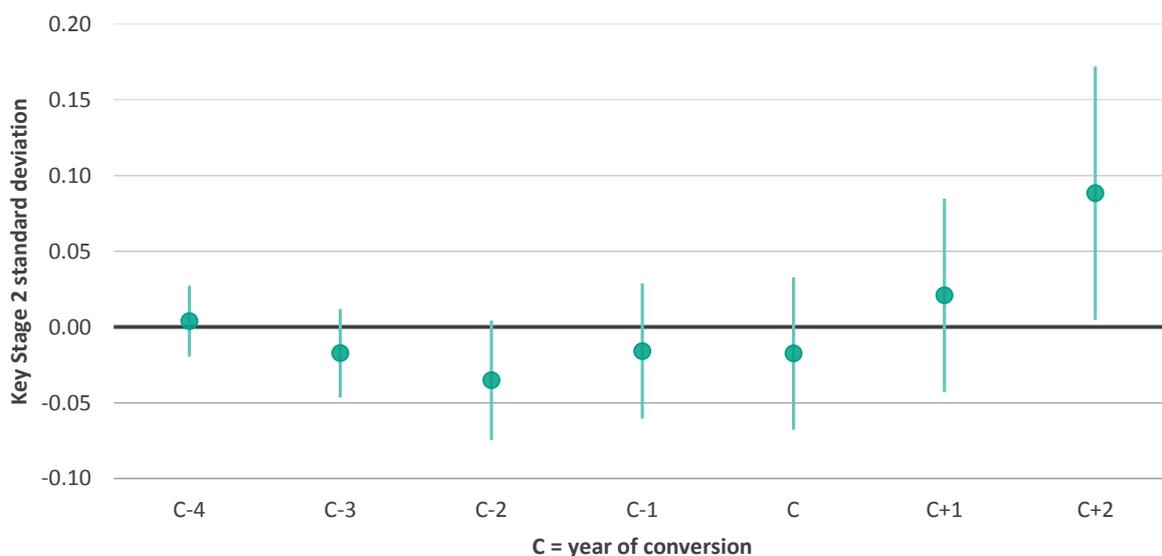
**Table 3.1: Characteristics of post-2010 sponsored academies in 2005/06**

	Standardised Key stage 4 points score	Standardised Key stage 2 points score	Proportion eligible for free school meals	Proportion special educational needs	Proportion native English speaker	Number of Schools
All Secondary Schools	0.00	0.00	13.2%	17.0%	89.5%	2926
All Secondary Schools except 254 sample schools	0.03	0.02	12.8%	16.7%	89.3%	2672
Treatment Academies	-0.31	-0.23	17.7%	21.0%	91.4%	205
Control To Be Academies	-0.19	-0.18	16.4%	19.0%	92.6%	49
Treatment – Control Difference (standard error of difference)	-0.128 (0.037)	-0.054 (0.037)	0.014 (0.019)	0.020 (0.014)	-0.012 (0.024)	

### The impact of post-2010 sponsored academies

As with the pre-2010 sponsored academies, we observe a positive shift in the prior attainment of incoming pupils after a school becomes an academy. For the post-2010 sponsored academies, the Key Stage 2 scores of pupils are almost nine per cent of a standard deviation higher two years after the change to academy status (compared to the control group). This is equivalent to a shift of the test scores of pupils attending the sponsored academy from the bottom 43<sup>rd</sup> percentile to the bottom 45<sup>th</sup> percentile of the national distribution of Key Stage 2 attainments.

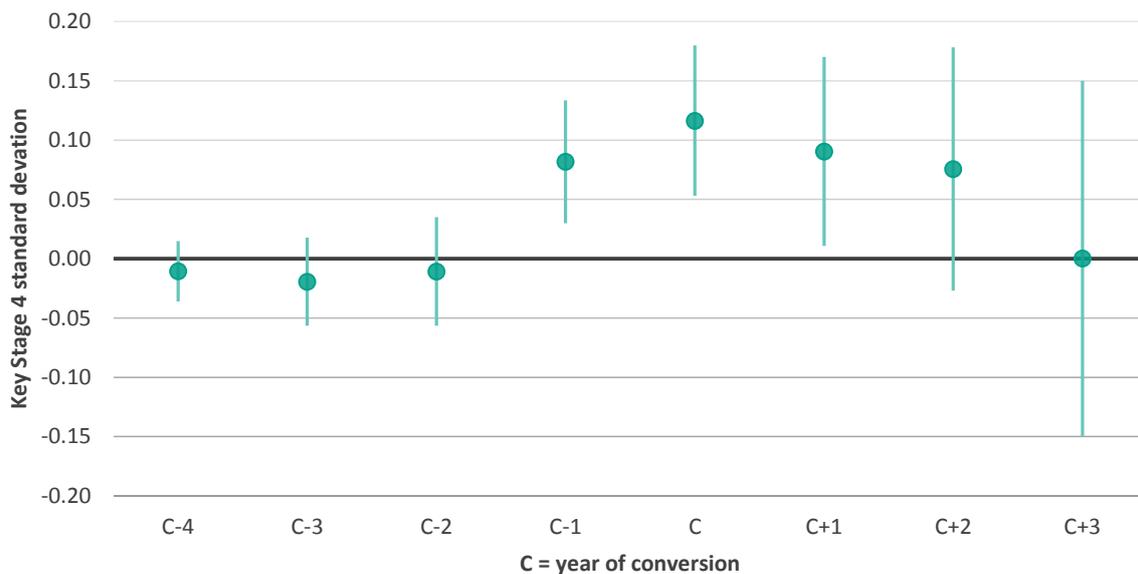
**Figure 3.1: Changes in intake after conversion: pupils’ prior (KS2) attainment**



As in the analysis of pre-2010 sponsored academies, changes in intake of pupils mean we cannot study the effect of academy enrolment on Key Stage 4 outcomes for pupils who join academies after conversion. Once again, we by-pass this issue by only considering pupils who were enrolled in treatment and control schools before they became academies – i.e., using the same legacy enrolment methodology discussed above.

In considering the impact that the post-2010 sponsored academies have had on outcomes at Key Stage 4, the findings are substantially less conclusive than for the pre-2010 sponsored academies. The graph below shows how the Key Stage 4 outcomes of post-2010 sponsored academies compare to the control group from four years prior to conversion, to three years after conversion.

**Figure 3.2: The impact of the post-2010 sponsored academies on Key Stage 4 outcomes**



The first interesting point to note is that we observe a sudden jump in Key Stage 4 results of pupils in the year immediately before conversion to academy status, equivalent to approximately one GCSE grade in one subject. While we cannot be certain about the specific causes of this sudden improvement, there are a number of factors that might explain it. The spike in results could suggest that, in these schools, there was an intensive and targeted focus on Key Stage 4 pupils in the year (perhaps years) immediately prior to becoming an academy. This could be driven by school leaders wanting to avoid becoming an academy by demonstrating improved results or perhaps wanting to become attractive to a successful chain.

Another explanation is that some of these schools, after years of poor performance, have taken action to raise standards under pressure from Ofsted and other bodies. This could include the appointment of a new head teacher or new teaching policies, for example. These interventions may have then had a positive effect on results. Finally, as displayed in Table 3.1, the treatment schools had lower performance at the beginning of our observation window; the uptick in performance may thus be mean reversion – the statistical tendency of variables to revert to the mean over time. In conclusion, while the research finds a distinct improvement in results in that pre-conversion year, we cannot attribute it to the academies policy without further research.

We then find that the average improvement in Key Stage 4 results rises again to approximately one grade higher in two subjects in the year in which a post-2010 sponsored academy converts.

However, this comparative improvement then starts to fall over the subsequent three years until it is back to zero by the fourth year of becoming an academy.

Because schools in the treatment group start to improve in the year before becoming a sponsored academy, this also means that it is not possible to determine whether the improvement following academisation, or the decline a couple of years later, is due to academisation per se. Indeed, the dip in performance a couple of years after academisation could also merely be the result of the control group – composed of future treated schools – improving its own performance in anticipation of their own academisation (which occurs after the sample period ends).

## Chapter 4: The impact of converter academies on educational attainment

### Summary of findings

Our analysis in this section finds mixed results for the converter academies. This is perhaps unsurprising as converter academies represent a much more heterogeneous category of schools, from the very high performers to those which are just avoiding, or have just avoided, forced academisation through the sponsored route.

One of the first conclusions we draw from this analysis is that there is no real change to the primary school test scores of incoming pupils once the schools become converter academies. This is in contrast to the pattern in both the pre- and post-2010 sponsored academies. A possible explanation for this is that converter academies already had a relatively high attaining intake and so continued to attract and admit a similar cohort of pupils.

Another interesting conclusion we draw from the analysis is that there is no evidence that schools judged as good, satisfactory or inadequate by Ofsted prior to 2010 improved their pupils' GCSE attainment as a result of the academy conversion. While converter academies that were already outstanding prior to conversion have shown evidence of improvement, the analysis suggests that the same policy intervention has not had a comparable impact on lower-rated schools. The intention of the converter academy programme has been to secure improvements through giving schools greater autonomy and freedom from local government control. It seems that these features may have worked in cases where a school was already excelling (and, by definition, had strong leadership, results and governance), but they do not appear to have had the same, or indeed any, detectable effect in other schools.

### How the performance of converter academies is assessed

Since September 2010, schools have been able to 'voluntarily' convert to academy status under the new conditions introduced by the Academies Act. This change was initially targeted at outstanding schools and then good schools. Over time this has expanded to all schools, irrespective of Ofsted grade; however, for lower performing schools, this meant joining a MAT with a high performing school or academy sponsor.

In this section, we assess the performance of the 1,170 mainstream secondary schools that converted to academy status between 2010/11 and 2014/15. These schools are included in the treatment group. A further 50 schools converted between 2015/16 and 2016/17. These schools are included in the control group. As in the analysis of post-2010 sponsored academies, in both treatment and control groups, only pupils who took their GCSEs or equivalents by the summer of 2015 are included in our investigation of Key Stage 4 outcomes.

As well as considering the performance of converter academies as a whole, we also looked at trends by Ofsted inspection grade. To prevent any bias that may have arisen as a result of schools wanting to qualify for or resist conversion once the criteria changed in 2010, we took the Ofsted grade of each of the treatment (and control) schools prior to 2010. Of the 1,170 converter academies, 390

were considered outstanding, 543 were considered good and 237 were considered satisfactory or inadequate in their Ofsted inspection prior to 2010.

**Table 4.1: The breakdown of converter academies in the treatment and control group**

	Outstanding	Good	Satisfactory and Inadequate	Total
No. of academies converted in 2010/11 to 2014/15	390	543	237	1170
No. of academies converted in 2015/16 or 2016/17 Control Group	5	23	22	50

As shown in Table 4.2, pupils in converter academies were less likely to be deprived than the average across all schools (9 per cent were eligible for Free School Meals compared to an average of 13 per cent nationally). The table also shows that converter academies have higher Key Stage 2 and Key Stage 4 outcomes compared with the national average. The differences are sizeable and in the order of 25-30 per cent of a standard deviation – corresponding to one grade in five GCSE subjects when considering the disparities in terms of Key Stage 4 performance prior to conversion. This is in sharp contrast to what we found for the sponsored academies – both pre- and post-2010 – analysed in the previous two parts.

Finally, the bottom three rows of the table show that the characteristics of current converters (treatment schools) and future converters (control schools) are comparable, except with respect to KS2 scores among their incoming pupils and KS4 outcomes – which are higher among the schools that converted within our observation window.

**Table 4.2: The characteristics of pupils in converter academies in the treatment and control group in 2005/06**

	Standardized Key stage 4 points score	Standardized Key stage 2 points score	Proportion missing Key Stage 2	Proportion eligible for free school meals	Proportion special educational needs	Proportion native English speaker	Number of Schools
All Secondary Schools	0	0	7.3%	13.2%	17.0%	89.5%	2926
All Secondary Schools except 1220 sample schools	-0.137	-0.111	8.3%	16.4%	19.2%	88.1%	1706
Treatment Academies	0.188	0.146	6.4%	8.9%	14.1%	91.4%	1170
Control To Be Academies	0.058	0.022	7.0%	11.0%	14.0%	90.9%	50
Treatment – Control Difference (standard error of difference)	0.130 (0.045)	0.124 (0.042)	-0.005 (0.006)	-0.021 (0.014)	0.002 (0.010)	0.005 (0.020)	

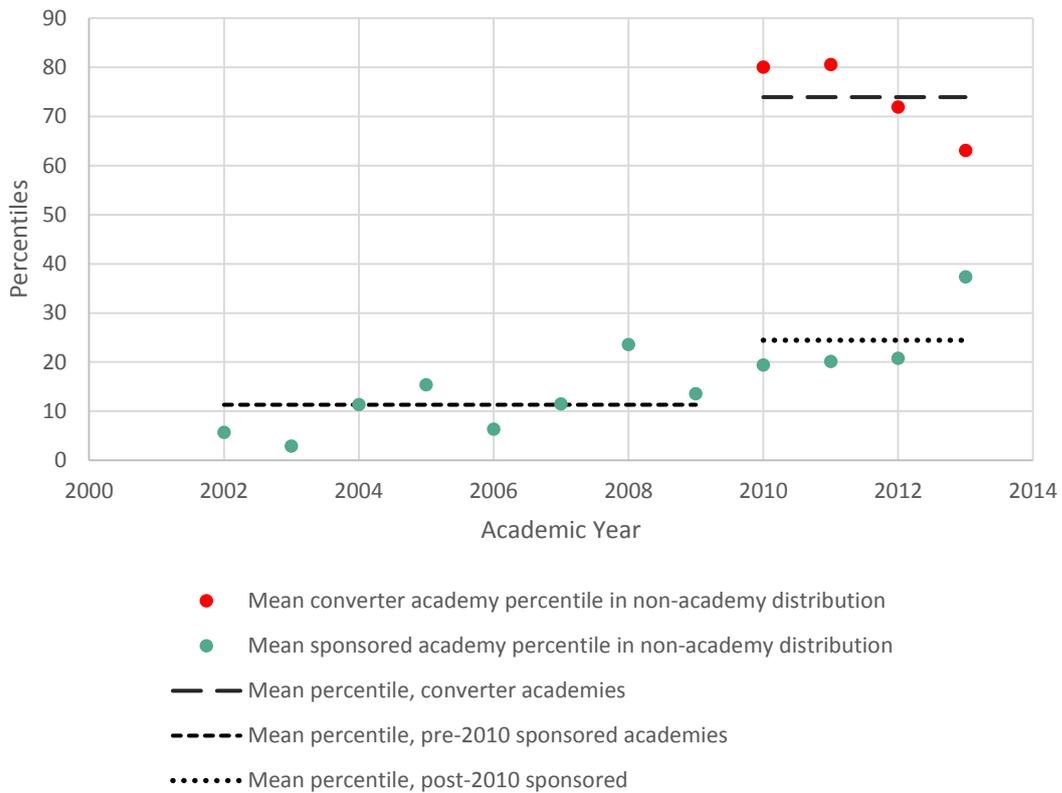
Figures 4.1 and 4.2 present further evidence that converter academies are different from sponsored academies both pre- and post-2010 in that they are better in terms of pupil prior attainment. The plots display the mean percentile of KS2 scores among year 7 pupils (Figure 4.1) and the KS4 scores of year 11 pupils (Figure 4.2) who were enrolled in the year prior to conversion in converter and sponsored academies in the years 2002 to 2013. These percentiles have been constructed to represent the relative positioning of academies in the national distribution of non-academies in terms of their pre-conversion characteristics.

The figures show that both pre- and post-2010 sponsored academies have the lowest rates of prior attainment. Prior to 2010, they were just above the lowest decile in terms of pupil intake and among the 9 per cent worst performing schools in terms of pre-conversion Key Stage 4. After 2010, sponsored academies intake and pre-conversion outcomes improved somewhat – but not substantially.

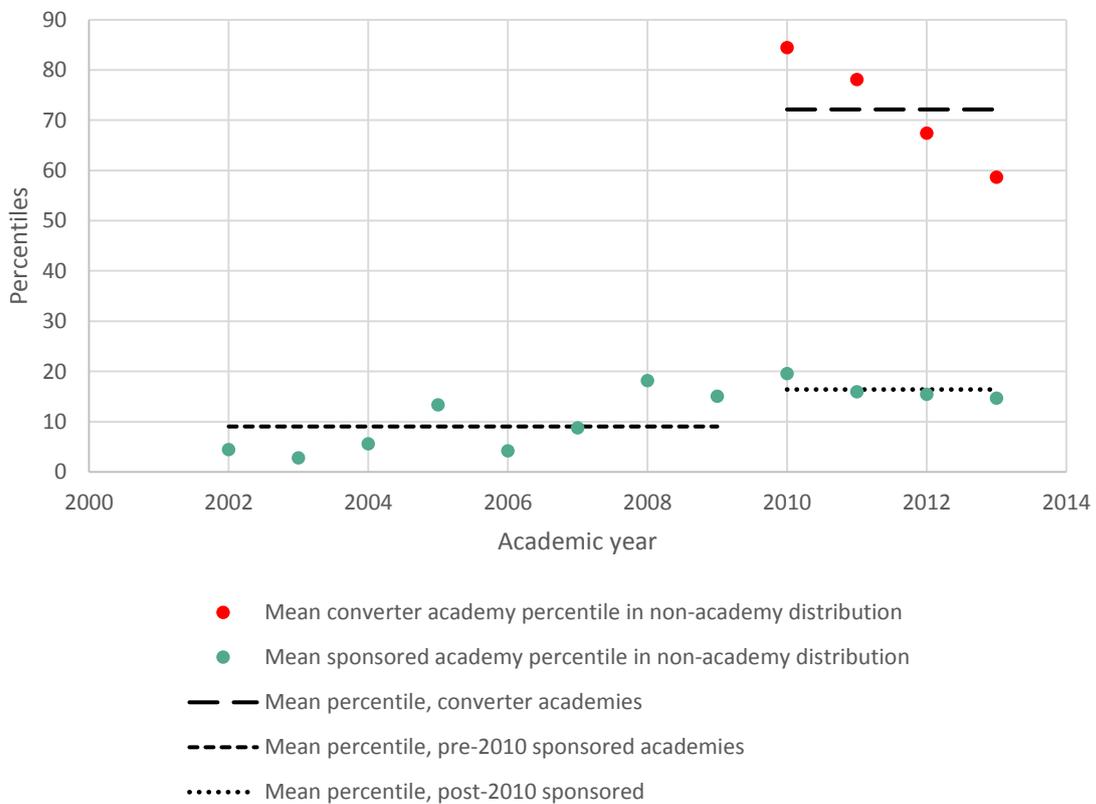
Conversely, the figures show that converter academies come from the opposite end of the distributions. Both in terms of Key Stage 2 of intake pupils and Key Stage 4 prior to conversion, these schools were among the 25-30 per cent most advantaged and best-performing schools in England right before conversion. We also find that, between 2010 and 2014, the average Key Stage 2 and Key Stage 4 scores of converter academies went down. This reflects how the Government policy started by allowing very high-performing schools to convert initially, before lowering the threshold to enable other schools to convert.

Overall, the stark differences in pre-conversion characteristics between the different academy types highlight that it is not possible to extrapolate findings from sponsored academies to converter academies.

**Figure 4.1: The Key Stage 2 prior attainment of sponsored academies and converter academies**



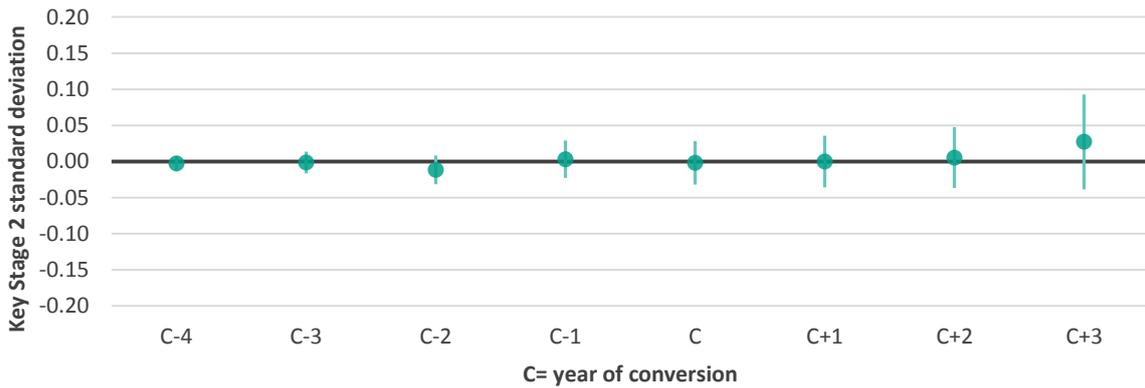
**Figure 4.2: The Key Stage 4 results of sponsored academies and converter academies**



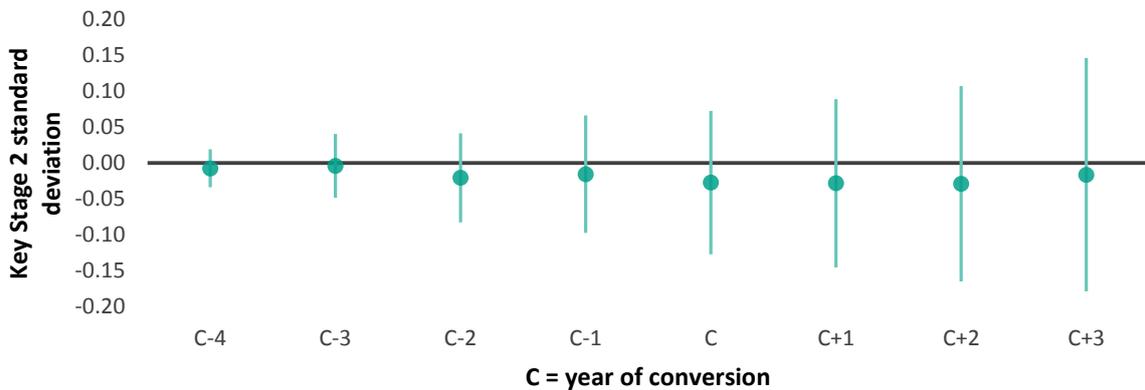
## The impact of converter academies

We begin our analysis of the impact of converter academies by considering whether the intake of pupils, again measured by the end of primary school performance of new year 7 pupils, changes once a school converts. In this case, we find that, unlike both pre and post-2010 sponsored academies, there is no significant change in the prior attainment of pupils joining the academy. This is the case for all converters in aggregate as well as for outstanding, good and ‘requiring improvement’ schools analysed separately.

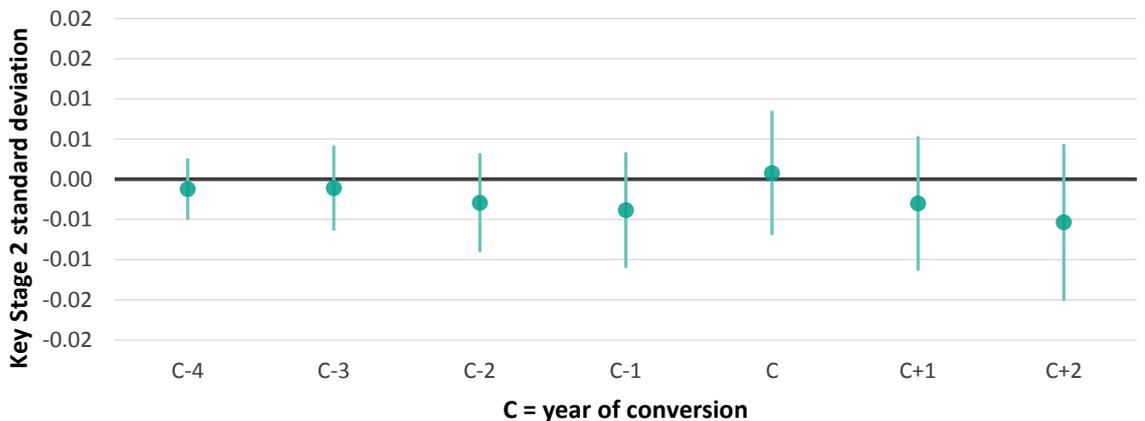
**Figure 4.3: Changes in intake after conversion: pupils’ prior (KS2) attainment**



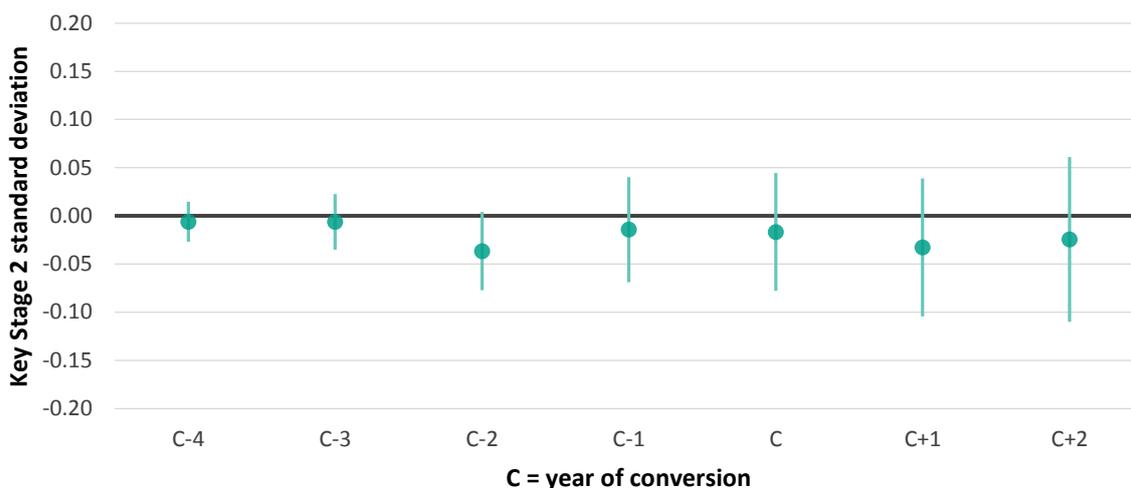
**Figure 4.4: Changes in intake after conversion in outstanding converter academies**



**Figure 4.5: Changes in intake after conversion in ‘good’ converter academies**



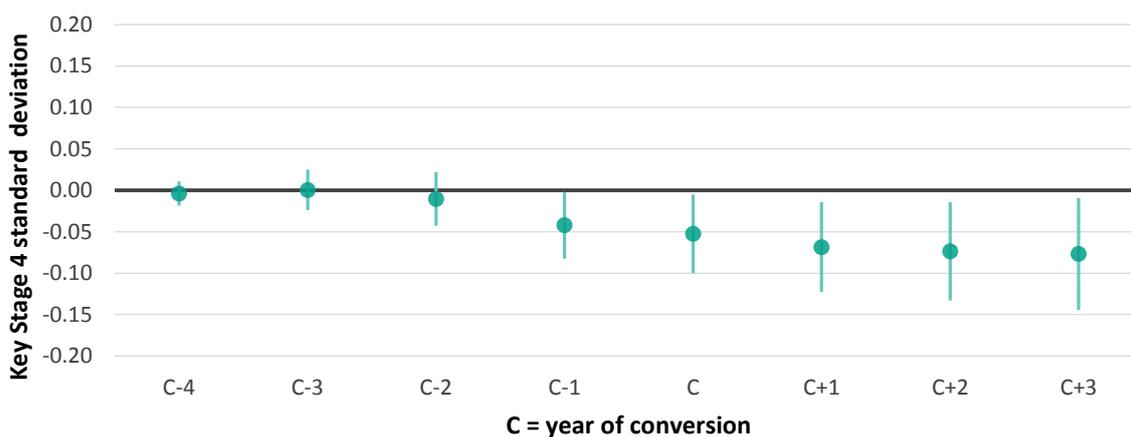
**Figure 4.6: Changes in intake after conversion in satisfactory and inadequate converter academies**



Next, we consider converter academies’ effects on end of secondary school Key Stage 4 attainments. Again, this analysis only includes pupils who were “legacy enrolled” in treatment and control schools prior to conversion in order to bypass any changes to pupil composition as a result of academisation. While the above analysis found no evidence of such changes, it is still important to take precautions in this respect. This is because there may be changes to certain characteristics – such as motivation – which we cannot observe in the data.

When we consider the impact of all converter academies together, in aggregate, we find that there is a slightly negative impact on pupil GCSE attainment following conversion. However, as with the post-2010 sponsored academies, this effect is first apparent a year before conversion takes place, indicating it does not necessarily reflect the impact of academisation per se.

**Figure 4.7: The impact of all converter academies on Key Stage 4 outcomes**

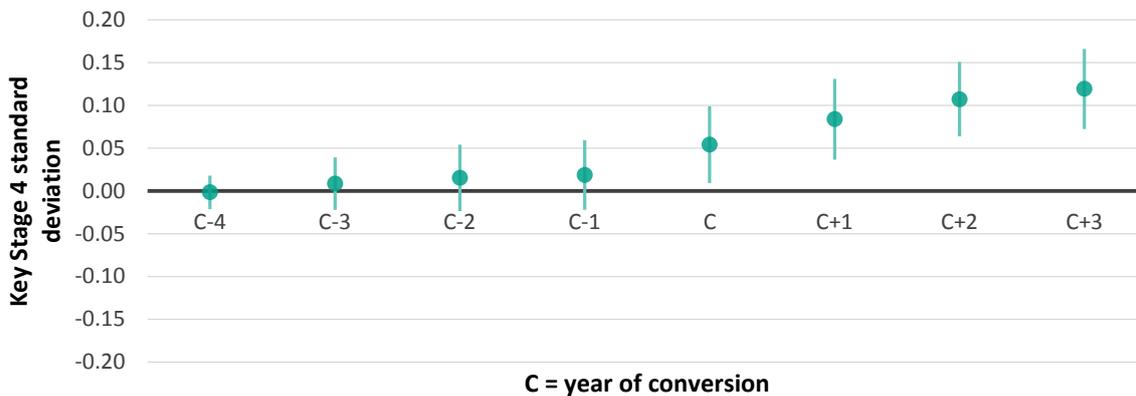


When we separate out the findings for schools in different Ofsted categories, different patterns emerge. Figure 4.8 shows that by isolating outstanding converter academies, we find an improvement following conversion. **This improvement is equivalent to around one grade in each of two GCSE subjects four years after conversion – around a third of the impact we see for the pre-2010 sponsored academies.**

Yet the average impact measured on average over the four years for which we can observe legacy enrolled pupils is much more similar between the two groups of academies. Pre-2010 sponsored

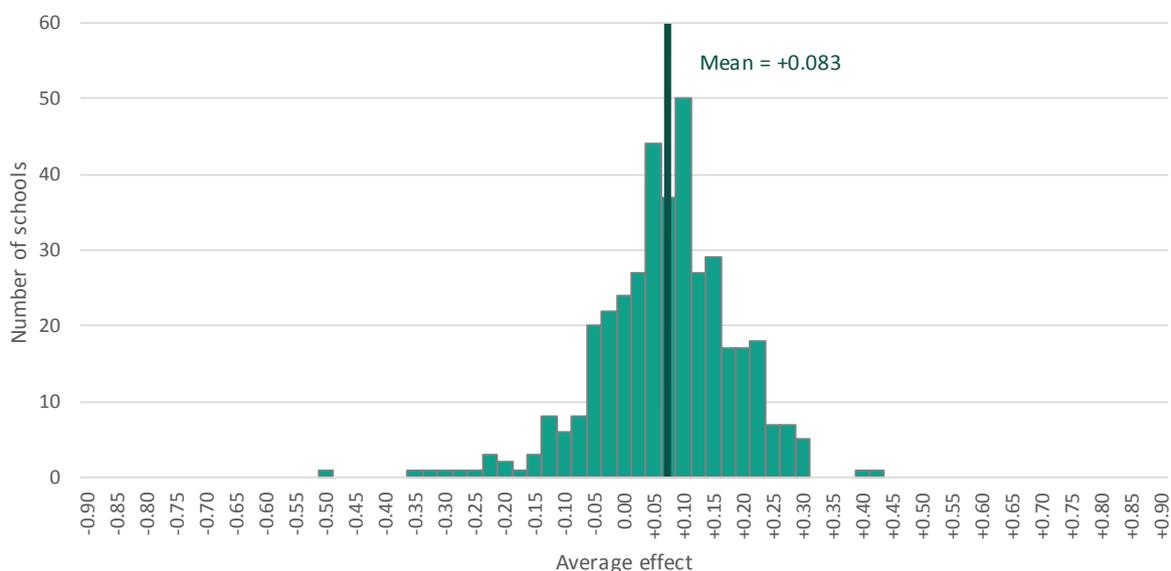
academies confer a benefit of around 10 per cent of a standard deviation, or one grade in around 1.5 subjects. The corresponding figure for post-2010 outstanding converter academies is 8.3 per cent of a standard deviation, or one grade in approximately 1.3 subjects. This similarity is explained by an initially limited impact – followed by an explosive build-up – of pre-2010 sponsored academies vis-à-vis much smaller but steady improvements among post-2010 outstanding converters from the year of academisation onwards.

**Figure 4.8: The impact of outstanding converter academies on Key Stage 4 outcomes**



As for the pre-2010 sponsored academies, we also observe considerable variation among this group in terms of their effect on GCSE outcomes. However, this variation is not as wide as for the pre-2010 sponsored academies. **The improvement in scores on average since opening for this group ranges from one grade lower in one GCSE to one grade higher in each of four GCSEs.**

**Figure 4.9: The variation of performance in outstanding converter academies**



Lastly, as demonstrated in Figures 4.10 and 4.11 below, there is no evidence of any effect of conversion on schools that were either good or satisfactory / inadequate, relative to the control group. While it appears that there is a downward trend (and therefore that results got worse, not better, amongst these schools), the confidence intervals imply that these estimates do not reveal a statistically significant difference between treatment and control schools – apart from a downturn between the fifth and fourth years prior to conversion among the good converters and in the year following conversion among the satisfactory / inadequate converters.

Figure 4.10: The impact of good converter academies

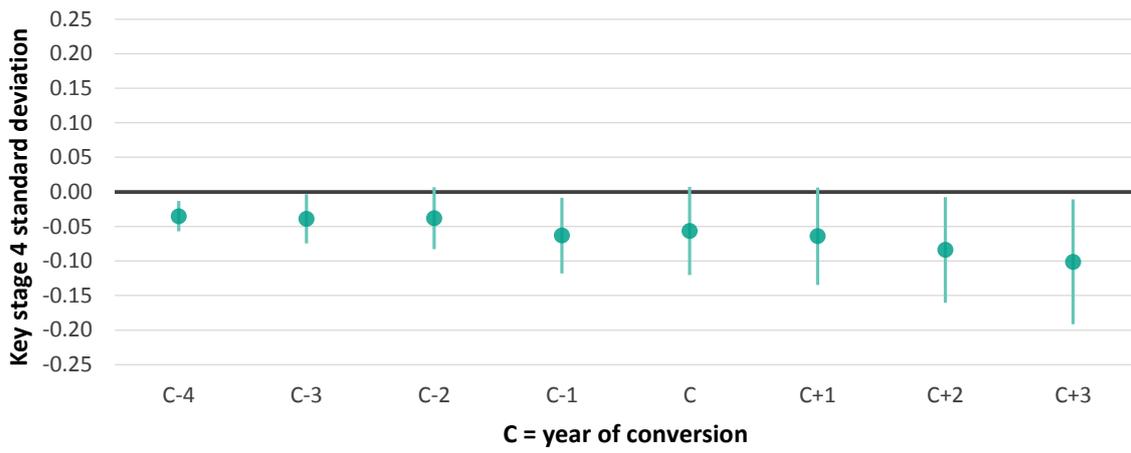
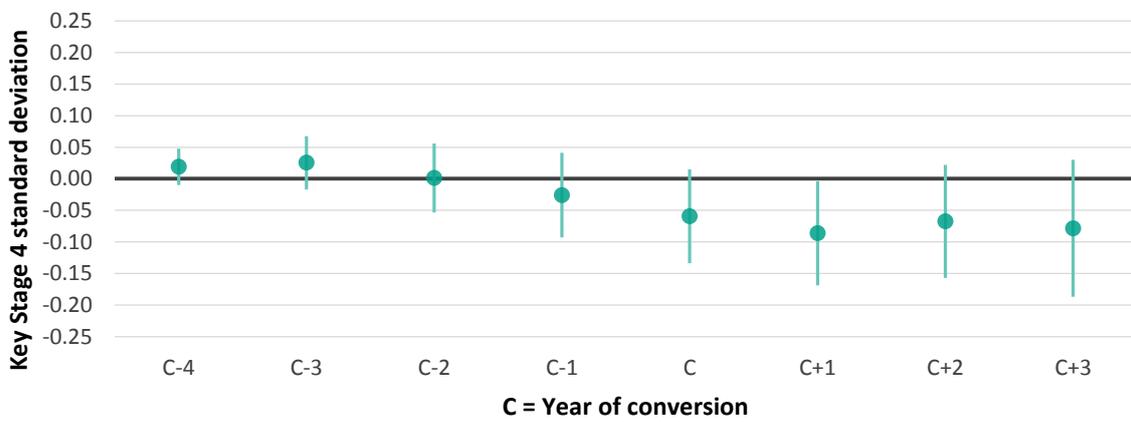


Figure 4.11: The impact of satisfactory and inadequate converter academies



## Chapter 5: Comparing performance tables of multi-academy trusts and local authorities

By Jon Andrews

The analysis in this chapter summarises the key findings from research published by the Education Policy Institute in July 2016.<sup>8</sup> The full findings of the research, including the methodology, can be found in that report.

### How the performance of MATs and local authorities is assessed

Summarising performance data at trust and local authority level in a meaningful way presents a challenge. When considering measures for accountability purposes, simple aggregations of school level attainment measures (for example, the proportion of pupils that achieve five good GCSEs) risk introducing perverse incentives. This is because a MAT would have a disincentive to take on a low performing school – since it would likely pull its average performance down – and an incentive to take on a high-performing school. Headline measures should therefore take account of a school's starting point and capture the improvement that has occurred under the MAT.

The analysis in this section therefore considers:

- How well schools in a given chain or local authority are currently performing (based on current value added scores);<sup>9</sup> and
- How that performance has changed over time by looking at improvement in value added scores.
- At Key Stage 2, it includes all local authorities and multi-academy trusts with five or more mainstream schools with Key Stage 2 results in 2015.
- At Key Stage 4, it includes all local authorities and multi-academy trusts with three or more mainstream schools with results at Key Stage 4 in 2015.

Within each MAT and local authority greater weight is given to those schools that have been within the group for the longest, and school scores are also weighted by pupil numbers (so the contribution of a school to the overall measure is proportionate to its size). Given that the underlying aim of academisation is to raise standards, we consider the improvement measure to be the more important of the two.

### The results

At each of Key Stage 2 and Key Stage 4 we present results for all multi-academy trusts and local authorities with at least five schools that had a value added measure at Key Stage 2 or three schools at Key Stage 4. In order to be included, a school must have been open and associated with the MAT or local authority by 12 September 2014. This is consistent with the way in which school types are

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<sup>8</sup> J.Andrews, School Performance in multi-academy trusts and local authorities – 2015, July 2016

<sup>9</sup> Value added measures pupil performance, controlling for prior attainment. It is an estimate of school effectiveness.

published in the DfE performance tables. Any school which left a MAT or local authority after that date is included within the organisation that it left.

It is possible for a school to have a current value added score but not be included in the improvement measure – for example, where it is a new provision school having results published for the first time and so is unable to demonstrate improvement. Therefore, in some instances, it is possible for a MAT or local authority's improvement score to be based on a smaller number of schools, or for the improvement score to be suppressed due to being based on fewer than five schools at Key Stage 2 or three schools at Key Stage 4.

In total, it has been possible to calculate scores for:

- Current performance at Key Stage 2: 68 MATs and 150 local authorities.
- Improvement in performance at Key Stage 2: 68 MATs and 149 local authorities.
- Current performance at Key Stage 4: 53 MATs and 121 local authorities.
- Improvement in performance at Key Stage 4: 53 MATs and 121 local authorities.

The top and bottom MATs and local authorities are presented in Figure 5.1 (Key Stage 2) and Figure 5.2 (Key Stage 4), with complete tables included in Annex 2. Results are sorted by the improvement score at each key stage, with the highest first. The final column demonstrates what the improvement score means in educational terms in comparison to the national average. For Key Stage 2 this is measured by terms of progress and for Key Stage 4 it is measured by number of GCSE grades.

It should be remembered that, particularly around the average, small differences in scores can lead to very different rankings. However, small differences in scores are unlikely to be statistically significant.

**Figure 5.1: The top and bottom performing multi-academy trusts and local authorities in England at Key Stage 2**

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average	Sig	Number of schools	Measure	Conf. Interval
<b>Top Performers</b>										
1	Harris Federation	Multi-academy trust	10	+1.3	+/- 0.3	1.5 terms more progress	Sig +	10	101.2	+/- 0.2
2	First Federation Trust, The	Multi-academy trust	6	+0.9	+/- 0.6	1 term more progress	Sig +	6	101.4	+/- 0.4
3	Redcar and Cleveland	Local authority	37	+0.8	+/- 0.2	1 term more progress	Sig +	37	101.0	+/- 0.1
4	Kensington and Chelsea	Local authority	25	+0.7	+/- 0.2	0.5 terms more progress	Sig +	25	101.3	+/- 0.2
5 =	Greenwich	Local authority	64	+0.6	+/- 0.1	0.5 terms more progress	Sig +	64	101.1	+/- 0.1
	Camden	Local authority	38	+0.6	+/- 0.2	0.5 terms more progress	Sig +	38	101.0	+/- 0.1
	Newham	Local authority	61	+0.6	+/- 0.1	0.5 terms more progress	Sig +	61	101.0	+/- 0.1
	CFBT Schools Trust	Multi-academy trust	6	+0.6	+/- 0.5	0.5 terms more progress	Sig +	7	100.8	+/- 0.3
	Hounslow	Local authority	40	+0.6	+/- 0.1	0.5 terms more progress	Sig +	41	100.8	+/- 0.1
	Waltham Forest	Local authority	35	+0.6	+/- 0.2	0.5 terms more progress	Sig +	36	100.8	+/- 0.1
	Darlington	Local authority	9	+0.6	+/- 0.3	0.5 terms more progress	Sig +	9	100.7	+/- 0.2
	L.E.A.D. Multi-Academy Trust	Multi-academy trust	10	+0.6	+/- 0.4	0.5 terms more progress	Sig +	10	100.7	+/- 0.3
	REAch2 Academy Trust	Multi-academy trust	29	+0.6	+/- 0.2	0.5 terms more progress	Sig +	29	100.1	+/- 0.1
14 =	Lambeth	Local authority	57	+0.5	+/- 0.1	0.5 terms more progress	Sig +	57	101.0	+/- 0.1
	Westminster	Local authority	33	+0.5	+/- 0.2	0.5 terms more progress	Sig +	33	100.9	+/- 0.1
	Stoke-on-Trent	Local authority	40	+0.5	+/- 0.2	0.5 terms more progress	Sig +	40	100.6	+/- 0.1
17 =	Islington	Local authority	42	+0.4	+/- 0.2	0.5 terms more progress	Sig +	42	100.8	+/- 0.1
	Lewisham	Local authority	61	+0.4	+/- 0.1	0.5 terms more progress	Sig +	61	100.7	+/- 0.1
	Newman Catholic Collegiate, The	Multi-academy trust	7	+0.4	+/- 0.5	0.5 terms more progress	Sig +	7	100.7	+/- 0.3
	Richmond upon Thames	Local authority	33	+0.4	+/- 0.2	0.5 terms more progress	Sig +	33	100.7	+/- 0.1
	Haringey	Local authority	45	+0.4	+/- 0.1	0.5 terms more progress	Sig +	45	100.6	+/- 0.1
	Merton	Local authority	41	+0.4	+/- 0.2	0.5 terms more progress	Sig +	41	100.6	+/- 0.1
	Redbridge	Local authority	44	+0.4	+/- 0.1	0.5 terms more progress	Sig +	44	100.6	+/- 0.1

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average	Sig	Number of schools	Measure	Conf. Interval
	Bromley	Local authority	37	+0.4	+/- 0.2	0.5 terms more progress	Sig +	37	100.5	+/- 0.1
	Dominic Barberi Multi Academy Company, The	Multi-academy trust	6	+0.4	+/- 0.5	0.5 terms more progress		6	100.4	+/- 0.4
	Good Shepherd Trust, The	Multi-academy trust	5	+0.4	+/- 0.5	0.5 terms more progress		5	100.3	+/- 0.3
	Academies Enterprise Trust	Multi-academy trust	35	+0.4	+/- 0.2	0.5 terms more progress	Sig +	35	100.2	+/- 0.1
	E-ACT	Multi-academy trust	11	+0.4	+/- 0.3	0.5 terms more progress	Sig +	11	100.1	+/- 0.2
	Pontefract Academies Trust	Multi-academy trust	6	+0.4	+/- 0.4	0.5 terms more progress		6	100.0	+/- 0.3
	Brooke Weston Trust, The	Multi-academy trust	5	+0.4	+/- 0.5	0.5 terms more progress		5	99.8	+/- 0.3
	<b><u>Bottom performers</u></b>									
196 =	Bath and North East Somerset	Local authority	49	-0.4	+/- 0.2	0.5 terms less progress	Sig -	49	99.5	+/- 0.1
	Leicestershire	Local authority	107	-0.4	+/- 0.1	0.5 terms less progress	Sig -	108	99.5	+/- 0.1
	Northamptonshire	Local authority	144	-0.4	+/- 0.1	0.5 terms less progress	Sig -	145	99.5	+/- 0.1
	West Berkshire	Local authority	53	-0.4	+/- 0.2	0.5 terms less progress	Sig -	54	99.5	+/- 0.1
	Doncaster	Local authority	72	-0.4	+/- 0.1	0.5 terms less progress	Sig -	72	99.4	+/- 0.1
	Luton	Local authority	35	-0.4	+/- 0.1	0.5 terms less progress	Sig -	35	99.4	+/- 0.1
	West Sussex	Local authority	162	-0.4	+/- 0.1	0.5 terms less progress	Sig -	165	99.4	+/- 0.1
	Worcestershire	Local authority	104	-0.4	+/- 0.1	0.5 terms less progress	Sig -	105	99.4	+/- 0.1
	St Piran's Cross Church of England Multi Academy Trust	Multi-academy trust	5	-0.4	+/- 0.7	0.5 terms less progress		5	99.1	+/- 0.5
	Wakefield City Academies Trust	Multi-academy trust	5	-0.4	+/- 0.5	0.5 terms less progress		5	99.0	+/- 0.3
	Academy Transformation Trust	Multi-academy trust	8	-0.4	+/- 0.4	0.5 terms less progress	Sig -	8	98.7	+/- 0.3
207 =	Corpus Christi Catholic Academy Trust	Multi-academy trust	5	-0.5	+/- 0.5	0.5 terms less progress		5	99.9	+/- 0.4
	Kernow Collaborative Trust	Multi-academy trust	7	-0.5	+/- 0.4	0.5 terms less progress	Sig -	7	99.5	+/- 0.3
	Kirklees	Local authority	101	-0.5	+/- 0.1	0.5 terms less progress	Sig -	103	99.4	+/- 0.1
	Dorset	Local authority	84	-0.5	+/- 0.1	0.5 terms less progress	Sig -	84	99.3	+/- 0.1
	Central Bedfordshire	Local authority	9	-0.5	+/- 0.2	0.5 terms less progress	Sig -	15	99.0	+/- 0.2
212 =	Discovery Schools Academies Trust Ltd	Multi-academy trust	6	-0.6	+/- 0.4	0.5 terms less progress	Sig -	6	99.4	+/- 0.3
	Walsall	Local authority	64	-0.6	+/- 0.1	0.5 terms less progress	Sig -	64	99.4	+/- 0.1

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average	Sig -	Number of schools	Measure	Conf. Interval
	Diocese Of Leicester Academies Trust	Multi-academy trust	5	-0.6	+/- 0.6	0.5 terms less progress	Sig -	5	99.2	+/- 0.4
	Diocese of Norwich Multi-academy Trust, The	Multi-academy trust	5	-0.6	+/- 0.5	0.5 terms less progress	Sig -	5	98.4	+/- 0.4
216	Rutland	Local authority	11	-0.7	+/- 0.5	0.5 terms less progress	Sig -	11	99.0	+/- 0.3
217	Poole	Local authority	13	-0.8	+/- 0.2	1 term less progress	Sig -	13	98.9	+/- 0.1
218	Education Fellowship Trust, The	Multi-academy trust	8	-1.0	+/- 0.4	1 term less progress	Sig -	8	98.4	+/- 0.3

Notes:

- (1) The number of schools refers to the number of schools with an improvement score or a current performance score at Key Stage 2 not the total number of scores within the multi-academy trust or local authority.
- (2) The test of statistical significance for a local authority or trust is based on unrounded data. Hence in some instances there may be an apparent inconsistency with the measure, confidence interval and test of significance.
- (3) For data sources please see Annex 1 of 'School Performance in multi-academy trusts and local authorities – 2015'.

**Figure 5.2: The top and bottom performing multi-academy trusts and local authorities in England at Key Stage 4**

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. interval	Difference from average	Sig	Number of schools	Measure	Conf. interval
<b><u>Top performers</u></b>										
1	Inspiration Trust	Multi-academy trust	3	+26.8	+/- 9.7	One grade higher in 4 subjects	Sig +	3	1019.5	+/- 6.8
2	Barnet	Local authority	6	+18.9	+/- 7.5	One grade higher in 3 subjects	Sig +	6	1027.9	+/- 4.8
3	Merton	Local authority	5	+16.4	+/- 6.5	One grade higher in 3 subjects	Sig +	5	1027.7	+/- 4.5
4	Southwark	Local authority	3	+15.9	+/- 10.6	One grade higher in 3 subjects	Sig +	3	1030.5	+/- 7.4
5	Outwood Grange Academies Trust	Multi-academy trust	9	+15.6	+/- 4.9	One grade higher in 3 subjects	Sig +	9	1022.8	+/- 3.4
6	Hackney	Local authority	7	+15.1	+/- 7.2	One grade higher in 3 subjects	Sig +	7	1021.4	+/- 5.0
7	Kent Catholic Schools' Partnership	Multi-academy trust	3	+14.7	+/- 9.1	One grade higher in 2 subjects	Sig +	3	1024.8	+/- 6.4
8	Wokingham	Local authority	4	+14.0	+/- 7.5	One grade higher in 2 subjects	Sig +	4	1014.7	+/- 5.3
9	Surrey	Local authority	24	+13.9	+/- 3.0	One grade higher in 2 subjects	Sig +	24	1016.3	+/- 2.1
10	Peterborough	Local authority	3	+12.8	+/- 9.2	One grade higher in 2 subjects	Sig +	3	1004.0	+/- 6.4
11	Waltham Forest	Local authority	11	+12.5	+/- 5.3	One grade higher in 2 subjects	Sig +	11	1022.8	+/- 3.7
12 =	Sutton	Local authority	3	+12.4	+/- 8.8	One grade higher in 2 subjects	Sig +	3	1022.6	+/- 6.1
	Bright Futures Educational Trust	Multi-academy trust	3	+12.4	+/- 10.2	One grade higher in 2 subjects	Sig +	3	1014.4	+/- 7.1
14 =	Herefordshire	Local authority	5	+11.2	+/- 7.9	One grade higher in 2 subjects	Sig +	5	1011.7	+/- 5.5
	Tapton School Academy Trust	Multi-academy trust	3	+11.2	+/- 8.3	One grade higher in 2 subjects	Sig +	3	1009.0	+/- 5.8
16	Kingston upon Hull City of	Local authority	6	+10.5	+/- 5.9	One grade higher in 2 subjects	Sig +	6	1007.1	+/- 4.1
17 =	ARK Schools	Multi-academy trust	12	+10.4	+/- 5.3	One grade higher in 2 subjects	Sig +	12	1015.2	+/- 3.6
	Camden	Local authority	9	+10.4	+/- 5.6	One grade higher in 2 subjects	Sig +	9	1012.0	+/- 3.9
19	Newham	Local authority	12	+10.3	+/- 4.1	One grade higher in 2 subjects	Sig +	12	1016.8	+/- 2.9
20	Tower Hamlets	Local authority	14	+10.2	+/- 4.3	One grade higher in 2 subjects	Sig +	14	1018.8	+/- 3.0
<b><u>Bottom performers</u></b>										
155	Wirral	Local authority	8	-12.7	+/- 6.0	One grade lower in 2 subjects	Sig -	8	975.8	+/- 4.2
156	University of Chester Academies Trust	Multi-academy trust	6	-13.1	+/- 7.4	One grade lower in 2 subjects	Sig -	6	970.6	+/- 5.2

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. interval	Difference from average	Sig	Number of schools	Measure	Conf. interval
157	Bradford College Education Trust	Multi-academy trust	3	-13.3	+/- 12.3	One grade lower in 2 subjects	Sig -	3	971.0	+/- 8.6
158	Grace Academy	Multi-academy trust	3	-13.9	+/- 9.5	One grade lower in 2 subjects	Sig -	3	970.3	+/- 6.6
159	Bradford	Local authority	14	-14.2	+/- 3.6	One grade lower in 2 subjects	Sig -	14	973.9	+/- 2.4
160	Creative Education Trust	Multi-academy trust	6	-14.8	+/- 6.9	One grade lower in 2 subjects	Sig -	6	983.7	+/- 4.8
161	Learning Schools Trust	Multi-academy trust	4	-14.9	+/- 8.0	One grade lower in 2 subjects	Sig -	4	965.6	+/- 5.6
162	Sunderland	Local authority	5	-15.2	+/- 7.1	One grade lower in 3 subjects	Sig -	5	980.5	+/- 5.0
163	Liverpool	Local authority	15	-15.5	+/- 4.0	One grade lower in 3 subjects	Sig -	15	977.1	+/- 2.8
164	White Rose Academies Trust	Multi-academy trust	3	-16.7	+/- 12.0	One grade lower in 3 subjects	Sig -	3	983.9	+/- 8.4
165	Salford	Local authority	9	-16.8	+/- 5.2	One grade lower in 3 subjects	Sig -	9	983.3	+/- 3.7
166	Stoke-on-Trent	Local authority	3	-17.6	+/- 9.3	One grade lower in 3 subjects	Sig -	3	964.6	+/- 6.5
167	Newcastle upon Tyne	Local authority	4	-18.7	+/- 7.1	One grade lower in 3 subjects	Sig -	4	968.4	+/- 5.0
168	Woodard Academies Trust	Multi-academy trust	4	-20.4	+/- 7.3	One grade lower in 3 subjects	Sig -	4	961.2	+/- 5.0
169	Wolverhampton	Local authority	8	-23.9	+/- 6.1	One grade lower in 4 subjects	Sig -	8	980.5	+/- 4.3
170	Greenwood Academies Trust	Multi-academy trust	7	-25.8	+/- 5.5	One grade lower in 4 subjects	Sig -	7	959.8	+/- 3.9
171	Oldham	Local authority	5	-26.9	+/- 5.5	One grade lower in 4 subjects	Sig -	5	973.3	+/- 3.9
172	Nottingham	Local authority	3	-32.1	+/- 8.6	One grade lower in 5 subjects	Sig -	3	946.8	+/- 6.0
173	Knowsley	Local authority	3	-32.9	+/- 8.1	One grade lower in 5 subjects	Sig -	3	943.0	+/- 5.6
174	College Academies Trust, The	Multi-academy trust	3	-36.4	+/- 9.5	One grade lower in 6 subjects	Sig -	3	961.4	+/- 6.6

Notes:

- (1) The number of schools refers to the number of schools with an improvement score or a current performance score at Key Stage 4 not the total number of scores within the multi-academy trust or local authority.
- (2) The test of statistical significance for a local authority or trust is based on unrounded data. Hence in some instances there may be an apparent inconsistency with the measure, confidence interval and test of significance.
- (3) For data sources please see Annex 1 of 'School Performance in multi-academy trusts and local authorities – 2015'.

## Analysis of the results

At Key Stage 2 there are 149 local authorities and 68 multi-academy trusts with an improvement measure. Amongst the top 30 performing local authorities and trusts, 12 are multi-academy trusts. This means that multi-academy trusts are slightly over represented amongst the top performing (comprising 40 per cent of top performers and 3 per cent of the total number of trusts and local authorities). But the same is true when looking at the lowest performing where 9 of the bottom 23 (39 per cent) are multi-academy trusts.<sup>10</sup>

In part this will reflect that there are relatively small numbers of schools (and hence pupils) in some of these trusts – and so it is easier to see an extreme result. It may also reflect the characteristics of the individual trusts: for example, a trust may consist entirely of schools that were previously high-performing and have continued to be so, with other trusts and local authorities having a far greater mix of schools.

At Key Stage 4 there are 53 trusts and 121 local authorities in the analysis. There are a disproportionate number of trusts amongst the low performers – 9 trusts are within the bottom 20 positions, meaning that they make up 45 per cent of the bottom performers but just 30 per cent of the total. There are 6 trusts in the top 20, meaning they make up 30 per cent of the top performers, which is in line with the total.

## The spread of results

**The measures demonstrate the considerable variation in the performance of both multi-academy trusts and local authorities. Indeed, we find that the variation within the group of local authorities and within the group of MATs is far greater than the variation between the two groups.**

Figure 5.3 plots for each MAT and LA their current performance and improvement measures at Key Stage 2. The difference between the highest and lowest performers on the current improvement measure is 1.6 points; this means that primary pupils in the lowest performing MATs and LAs make 1.5 terms less progress than those in the highest performing.<sup>11</sup> There is a similar spread of performance when examining the improvement measure, with the difference between the lowest and highest performing MATs and LAs equating to around 1 term of progress.

At Key Stage 4 (Figure 5.4) the difference between the highest and lowest performing MATs and LAs on the current value added measure is equivalent to a total of 9 grades across a secondary pupil's GCSE subjects, with the rate of improvement in the fastest outstripping the slowest by just over 5 grades.

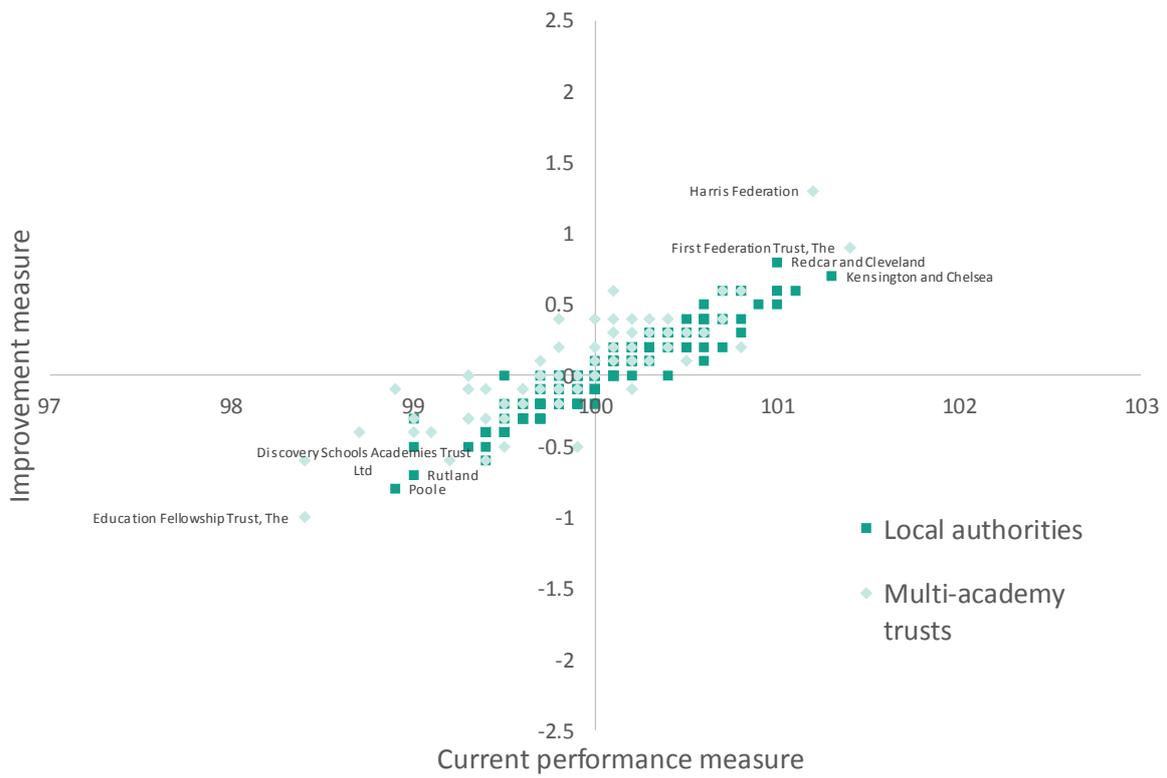
In general MATs and LAs that do well on one measure do well on the other (such as Barnet and Outwood Grange), but there are examples where current performance is below average but the rate of improvement is above average (MATs and LAs in the top left hand quadrants of Figures 5.3 and 5.4) and conversely where current performance is high but the relative rate of improvement low (the bottom right hand quadrant.)

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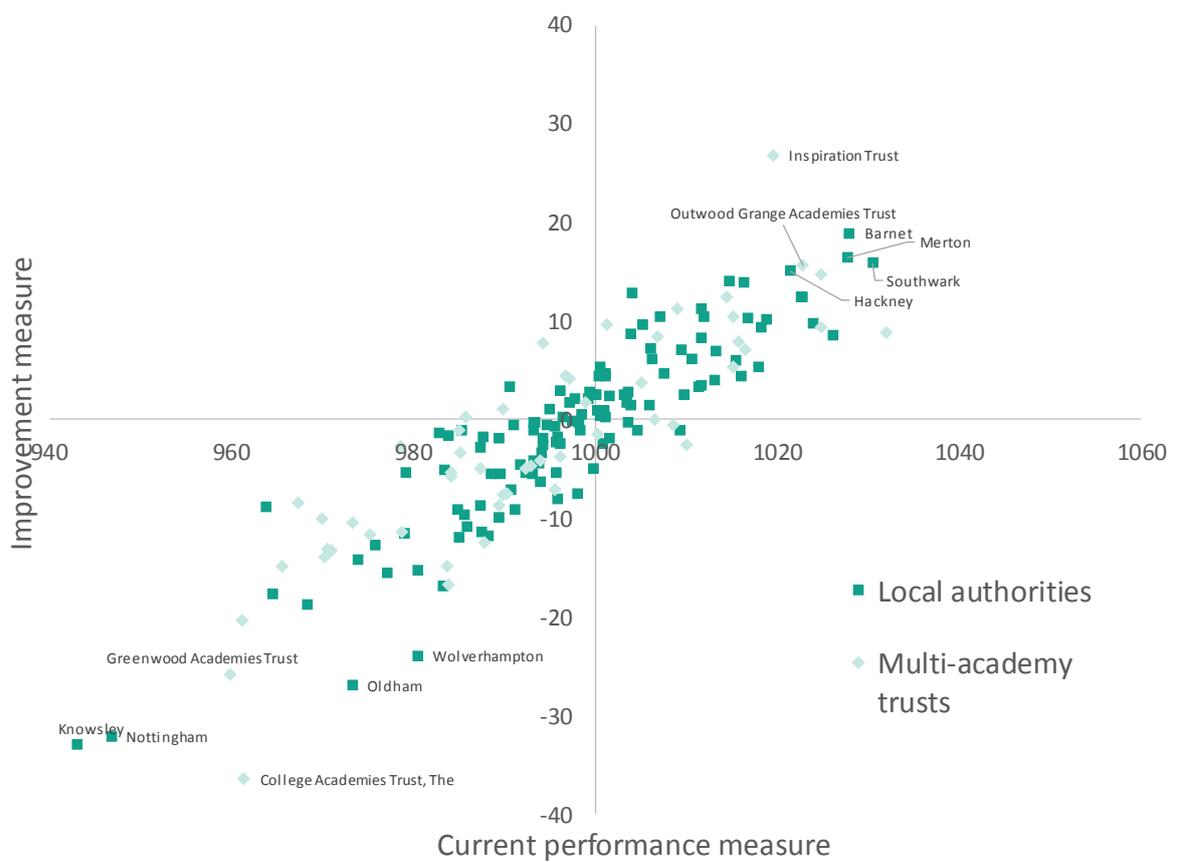
<sup>10</sup> Note that different cut-offs are necessary due to the large number of tied ranks. Moving to a slightly higher performance threshold would have meant moving to a total of 39, however a similar pattern of results is seen.

<sup>11</sup> For the purposes of this comparison, high performing trusts are those at the 5<sup>th</sup> percentile and low performers are those at the 95<sup>th</sup> percentile.

**Figure 5.3: Current performance and improvement at Key Stage 2**



**Figure 5.4: Current performance and improvement at Key Stage 4**

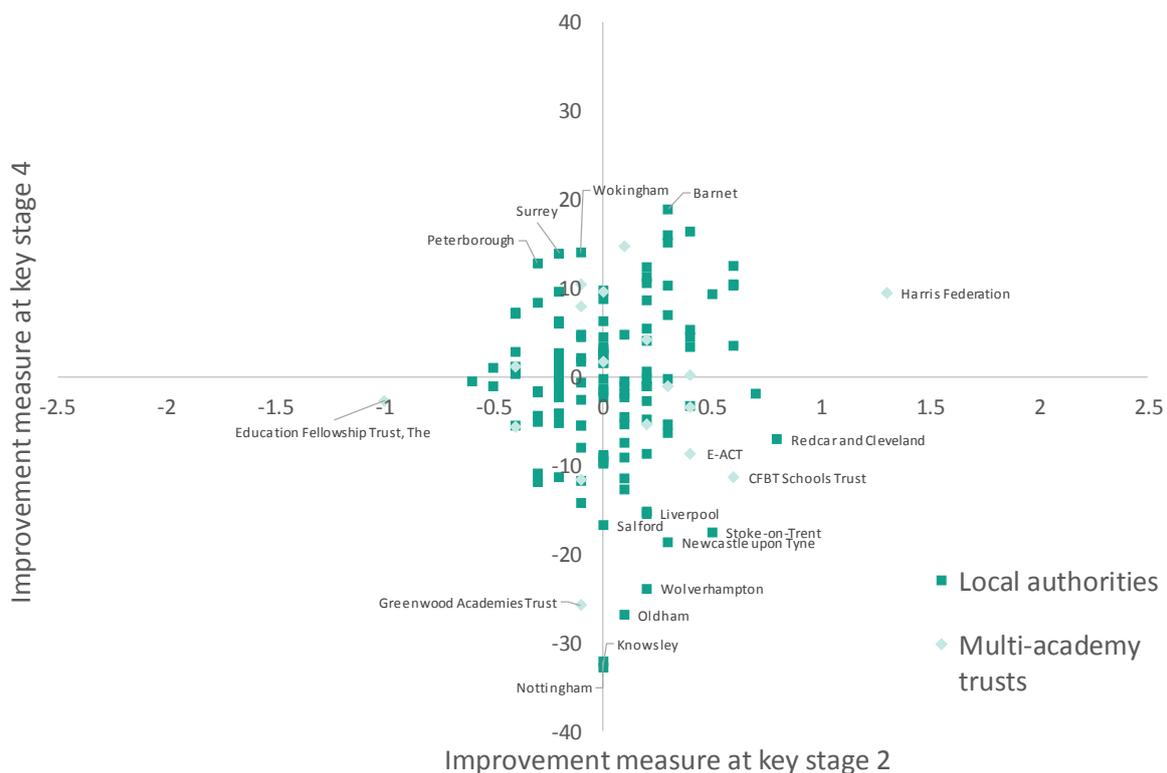


## The relationship between Key Stage 2 and Key Stage 4 performance

We also find variation within MATs and local authorities. One source of variation is the differing performance that a MAT or LA might demonstrate between its primary schools and its secondary schools.

Figure 5.5 plots the improvement seen at Key Stage 4 against the improvement seen at Key Stage 2 for those multi-academy trusts and local authorities measure for each (18 MATs and 121 local authorities). It shows that whilst there is a general relationship between the two, there are MATs and LAs where there are large differences.

**Figure 5.5: Comparison of performance at Key Stage 2 and Key Stage 4**



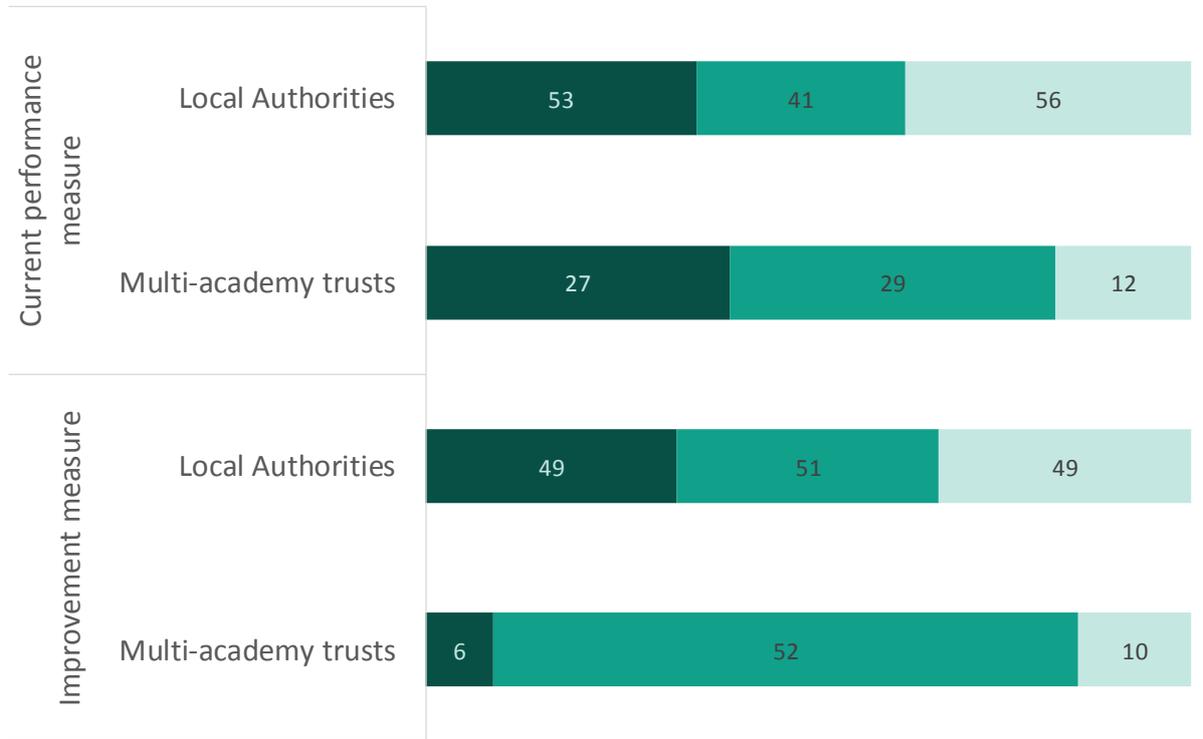
## The number of high and low performing MATs and local authorities

Throughout this analysis, we include those MATs and LAs with at least three schools with results. In many cases, particularly for primary schools, this means that results are based on a small number of schools and ultimately a small number of pupils. In the analysis above we examined the spread of results and identified a wide range of outcomes between multi-academy trusts and local authorities. However, in many instances the relatively small numbers of schools involved means that the results for individual trusts or authorities are not statistically significant.

Figure 5.6 shows that around a third of local authorities were significantly below average for improvement at Key Stage 2 and around a third were significantly above. For multi-academy trusts the figures for both were much lower, in part reflecting that they tend to be smaller, with more uncertainty in their measures. However, whilst MATs were less likely to be significantly different

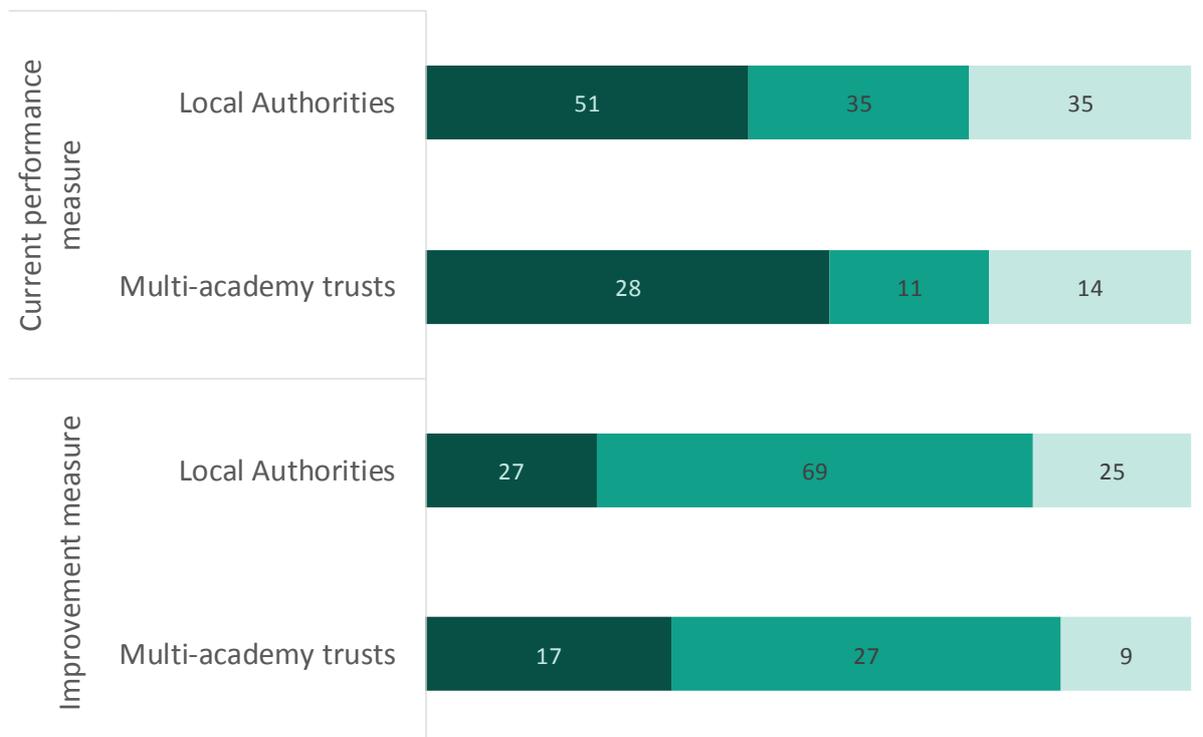
from average, the data shows that they were more likely to be significantly above than significantly below. At Key Stage 4 a multi-academy trust is just as likely to be below average as above.

**Figure 5.6: Distribution of current performance and improvement scores at Key Stage 2**



■ Significantly below average ■ Not significantly different from average ■ Significantly above average

**Figure 5.7: Distribution of current performance and improvement scores at Key Stage 4**



■ Significantly below average ■ Not significantly different from average ■ Significantly above average

## Aggregate performance of multi-academy trusts and local authorities

Just as it is possible to aggregate results from individual schools into measures at trust and local authority level, it is also possible to aggregate results across all trusts and all local authorities. However, the results of such calculations should be interpreted with caution. The measures presented in this section have been developed primarily as a comparison between middle tier organisations rather than the system as a whole.

Taken in aggregate there appears to be little difference in the improvement seen in schools in local authorities and schools within multi-academy trusts.

- **At primary level the mean improvement score within local authorities was 0.0 and within multi-academy trusts +0.1; and**
- **At secondary level the mean improvement score within local authorities was -0.7 and within multi-academy trusts was -1.1.<sup>12</sup>**

## Variation across the country

Figures 5.8 and 5.9 plot the local authorities that are significantly above or significantly below average at either Key Stage 2 or Key Stage 4.

London dominates the list of high-performers at Key Stage 2. Amongst the top 30 performers on the improvement measure, 22 are in London. The north-east also performs well, with the highest performing, Redcar and Cleveland, joined by Darlington, Hartlepool, Newcastle-upon-Tyne, South Tyneside and Durham in being significantly above average. Under-performance is found across the country including much of central and eastern England and along the south coast (Brighton, West Sussex, Hampshire, Portsmouth, Dorset, Poole and the Isle of Wight.) At Key Stage 4 the north-east performs less well, with several authorities performing significantly below average.

Figures 5.8 and 5.9 also show the result of aggregating the performance of academies within multi-academy trusts by local authority area. This illustrates in part that some high performance – such as in areas of London – may be linked with geographical area rather than being associated with a local authority or multi-academy trust. In other areas there is a difference between maintained schools and those in multi-academy trusts. For example, in the South West, Cornwall, Devon, Dorset and Somerset are all significantly above average.

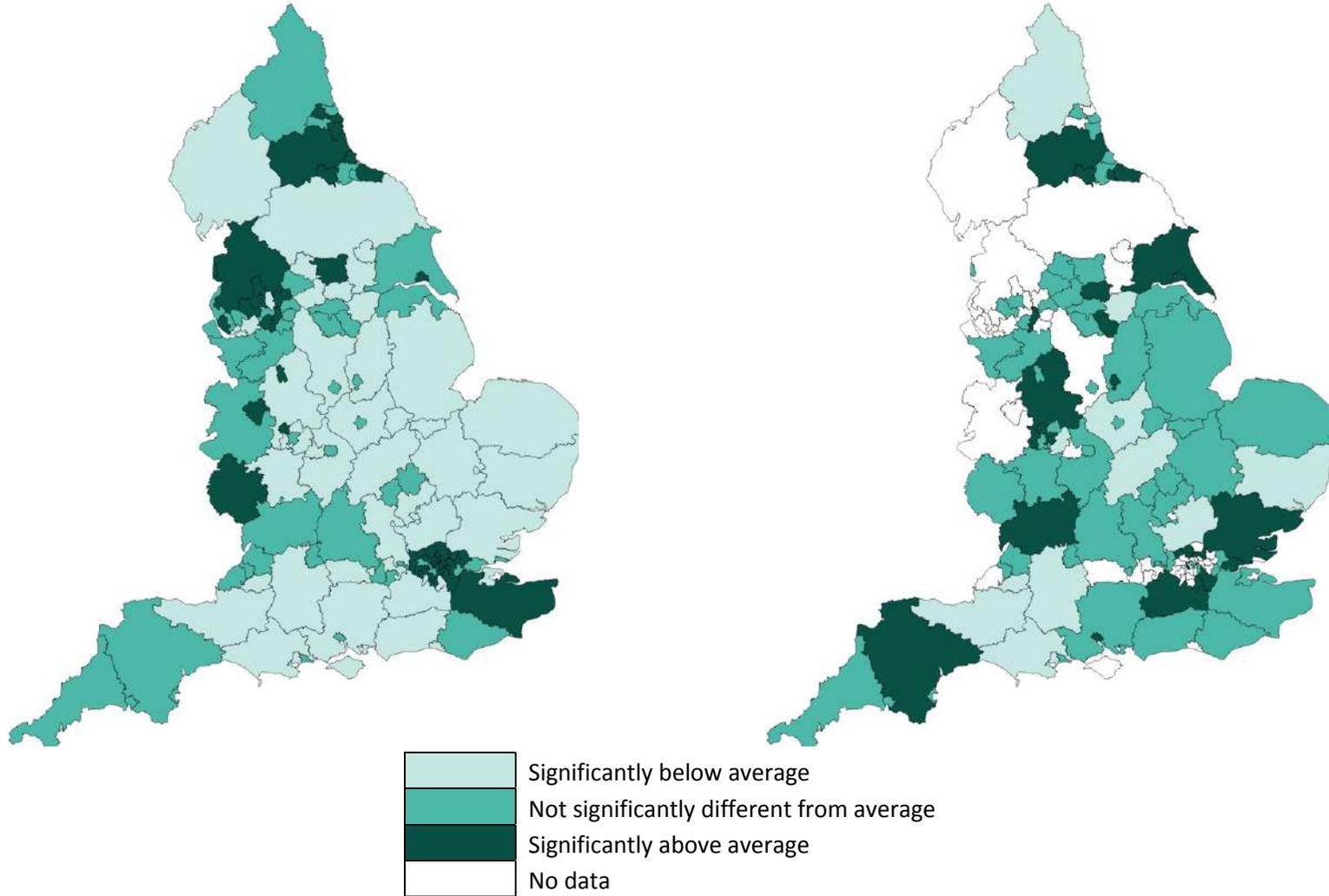
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<sup>12</sup> Note that it is not necessary for these figures to average to zero due to the weighting applied by length of time open and schools in single-academy trusts being excluded. Analysis includes all LA schools and those recorded as in MAT, it is not restricted to those with 3 or 5 or more schools.

**Figure 5.8: Local authority level improvement scores at Key Stage 2**

Local authority maintained mainstream schools

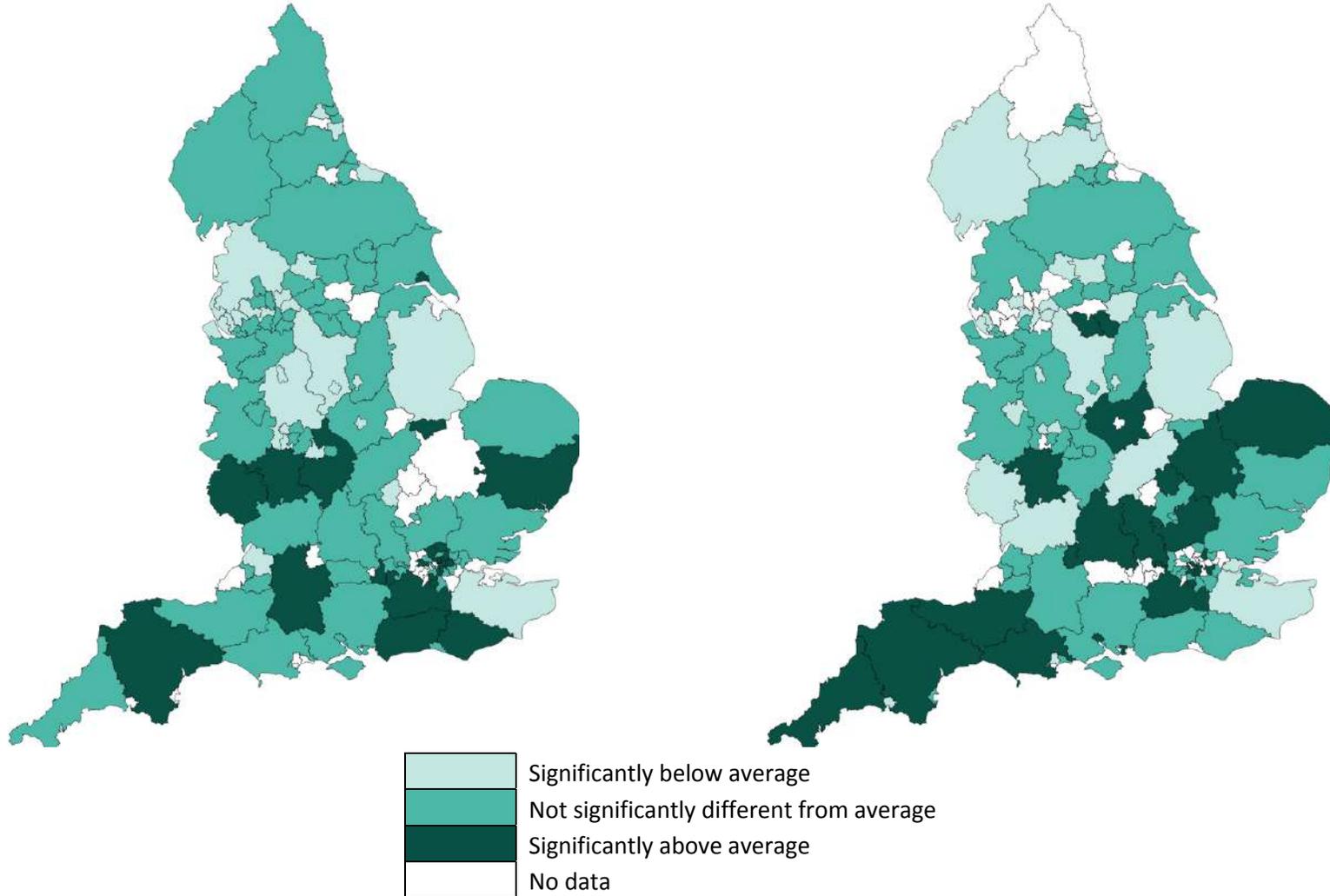
Mainstream academies in multi-academy trusts



**Figure 5.9: Local authority level improvement scores at Key Stage 4**

Local authority maintained mainstream schools

Mainstream academies in multi-academy trusts



## Conclusion

The overriding finding from this extensive research is that academies are not a panacea for school improvement. As we see from the LSE research in chapters 2 to 4 of this report, the academies programme had a clear positive effect on schools which became sponsored during the years of the Labour government (from 2002 to 2010), generating an improvement equivalent to one grade higher in five GCSE subjects for an average pupil. Schools which were outstanding prior to converting to academy status under the Coalition government also improved once they became an academy, but with more modest improvements of around one grade higher in two subjects on average. But within these two groups, we see wide variation in the improvement of individual academies. We cannot see any evidence of 'good' and 'satisfactory / inadequate' converter academies having improved their performance.

The issue of variation is highlighted further in our analysis of performance at multi-academy trust and local authority level. Here, we find that there is little overall difference in the improvement in schools in MATs and schools in LAs. There are some distinct high-performers and low-performers amongst each of those groups.

It is evident that the structure of the school is less meaningful to the outcomes of pupils, than what is happening within those schools. Features of effective practice and process should be identified through rigorous analysis and embedded into government guidance. Such research should also consider whether and to what extent academies are using their freedoms in order to drive improvements.

This first part of this report looks solely at the performance of secondary academies. As the number of primary academies increase, a logical next step would be to consider whether we see any evidence of improvement by the end of Key Stage 2.

# ANNEX A: LSE Methodology and Detailed Findings

By Andrew Eyles, Gabriel Heller-Sahlgren, Stephen Machin, Matteo Sandi and Olmo Silva

## Part I: Pre-2010 Academies

This section details the Key Stage 2 (KS2) and Key Stage 4 (KS4) impact of all Labour academies relative to a control group of academies that gained permission to become academies under the Labour government, but actually converted in the 2010/11 school year when the Coalition was in power and after the 2010 Academies Act.

In particular, we study how the average KS2 attainment of pupils enrolled in year 7 changes after academisation, relative to changes in control schools. This allows us to identify the effect of academisation on the before/after evolution of the pupil intakes of schools. To identify the impact of academisation on outcomes, we then study changes in KS4 attainment among pupils who were already enrolled at the schools before they became academies, relative to changes in schools that became academies in the 2010/11 school year.<sup>13</sup>

This set-up allows us to control for unobservable school attributes that do not vary over the time period analysed, such as school ethos, which might correlate with both academisation and changes in pupil intake/performance. Furthermore, we only compare pupils who attend academies with pupils attending schools that will convert to academy status after they sit their examinations. We exclude pupils in schools who do not convert to academies. This is important since the choice to become an academy may be correlated with other school characteristics that in turn might affect intakes and achievement, such as enthusiastic head teachers. By excluding schools that never convert, we make 'treated' and 'control' schools more comparable on dimensions that we might otherwise not be able to control for.

Finally, by only including pupils who were enrolled in these schools prior to conversion ('legacy enrolled children') in the analysis of KS4 performance, our approach bypasses concerns that academisation itself affects parental choice, which could affect achievement and therefore bias the results. This might occur, for example, because parents with pupils of different motivation or latent ability may be more or less likely to choose an academy.

As Table 1 shows, the samples we use for KS2 and KS4 are those with full data pre- and post-conversion for 208 academies. This is out of 244 that converted – or had gained permission to convert – in the Labour years. The drop to 208 comes about because of not having data on 5 conversions from independent schools, 12 new schools on which we do not have pre-conversion data, 12 City Technology Colleges for which academisation leads to little change in practice, and on 7 others with incomplete data.

Table 2 shows pre-conversion averages of KS2 and KS4 test scores, together with other school-level averages of pupil demographics, for all secondary schools (with and without the sample of academies and to be academies) and separately for the sample of treatment and control schools.

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<sup>13</sup> In econometric terms, this approach is a difference-in-difference method (DiD).

The need to look at a matched control group is made clear by the numbers in Table 2, which show the sample we study contains much more poorly performing schools in their pre-conversion states than the national average. But the treatment and control schools look very similar to one another, and much more like one another than the country averages.

The KS2 results are reported in Table 3 and plotted for the “event study” estimates that document separate effects for the years leading up to/following from conversion in Figure 1. The results show that pre-2010 sponsored academies significantly altered their intake following conversion to academy status. Figure 1 shows that, four years after conversion, pupils entering pre-2010 academies have, on average, KS2 scores 0.16 of a standard deviation higher than pupils entering schools that gain academy status in the academic year 2010/2011. Taking a weighted average over all post conversion years we find the increase in KS2 to be 0.08 of a standard deviation.

Table 4 shows baseline estimates of the impact of academy conversion on the KS4 performance of year 11 pupils using the legacy enrolment approach described above. It shows two sets of ordinary least squares (OLS), intention to treat (ITT) and instrumental variables (IV) estimates – which differ in whether or not the specifications include control variables. OLS regressions assign pupils to the school they actually attended in year 11. These models, however, ignore endogeneity issues and might yield biased results. To bypass this problem, the ITT approach assigns pupils to the school in which they were initially (i.e., prior to academy conversion) enrolled in year 7. Finally, the IV approach assigns pupils based on where they actually sat their KS4 examinations – but predicts this assignment based on where they were initially enrolled in year 7. This approach provides an estimate of the impact of actually attending an academy – rather than merely being initially enrolled in one – while bypassing problems associated with mobility to and from academies.

Specification (f) is our preferred specification and shows a significant improvement of 0.091 of a standard deviation of KS4 performance for legacy enrolled pupils who sit their KS4 exams in an academy school relative to a control school. This corresponds to approximately one grade in 1.5 GCSE subjects.

Table 5 shows “event study” estimates. These allow one to consider possible pre-conversion trends for treatment and control schools and to consider whether the KS4 improvements that accrue to pupils in academies have different effects the longer a school has been an academy. As shown in the table, and graphically in Figure 2, there is no evidence of pre-treatment differences in trends between treated and control schools. However, we find a positive effect of academy attendance that increases with the number of years an academy has been in operation. This is shown by the much larger coefficient in specification (c) of Table 4 four years post-conversion: i.e., 0.311 of a standard deviation (or approximately one grade in five GCSE subjects; highly significant), compared to the smaller estimate in the conversion year itself of 0.036 of a standard deviation (around one grade in half a GCSE subject; not significant).

Figure 3 shows the cohort by cohort estimates of the event study model, revealing a very similar pattern of estimates across cohorts, with no significant differences occurring before conversion, but with significant improvements occurring from the second year after conversion (“event year” c+1 onwards).

Some of our earlier, published research presented evidence of some medium/longer run gains of the academy enrolment effects from the Labour academies by looking at whether legacy enrolled

children affected by academy conversion enrol for a university degree. This is for a different sample, namely the first seven cohorts of academy conversions, for which data was only available when the analysis for the paper was undertaken). Their results are summarised in Figure 4, which converts their event study estimates to percent effects relative to the mean of the dependent variable.

Separate estimates are shown for enrolling at Russell Group and non-Russell Group universities. For both groups, there is no evidence of any pre-conversion treatment-control differences. There is also no evidence of an effect for the elite, Russell Group universities. However, the estimates show significant post-conversion increases for enrolling in a degree at a non-Russell Group university, which reach about 30 percent higher effects by the fourth year after conversion (“event year” c+3).

**Table 1: Sample of Academy Conversions by School Year**

	All Schools With Full Data (Pre- and Post-Academy Conversion)									
	All	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Treatment Academies, Convert in Labour Years	152	3	6	2	7	14	25	37	58	0
Control To Be Academies, Convert in 2010/11	56	0	0	0	0	0	0	0	0	56

Source: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/175360/academies\\_annual\\_report\\_2010-11.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/175360/academies_annual_report_2010-11.pdf)

**Table 2: Pre-Conversions School Characteristics and Balancing Tests**

	Key stage 2 points score	Key stage 4 points score	Proportion getting 5 or more A*-C GCSEs or equivalents	Proportion male	Proportion white	Proportion eligible for free school meals	Proportion special educational needs	Number of Schools
All Secondary Schools	63.250	40.217	0.499	0.507	0.825	0.140	0.176	3134
All Secondary Schools Except 208 Sample Schools	63.822	40.924	0.516	0.506	0.829	0.132	0.170	2926
Treatment Academies	55.792	30.429	0.273	0.521	0.772	0.325	0.272	152
Control To Be Academies	56.562	31.216	0.285	0.531	0.797	0.282	0.281	56
Treatment – Control Difference	-0.771 (0.812)	-0.786 (0.741)	-0.012 (0.016)	-0.011(0.014)	-0.024(0.039)	0.044 (0.022)	-0.009 (0.020)	

Notes: Standard errors reported in parentheses. The data refers to characteristics in the 2001/02 school year. For comparability, we remove approximately 300 middle schools from the rows for all schools. All variables with the exception of KS2 points score of the year 11 students of the schools. KS2 refers to the average KS2 score of the incoming year 7 class.

**Table 3: Event Study Estimates of Intake Changes (KS2)**

	OLS (a)	OLS (c)
Academy x Post-Conversion (E = c to c+3)	0.081 (0.024)	
Academy x Post-Conversion (E = c-4)		-0.001 (0.014)
Academy x Post-Conversion (E = c-3)		0.009 (0.018)
Academy x Post-Conversion (E = c-2)		0.006 (0.020)
Academy x Post-Conversion (E = c-1)		-0.005 (0.024)
Academy x Post-Conversion (E = c)		0.044 (0.028)
Academy x Post-Conversion (E = c+1)		0.085 (0.033)
Academy x Post-Conversion (E = c+2)		0.147 (0.039)
Academy x Post-Conversion (E = c+3)		0.159 (0.045)
School Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Number of Pupils	972877	972877
Number of Schools	208	208

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Results compare pupils in 152 sponsored academies that opened before May 2010 with those in 56 'to be academies' approved under the Labour Government but opening after May 2010.

**Table 4: Baseline Estimates of Impact on Key Stage 4**

	Dependent Variable: KS4 Standardised Test Score					
	OLS (a)	ITT (b)	IV (c)	OLS (d)	ITT (e)	IV (f)
Academy x Post-Conversion (E = c to c+3)	0.181 (0.033)	0.144 (0.033)	0.150 (0.034)	0.125 (0.032)	0.087 (0.032)	0.091 (0.034)
Key Stage 2 Standardised Test Score				0.507 (0.007)	0.507 (0.007)	0.507 (0.007)
Control Variables	No	No	No	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Pupils	912324	912324	912324	912324	912324	912324
Number of Schools	208	208	208	208	208	208
First Stage Coefficient on ITT			0.959 (0.002)			0.959 (0.002)

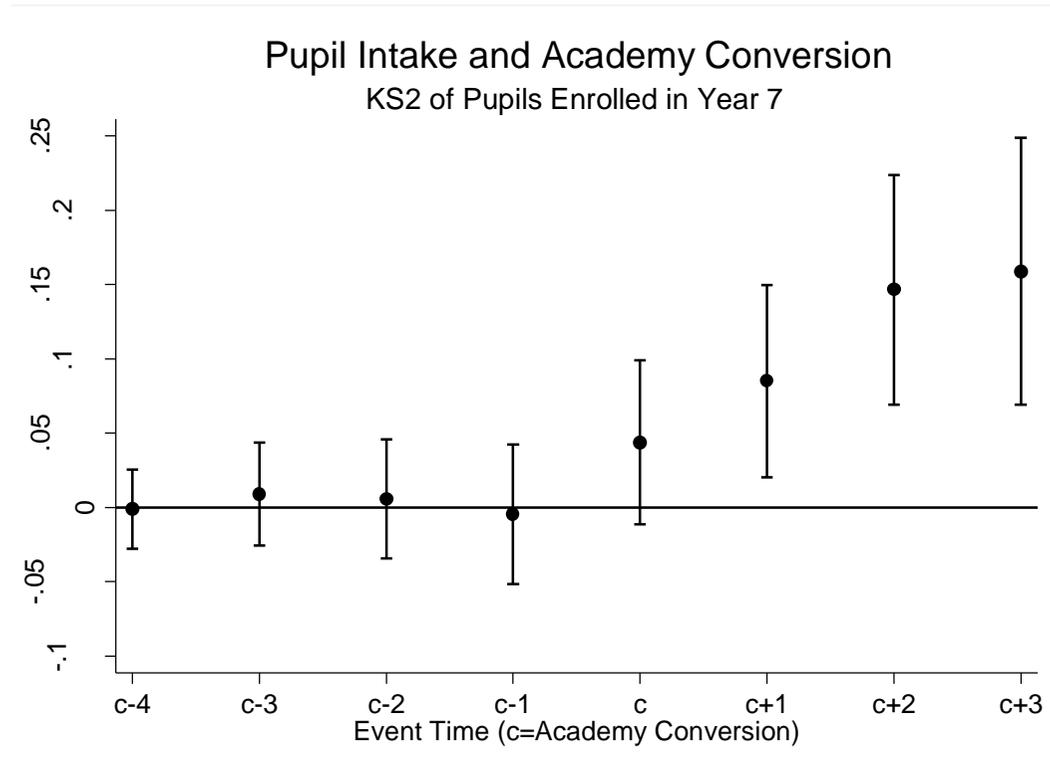
Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational need, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable. Results compare pupils in 152 sponsored academies that opened before May 2010 with those in 56 'to be academies' approved under the Labour Government but opening after May 2010.

**Table 5: Event Study Estimates of Impact on Key Stage 4**

	OLS (a)	ITT (b)	IV (c)
Academy x Post-Conversion (E = c-4)	-0.008 (0.019)	-0.027 (0.020)	-0.027 (0.020)
Academy x Post-Conversion (E = c-3)	0.019 (0.024)	-0.001 (0.025)	-0.000 (0.025)
Academy x Post-Conversion (E = c-2)	0.054 (0.028)	0.034 (0.030)	0.034 (0.030)
Academy x Post-Conversion (E = c-1)	0.044 (0.034)	0.023 (0.036)	0.023 (0.036)
Academy x Post-Conversion (E = c)	0.069 (0.039)	0.035 (0.041)	0.036 (0.042)
Academy x Post-Conversion (E = c+1)	0.161 (0.049)	0.107 (0.051)	0.112 (0.053)
Academy x Post-Conversion (E = c+2)	0.264 (0.057)	0.175 (0.057)	0.191 (0.063)
Academy x Post-Conversion (E = c+3)	0.361 (0.064)	0.274 (0.067)	0.311 (0.076)
Key Stage 2 Standardised Test Score	0.507 (0.007)	0.507 (0.007)	0.507 (0.007)
Control Variables	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Pupils	912324	912324	912324
Number of Schools	208	208	208
First Stage Coefficient on ITT x (E=c)			0.985 (0.001)
First Stage Coefficient on ITT x (E=c)			0.954 (0.003)
First Stage Coefficient on ITT x (E=c)			0.914 (0.005)
First Stage Coefficient on ITT x (E=c)			0.880 (0.011)

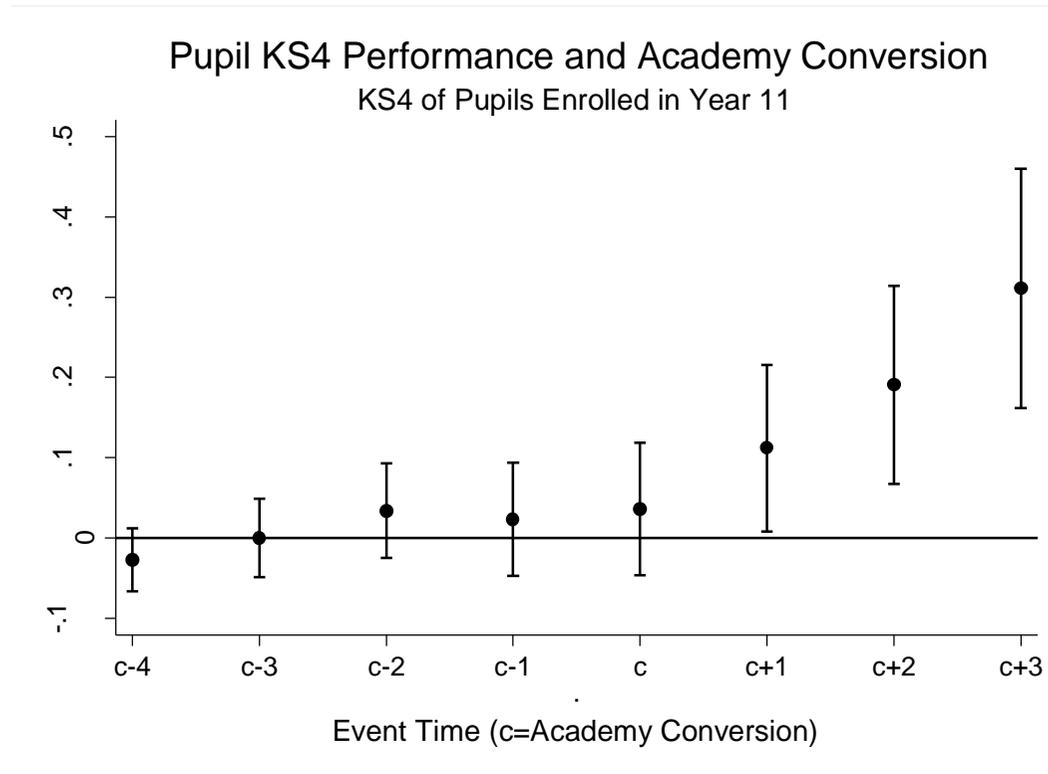
Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational need, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable. Results compare pupils in 152 sponsored academies that opened before May 2010 with those in 56 'to be academies' approved under the Labour Government but opening after May 2010.

Figure 1: Event Study Estimates of Impact on Key Stage 2



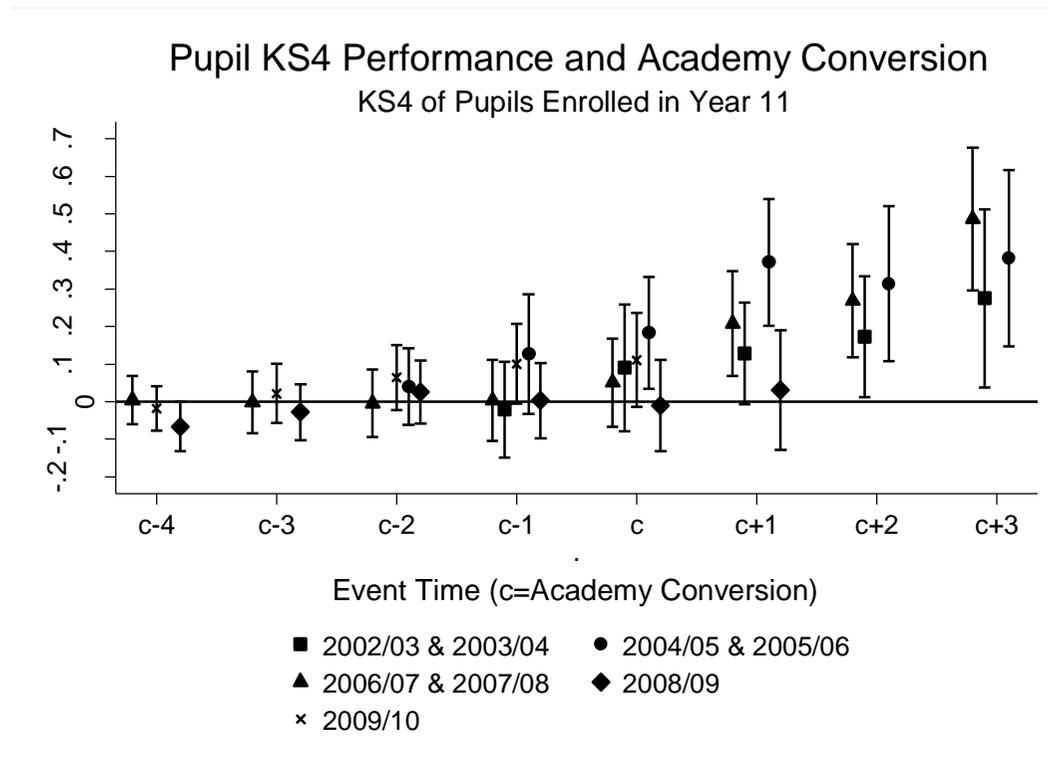
Notes: Source – Authors’ calculations using several years of National Pupil Database records matched with DfE counts of academies. New results comparing pupils in 152 sponsored academies that opened before May 2010 with those in 56 ‘to be academies’ approved under the Labour Government but opening after May 2010.

Figure 2: Event Study Estimates of Impact on Key Stage 4



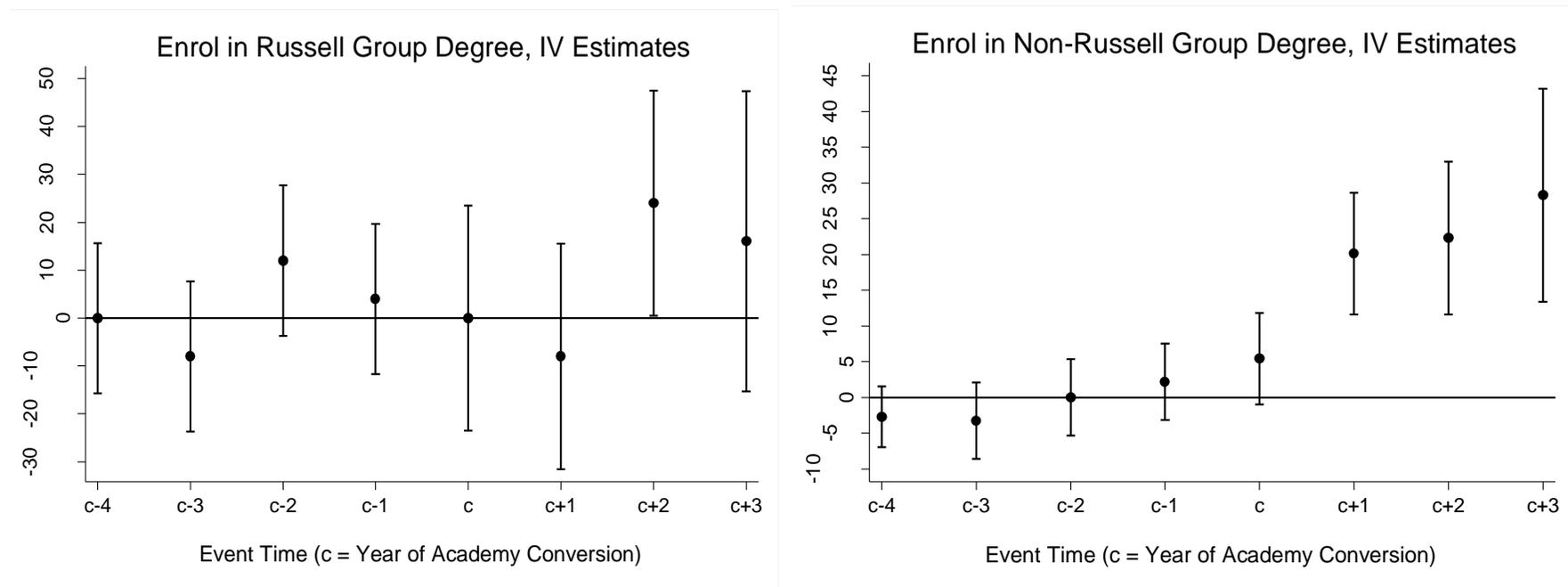
Notes: Source – Authors’ calculations using several years of National Pupil Database records matched with DfE counts of academies. New results comparing pupils in 152 sponsored academies that opened before May 2010 with those in 56 ‘to be academies’ approved under the Labour Government but opening after May 2010. From estimates of specification (c) of Table 5.

Figure 3: Event Study Estimates of Impact on Key Stage 4, By Conversion Cohort



Notes: Source – Authors’ calculations using several years of National Pupil Database records matched with DfE counts of academies. New results comparing pupils in 152 sponsored academies that opened before May 2010 with those in 56 ‘to be academies’ approved under the Labour Government but opening after May 2010. From cohort specific estimates of specification (c) of Table 5.

**Figure 4: Event Study Estimates of Percent Effects on Post-Compulsory Schooling Outcomes**



Notes: Results taken from Eyles, A., C. Hupkau and S. Machin (2016) "Academies, Charter and Free Schools: Do New School Types Deliver Better Outcomes?", *Economic Policy*, 31, 453-501. They compare pupils in 94 sponsored academies that opened in the school years 2002/3 to 2008/9 with 114 'to be academies' approved by the Labour Government.

## Part II: The Evidence on Post-2010 Converter Academies

In order to analyse the effects of post-2010 academies, we implement a research design similar to the one used to investigate the impact of pre-2010 sponsored academies. When studying the impact of post-2010 academies, our data covers the period 2005/06 to 2014/15. Furthermore, we are able to identify academies that convert in 2015/16 and 2016/17. These periods respectively identify the set of schools that belong to treated ‘current’ converter and control ‘future’ converter groups. We then study the impact of academisation on the average KS2 attainment of pupils enrolled in year 7 by comparing changes after conversion for academies opening between 2010/2011 and 2014/2015, relative to changes in similar schools that do not convert within our observation window – but convert immediately afterwards (i.e., 2015/16 and 2016/17). Similarly, to identify the impact of academisation on outcomes, we study changes in KS4 attainment among pupils who were already enrolled at the schools before they became academies for schools that convert between 2010/11 and 2014/15, relative to changes in schools that did not convert within our period of observation but do so right after it.

### Number and characteristics of converter academies

The numbers of current and future converter academies are presented in Tables 1 to 4. Note that we assign academies that are open by December of year X (e.g. 2010) to be in operation from the academic year X/X+1 (e.g. 2010/11). Academies opening from January of X+1 (e.g. January 2011) are assigned to open in the following academic year (e.g. 2011/12). This is because we assume that these academies open too late to have any impact until the year afterwards; pupils attending those academies receive less than two terms of ‘academy exposure’ in that school year. Note also that the data stretch up to May 2016 – academies converting around then are assigned to the academic year 2016/17.

Table 1 shows that 1,170 schools converted between 2010/11 and 2014/15, and 50 schools converted after that point. The peak occurs in 2011/12 and 2012/13. Since schools with different Ofsted ratings were allowed to convert at different stages of the programme, Tables 2-4 present the number of converters by academic year and the schools’ latest Ofsted inspection grade prior to 2010: ‘outstanding’; ‘good’; and ‘satisfactory’ or ‘inadequate’. We stratify schools using the latest Ofsted rating obtained before 2010 because any later inspections follow the introduction of the Academies Act. This means that Ofsted grades after 2010 might be affected by schools’ attempts to qualify for conversion (or attempts to resist conversion), which would create problems for our stratification rationale. On the other hand, pre-2010 Ofsted grades could not possibly have been influenced by such attempts, and are therefore more appropriate versions of the school quality indicators relevant for determining when and under what circumstances schools could convert.

The tables show that 390 outstanding schools converted during the period of analysis, while a further five schools converted in 2015/16.<sup>14</sup> Most of the outstanding conversions took place by 2011/12, with the number of additional schools in this category petering out afterwards. Table 3

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<sup>14</sup> These schools never convert in the period we study, which means that their pupils always act as controls throughout the period of analysis. However, the full control group used in each year also includes pupils enrolled in schools that become academies after December in the school year in which they sit their examinations. The control group is therefore always composed of pupils in schools that undergo academisation after it can possibly affect their grades.

instead shows that 543 good converters opened during the period of analysis, and additional 23 in 2015/16 and 2016/17. As expected, the peak of conversions for this group occurs later (2011/12 and 2012/13) than for outstanding converters. Finally, 237 schools converted from satisfactory or inadequate Ofsted ratings in the study period, while 22 such schools converted afterwards. The fact that so many underperforming schools converted may at first seem odd, but it is important to remember that the eligibility criteria changed over time to allow schools with different Ofsted ratings to convert, provided their attainment trajectory was pointing upwards and their finances were sound. As our Ofsted ratings precede 2010, these schools are likely to have qualified through these alternative routes.<sup>15</sup>

Table 5 presents the characteristics of all converter academies – irrespective of their pre-2010 Ofsted grade – and compares them to the characteristics of all secondary schools in the national sample. Note that we only include secondary schools with pupils in both year 7 and year 11. This allows us to study both academies' intake quality in terms of KS2 scores and KS4 outcomes after conversion. The KS2 and KS4 scores have been standardised in the national sample, displayed in the first row, to have a mean of zero and a standard deviation of one. Note that the school characteristics are measured at the beginning of our observation window (2005/06).

The table shows that converter academies have higher KS2 and KS4 outcomes compared with the national average, excluding the schools included in the sample. The differences are sizeable and in the order of 25-30 per cent of a standard deviation. This confirms the evidence presented in Figures 4.1 and 4.2 in Part 4 showing that converters have higher intake quality and better KS4 outcomes prior to conversion. Converter academies also have lower proportions of students with missing KS2 scores, and higher proportions of White British students and students speaking English as their first language, although these differences are not large. Finally, converter academies have smaller proportions of pupils with special educational needs and substantially smaller shares of pupils eligible for free school meals (FSM). The bottom three rows compare school characteristics between actual converters and schools that convert after December 2014, with the differences reported in the last row.<sup>16</sup> The figures suggest that the characteristics of current converters and future converters are comparable, except with respect to KS2 scores among their incoming pupils and KS4 outcomes – which are higher among the schools that converted within our observation window.

We next reproduce the analysis reported in the last three rows of Table 5 separately for converter academies with different Ofsted ratings. The data are displayed in Table 6 for outstanding converters; Table 7 for good converters; and Table 8 for satisfactory/inadequate converters. Table 6 shows that outstanding schools that converted during our period of analysis have somewhat higher KS4 outcomes and more advantageous pupil characteristics compared with the schools that converted after our period of analysis – including higher KS2 scores, higher proportions of White British pupils, lower percentages of students eligible for FSM, and larger shares of English speakers.<sup>17</sup>

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<sup>15</sup> While schools could technically have improved from satisfactory/inadequate to outstanding in such a short span of time, it is quite unlikely to apply to more than a small minority of these schools.

<sup>16</sup> As already noted in footnote 3, schools converting after December 2014 are the only ones where no pupils get exposed to academisation. Pupils in these schools therefore only act as controls throughout the study period.

<sup>17</sup> Although these differences are not statistically significant, we note that some of them are relatively sizeable. Nevertheless, exploiting the research design described above, we deal with these discrepancies to ensure a causal interpretation of the findings.

At the same time, Tables 7-8 show that the differences between actual and future converters in the good and satisfactory/inadequate samples are small and generally not statistically significant.

### Changes in KS2 of pupil intake

The effect of academisation on changes in pupil intake quality (measured by KS2 scores) among converters is depicted graphically in Figure 1.<sup>18</sup> The plots display coefficients from pupil-level regressions analysing the association between a binary indicator that identifies the timing of academy conversion and the average KS2 attainment in English, Mathematics and Science of year 7 pupils. More precisely, we use data for all school years between 2005/06 and 2013/14 to investigate the impact of conversion on intake quality: (i) in the year of conversion ( $E=c$ ); (ii) one and two years after conversion ( $E=c+1$  and  $E=c+2$ ); and (iii) in the four years leading up to conversion ( $E=c-4$  to  $E=c-1$ ). All our estimates are benchmarked against school composition five years prior to conversion ( $E=c-5$  is our omitted category), and regression coefficients have been standardised so they correspond to percentage changes of one standard deviation in the national distribution of scores. We present results from a model in which all post-2010 converter academies are pooled and results from separate models for schools with different pre-2010 Ofsted grades. We find no evidence of significant changes in intake following conversion – irrespective of whether we consider all school types or stratify them by Ofsted grades.

### The impact on KS4 outcomes

Turning to the impact of converter academies on KS4 outcomes, the first set of results in Table 9 displays the findings for all converter academies pooled. The table presents coefficients from pupil-level regressions analysing the relationship between a binary indicator identifying whether or not the school attended was a converter academy – irrespective of the number of years since conversion – and KS4 outcomes. The data cover the period 2005/06 to 2014/15. KS4 outcomes have been standardised so they correspond to percentage changes of one standard deviation in the national distribution of scores. Columns (a)–(c) exclude pupil background characteristics and KS2 scores, while Columns (d)–(f) hold them constant.

Columns (a) and (d) present ordinary least square (OLS) results where we assign pupils to the school they actually attended in year 11. The results indicate very large positive associations between attending a converter academy and KS4 performance. As explained above, however, these models ignore that pupils might change schools after their initial enrolment and move to or away from academies depending on their attitudes and ability. These issues prevent us from interpreting the OLS estimates as causal.

To bypass this problem, Columns (b) and (e) present results from intention-to-treat (ITT) models in which we focus on ‘legacy pupils’ only. Essentially, this means that we assign pupils to the school in which they enrolled in year 7. These pupils are then identified as ‘being in an academy’ if the school where they started secondary education converts to academy status at some point before they sit their KS4 examinations – irrespective of whether or not they remain in that school.<sup>19</sup> This approach bypasses any problems associated with pupil mobility to and from academies after year 7. Using this

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<sup>18</sup> Additional Table A1 at the end of this part of the Appendix displays the corresponding regression results.

<sup>19</sup> This represents an initial propensity or possibility to be ‘treated’ with some academy instruction time. Hence, in econometric jargon, it is called an intention-to-treat (ITT) estimate.

approach, the results display much smaller and slightly negative effects, although the estimates are not very precise. This indicates that pupil mobility between year 7 and 11 is indeed an important source of bias in Columns (a) and (d).

Finally, Columns (c) and (f) assign pupils based on where they actually sat their KS4 examinations – but predicts this assignment based on where they were enrolled in year 7. This instrumental variable (IV) approach provides an estimate of the impact of actually attending an academy – rather than merely being enrolled in one in year 7 – while bypassing problems associated with mobility to and from academies. However, since only 6-10 per cent of pupils in our sample change schools between year 7 and year 11, the estimates presented in Columns (b), (c), (e), and (f), are essentially the same. Again, this indicates that strategies that ignore pupil mobility in and out from academies over time cannot unveil the true causal effect of attending them.

However, an important concern with the above models is that they pool all converter academies, irrespective of their Ofsted grade. This could be problematic since schools with different grades had to satisfy different criteria in order to be able to convert: outstanding schools were pre-approved (and fast-tracked) for conversion, whereas other schools had to display sustained improvements in attainment (and sound finances). The latter schools therefore faced improvement incentives that the former did not face – which could differentially affect schools' behaviour prior to conversion and in the immediate aftermath, and in turn impact KS4 scores irrespective of the actual process of academisation. To address this concern, we present evidence on the impact of academisation on KS4 outcomes for schools with different pre-2010 Ofsted grades separately.

Table 10 presents our results for outstanding academies. For this group, we still find implausibly large, biased effects in Columns (a) and (d). However, our 'legacy enrolment' estimates now reveal small, but positive and statistically significant effects on KS4 outcomes. The coefficients suggest that academisation among schools with an outstanding pre-2010 Ofsted grade on average improves KS4 outcomes by 3 per cent of a standard deviation. In the group that was pre-approved to convert, we therefore find evidence of a small positive effect of attending an academy.

Turning to schools that were rated good by Ofsted prior to 2010, Table 11 displays large, positive effects in Columns (a) and (d). Again, these are likely to be biased by pupil mobility. Consistently, in Columns (b), (c), (e), and (f), which deal with this problem, we instead find small and insignificant effects. Finally, Table 12 shows similar findings for converters with satisfactory/inadequate pre-2010 Ofsted grades. Columns (a) and (d) display positive and significant, but most likely biased results. However, the remaining columns of the table actually display small negative effects, suggesting that academisation decreases pupils' KS4 test scores among these schools.

The validity of the method utilised rests on one crucial assumption: that the trends in KS4 performance of current converters and future converters were similar prior to conversion, and would have continued to be similar in the absence of the academisation. We test this assumption by studying the impact of academy conversion on pupil performance over time, both before and after conversion. Finding no differences in performance trends between current converters and future converters in the years leading up to conversion would support the causal interpretation of our results. Conversely, finding that performance trends of current converters and future converters differ prior to conversion would imply a rejection of the assumption and substantially threaten the causal interpretation of our findings.

The evidence on these issues is presented in Tables 13–16 for all converter academies pooled, and for outstanding, good, and satisfactory/inadequate schools separately. In all tables, Columns (a) display results obtained by assigning pupils to the school in which they sit their KS4 exams (OLS regressions), whereas Columns (b) present results where pupils are assigned to the school they attended in year 7 (ITT regressions), and Columns (c) predict attendance in year 11 with school assignment in year 7 (IV regressions). In all tables, we estimate the impact of attending an academy for up to four years ( $E=c$  to  $E=c+3$ ). In a ‘falsification exercise’, we also analyse whether pupil achievement in converter academies differs from pupil achievement in future converters in the years prior to conversion ( $E=c-4$  to  $E=c-1$ ). If the estimates presented above are indeed causal, we should not find that academisation affected performance before the school actually converted. That is, none of the coefficients for years  $E=c-4$  to  $E=c-1$  should be statistically significant from zero. In these regressions, the benchmark year is  $E=c-5$ , which means that all coefficients display the effect relative to five years prior to conversion.

Across all tables, we find that assigning students to schools where they sit their KS4 examinations produces implausibly large results, both before and after academisation. Conversely, the ‘legacy enrolment’ approaches provides smaller, but more plausible estimates. We therefore focus our discussion of the models where we predict year-11 attendance from year-7 attendance and present the results graphically in Figure 2.

The top-left panel presents the findings for all converter academies pooled. These show a slight dip in test scores prior to conversion, which then continues afterwards – generating the overall slightly negative effect displayed in Table 9. As already discussed, pooling all schools across Ofsted ratings could produce misleading results. In the remaining three panels, we therefore present results separately for the three different pre-2010 Ofsted grade categories described above.

The top-right panel shows the results for outstanding converters. We find no evidence that academisation predicts changes in KS4 scores in the years leading up to conversion. This supports the assumption that the performance trends between academies and future academies do not differ prior to conversion, which lends support to the causal interpretation of the findings for these academies. Following conversion, we then observe that outstanding schools significantly improve their students’ performance and that the impact grows with time: the impact goes from 5.4 per cent of a standard deviation for pupils who attended an academy for about one school year to approximately 12 per cent of a standard deviation for pupils who attended an academy for about four school years. These quantities correspond to approximately one grade in almost one and two GCSE subjects, respectively. Overall, therefore, we conclude that schools that were pre-approved to become academies at the time of the implementation of the Academies Act improved pupil performance as a result of converting.

However, the other two panels show a less reassuring picture. Starting with good schools, we observe a small performance dip four and three years prior to conversion. This is followed by a small recovery and a further dip in the year just before conversion. The estimates then become small and statistically insignificant in the year of conversion and the subsequent year – only to turn negative two and three years after conversion. This suggests that the required assumption to ensure a proper causal interpretation of the results does not hold for these schools. What we observe is a negative correlation, but the falsification exercise that picks up pre-conversion differences in trends indicates that this correlation does not reflect a causal impact. Our conclusion for these schools is that we

therefore need to be cautious, and that we can at best say that there is no evidence of a significant positive impact of academisation on KS4 outcomes.

Finally, the bottom-right panel presents our results for satisfactory/inadequate schools. Although the coefficients prior to conversion are only borderline statistically significant, we observe a slight improvement in KS4 outcomes four and three years before conversion, followed by a slight dip in performance in the year before conversion. This dip then continues in the years after conversion. Once again, we have to be very cautious in interpreting the findings: the evidence suggests that – although not in a statistically significant way – the assumption required to ensure a causal interpretation of the results is violated here. Our conclusion is thus once more that we need to be cautious and that at best these results suggest that there is little evidence of a significant positive impact of academisation on KS4 outcomes for this group of schools.

The fact that results among schools with a pre-2010 outstanding Ofsted grade are most likely to reflect causal academisation effects is not so surprising. As highlighted, these schools are the only ones for which academisation itself is not entangled with altered incentives in the pre-conversion process. This is because they were pre-approved when the Academies Act passed. Schools with lower pre-2010 Ofsted grades had differential performance incentives to become (or avoid becoming) academies over time as the eligibility criteria changed. While we cannot test this theory directly, it is consistent with the results from the falsification exercises just discussed.

### The Evidence on Post-2010 Sponsored Academies

In the final section, we analyse potential effects of post-2010 sponsored academies using the same research design as before. We identify schools that were approved after May 2010 as post-2010 sponsored academies, opening from September 2010 onwards. Once again, schools that open in the academic years 2010/11 to 2014/15 are actual ‘treated’ schools, whereas schools that open in the academic year 2015/16 and 2016/17 are used as future ‘control’ schools. Note that if a school becomes a sponsored academy by December of year X (e.g. 2011), we assume again that it will have an impact on outcomes from school year X/X+1 (e.g. 2011/12), while changes to sponsored academy status from January of year X+1 onwards will affect outcomes from the subsequent school year onwards.

Table 17 presents the numbers of post-2010 sponsored academies that became active in the period of analysis and future sponsored academies. In the first year of our analysis, no post-2010 sponsored academy opened. This is because all sponsored academies opening by December 2010 had been approved prior to May 2010 – and they should therefore be classified as Labour academies. Overall, we find that 205 sponsored academies opened by December 2014, while a further 49 opened afterwards.<sup>20</sup>

Table 18 has the same structure as Table 5, but conveys a completely different message: even after 2010, sponsored academies are amongst the most disadvantaged and worst performing schools. Their pupils’ KS2 attainment is more than 30 per cent of a standard deviation below the national average, while their KS4 attainment is approximately 25 per cent of a standard deviation below. They also tend to have more pupils eligible for free school meals and with special education needs –

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<sup>20</sup> The latter are therefore the only schools in our sample that did not have any pupils being exposed to academisation in the study period (see footnote 3) and therefore always act as controls in the analysis.

although these differences are not particularly stark. Interestingly, the last two rows show that schools that became sponsored academies after the period of analysis are better performing than those that became sponsored academies during it. The former group's KS2 and KS4 scores are still below the national average, but less so compared with the group of schools that convert during our observation window. These findings are consistent with the patterns observed in Figures 4.1 and 4.2 in the main text.

### Changes in KS2 of pupil intake

In Figure 3, we graphically present evidence on the impact of post-2010 sponsored academies on changes in pupil intake in terms of KS2 attainment.<sup>21</sup> The results show that KS2 scores of pupils attending a post-2010 sponsored academy are almost 9 per cent of a standard deviation better two years after the change to academy status, compared with schools that were yet to make that change. Roughly, this corresponds to attracting pupils whose KS2 test scores are 2 percentiles higher than the mean percentile in our sample – i.e., the 43<sup>rd</sup> percentile in the national distribution. This reflects the fact that post-2010 intakes are 'disadvantaged' school prior to conversion relative to the national distribution – with a mean percentile centred at 50. Two years after conversion, these schools' intake slightly improves to around the 45<sup>th</sup> percentile – but not substantially and still below the national mean. This pattern is similar to the one observed for the pre-2010 sponsored academies, although the change is less stark.

### The impact on KS4 outcomes

Finally, we investigate the impact of post-2010 sponsored academies on KS4 outcomes. Our results are presented in Tables 19 and 20. These follow the same structure of Tables 9 and 13 respectively.<sup>22</sup> Once again, we find that assigning pupils to the school where they sit their KS4 examinations to estimate the impact of attending an academy yields large and significant estimates (OLS regressions). As discussed, these results are likely to be spurious and driven by pupil mobility that itself is affected by academisation. Columns (b)-(c) and (e)-(f) of Table 19 (ITT and IV estimates) show that once we account for this issue in our 'legacy enrolment' applications, there is a much smaller effect of about 5-7 per cent of a standard deviation (or one grade in 0.8-1.1 GCSE subjects).

However, as already clarified, our method is only valid if performance trends prior to academisation were similar in sponsored academies compared with future sponsored academies. We test this assumption formally in Table 20 and plot our findings (from Column c) in Figure 4. The results display a fairly worrying picture: one year prior to conversion, post-2010 sponsored academies had KS4 attainment that was more than 8 per cent of a standard deviation higher than five years prior to conversion (one grade in 1.2 GCSE subjects). The effect size further increases to 11 per cent (one grade in 1.8 GCSE subjects) in the year of conversion and then declines to 9 and 7.6 per cent after two and three years of academy exposure respectively (corresponding to one grade in 1.4 and 1.2

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<sup>21</sup> Note that our data for KS2 achievement only stretches up to 2013/2014. Given that no post-2010 sponsored academies opened by December 2010, we cannot estimate the impact of academisation on pupil intake three years after conversion – so our estimates only cover the period  $E=c$  up to  $E=c+2$ .

<sup>22</sup> Note that we do not provide results stratified by pre-2010 Ofsted ratings. This is because sponsored academisation remained predominantly reserved for failing schools. For this group, there were no changes in eligibility criteria to speak of: sponsored academies do not choose whether they want to convert, but are instead forced to convert when the government deems it necessary.

GCSE subjects). Finally, the coefficient goes back to zero for pupils that were exposed to four years in an academy.

Because schools in the treatment group start to improve in the year before becoming a sponsored academy, this means that there is no way to quantify whether the improvement following academisation, or the decline a couple of years later, is due to academisation per se. Indeed, the dip in performance a couple of years after academisation could also merely be the result of the control group improving its own performance in anticipation of their own academisation. We therefore conclude that our estimates are unlikely to display the causal effect of attending a post-2010 sponsored academy.

**Table 1: Sample of Academy Conversions By School Year – All Converter Academies**

All Schools With Full Data (Pre- and Post-Academy Conversion)								
	All	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Treatment Academies, Convert in 2010/11 to 2014/15	1170	64	640	303	109	54	0	0
Control To Be Academies, Convert in 2015/16 or 2016/17	50	0	0	0	0	0	42	8

**Table 2: Sample of Academy Conversions By School Year – Outstanding Converter Academies**

Outstanding Schools With Full Data (Pre- and Post-Academy Conversion)								
	All	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Treatment Academies, Convert in 2010/11 to 2014/15	390	61	245	55	19	10	0	0
Control To Be Academies, Convert in 2015/16 or 2016/17	5	0	0	0	0	0	5	0

**Table 3: Sample of Academy Conversions By School Year – Good Converter Academies**

Good Schools With Full Data (Pre- and Post-Academy Conversion)								
	All	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Treatment Academies, Convert in 2010/11 to 2014/15	543	0	312	149	55	27	0	0
Control To Be Academies, Convert in 2015/16 or 2016/17	23	0	0	0	0	0	19	4

**Table 4: Sample of Academy Conversions By School Year – Satisfactory and Inadequate Converter Academies**

Satisfactory and Inadequate Schools With Full Data (Pre- and Post-Academy Conversion)								
	All	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Treatment Academies, Convert in 2010/11 to 2014/15	237	3	83	99	35	17	0	0
Control To Be Academies, Convert in 2015/16 or 2016/17	22	0	0	0	0	0	18	4

**Table 5: Pre-Conversions School Characteristics and Balancing Tests – All Schools and Converter Academies**

	Standardized Key stage 4 points score	Standardized Key stage 2 points score	Proportion missing Key Stage 2	Proportion male	Proportion white	Proportion eligible for free school meals	Proportion special educational needs	Proportion native English speaker	Number of Schools
All Secondary Schools	0	0	0.073	0.506	0.828	0.132	0.170	0.895	2926
All Secondary Schools except 1220 sample schools	-0.137	-0.111	0.083	0.509	0.813	0.164	0.192	0.881	1706
Treatment Academies	0.188	0.146	0.064	0.502	0.848	0.089	0.141	0.914	1170
Control To Be Academies	0.058	0.022	0.070	0.510	0.849	0.110	0.140	0.909	50
Treatment – Control Difference	0.130 (0.045)	0.124 (0.042)	-0.005(0.006)	-0.008 (0.013)	-0.001 (0.030)	-0.021 (0.014)	0.002 (0.010)	0.005 (0.020)	

Notes: Standard errors reported in parentheses. The data refers to characteristics in the 2005/06 school year. For comparability, we remove approximately 300 middle schools from the rows for all schools. All variables with the exception of KS2 points score of the year 11 students of the schools. KS2 refers to the average KS2 score of the incoming year 7 class.

**Table 6: Pre-Conversions School Characteristics and Balancing Tests – Outstanding Converter Academies**

	Standardized Key stage 4 points score	Standardized Key stage 2 points score	Proportion missing Key Stage 2	Proportion male	Proportion white	Proportion eligible for free school meals	Proportion special educational needs	Proportion native English speaker	Number of Schools
Treatment Academies	0.388	0.279	0.066	0.489	0.832	0.087	0.139	0.897	390
Control To Be Academies	0.255	-0.016	0.072	0.567	0.549	0.160	0.096	0.713	5
Treatment – Control Difference	0.133 (0.114)	0.295 (0.194)	-0.006 (0.020)	-0.078 (0.064)	0.283 (0.205)	-0.073 (0.079)	0.043 (0.019)	0.184 (0.128)	

Notes: Standard errors reported in parentheses. The data refers to characteristics in the 2005/06 school year. For comparability, we remove approximately 300 middle schools from the rows for all schools. All variables with the exception of KS2 points score of the year 11 students of the schools. KS2 refers to the average KS2 score of the incoming year 7 class.

**Table 7: Pre-Conversions School Characteristics and Balancing Tests – Good Converter Academies**

	Standardized Key stage 4 points score	Standardized Key stage 2 points score	Proportion missing Key Stage 2	Proportion male	Proportion white	Proportion eligible for free school meals	Proportion special educational needs	Proportion native English speaker	Number of Schools
Treatment Academies	0.169	0.126	0.061	0.505	0.862	0.085	0.136	0.927	543
Control To Be Academies	0.156	0.108	0.076	0.494	0.861	0.098	0.138	0.916	23
Treatment – Control Difference	0.013 (0.066)	0.018 (0.061)	-0.015 (0.010)	0.011 (0.022)	0.001 (0.027)	-0.013 (0.019)	-0.002 (0.014)	0.011 (0.023)	

Notes: Standard errors reported in parentheses. The data refers to characteristics in the 2005/06 school year. For comparability, we remove approximately 300 middle schools from the rows for all schools. All variables with the exception of KS2 points score of the year 11 students of the schools. KS2 refers to the average KS2 score of the incoming year 7 class.

**Table 8: Pre-Conversions School Characteristics and Balancing Tests – Satisfactory and Inadequate Converter Academies**

	Standardized Key stage 4 points score	Standardized Key stage 2 points score	Proportion missing Key Stage 2	Proportion male	Proportion white	Proportion eligible for free school meals	Proportion special educational needs	Proportion native English speaker	Number of Schools
Treatment Academies	-0.072	-0.019	0.068	0.512	0.839	0.103	0.158	0.911	237
Control To Be Academies	-0.074	-0.052	0.061	0.513	0.896	0.112	0.149	0.940	22
Treatment – Control Difference	0.002 (0.061)	0.038 (0.051)	0.007 (0.009)	-0.001 (0.014)	-0.056 (0.033)	-0.009 (0.020)	0.009 (0.017)	-0.030 (0.021)	

Notes: Standard errors reported in parentheses. The data refers to characteristics in the 2005/06 school year. For comparability, we remove approximately 300 middle schools from the rows for all schools. All variables with the exception of KS2 points score of the year 11 students of the schools. KS2 refers to the average KS2 score of the incoming year 7 class.

**Table 9: Baseline Estimates of Impact on Key Stage 4 – All Converter Academies**

	Dependent Variable: KS4 Standardised Test Score					
	OLS (a)	ITT (b)	IV (c)	OLS (d)	ITT (e)	IV (f)
Academy x Post-Conversion (E = c to c+3)	0.307 (0.012)	-0.020 (0.008)	-0.021 (0.008)	0.279 (0.012)	-0.020 (0.008)	-0.021 (0.008)
Key Stage 2 Standardised Test Score				0.482 (0.003)	0.483 (0.003)	0.483 (0.003)
Control Variables	No	No	No	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Pupils	1927264	1927264	1927264	1927264	1927264	1927264
Number of Schools	1220	1220	1220	1220	1220	1220
First Stage Coefficient on ITT			0.925 (0.001)			0.925 (0.001)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational need, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 10: Baseline Estimates of Impact on Key Stage 4 – Outstanding Converter Academies**

	Dependent Variable: KS4 Standardised Test Score					
	OLS (a)	ITT (b)	IV (c)	OLS (d)	ITT (e)	IV (f)
Academy x Post-Conversion (E = c to c+3)	0.391 (0.021)	0.031 (0.012)	0.033 (0.013)	0.363 (0.020)	0.030 (0.012)	0.032 (0.013)
Key Stage 2 Standardised Test Score				0.459 (0.006)	0.460 (0.006)	0.460 (0.006)
Control Variables	No	No	No	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Pupils	625313	625313	625313	625313	625313	625313
Number of Schools	395	395	395	395	395	395
First Stage Coefficient on ITT			0.939 (0.002)			0.939 (0.002)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational need, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 11: Baseline Estimates of Impact on Key Stage 4 – Good Converter Academies**

	Dependent Variable: KS4 Standardised Test Score					
	OLS (a)	ITT (b)	IV (c)	OLS (d)	ITT (e)	IV (f)
Academy x Post-Conversion (E = c to c+3)	0.340 (0.019)	0.003 (0.010)	0.003 (0.011)	0.311 (0.017)	0.004 (0.010)	0.005 (0.011)
Key Stage 2 Standardised Test Score				0.496 (0.004)	0.497 (0.004)	0.497 (0.004)
Control Variables	No	No	No	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Pupils	910477	910477	910477	910477	910477	910477
Number of Schools	566	566	566	566	566	566
First Stage Coefficient on ITT			0.927 (0.001)			0.927 (0.001)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational need, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 12: Baseline Estimates of Impact on Key Stage 4 – Satisfactory and Inadequate Converter Academies**

	Dependent Variable: KS4 Standardised Test Score					
	OLS (a)	ITT (b)	IV (c)	OLS (d)	ITT (e)	IV (f)
Academy x Post-Conversion (E = c to c+3)	0.264 (0.023)	-0.045 (0.016)	-0.050 (0.018)	0.236 (0.022)	-0.047 (0.016)	-0.052 (0.017)
Key Stage 2 Standardised Test Score				0.495 (0.005)	0.496 (0.005)	0.496 (0.005)
Control Variables	No	No	No	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Pupils	391474	391474	391474	391474	391474	391474
Number of Schools	259	259	259	259	259	259
First Stage Coefficient on ITT			0.900 (0.003)			0.901 (0.003)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational need, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 13: Event Study Estimates of Impact on Key Stage 4 – All Converter Academies**

	OLS (a)	ITT (b)	IV (c)
Academy x Post-Conversion (E = c-4)	0.310 (0.007)	-0.003 (0.007)	-0.004 (0.007)
Academy x Post-Conversion (E = c-3)	0.456 (0.011)	0.001 (0.011)	0.000 (0.012)
Academy x Post-Conversion (E = c-2)	0.562 (0.015)	-0.009 (0.015)	-0.010 (0.016)
Academy x Post-Conversion (E = c-1)	0.635 (0.019)	-0.038 (0.019)	-0.042 (0.020)
Academy x Post-Conversion (E = c)	0.703 (0.024)	-0.048 (0.022)	-0.052 (0.024)
Academy x Post-Conversion (E = c+1)	0.765 (0.028)	-0.063 (0.025)	-0.068 (0.028)
Academy x Post-Conversion (E = c+2)	0.841 (0.032)	-0.068 (0.028)	-0.074 (0.030)
Academy x Post-Conversion (E = c+3)	0.924 (0.037)	-0.072 (0.032)	-0.077 (0.034)
Key Stage 2 Standardised Test Score	0.478 (0.003)	0.483 (0.003)	0.483 (0.003)
Control Variables	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Pupils	1927264	1927264	1927264
Number of Schools	1220	1220	1220
First Stage Coefficient on ITT x (E=c)			0.922 (0.001)
First Stage Coefficient on ITT x (E=c+1)			0.922 (0.001)
First Stage Coefficient on ITT x (E=c+2)			0.923 (0.001)
First Stage Coefficient on ITT x (E=c+3)			0.928 (0.002)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational needs, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 14: Event Study Estimates of Impact on Key Stage 4 – Outstanding Converter Academies**

	OLS (a)	ITT (b)	IV (c)
Academy x Post-Conversion (E = c-4)	0.300 (0.011)	-0.001 (0.009)	-0.002 (0.010)
Academy x Post-Conversion (E = c-3)	0.471 (0.019)	0.008 (0.014)	0.009 (0.015)
Academy x Post-Conversion (E = c-2)	0.608 (0.027)	0.014 (0.018)	0.015 (0.020)
Academy x Post-Conversion (E = c-1)	0.728 (0.034)	0.017 (0.019)	0.019 (0.021)
Academy x Post-Conversion (E = c)	0.863 (0.042)	0.051 (0.021)	0.054 (0.023)
Academy x Post-Conversion (E = c+1)	0.980 (0.049)	0.079 (0.023)	0.084 (0.024)
Academy x Post-Conversion (E = c+2)	1.104 (0.058)	0.101 (0.021)	0.107 (0.022)
Academy x Post-Conversion (E = c+3)	1.219 (0.068)	0.113 (0.022)	0.119 (0.024)
Key Stage 2 Standardised Test Score	0.455 (0.006)	0.460 (0.006)	0.460 (0.006)
Control Variables	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Pupils	625313	625313	625313
Number of Schools	395	395	395
First Stage Coefficient on ITT x (E=c)			0.940 (0.002)
First Stage Coefficient on ITT x (E=c+1)			0.939 (0.002)
First Stage Coefficient on ITT x (E=c+2)			0.941 (0.002)
First Stage Coefficient on ITT x (E=c+3)			0.942 (0.002)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational needs, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 15: Event Study Estimates of Impact on Key Stage 4 – Good Converter Academies**

	OLS (a)	ITT (b)	IV (c)
Academy x Post-Conversion (E = c-4)	0.307 (0.011)	-0.032 (0.010)	-0.035 (0.011)
Academy x Post-Conversion (E = c-3)	0.452 (0.015)	-0.036 (0.017)	-0.039 (0.018)
Academy x Post-Conversion (E = c-2)	0.572 (0.020)	-0.035 (0.021)	-0.038 (0.023)
Academy x Post-Conversion (E = c-1)	0.652 (0.026)	-0.058 (0.026)	-0.063 (0.028)
Academy x Post-Conversion (E = c)	0.735 (0.033)	-0.052 (0.030)	-0.057 (0.032)
Academy x Post-Conversion (E = c+1)	0.805 (0.039)	-0.059 (0.033)	-0.064 (0.036)
Academy x Post-Conversion (E = c+2)	0.867 (0.045)	-0.077 (0.036)	-0.084 (0.039)
Academy x Post-Conversion (E = c+3)	0.946 (0.052)	-0.093 (0.042)	-0.101 (0.046)
Key Stage 2 Standardised Test Score	0.491 (0.004)	0.497 (0.004)	0.497 (0.004)
Control Variables	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Pupils	910477	910477	910477
Number of Schools	566	566	566
First Stage Coefficient on ITT x (E=c)			0.924 (0.002)
First Stage Coefficient on ITT x (E=c+1)			0.925 (0.002)
First Stage Coefficient on ITT x (E=c+2)			0.921 (0.002)
First Stage Coefficient on ITT x (E=c+3)			0.923 (0.002)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational needs, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 16: Event Study Estimates of Impact on Key Stage 4 – Satisfactory and Inadequate Converter Academies**

	OLS (a)	ITT (b)	IV (c)
Academy x Post-Conversion (E = c-4)	0.332 (0.014)	0.017 (0.013)	0.019 (0.015)
Academy x Post-Conversion (E = c-3)	0.464 (0.020)	0.023 (0.019)	0.025 (0.021)
Academy x Post-Conversion (E = c-2)	0.540 (0.028)	0.001 (0.025)	0.001 (0.028)
Academy x Post-Conversion (E = c-1)	0.599 (0.035)	-0.023 (0.030)	-0.026 (0.034)
Academy x Post-Conversion (E = c)	0.616 (0.041)	-0.053 (0.034)	-0.059 (0.038)
Academy x Post-Conversion (E = c+1)	0.651 (0.048)	-0.077 (0.037)	-0.086 (0.042)
Academy x Post-Conversion (E = c+2)	0.726 (0.056)	-0.061 (0.041)	-0.068 (0.045)
Academy x Post-Conversion (E = c+3)	0.779 (0.067)	-0.071 (0.049)	-0.079 (0.055)
Key Stage 2 Standardised Test Score	0.491 (0.005)	0.496 (0.005)	0.496 (0.005)
Control Variables	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Pupils	391474	391474	391474
Number of Schools	259	259	259
First Stage Coefficient on ITT x (E=c)			0.897 (0.003)
First Stage Coefficient on ITT x (E=c+1)			0.893 (0.004)
First Stage Coefficient on ITT x (E=c+2)			0.900 (0.004)
First Stage Coefficient on ITT x (E=c+3)			0.899 (0.005)

Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational needs, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 17: Sample of Academy Conversions By School Year – All Post-2010 Sponsored Academies**

All Schools With Full Data (Pre- and Post-Academy Conversion)								
	All	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Treatment Academies, Convert in 2010/11 to 2014/15	205	0	30	58	69	48	0	0
Control To Be Academies, Convert in 2015/16 or 2016/17	49	0	0	0	0	0	44	5

**Table 18: Pre-Conversions School Characteristics and Balancing Tests – All Schools and Post-2010 Sponsored Academies**

	Standardized Key stage 4 points score	Standardized Key stage 2 points score	Proportion missing Key Stage 2	Proportion male	Proportion white	Proportion eligible for free school meals	Proportion special educational needs	Proportion native English speaker	Number of Schools
All Secondary Schools	0	0	0.073	0.506	0.828	0.132	0.170	0.895	2926
All Secondary Schools except 254 sample schools	0.030	0.022	0.072	0.504	0.825	0.128	0.167	0.893	2672
Treatment Academies	-0.313	-0.232	0.092	0.523	0.854	0.177	0.210	0.914	205
Control To Be Academies	-0.185	-0.178	0.063	0.535	0.878	0.164	0.190	0.926	49
Treatment – Control Difference	-0.128 (0.037)	- 0.054(0.037)	0.029 (0.006)	-0.011 (0.014)	-0.024 (0.030)	0.014 (0.019)	0.020 (0.014)	-0.012 (0.024)	

Notes: Standard errors reported in parentheses. The data refers to characteristics in the 2005/06 school year. For comparability, we remove approximately 300 middle schools from the rows for all schools. All variables with the exception of KS2 points score of the year 11 students of the schools. KS2 refers to the average KS2 score of the incoming year 7 class.

**Table 19: Baseline Estimates of Impact on Key Stage 4 – All Post-2010 Sponsored Academies**

	Dependent Variable: KS4 Standardised Test Score					
	OLS (a)	ITT (b)	IV (c)	OLS (d)	ITT (e)	IV (f)
Academy x Post-Conversion (E = c to c+3)	0.286 (0.021)	0.054 (0.019)	0.063 (0.022)	0.268 (0.021)	0.059 (0.019)	0.070 (0.022)
Key Stage 2 Standardised Test Score				0.440 (0.004)	0.441 (0.004)	0.441 (0.004)
Control Variables	No	No	No	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Pupils	351102	351102	351102	351102	351102	351102
Number of Schools	254	254	254	254	254	254
First Stage Coefficient on ITT			0.849 (0.005)			0.849 (0.005)

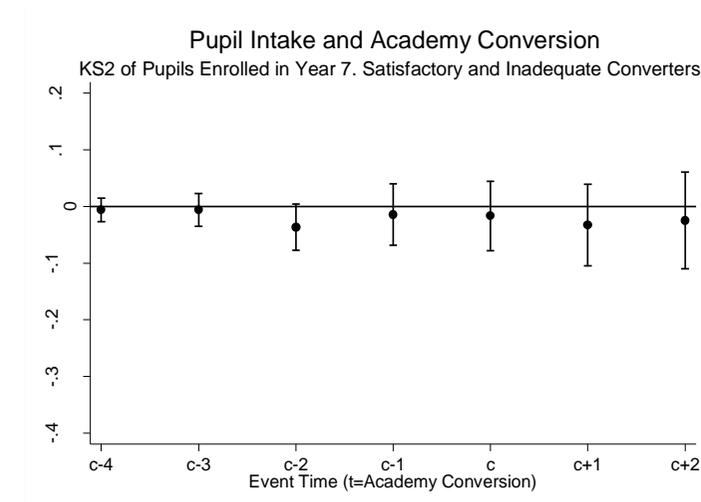
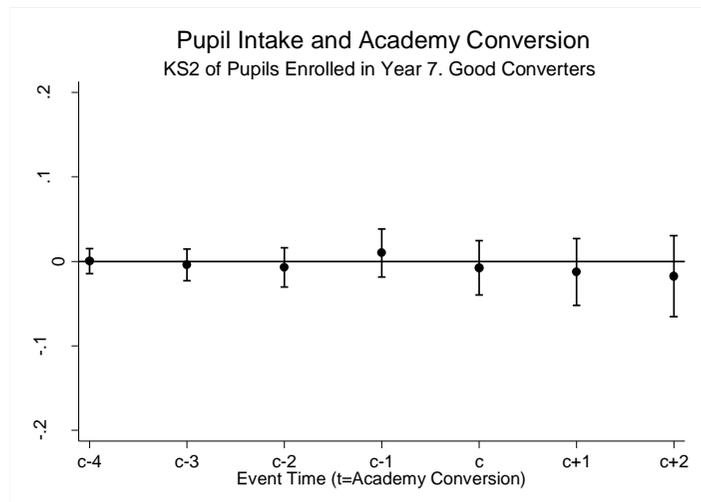
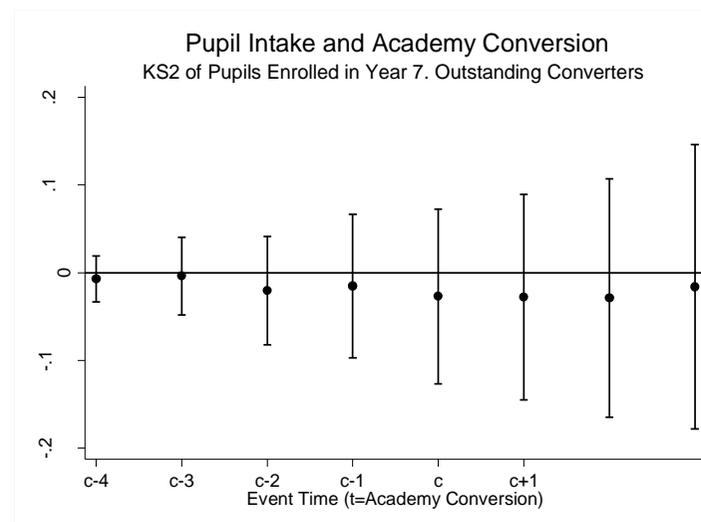
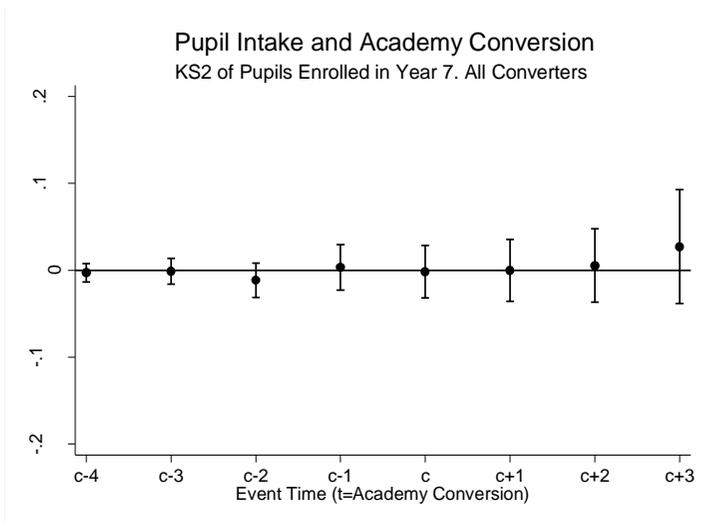
Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational need, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Table 20: Event Study Estimates of Impact on Key Stage 4 – All Post-2010 Sponsored Academies**

	OLS (a)	ITT (b)	IV (c)
Academy x Post-Conversion (E = c-4)	0.234 (0.015)	-0.009 (0.011)	-0.010 (0.013)
Academy x Post-Conversion (E = c-3)	0.278 (0.018)	-0.017 (0.016)	-0.019 (0.019)
Academy x Post-Conversion (E = c-2)	0.336 (0.020)	-0.009 (0.020)	-0.011 (0.023)
Academy x Post-Conversion (E = c-1)	0.455 (0.023)	0.071 (0.023)	0.082 (0.026)
Academy x Post-Conversion (E = c)	0.508 (0.027)	0.099 (0.027)	0.116 (0.032)
Academy x Post-Conversion (E = c+1)	0.519 (0.033)	0.076 (0.034)	0.090 (0.040)
Academy x Post-Conversion (E = c+2)	0.547 (0.044)	0.064 (0.044)	0.076 (0.052)
Academy x Post-Conversion (E = c+3)	0.509 (0.065)	0.000 (0.064)	0.000 (0.076)
Key Stage 2 Standardised Test Score	0.438 (0.005)	0.441 (0.004)	0.440 (0.004)
Control Variables	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Number of Pupils	351102	351102	351102
Number of Schools	254	254	254
First Stage Coefficient on ITT x (E=c)			0.852 (0.005)
First Stage Coefficient on ITT x (E=c+1)			0.841 (0.005)
First Stage Coefficient on ITT x (E=c+2)			0.840 (0.007)
First Stage Coefficient on ITT x (E=c+3)			0.840 (0.011)

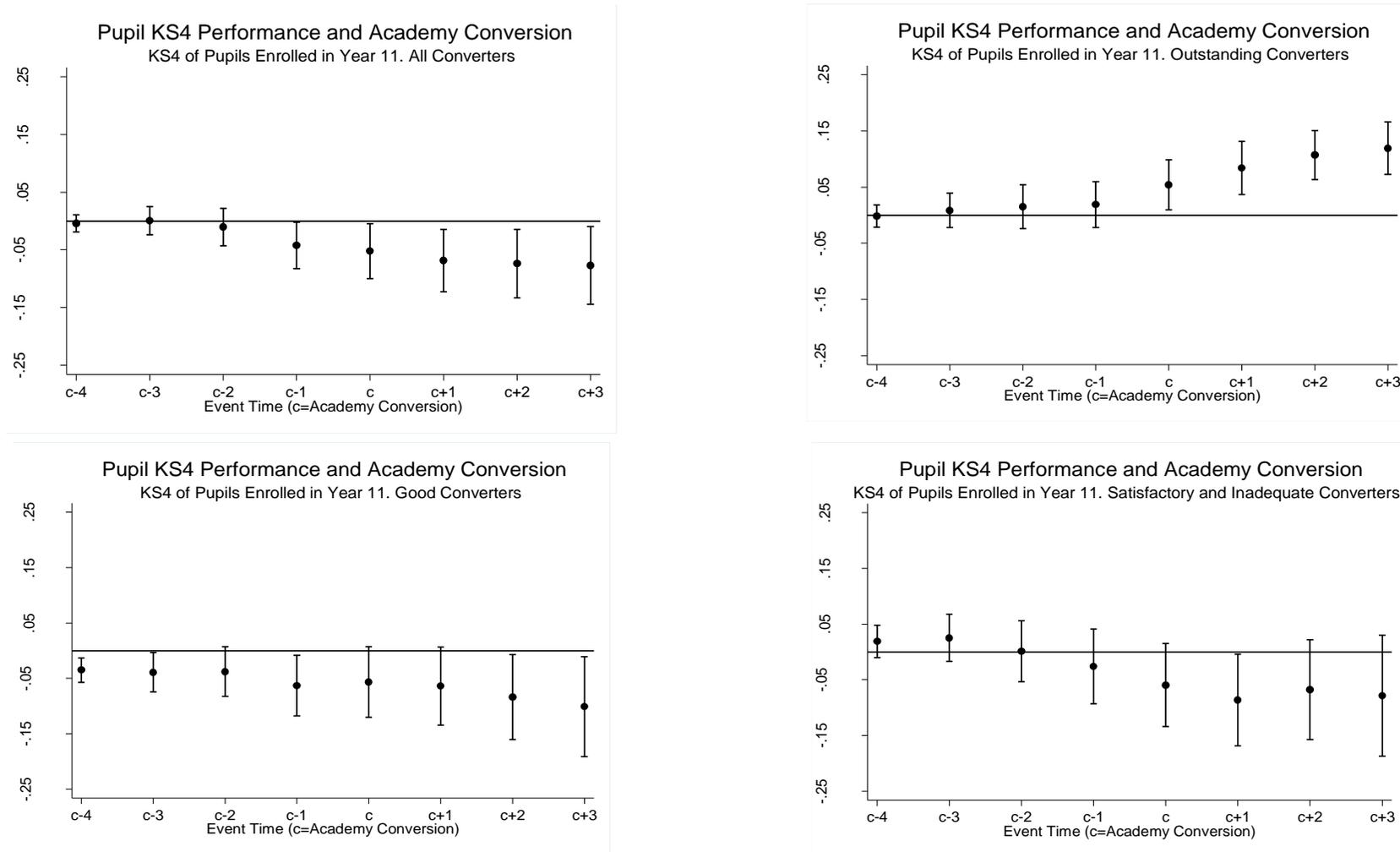
Notes: E denotes event year and c is the year of conversion. Robust standard errors (clustered at the school level) are reported in parentheses. Control variables included are dummies for whether the pupil is English native speaker, male, the pupil's ethnicity group, whether they are eligible for free school meals and whether they have special educational needs, entered together with KS2 test scores and a dummy variable for pupils for whom KS2 data is unavailable.

**Figure 1: Event Study Estimates of Impact on Key Stage 2 – Converter Academies**



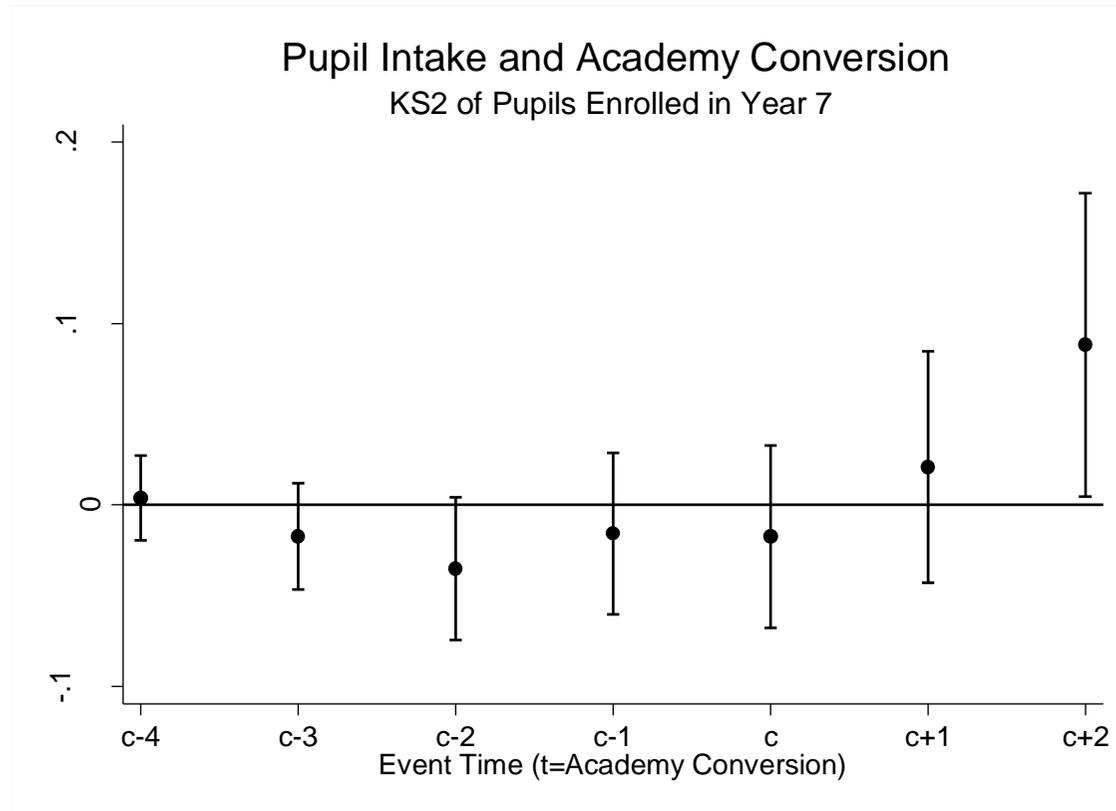
Notes: From estimates of Columns (a) to (c) of Appendix Tables 1.

**Figure 2: Event Study Estimates of Impact on Key Stage 4 – Converter Academies**



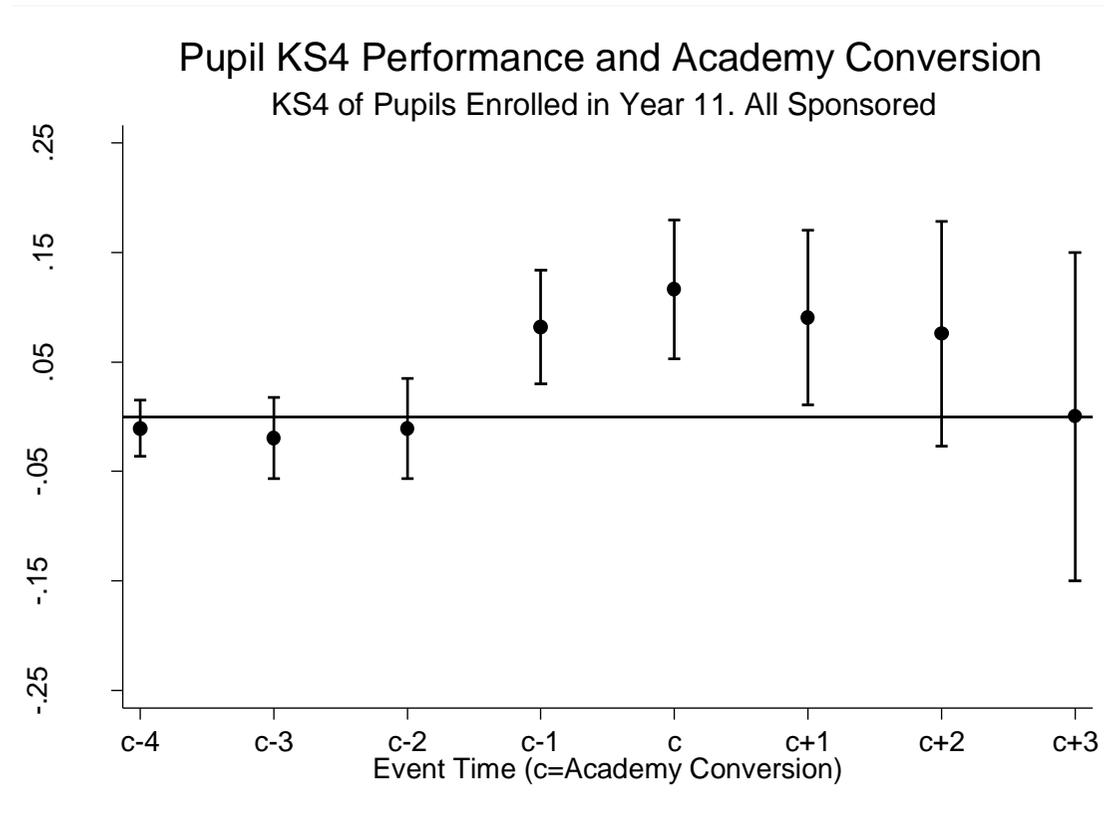
Notes: From estimates of specification (c) of Tables 13 (All Converters, top-left panel), Table 14 (Outstanding Converters; top-right panel); Table 15 (Good Converters; bottom left panel) and Table 15 (Satisfactory and Inadequate Converters; bottom-right panel).

Figure 3: Event Study Estimates of Impact on Key Stage 2 – Post-2010 Sponsored Academies



Notes: From estimates of specification (e) of Appendix Tables 1.

Figure 4: Event Study Estimates of Impact on Key Stage 4 – Post-2010 Sponsored Academies



Notes: From estimates of specification (c) of Tables 20.

**Additional Table A.1. Event Study Estimates of Impact on Key Stage 2. All Academies**

	All Converters	Outstanding Converters	Good Converters	Satisfactory and Inadequate Converters	All Sponsored
	(a)	(b)	(c)	(d)	(e)
Academy x Post-Conversion (E = c-4)	-0.003 (0.005)	-0.007 (0.013)	0.000 (0.008)	-0.006 (0.011)	0.004 (0.012)
Academy x Post-Conversion (E = c-3)	-0.001 (0.008)	-0.004 (0.023)	-0.004 (0.010)	-0.006 (0.015)	-0.017 (0.015)
Academy x Post-Conversion (E = c-2)	-0.012 (0.010)	-0.020 (0.031)	-0.007 (0.012)	-0.037 (0.021)	-0.035 (0.020)
Academy x Post-Conversion (E = c-1)	0.003 (0.013)	-0.015 (0.042)	0.010 (0.014)	-0.014 (0.028)	-0.016 (0.023)
Academy x Post-Conversion (E = c)	-0.002 (0.015)	-0.027 (0.051)	-0.008 (0.016)	-0.017 (0.031)	-0.017 (0.026)
Academy x Post-Conversion (E = c+1)	0.000 (0.018)	-0.028 (0.060)	-0.013 (0.020)	-0.033 (0.036)	0.021 (0.032)
Academy x Post-Conversion (E = c+2)	0.005 (0.022)	-0.029 (0.069)	-0.018 (0.025)	-0.025 (0.043)	0.088 (0.042)
Academy x Post-Conversion (E = c+3)	0.027 (0.033)	-0.016 (0.083)	-	-0.12 (0.103)	-
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Number of Pupils	1731341	557694	821681	351966	311599
Number of Schools	1220	395	566	259	254

Notes: Regressions come from specifications similar to those used in Columns (b) of Table 13 to 16 and Table 20 where we replace the dependent variable to be the KS2 attainments of pupils in year 7 (as opposed to the KS4 outcomes of students in year 11).

## Annex 2A: Performance measures at Key Stage 2

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average		Number of schools	Measure	Conf. Interval
1	Harris Federation	Multi-academy trust	10	+1.3	+/- 0.3	1.5 terms more progress	Sig +	10	101.2	+/- 0.2
2	First Federation Trust, The	Multi-academy trust	6	+0.9	+/- 0.6	1 term more progress	Sig +	6	101.4	+/- 0.4
3	Redcar and Cleveland	Local authority	37	+0.8	+/- 0.2	1 term more progress	Sig +	37	101.0	+/- 0.1
4	Kensington and Chelsea	Local authority	25	+0.7	+/- 0.2	0.5 terms more progress	Sig +	25	101.3	+/- 0.2
5 =	Greenwich	Local authority	64	+0.6	+/- 0.1	0.5 terms more progress	Sig +	64	101.1	+/- 0.1
	Camden	Local authority	38	+0.6	+/- 0.2	0.5 terms more progress	Sig +	38	101.0	+/- 0.1
	Newham	Local authority	61	+0.6	+/- 0.1	0.5 terms more progress	Sig +	61	101.0	+/- 0.1
	CFBT Schools Trust	Multi-academy trust	6	+0.6	+/- 0.5	0.5 terms more progress	Sig +	7	100.8	+/- 0.3
	Hounslow	Local authority	40	+0.6	+/- 0.1	0.5 terms more progress	Sig +	41	100.8	+/- 0.1
	Waltham Forest	Local authority	35	+0.6	+/- 0.2	0.5 terms more progress	Sig +	36	100.8	+/- 0.1
	Darlington	Local authority	9	+0.6	+/- 0.3	0.5 terms more progress	Sig +	9	100.7	+/- 0.2
	L.E.A.D. Multi-Academy Trust	Multi-academy trust	10	+0.6	+/- 0.4	0.5 terms more progress	Sig +	10	100.7	+/- 0.3
	REAch2 Academy Trust	Multi-academy trust	29	+0.6	+/- 0.2	0.5 terms more progress	Sig +	29	100.1	+/- 0.1
14 =	Lambeth	Local authority	57	+0.5	+/- 0.1	0.5 terms more progress	Sig +	57	101.0	+/- 0.1
	Westminster	Local authority	33	+0.5	+/- 0.2	0.5 terms more progress	Sig +	33	100.9	+/- 0.1
	Stoke-on-Trent	Local authority	40	+0.5	+/- 0.2	0.5 terms more progress	Sig +	40	100.6	+/- 0.1
17 =	Islington	Local authority	42	+0.4	+/- 0.2	0.5 terms more progress	Sig +	42	100.8	+/- 0.1
	Lewisham	Local authority	61	+0.4	+/- 0.1	0.5 terms more progress	Sig +	61	100.7	+/- 0.1
	Newman Catholic Collegiate, The	Multi-academy trust	7	+0.4	+/- 0.5	0.5 terms more progress		7	100.7	+/- 0.3
	Richmond upon Thames	Local authority	33	+0.4	+/- 0.2	0.5 terms more progress	Sig +	33	100.7	+/- 0.1
	Haringey	Local authority	45	+0.4	+/- 0.1	0.5 terms more progress	Sig +	45	100.6	+/- 0.1
	Merton	Local authority	41	+0.4	+/- 0.2	0.5 terms more progress	Sig +	41	100.6	+/- 0.1

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average		Number of schools	Measure	Conf. Interval
	Redbridge	Local authority	44	+0.4	+/- 0.1	0.5 terms more progress	Sig +	44	100.6	+/- 0.1
	Bromley	Local authority	37	+0.4	+/- 0.2	0.5 terms more progress	Sig +	37	100.5	+/- 0.1
	Dominic Barberi Multi Academy Company, The	Multi-academy trust	6	+0.4	+/- 0.5	0.5 terms more progress		6	100.4	+/- 0.4
	Good Shepherd Trust, The	Multi-academy trust	5	+0.4	+/- 0.5	0.5 terms more progress		5	100.3	+/- 0.3
	Academies Enterprise Trust	Multi-academy trust	35	+0.4	+/- 0.2	0.5 terms more progress	Sig +	35	100.2	+/- 0.1
	E-ACT	Multi-academy trust	11	+0.4	+/- 0.3	0.5 terms more progress	Sig +	11	100.1	+/- 0.2
	Pontefract Academies Trust	Multi-academy trust	6	+0.4	+/- 0.4	0.5 terms more progress		6	100.0	+/- 0.3
	Brooke Weston Trust, The	Multi-academy trust	5	+0.4	+/- 0.5	0.5 terms more progress		5	99.8	+/- 0.3
31 =	Southwark	Local authority	60	+0.3	+/- 0.1	0.5 terms more progress	Sig +	60	100.8	+/- 0.1
	Barnet	Local authority	68	+0.3	+/- 0.1	0.5 terms more progress	Sig +	71	100.6	+/- 0.1
	Hackney	Local authority	53	+0.3	+/- 0.1	0.5 terms more progress	Sig +	53	100.6	+/- 0.1
	Harrow	Local authority	33	+0.3	+/- 0.1	0.5 terms more progress	Sig +	34	100.6	+/- 0.1
	Painsley Catholic Academy, The	Multi-academy trust	6	+0.3	+/- 0.5	0.5 terms more progress		6	100.6	+/- 0.4
	Hartlepool	Local authority	27	+0.3	+/- 0.2	0.5 terms more progress	Sig +	27	100.5	+/- 0.2
	Northern Lincolnshire Catholic Academy Trust, The	Multi-academy trust	6	+0.3	+/- 0.5	0.5 terms more progress		6	100.5	+/- 0.3
	Tower Hamlets	Local authority	60	+0.3	+/- 0.1	0.5 terms more progress	Sig +	61	100.5	+/- 0.1
	Enfield	Local authority	58	+0.3	+/- 0.1	0.5 terms more progress	Sig +	58	100.4	+/- 0.1
	Hillingdon	Local authority	40	+0.3	+/- 0.1	0.5 terms more progress	Sig +	40	100.4	+/- 0.1
	Newcastle upon Tyne	Local authority	60	+0.3	+/- 0.1	0.5 terms more progress	Sig +	60	100.4	+/- 0.1
	Primary Academies Trust, The	Multi-academy trust	8	+0.3	+/- 0.4	0.5 terms more progress		8	100.4	+/- 0.3
	South Tyneside	Local authority	37	+0.3	+/- 0.2	0.5 terms more progress	Sig +	37	100.4	+/- 0.1
	Blackpool	Local authority	18	+0.3	+/- 0.2	0.5 terms more progress	Sig +	18	100.3	+/- 0.2
	Village Academy, The	Multi-academy trust	5	+0.3	+/- 0.7	0.5 terms more progress		5	100.3	+/- 0.5
	Wigan	Local authority	95	+0.3	+/- 0.1	0.5 terms more progress	Sig +	95	100.3	+/- 0.1
	Elliot Foundation Academies Trust, The	Multi-academy trust	15	+0.3	+/- 0.3	0.5 terms more progress	Sig +	15	100.2	+/- 0.2

	Name	Type	Improvement in performance				Current performance			
			Number of schools	Measure	Conf. Interval	Difference from average	Number of schools	Measure	Conf. Interval	
	Bath and Wells Diocesan Academies Trust, The	Multi-academy trust	9	+0.3	+/- 0.4	0.5 terms more progress		9	100.1	+/- 0.3
	Oasis Community Learning	Multi-academy trust	24	+0.3	+/- 0.2	0.5 terms more progress	Sig +	24	100.1	+/- 0.2
50 =	Hull Collaborative Academy Trust	Multi-academy trust	5	+0.2	+/- 0.4	Less than half a term		5	100.8	+/- 0.3
	Brent	Local authority	47	+0.2	+/- 0.1	Less than half a term	Sig +	47	100.7	+/- 0.1
	Hammersmith and Fulham	Local authority	31	+0.2	+/- 0.2	Less than half a term		31	100.6	+/- 0.1
	Manchester	Local authority	106	+0.2	+/- 0.1	Less than half a term	Sig +	106	100.5	+/- 0.1
	Trafford	Local authority	53	+0.2	+/- 0.1	Less than half a term	Sig +	53	100.5	+/- 0.1
	Bolton	Local authority	86	+0.2	+/- 0.1	Less than half a term	Sig +	86	100.4	+/- 0.1
	Park Federation Academy Trust, The	Multi-academy trust	5	+0.2	+/- 0.3	Less than half a term		5	100.4	+/- 0.2
	Wolverhampton	Local authority	60	+0.2	+/- 0.1	Less than half a term	Sig +	60	100.4	+/- 0.1
	Blackburn with Darwen	Local authority	48	+0.2	+/- 0.2	Less than half a term	Sig +	48	100.3	+/- 0.1
	Durham	Local authority	184	+0.2	+/- 0.1	Less than half a term	Sig +	186	100.3	+/- 0.1
	Rochdale	Local authority	68	+0.2	+/- 0.1	Less than half a term	Sig +	68	100.3	+/- 0.1
	Sunderland	Local authority	60	+0.2	+/- 0.1	Less than half a term	Sig +	60	100.3	+/- 0.1
	Sutton	Local authority	30	+0.2	+/- 0.2	Less than half a term	Sig +	30	100.3	+/- 0.1
	Barking and Dagenham	Local authority	37	+0.2	+/- 0.1	Less than half a term	Sig +	37	100.2	+/- 0.1
	Havering	Local authority	42	+0.2	+/- 0.1	Less than half a term	Sig +	42	100.2	+/- 0.1
	Herefordshire	Local authority	53	+0.2	+/- 0.2	Less than half a term	Sig +	54	100.2	+/- 0.1
	Kingston upon Hull City of	Local authority	35	+0.2	+/- 0.2	Less than half a term	Sig +	35	100.2	+/- 0.1
	Liverpool	Local authority	107	+0.2	+/- 0.1	Less than half a term	Sig +	109	100.2	+/- 0.1
	South Dartmoor Academy	Multi-academy trust	5	+0.2	+/- 0.6	Less than half a term		5	100.2	+/- 0.4
	Faringdon Academy of Schools	Multi-academy trust	6	+0.2	+/- 0.5	Less than half a term		6	100.1	+/- 0.4
	Telford and Wrekin	Local authority	48	+0.2	+/- 0.2	Less than half a term	Sig +	48	100.1	+/- 0.1
	Northern Education Trust	Multi-academy trust	10	+0.2	+/- 0.3	Less than half a term		10	100.0	+/- 0.2
	Kemnal Academies Trust, The	Multi-academy trust	25	+0.2	+/- 0.2	Less than half a term	Sig +	25	99.8	+/- 0.1

	Name	Type	Improvement in performance				Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average	Number of schools	Measure	Conf. Interval
73 =	Wandsworth	Local authority	52	+0.1	+/- 0.2	Less than half a term	52	100.6	+/- 0.1
	White Horse Federation, The	Multi-academy trust	7	+0.1	+/- 0.4	Less than half a term	7	100.5	+/- 0.3
	Middlesbrough	Local authority	29	+0.1	+/- 0.2	Less than half a term	29	100.3	+/- 0.1
	Navigate Academies Trust	Multi-academy trust	9	+0.1	+/- 0.4	Less than half a term	9	100.3	+/- 0.3
	Oldham	Local authority	76	+0.1	+/- 0.1	Less than half a term	76	100.3	+/- 0.1
	Bishop Wheeler Catholic Academy Trust, The	Multi-academy trust	5	+0.1	+/- 0.5	Less than half a term	5	100.2	+/- 0.4
	Gateshead	Local authority	61	+0.1	+/- 0.2	Less than half a term	61	100.2	+/- 0.1
	Kent Catholic Schools' Partnership	Multi-academy trust	8	+0.1	+/- 0.4	Less than half a term	8	100.2	+/- 0.3
	Leeds	Local authority	197	+0.1	+/- 0.1	Less than half a term	198	100.2	+/- 0.1
	Sandwell	Local authority	75	+0.1	+/- 0.1	Less than half a term	75	100.2	+/- 0.1
	Tameside	Local authority	71	+0.1	+/- 0.1	Less than half a term	71	100.2	+/- 0.1
	Torbay	Local authority	13	+0.1	+/- 0.3	Less than half a term	13	100.2	+/- 0.2
	Calderdale	Local authority	61	+0.1	+/- 0.2	Less than half a term	61	100.1	+/- 0.1
	Cheshire West and Chester	Local authority	119	+0.1	+/- 0.1	Less than half a term	119	100.1	+/- 0.1
	Lancashire	Local authority	446	+0.1	+/- 0.1	Less than half a term	449	100.1	+/- 0.0
	Milton Keynes	Local authority	48	+0.1	+/- 0.1	Less than half a term	48	100.1	+/- 0.1
	North Tyneside	Local authority	50	+0.1	+/- 0.2	Less than half a term	50	100.1	+/- 0.1
	St Gilbert of Sempringham Catholic Academy Trust	Multi-academy trust	5	+0.1	+/- 0.6	Less than half a term	5	100.1	+/- 0.4
	Wirral	Local authority	83	+0.1	+/- 0.1	Less than half a term	83	100.1	+/- 0.1
	Kent	Local authority	333	+0.1	+/- 0.1	Less than half a term	335	100.0	+/- 0.0
	Spencer Academies Trust, The	Multi-academy trust	6	+0.1	+/- 0.4	Less than half a term	6	100.0	+/- 0.3
	Diocese of Ely Multi-academy Trust, The	Multi-academy trust	6	+0.1	+/- 0.6	Less than half a term	6	99.7	+/- 0.4
95 =	Ealing	Local authority	58	0.0	+/- 0.1	Less than half a term	58	100.4	+/- 0.1
	Knowsley	Local authority	48	0.0	+/- 0.2	Less than half a term	48	100.2	+/- 0.1
	Bristol City of	Local authority	57	0.0	+/- 0.1	Less than half a term	58	100.1	+/- 0.1

	Name	Type	Improvement in performance				Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average	Number of schools	Measure	Conf. Interval
	Oxfordshire	Local authority	180	0.0	+/- 0.1	Less than half a term	180	100.1	+/- 0.1
	Salford	Local authority	71	0.0	+/- 0.1	Less than half a term	71	100.1	+/- 0.1
	Sefton	Local authority	71	0.0	+/- 0.1	Less than half a term	71	100.1	+/- 0.1
	Slough	Local authority	12	0.0	+/- 0.2	Less than half a term	12	100.1	+/- 0.2
	St. Helens	Local authority	52	0.0	+/- 0.1	Less than half a term	52	100.1	+/- 0.1
	Stockton-on-Tees	Local authority	51	0.0	+/- 0.2	Less than half a term	51	100.1	+/- 0.1
	Thurrock	Local authority	16	0.0	+/- 0.2	Less than half a term	16	100.1	+/- 0.2
	Barnsley	Local authority	54	0.0	+/- 0.2	Less than half a term	54	100.0	+/- 0.1
	Bishop Konstant Catholic Academy Trust, The	Multi-academy trust	7	0.0	+/- 0.5	Less than half a term	7	100.0	+/- 0.3
	Devon	Local authority	219	0.0	+/- 0.1	Less than half a term	219	100.0	+/- 0.1
	Nottingham	Local authority	43	0.0	+/- 0.2	Less than half a term	43	100.0	+/- 0.1
	Sheffield	Local authority	85	0.0	+/- 0.1	Less than half a term	86	100.0	+/- 0.1
	Shropshire	Local authority	108	0.0	+/- 0.1	Less than half a term	109	100.0	+/- 0.1
	South Gloucestershire	Local authority	79	0.0	+/- 0.1	Less than half a term	79	100.0	+/- 0.1
	Blessed Cyprian Tansi Catholic Academy Trust, The	Multi-academy trust	5	0.0	+/- 0.5	Less than half a term	5	99.9	+/- 0.4
	East Riding of Yorkshire	Local authority	104	0.0	+/- 0.1	Less than half a term	104	99.9	+/- 0.1
	East Sussex	Local authority	125	0.0	+/- 0.1	Less than half a term	125	99.9	+/- 0.1
	Gloucestershire	Local authority	178	0.0	+/- 0.1	Less than half a term	178	99.9	+/- 0.1
	North East Lincolnshire	Local authority	16	0.0	+/- 0.3	Less than half a term	16	99.9	+/- 0.2
	North Somerset	Local authority	52	0.0	+/- 0.1	Less than half a term	53	99.9	+/- 0.1
	Plymouth	Local authority	51	0.0	+/- 0.1	Less than half a term	51	99.9	+/- 0.1
	Southend-on-Sea	Local authority	26	0.0	+/- 0.2	Less than half a term	26	99.9	+/- 0.1
	St Mary's Academy Trust	Multi-academy trust	6	0.0	+/- 0.5	Less than half a term	6	99.9	+/- 0.4
	Bracknell Forest	Local authority	28	0.0	+/- 0.2	Less than half a term	28	99.8	+/- 0.1
	Enquire Learning Trust, The	Multi-academy trust	10	0.0	+/- 0.3	Less than half a term	10	99.8	+/- 0.2

	Name	Type	Improvement in performance				Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average	Number of schools	Measure	Conf. Interval
	Rotherham	Local authority	64	0.0	+/- 0.1	Less than half a term	66	99.8	+/- 0.1
	Swindon	Local authority	30	0.0	+/- 0.2	Less than half a term	30	99.8	+/- 0.1
	David Ross Education Trust, The	Multi-academy trust	18	0.0	+/- 0.3	Less than half a term	18	99.7	+/- 0.2
	Griffin Schools Trust, The	Multi-academy trust	10	0.0	+/- 0.3	Less than half a term	10	99.7	+/- 0.2
	Northumberland	Local authority	40	0.0	+/- 0.1	Less than half a term	43	99.7	+/- 0.1
	United Learning Trust	Multi-academy trust	13	0.0	+/- 0.3	Less than half a term	13	99.7	+/- 0.2
	Active Learning Trust Limited, The	Multi-academy trust	8	0.0	+/- 0.3	Less than half a term	8	99.3	+/- 0.2
	Wakefield Diocesan Academies Trust	Multi-academy trust	5	0.0	+/- 0.5	Less than half a term	5	99.3	+/- 0.4
131 =	Diocese of Westminster Academy Trust, The	Multi-academy trust	5	-0.1	+/- 0.5	Less than half a term	5	100.2	+/- 0.4
	Buckinghamshire	Local authority	120	-0.1	+/- 0.1	Less than half a term	121	100.0	+/- 0.1
	Cheshire East	Local authority	101	-0.1	+/- 0.1	Less than half a term	101	100.0	+/- 0.1
	Leicester	Local authority	64	-0.1	+/- 0.1	Less than half a term	64	100.0	+/- 0.1
	Stockport	Local authority	76	-0.1	+/- 0.1	Less than half a term	76	100.0	+/- 0.1
	Wokingham	Local authority	40	-0.1	+/- 0.2	Less than half a term	40	100.0	+/- 0.1
	ASPIRE Academy Trust	Multi-academy trust	9	-0.1	+/- 0.5	Less than half a term	9	99.9	+/- 0.3
	Bexley	Local authority	36	-0.1	+/- 0.2	Less than half a term	36	99.9	+/- 0.1
	Coventry	Local authority	77	-0.1	+/- 0.1	Less than half a term	77	99.9	+/- 0.1
	Essex	Local authority	314	-0.1	+/- 0.1	Less than half a term	316	99.9	+/- 0.0
	Bradford	Local authority	136	-0.1	+/- 0.1	Less than half a term	136	99.8	+/- 0.1
	Cornwall	Local authority	137	-0.1	+/- 0.1	Less than half a term	139	99.8	+/- 0.1
	Greenwood Academies Trust	Multi-academy trust	14	-0.1	+/- 0.3	Less than half a term	14	99.8	+/- 0.2
	Hastings Academies Trust	Multi-academy trust	5	-0.1	+/- 0.5	Less than half a term	5	99.8	+/- 0.3
	Southampton	Local authority	30	-0.1	+/- 0.2	Less than half a term	32	99.8	+/- 0.1
	ARK Schools	Multi-academy trust	13	-0.1	+/- 0.3	Less than half a term	14	99.7	+/- 0.2
	Derby	Local authority	50	-0.1	+/- 0.1	Less than half a term	50	99.7	+/- 0.1

	Name	Type	Improvement in performance				Current performance			
			Number of schools	Measure	Conf. Interval	Difference from average	Number of schools	Measure	Conf. Interval	
	North Lincolnshire	Local authority	36	-0.1	+/- 0.2	Less than half a term	39	99.7	+/- 0.1	
	Focus Academy Trust (UK) Ltd	Multi-academy trust	8	-0.1	+/- 0.4	Less than half a term	8	99.6	+/- 0.3	
	School Partnership Trust Academies	Multi-academy trust	27	-0.1	+/- 0.2	Less than half a term	27	99.6	+/- 0.1	
	Diocese of Coventry Multi-academy Trust, The	Multi-academy trust	8	-0.1	+/- 0.3	Less than half a term	8	99.4	+/- 0.2	
	GLF Schools	Multi-academy trust	6	-0.1	+/- 0.4	Less than half a term	6	99.3	+/- 0.3	
	Lilac Sky Schools Trust, The	Multi-academy trust	5	-0.1	+/- 0.5	Less than half a term	5	98.9	+/- 0.4	
154 =	Halton	Local authority	47	-0.2	+/- 0.2	Less than half a term	Sig -	47	100.0	+/- 0.1
	Kingston upon Thames	Local authority	26	-0.2	+/- 0.2	Less than half a term	Sig -	26	100.0	+/- 0.1
	Birmingham	Local authority	207	-0.2	+/- 0.1	Less than half a term	Sig -	208	99.9	+/- 0.0
	Bury	Local authority	60	-0.2	+/- 0.1	Less than half a term	Sig -	60	99.9	+/- 0.1
	Croydon	Local authority	44	-0.2	+/- 0.1	Less than half a term	Sig -	44	99.9	+/- 0.1
	Warrington	Local authority	67	-0.2	+/- 0.1	Less than half a term	Sig -	67	99.9	+/- 0.1
	Brighton and Hove	Local authority	43	-0.2	+/- 0.1	Less than half a term	Sig -	43	99.8	+/- 0.1
	Cumbria	Local authority	201	-0.2	+/- 0.1	Less than half a term	Sig -	206	99.8	+/- 0.1
	Eynsham Partnership Academy	Multi-academy trust	6	-0.2	+/- 0.6	Less than half a term		6	99.8	+/- 0.4
	Hertfordshire	Local authority	312	-0.2	+/- 0.1	Less than half a term	Sig -	313	99.8	+/- 0.0
	Nottinghamshire	Local authority	210	-0.2	+/- 0.1	Less than half a term	Sig -	211	99.8	+/- 0.1
	Somerset	Local authority	126	-0.2	+/- 0.1	Less than half a term	Sig -	126	99.8	+/- 0.1
	Wiltshire	Local authority	152	-0.2	+/- 0.1	Less than half a term	Sig -	153	99.8	+/- 0.1
	York	Local authority	46	-0.2	+/- 0.2	Less than half a term	Sig -	46	99.8	+/- 0.1
	Cambridgeshire	Local authority	157	-0.2	+/- 0.1	Less than half a term	Sig -	160	99.7	+/- 0.1
	Hampshire	Local authority	294	-0.2	+/- 0.1	Less than half a term	Sig -	294	99.7	+/- 0.0
	Lincolnshire	Local authority	190	-0.2	+/- 0.1	Less than half a term	Sig -	191	99.7	+/- 0.1
	North Yorkshire	Local authority	242	-0.2	+/- 0.1	Less than half a term	Sig -	252	99.7	+/- 0.1
	Surrey	Local authority	171	-0.2	+/- 0.1	Less than half a term	Sig -	172	99.7	+/- 0.0

	Name	Type	Improvement in performance				Current performance			
			Number of schools	Measure	Conf. Interval	Difference from average	Number of schools	Measure	Conf. Interval	
	Bournemouth	Local authority	17	-0.2	+/- 0.2	Less than half a term		17	99.6	+/- 0.1
	Norfolk	Local authority	241	-0.2	+/- 0.1	Less than half a term	Sig -	242	99.6	+/- 0.1
	Plymouth CAST	Multi-academy trust	31	-0.2	+/- 0.2	Less than half a term		31	99.6	+/- 0.2
	Windsor and Maidenhead	Local authority	26	-0.2	+/- 0.2	Less than half a term	Sig -	26	99.6	+/- 0.1
	Education Central Multi Academy Trust	Multi-academy trust	9	-0.2	+/- 0.3	Less than half a term		9	99.5	+/- 0.2
	Suffolk	Local authority	185	-0.2	+/- 0.1	Less than half a term	Sig -	206	99.5	+/- 0.1
179 =	Dudley	Local authority	75	-0.3	+/- 0.1	0.5 terms less progress	Sig -	75	99.7	+/- 0.1
	Peterborough	Local authority	43	-0.3	+/- 0.2	0.5 terms less progress	Sig -	43	99.7	+/- 0.1
	Reading	Local authority	30	-0.3	+/- 0.2	0.5 terms less progress	Sig -	30	99.7	+/- 0.1
	Warwickshire	Local authority	137	-0.3	+/- 0.1	0.5 terms less progress	Sig -	137	99.7	+/- 0.1
	Derbyshire	Local authority	268	-0.3	+/- 0.1	0.5 terms less progress	Sig -	268	99.6	+/- 0.1
	Medway	Local authority	43	-0.3	+/- 0.1	0.5 terms less progress	Sig -	43	99.6	+/- 0.1
	Portsmouth	Local authority	24	-0.3	+/- 0.2	0.5 terms less progress	Sig -	26	99.6	+/- 0.1
	Solihull	Local authority	41	-0.3	+/- 0.1	0.5 terms less progress	Sig -	43	99.6	+/- 0.1
	Staffordshire	Local authority	206	-0.3	+/- 0.1	0.5 terms less progress	Sig -	207	99.6	+/- 0.1
188	Bedford	Local authority	3	-	-			9	99.5	+/- 0.2
189 =	Collaborative Academies Trust, The	Multi-academy trust	7	-0.3	+/- 0.4	0.5 terms less progress		7	99.5	+/- 0.3
	Wakefield	Local authority	63	-0.3	+/- 0.1	0.5 terms less progress	Sig -	63	99.5	+/- 0.1
	Diamond Learning Partnership Trust, The	Multi-academy trust	5	-0.3	+/- 0.6	0.5 terms less progress		5	99.4	+/- 0.4
	Montsaye Community Learning Partnership	Multi-academy trust	5	-0.3	+/- 0.4	0.5 terms less progress		5	99.3	+/- 0.3
	Oxford Diocesan Schools Trust	Multi-academy trust	5	-0.3	+/- 0.5	0.5 terms less progress		5	99.3	+/- 0.4
	Diocese of Salisbury Multi Academy Trust	Multi-academy trust	5	-0.3	+/- 0.6	0.5 terms less progress		5	99.0	+/- 0.4
	Isle of Wight	Local authority	37	-0.3	+/- 0.2	0.5 terms less progress	Sig -	37	99.0	+/- 0.1
196 =	Bath and North East Somerset	Local authority	49	-0.4	+/- 0.2	0.5 terms less progress	Sig -	49	99.5	+/- 0.1
	Leicestershire	Local authority	107	-0.4	+/- 0.1	0.5 terms less progress	Sig -	108	99.5	+/- 0.1

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. Interval	Difference from average	Sig -	Number of schools	Measure	Conf. Interval
	Northamptonshire	Local authority	144	-0.4	+/- 0.1	0.5 terms less progress	Sig -	145	99.5	+/- 0.1
	West Berkshire	Local authority	53	-0.4	+/- 0.2	0.5 terms less progress	Sig -	54	99.5	+/- 0.1
	Doncaster	Local authority	72	-0.4	+/- 0.1	0.5 terms less progress	Sig -	72	99.4	+/- 0.1
	Luton	Local authority	35	-0.4	+/- 0.1	0.5 terms less progress	Sig -	35	99.4	+/- 0.1
	West Sussex	Local authority	162	-0.4	+/- 0.1	0.5 terms less progress	Sig -	165	99.4	+/- 0.1
	Worcestershire	Local authority	104	-0.4	+/- 0.1	0.5 terms less progress	Sig -	105	99.4	+/- 0.1
	St Piran's Cross Church of England Multi Academy Trust	Multi-academy trust	5	-0.4	+/- 0.7	0.5 terms less progress		5	99.1	+/- 0.5
	Wakefield City Academies Trust	Multi-academy trust	5	-0.4	+/- 0.5	0.5 terms less progress		5	99.0	+/- 0.3
	Academy Transformation Trust	Multi-academy trust	8	-0.4	+/- 0.4	0.5 terms less progress	Sig -	8	98.7	+/- 0.3
207 =	Corpus Christi Catholic Academy Trust	Multi-academy trust	5	-0.5	+/- 0.5	0.5 terms less progress		5	99.9	+/- 0.4
	Kernow Collaborative Trust	Multi-academy trust	7	-0.5	+/- 0.4	0.5 terms less progress	Sig -	7	99.5	+/- 0.3
	Kirklees	Local authority	101	-0.5	+/- 0.1	0.5 terms less progress	Sig -	103	99.4	+/- 0.1
	Dorset	Local authority	84	-0.5	+/- 0.1	0.5 terms less progress	Sig -	84	99.3	+/- 0.1
	Central Bedfordshire	Local authority	9	-0.5	+/- 0.2	0.5 terms less progress	Sig -	15	99.0	+/- 0.2
212 =	Discovery Schools Academies Trust Ltd	Multi-academy trust	6	-0.6	+/- 0.4	0.5 terms less progress	Sig -	6	99.4	+/- 0.3
	Walsall	Local authority	64	-0.6	+/- 0.1	0.5 terms less progress	Sig -	64	99.4	+/- 0.1
	Diocese Of Leicester Academies Trust	Multi-academy trust	5	-0.6	+/- 0.6	0.5 terms less progress	Sig -	5	99.2	+/- 0.4
	Diocese of Norwich Multi-academy Trust, The	Multi-academy trust	5	-0.6	+/- 0.5	0.5 terms less progress	Sig -	5	98.4	+/- 0.4
216	Rutland	Local authority	11	-0.7	+/- 0.5	0.5 terms less progress	Sig -	11	99.0	+/- 0.3
217	Poole	Local authority	13	-0.8	+/- 0.2	1 term less progress	Sig -	13	98.9	+/- 0.1
218	Education Fellowship Trust, The	Multi-academy trust	8	-1.0	+/- 0.4	1 term less progress	Sig -	8	98.4	+/- 0.3

Notes: 1 The number of schools refers to the number of schools with an improvement score or a current performance score at Key Stage 2 not the total number of scores within the multi-academy trust or local authority.  
2 The test of statistical significance for a local authority or trust is based on unrounded data. Hence in some instances there may be an apparent inconsistency with the measure, confidence interval and test of significance.

## Annex 2B: Performance measures at Key Stage 4

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. interval	Difference from average	Sig	Number of schools	Measure	Conf. interval
1	Inspiration Trust	Multi-academy trust	3	+26.8	+/- 9.7	One grade higher in 4 subjects	Sig +	3	1019.5	+/- 6.8
2	Barnet	Local authority	6	+18.9	+/- 7.5	One grade higher in 3 subjects	Sig +	6	1027.9	+/- 4.8
3	Merton	Local authority	5	+16.4	+/- 6.5	One grade higher in 3 subjects	Sig +	5	1027.7	+/- 4.5
4	Southwark	Local authority	3	+15.9	+/- 10.6	One grade higher in 3 subjects	Sig +	3	1030.5	+/- 7.4
5	Outwood Grange Academies Trust	Multi-academy trust	9	+15.6	+/- 4.9	One grade higher in 3 subjects	Sig +	9	1022.8	+/- 3.4
6	Hackney	Local authority	7	+15.1	+/- 7.2	One grade higher in 3 subjects	Sig +	7	1021.4	+/- 5.0
7	Kent Catholic Schools' Partnership	Multi-academy trust	3	+14.7	+/- 9.1	One grade higher in 2 subjects	Sig +	3	1024.8	+/- 6.4
8	Wokingham	Local authority	4	+14.0	+/- 7.5	One grade higher in 2 subjects	Sig +	4	1014.7	+/- 5.3
9	Surrey	Local authority	24	+13.9	+/- 3.0	One grade higher in 2 subjects	Sig +	24	1016.3	+/- 2.1
10	Peterborough	Local authority	3	+12.8	+/- 9.2	One grade higher in 2 subjects	Sig +	3	1004.0	+/- 6.4
11	Waltham Forest	Local authority	11	+12.5	+/- 5.3	One grade higher in 2 subjects	Sig +	11	1022.8	+/- 3.7
12 =	Sutton	Local authority	3	+12.4	+/- 8.8	One grade higher in 2 subjects	Sig +	3	1022.6	+/- 6.1
	Bright Futures Educational Trust	Multi-academy trust	3	+12.4	+/- 10.2	One grade higher in 2 subjects	Sig +	3	1014.4	+/- 7.1
14 =	Herefordshire	Local authority	5	+11.2	+/- 7.9	One grade higher in 2 subjects	Sig +	5	1011.7	+/- 5.5
	Tapton School Academy Trust	Multi-academy trust	3	+11.2	+/- 8.3	One grade higher in 2 subjects	Sig +	3	1009.0	+/- 5.8
16	Kingston upon Hull City of	Local authority	6	+10.5	+/- 5.9	One grade higher in 2 subjects	Sig +	6	1007.1	+/- 4.1
17 =	ARK Schools	Multi-academy trust	12	+10.4	+/- 5.3	One grade higher in 2 subjects	Sig +	12	1015.2	+/- 3.6
	Camden	Local authority	9	+10.4	+/- 5.6	One grade higher in 2 subjects	Sig +	9	1012.0	+/- 3.9
19	Newham	Local authority	12	+10.3	+/- 4.1	One grade higher in 2 subjects	Sig +	12	1016.8	+/- 2.9
20	Tower Hamlets	Local authority	14	+10.2	+/- 4.3	One grade higher in 2 subjects	Sig +	14	1018.8	+/- 3.0
21	Ealing	Local authority	9	+9.7	+/- 4.8	One grade higher in 2 subjects	Sig +	9	1023.9	+/- 3.4
22 =	Wiltshire	Local authority	9	+9.6	+/- 5.9	One grade higher in 2 subjects	Sig +	9	1005.2	+/- 4.2
	David Ross Education Trust, The	Multi-academy trust	8	+9.6	+/- 6.6	One grade higher in 2 subjects	Sig +	8	1001.3	+/- 4.6
24	Harris Federation	Multi-academy trust	16	+9.4	+/- 4.4	One grade higher in 2 subjects	Sig +	16	1024.8	+/- 3.1

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. interval	Difference from average		Number of schools	Measure	Conf. interval
25	Lambeth	Local authority	8	+9.3	+/- 6.6	One grade higher in 2 subjects	Sig +	8	1018.2	+/- 4.6
26	Rosedale Hewens Academy Trust, The	Multi-academy trust	3	+8.8	+/- 16.4	One grade higher in 1 subject		3	1032.0	+/- 11.5
27	Bracknell Forest	Local authority	5	+8.7	+/- 6.7	One grade higher in 1 subject	Sig +	5	1003.9	+/- 4.7
28	Brent	Local authority	3	+8.6	+/- 9.4	One grade higher in 1 subject		3	1026.1	+/- 6.6
29	Redhill Academy Trust	Multi-academy trust	3	+8.4	+/- 9.7	One grade higher in 1 subject		3	1006.8	+/- 6.8
30	Warwickshire	Local authority	9	+8.3	+/- 5.2	One grade higher in 1 subject	Sig +	9	1011.7	+/- 3.6
31	Diocese of Westminster Academy Trust, The	Multi-academy trust	6	+7.9	+/- 6.2	One grade higher in 1 subject	Sig +	6	1015.7	+/- 4.3
32	Co-operative Academies Trust, The	Multi-academy trust	3	+7.7	+/- 11.1	One grade higher in 1 subject		3	994.2	+/- 7.7
33	Worcestershire	Local authority	6	+7.2	+/- 6.2	One grade higher in 1 subject	Sig +	6	1006.1	+/- 4.4
34 =	Thinking Schools Academy Trust, The	Multi-academy trust	3	+7.1	+/- 9.8	One grade higher in 1 subject		3	1016.5	+/- 6.8
	West Sussex	Local authority	22	+7.1	+/- 3.0	One grade higher in 1 subject	Sig +	22	1009.4	+/- 2.1
36	Enfield	Local authority	12	+7.0	+/- 4.2	One grade higher in 1 subject	Sig +	12	1013.3	+/- 2.9
37 =	East Sussex	Local authority	12	+6.2	+/- 4.2	One grade higher in 1 subject	Sig +	12	1010.7	+/- 2.9
	Suffolk	Local authority	10	+6.2	+/- 4.4	One grade higher in 1 subject	Sig +	10	1006.2	+/- 2.9
39	Windsor and Maidenhead	Local authority	4	+6.0	+/- 8.1	One grade higher in 1 subject		4	1015.4	+/- 5.6
40 =	Tudor Grange Academies Trust	Multi-academy trust	3	+5.4	+/- 8.4	One grade higher in 1 subject		3	1015.2	+/- 5.9
	Telford and Wrekin	Local authority	5	+5.4	+/- 7.2	One grade higher in 1 subject		5	1000.5	+/- 5.1
42	Islington	Local authority	8	+5.3	+/- 6.3	One grade higher in 1 subject		8	1018.0	+/- 4.4
43 =	North Tyneside	Local authority	10	+4.7	+/- 5.0	One grade higher in 1 subject		10	1007.5	+/- 3.5
	North Lincolnshire	Local authority	3	+4.7	+/- 9.6	One grade higher in 1 subject		3	1001.2	+/- 6.7
45 =	Redbridge	Local authority	11	+4.4	+/- 4.5	One grade higher in 1 subject		11	1016.1	+/- 3.1
	Stockport	Local authority	9	+4.4	+/- 4.6	One grade higher in 1 subject		9	1001.1	+/- 3.3
	Devon	Local authority	16	+4.4	+/- 3.7	One grade higher in 1 subject	Sig +	16	1000.4	+/- 2.6
	Norfolk Academies	Multi-academy trust	3	+4.4	+/- 10.0	One grade higher in 1 subject		3	996.7	+/- 7.0
49	Kemnal Academies Trust, The	Multi-academy trust	14	+4.2	+/- 4.3	One grade higher in 1 subject		14	997.2	+/- 3.0
50	Barking and Dagenham	Local authority	8	+4.0	+/- 4.8	One grade higher in 1 subject		8	1013.2	+/- 3.4

	Name	Type	Improvement in performance				Current performance		
			Number of schools	Measure	Conf. interval	Difference from average	Number of schools	Measure	Conf. interval
51	Comberton Academy Trust	Multi-academy trust	3	+3.8	+/- 8.4	One grade higher in 1 subject	3	1005.1	+/- 5.9
52	Greenwich	Local authority	6	+3.5	+/- 6.6	One grade higher in 1 subject	6	1011.7	+/- 4.6
53 =	Haringey	Local authority	6	+3.4	+/- 5.8	One grade higher in 1 subject	6	1011.4	+/- 4.1
	Gloucestershire	Local authority	6	+3.4	+/- 6.8	One grade higher in 1 subject	6	990.6	+/- 4.7
55	Rotherham	Local authority	6	+3.0	+/- 5.9	One grade higher in 1 subject	6	996.2	+/- 4.1
56 =	West Berkshire	Local authority	4	+2.8	+/- 7.8	Less than a grade	4	1003.6	+/- 5.5
	Sheffield	Local authority	6	+2.8	+/- 5.6	Less than a grade	6	999.3	+/- 3.9
58	Croydon	Local authority	7	+2.6	+/- 6.7	Less than a grade	7	1009.7	+/- 4.7
59 =	Shropshire	Local authority	10	+2.5	+/- 5.4	Less than a grade	10	1003.2	+/- 3.8
	Brighton and Hove	Local authority	7	+2.5	+/- 4.7	Less than a grade	7	1000.1	+/- 3.3
	Norfolk	Local authority	19	+2.5	+/- 3.8	Less than a grade	19	999.8	+/- 2.7
62	Oxfordshire	Local authority	9	+2.4	+/- 5.6	Less than a grade	9	1001.5	+/- 3.9
63 =	Coventry	Local authority	7	+2.1	+/- 6.1	Less than a grade	7	999.2	+/- 4.2
	Hertfordshire	Local authority	21	+2.1	+/- 3.6	Less than a grade	21	997.7	+/- 2.5
65 =	York	Local authority	7	+1.7	+/- 5.6	Less than a grade	7	1003.5	+/- 3.9
	United Learning Trust	Multi-academy trust	26	+1.7	+/- 3.2	Less than a grade	26	999.0	+/- 2.2
	Cornwall	Local authority	14	+1.7	+/- 4.4	Less than a grade	14	997.2	+/- 3.1
68 =	Slough	Local authority	4	+1.5	+/- 9.0	Less than a grade	4	1005.9	+/- 6.3
	Northumberland	Local authority	10	+1.5	+/- 4.4	Less than a grade	10	1003.9	+/- 3.1
70 =	Northamptonshire	Local authority	4	+1.1	+/- 7.1	Less than a grade	4	995.0	+/- 5.0
	Academy Transformation Trust	Multi-academy trust	9	+1.1	+/- 5.6	Less than a grade	9	989.8	+/- 3.9
72	Dorset	Local authority	13	+1.0	+/- 4.1	Less than a grade	13	1000.3	+/- 2.9
73	North Yorkshire	Local authority	32	+0.9	+/- 2.9	Less than a grade	32	1001.0	+/- 2.0
74	Bolton	Local authority	13	+0.5	+/- 3.9	Less than a grade	13	998.5	+/- 2.7
75	Leicestershire	Local authority	3	+0.4	+/- 8.9	Less than a grade	3	1000.5	+/- 6.2
76	Luton	Local authority	7	+0.3	+/- 5.7	Less than a grade	7	1001.2	+/- 4.0

	Name	Type	Improvement in performance				Current performance		
			Number of schools	Measure	Conf. interval	Difference from average	Number of schools	Measure	Conf. interval
77 =	Somerset	Local authority	7	+0.2	+/- 5.6	Less than a grade	7	996.5	+/- 3.9
	Brooke Weston Trust, The	Multi-academy trust	4	+0.2	+/- 7.3	Less than a grade	4	985.7	+/- 5.1
79	London Academies Enterprise Trust	Multi-academy trust	4	0.0	+/- 7.8	Less than a grade	4	1006.5	+/- 5.5
80	Cumbria	Local authority	18	-0.1	+/- 4.1	Less than a grade	18	997.4	+/- 2.9
81 =	Bury	Local authority	13	-0.3	+/- 4.5	Less than a grade	13	1003.6	+/- 3.1
	South Tyneside	Local authority	7	-0.3	+/- 5.9	Less than a grade	7	998.2	+/- 4.2
	Stockton-on-Tees	Local authority	6	-0.3	+/- 5.9	Less than a grade	6	993.4	+/- 4.1
	Manchester	Local authority	9	-0.3	+/- 4.8	Less than a grade	9	993.2	+/- 3.4
85	Leeds	Local authority	20	-0.5	+/- 3.2	Less than a grade	20	994.7	+/- 2.2
86 =	Priory Federation of Academies, The	Multi-academy trust	4	-0.6	+/- 8.1	Less than a grade	4	1008.6	+/- 5.7
	Walsall	Local authority	4	-0.6	+/- 7.7	Less than a grade	4	991.0	+/- 5.4
88	Essex	Local authority	11	-0.7	+/- 4.4	Less than a grade	11	995.6	+/- 3.1
89 =	Blackburn with Darwen	Local authority	6	-1.1	+/- 6.4	Less than a grade	6	1009.3	+/- 4.5
	Cheshire West and Chester	Local authority	10	-1.1	+/- 4.7	Less than a grade	10	1004.7	+/- 3.3
	Durham	Local authority	16	-1.1	+/- 4.1	Less than a grade	16	998.4	+/- 2.9
	Kirklees	Local authority	13	-1.1	+/- 4.3	Less than a grade	13	993.2	+/- 3.0
	Halton	Local authority	3	-1.1	+/- 8.1	Less than a grade	3	985.3	+/- 5.7
	Oasis Community Learning	Multi-academy trust	15	-1.1	+/- 4.3	Less than a grade	15	985.0	+/- 3.0
95	Barnsley	Local authority	9	-1.4	+/- 4.4	Less than a grade	9	982.8	+/- 3.1
96	Leigh Academies Trust	Multi-academy trust	4	-1.5	+/- 7.5	Less than a grade	4	1000.3	+/- 5.3
97	Isle of Wight	Local authority	3	-1.6	+/- 7.8	Less than a grade	3	983.9	+/- 5.4
98	East Riding of Yorkshire	Local authority	12	-1.7	+/- 4.1	Less than a grade	12	995.9	+/- 2.9
99	Portsmouth	Local authority	6	-1.8	+/- 6.6	Less than a grade	6	987.7	+/- 4.6
100 =	Kensington and Chelsea	Local authority	3	-1.9	+/- 10.9	Less than a grade	3	1001.5	+/- 7.6
	Hampshire	Local authority	40	-1.9	+/- 2.4	Less than a grade	40	994.3	+/- 1.7
	Calderdale	Local authority	4	-1.9	+/- 8.3	Less than a grade	4	989.4	+/- 5.8

	Name	Type	Improvement in performance				Current performance			
			Number of schools	Measure	Conf. interval	Difference from average	Number of schools	Measure	Conf. interval	
103	Tameside	Local authority	8	-2.3	+/- 5.8	Less than a grade	8	995.7	+/- 4.0	
104 =	Birmingham	Local authority	35	-2.4	+/- 2.7	Less than a grade	35	1000.8	+/- 1.9	
	Bristol City of	Local authority	5	-2.4	+/- 6.7	Less than a grade	5	996.2	+/- 4.7	
106	Swale Academies Trust	Multi-academy trust	3	-2.5	+/- 8.2	Less than a grade	3	1010.0	+/- 5.7	
107	Buckinghamshire	Local authority	7	-2.6	+/- 6.1	Less than a grade	7	994.3	+/- 4.2	
108	Education Fellowship Trust, The	Multi-academy trust	4	-2.7	+/- 7.9	Less than a grade	4	978.6	+/- 5.5	
109	Havering	Local authority	4	-2.8	+/- 8.1	Less than a grade	4	987.4	+/- 5.6	
110	Lewisham	Local authority	10	-3.3	+/- 5.4	One grade lower in 1 subject	10	994.1	+/- 3.7	
111	Academies Enterprise Trust	Multi-academy trust	28	-3.4	+/- 3.0	One grade lower in 1 subject	Sig -	28	985.2	+/- 2.1
112	Diverse Academies Trust	Multi-academy trust	4	-3.7	+/- 7.4	One grade lower in 1 subject		4	996.2	+/- 5.2
113	Nottinghamshire	Local authority	5	-4.1	+/- 7.0	One grade lower in 1 subject		5	993.3	+/- 4.9
114	Brook Learning Trust	Multi-academy trust	3	-4.2	+/- 10.1	One grade lower in 1 subject		3	994.0	+/- 7.0
115	Staffordshire	Local authority	33	-4.4	+/- 2.8	One grade lower in 1 subject	Sig -	33	993.8	+/- 2.0
116	Lancashire	Local authority	61	-4.6	+/- 2.1	One grade lower in 1 subject	Sig -	61	991.8	+/- 1.5
117	Dean Trust, The	Multi-academy trust	3	-4.7	+/- 8.8	One grade lower in 1 subject		3	992.9	+/- 6.1
118 =	Trafford	Local authority	6	-4.9	+/- 7.3	One grade lower in 1 subject		6	999.8	+/- 5.1
	Cabot Learning Federation	Multi-academy trust	7	-4.9	+/- 6.8	One grade lower in 1 subject		7	992.3	+/- 4.7
120	Ormiston Academies Trust	Multi-academy trust	24	-5.0	+/- 3.3	One grade lower in 1 subject	Sig -	24	987.4	+/- 2.3
121	Derbyshire	Local authority	30	-5.1	+/- 2.8	One grade lower in 1 subject	Sig -	30	983.4	+/- 2.0
122	Warrington	Local authority	5	-5.3	+/- 6.3	One grade lower in 1 subject		5	995.7	+/- 4.4
123 =	Sandwell	Local authority	5	-5.4	+/- 6.4	One grade lower in 1 subject		5	992.4	+/- 4.5
	Northern Education Trust	Multi-academy trust	7	-5.4	+/- 6.2	One grade lower in 1 subject		7	984.2	+/- 4.3
	Hartlepool	Local authority	3	-5.4	+/- 8.1	One grade lower in 1 subject		3	979.2	+/- 5.7
126 =	Bath and North East Somerset	Local authority	3	-5.5	+/- 10.2	One grade lower in 1 subject		3	993.1	+/- 7.1
	Cheshire East	Local authority	7	-5.5	+/- 5.8	One grade lower in 1 subject		7	989.6	+/- 4.0
	Southampton	Local authority	8	-5.5	+/- 5.7	One grade lower in 1 subject		8	988.6	+/- 4.0

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. interval	Difference from average		Number of schools	Measure	Conf. interval
129	Wakefield City Academies Trust	Multi-academy trust	5	-5.7	+/- 6.8	One grade lower in 1 subject		5	984.2	+/- 4.7
130	Wigan	Local authority	14	-6.3	+/- 3.9	One grade lower in 1 subject	Sig -	14	994.0	+/- 2.7
131 =	Cambridge Meridian Academies Trust	Multi-academy trust	3	-7.1	+/- 9.8	One grade lower in 1 subject		3	995.5	+/- 6.8
	Redcar and Cleveland	Local authority	5	-7.1	+/- 6.8	One grade lower in 1 subject	Sig -	5	990.8	+/- 4.8
133 =	Wandsworth	Local authority	3	-7.5	+/- 10.3	One grade lower in 1 subject		3	998.0	+/- 7.2
	Aspirations Academies Trust	Multi-academy trust	3	-7.5	+/- 8.8	One grade lower in 1 subject		3	990.3	+/- 6.2
135	Landau Forte Charitable Trust	Multi-academy trust	4	-7.6	+/- 8.1	One grade lower in 1 subject		4	989.9	+/- 5.7
136	Leicester	Local authority	17	-8.0	+/- 3.7	One grade lower in 1 subject	Sig -	17	995.8	+/- 2.6
137	CWA Academy Trust	Multi-academy trust	3	-8.5	+/- 8.7	One grade lower in 1 subject		3	967.3	+/- 6.1
138 =	E-ACT	Multi-academy trust	13	-8.7	+/- 5.0	One grade lower in 1 subject	Sig -	13	989.4	+/- 3.5
	Rochdale	Local authority	9	-8.7	+/- 4.9	One grade lower in 1 subject	Sig -	9	987.4	+/- 3.4
140	Southend-on-Sea	Local authority	3	-8.9	+/- 9.2	One grade lower in 1 subject		3	963.8	+/- 6.5
141 =	Kent	Local authority	30	-9.1	+/- 3.1	One grade lower in 2 subjects	Sig -	30	991.2	+/- 2.1
	South Gloucestershire	Local authority	6	-9.1	+/- 6.2	One grade lower in 2 subjects	Sig -	6	984.9	+/- 4.4
143	St. Helens	Local authority	7	-9.6	+/- 5.5	One grade lower in 2 subjects	Sig -	7	985.6	+/- 3.8
144	Sefton	Local authority	11	-9.9	+/- 5.0	One grade lower in 2 subjects	Sig -	11	989.4	+/- 3.5
145	Prospects Academies Trust	Multi-academy trust	4	-10.1	+/- 7.0	One grade lower in 2 subjects	Sig -	4	970.0	+/- 4.9
146	Midland Academies Trust, The	Multi-academy trust	5	-10.4	+/- 7.7	One grade lower in 2 subjects	Sig -	5	973.4	+/- 5.2
147	Dudley	Local authority	13	-10.9	+/- 4.4	One grade lower in 2 subjects	Sig -	13	985.9	+/- 3.1
148 =	Lincolnshire	Local authority	9	-11.4	+/- 6.0	One grade lower in 2 subjects	Sig -	9	987.5	+/- 4.2
	CFBT Schools Trust	Multi-academy trust	8	-11.4	+/- 5.5	One grade lower in 2 subjects	Sig -	8	978.8	+/- 3.8
150	Milton Keynes	Local authority	4	-11.5	+/- 6.3	One grade lower in 2 subjects	Sig -	4	979.1	+/- 4.4
151	School Partnership Trust Academies	Multi-academy trust	14	-11.7	+/- 4.5	One grade lower in 2 subjects	Sig -	14	975.3	+/- 3.2
152	Derby	Local authority	6	-11.8	+/- 6.2	One grade lower in 2 subjects	Sig -	6	988.3	+/- 4.3
153	Solihull	Local authority	3	-11.9	+/- 7.9	One grade lower in 2 subjects	Sig -	3	985.1	+/- 5.5
154	Barnfield Education Partnership Trust (BEPT)	Multi-academy trust	3	-12.5	+/- 9.7	One grade lower in 2 subjects	Sig -	3	987.8	+/- 6.8

	Name	Type	Improvement in performance					Current performance		
			Number of schools	Measure	Conf. interval	Difference from average	Sig -	Number of schools	Measure	Conf. interval
155	Wirral	Local authority	8	-12.7	+/- 6.0	One grade lower in 2 subjects	Sig -	8	975.8	+/- 4.2
156	University of Chester Academies Trust	Multi-academy trust	6	-13.1	+/- 7.4	One grade lower in 2 subjects	Sig -	6	970.6	+/- 5.2
157	Bradford College Education Trust	Multi-academy trust	3	-13.3	+/- 12.3	One grade lower in 2 subjects	Sig -	3	971.0	+/- 8.6
158	Grace Academy	Multi-academy trust	3	-13.9	+/- 9.5	One grade lower in 2 subjects	Sig -	3	970.3	+/- 6.6
159	Bradford	Local authority	14	-14.2	+/- 3.6	One grade lower in 2 subjects	Sig -	14	973.9	+/- 2.4
160	Creative Education Trust	Multi-academy trust	6	-14.8	+/- 6.9	One grade lower in 2 subjects	Sig -	6	983.7	+/- 4.8
161	Learning Schools Trust	Multi-academy trust	4	-14.9	+/- 8.0	One grade lower in 2 subjects	Sig -	4	965.6	+/- 5.6
162	Sunderland	Local authority	5	-15.2	+/- 7.1	One grade lower in 3 subjects	Sig -	5	980.5	+/- 5.0
163	Liverpool	Local authority	15	-15.5	+/- 4.0	One grade lower in 3 subjects	Sig -	15	977.1	+/- 2.8
164	White Rose Academies Trust	Multi-academy trust	3	-16.7	+/- 12.0	One grade lower in 3 subjects	Sig -	3	983.9	+/- 8.4
165	Salford	Local authority	9	-16.8	+/- 5.2	One grade lower in 3 subjects	Sig -	9	983.3	+/- 3.7
166	Stoke-on-Trent	Local authority	3	-17.6	+/- 9.3	One grade lower in 3 subjects	Sig -	3	964.6	+/- 6.5
167	Newcastle upon Tyne	Local authority	4	-18.7	+/- 7.1	One grade lower in 3 subjects	Sig -	4	968.4	+/- 5.0
168	Woodard Academies Trust	Multi-academy trust	4	-20.4	+/- 7.3	One grade lower in 3 subjects	Sig -	4	961.2	+/- 5.0
169	Wolverhampton	Local authority	8	-23.9	+/- 6.1	One grade lower in 4 subjects	Sig -	8	980.5	+/- 4.3
170	Greenwood Academies Trust	Multi-academy trust	7	-25.8	+/- 5.5	One grade lower in 4 subjects	Sig -	7	959.8	+/- 3.9
171	Oldham	Local authority	5	-26.9	+/- 5.5	One grade lower in 4 subjects	Sig -	5	973.3	+/- 3.9
172	Nottingham	Local authority	3	-32.1	+/- 8.6	One grade lower in 5 subjects	Sig -	3	946.8	+/- 6.0
173	Knowsley	Local authority	3	-32.9	+/- 8.1	One grade lower in 5 subjects	Sig -	3	943.0	+/- 5.6
174	College Academies Trust, The	Multi-academy trust	3	-36.4	+/- 9.5	One grade lower in 6 subjects	Sig -	3	961.4	+/- 6.6

Notes:

- (1) The number of schools refers to the number of schools with an improvement score or a current performance score at Key Stage 4 not the total number of scores within the multi-academy trust or local authority.
- (2) The test of statistical significance for a local authority or trust is based on unrounded data. Hence in some instances there may be an apparent inconsistency with the measure, confidence interval and test of significance.