Evidence for Excellence in Education

Report

Analysis of Academy School Performance in 2015

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Analysis of Academy School Performance in 2015

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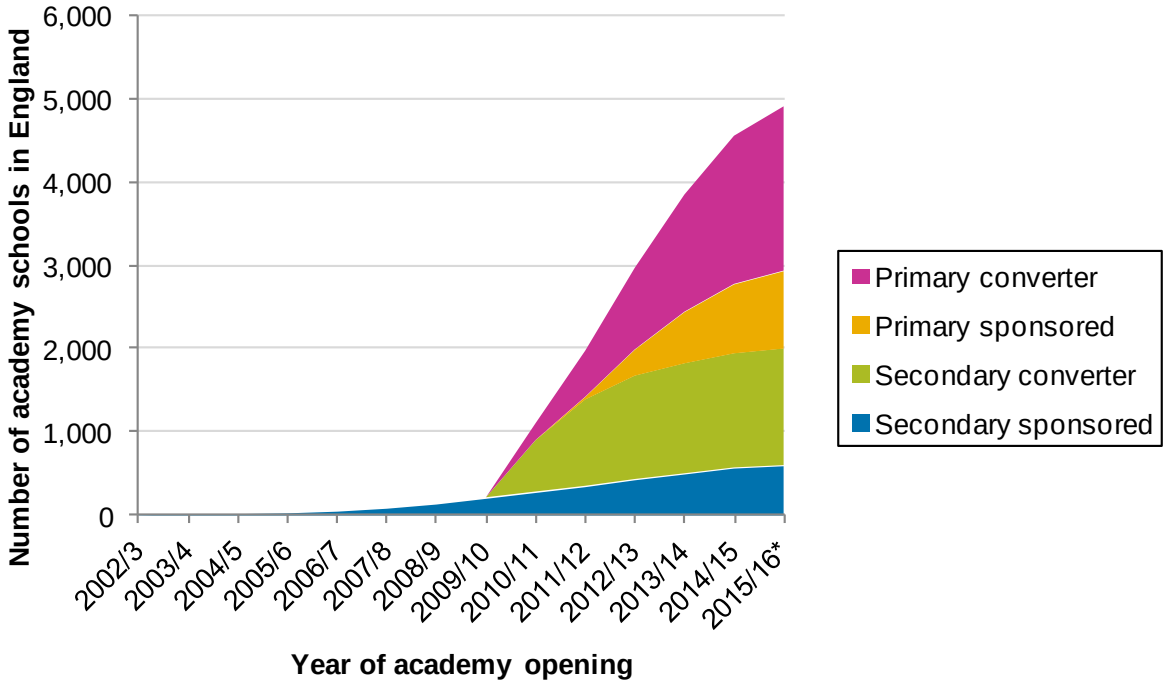
Executive summary

Academy schools are independent primary and secondary schools that are directly funded by the Department for Education (DfE) rather than local authorities. Academies have the ability to teach a different curriculum than the national curriculum, are not bound by the school teachers' pay and conditions document and set their own admissions policy. Many obligations still apply to academies such as statutory testing, regular inspection by Ofsted, providing a broad and balanced curriculum including English, maths and science, and compliance with the school admissions code.

The number of academy schools has grown rapidly since 2010 to 4,922 schools in February 2016, comprising 65 per cent of secondary schools and 18 per cent of primaries (see Figure 1). The first academies in the mid to late 2000s were sponsored academies, under-performing schools whose running is taken over by a sponsor. Now 65 per cent of academies are converter academies, maintained schools deemed to be high-performing[1] that chose to become academies.

Figure 1 Number of academies open in England 2002/03 – 2015/16



Note: *2015/16 figures cover September 2015 - February 2016.
Source: DfE, 2016a

The Government has announced an ambition for every school to become an academy, which would end the funding relationship between schools and local authorities (DfE, 2016d & 2016e). A national funding formula, to be fully introduced from 2020, will also remove local

[1] "Schools that want to convert to an academy will need to demonstrate that they are in a strong enough position to do so. [The Department for Education] will look at: your school's exam results from the last 3 years; the progress your pupils have been making over the last 3 years; your most recent Ofsted inspections; your school's finances." DfE (2016c)

authorities' role in distributing schools block funding to each maintained school. Measures in the 2016 Education and Adoption Act (England. Statutes, 2016) extend the programme of sponsored academy conversions by placing an 'academy order' on all maintained schools that are inadequate, and 'coasting'[2] schools will be eligible for intervention, including the discretionary power to make an academy order on maintained schools.

Research has found that pupil performance in the early sponsored academies significantly improved after changing their status, compared with a group of maintained schools with similar characteristics (Machin and Vernoit, 2011). More recent research has found that short-term improvements in attainment progress made by pupils in academies opened since 2010 has been more modest compared with similar maintained schools (Worth, 2015).

There is, at present, no convincing evidence of the impact of academy status on attainment in primary schools (GB. Parliament. HoC. Education Select Committee, 2015). This report contributes to this research gap, measuring the impact that academy status has had on pupil attainment in primary schools using a 'like-with-like' methodology which compares similar schools.

This report explores the association between academy status for primary and secondary schools and the attainment of pupils in 2015 Key Stage 2 (KS2) statutory assessment and GCSE exams. It compares academies that have been open for between two and five years with a group of schools that are still local authority-maintained schools in 2015 and had similar characteristics at the time the schools became academies. The analysis compares average school performance using several attainment measures, differences according to the length of time the school has been an academy, and the average performance of disadvantaged pupils. It also compares the most recent Ofsted ratings of academies with those of similar maintained schools.

Findings – secondary schools

The differences between secondary academies and similar maintained secondary schools, after taking account of the characteristics of pupils sitting GCSEs in 2015, are summarised in Table 1.

The differences in school GCSE performance between **secondary sponsored academies** that have been open for between two and five years and a group of similar maintained schools are generally small and mostly not statistically significant.

The average Key Stage 4 (KS4) point score from pupils' best eight GCSEs is two-thirds of a GCSE grade per pupil higher in sponsored academies than in similar maintained schools, although the difference is not statistically significant.

The proportion of pupils achieving five or more A*-C grade GCSEs including English and maths is 2.7 percentage points higher in secondary sponsored academies than in similar maintained schools. This is statistically significant and equivalent to around five additional pupils out of a typical secondary school cohort of 180 pupils achieving the five A*-C threshold.

[2] Definition of coasting for primary and secondary schools in DfE (2015a).

The average Key Stage 4 point score *excluding* equivalent qualifications is no different in sponsored academies than in similar maintained schools, which suggests that sponsored academies make slightly more use of equivalent qualifications[3].

Although there is tentative evidence of a trend towards greater improvement the longer a sponsored academy is open, there could be several explanations for this. It could, for example, reflect academy status taking time to 'bed in' before having an effect on pupil attainment. The amount of DfE funding available to sponsors when a school became a sponsored academy also reduced by 83 per cent between 2010 and 2014 (NAO, 2014). This could have reduced the ability of sponsors to drive substantial school improvement.

The differences in school GCSE performance between **secondary converter academies** that have been open for between two and five years and a group of similar maintained schools are statistically significant in favour of academies, although the differences are small. The average Key Stage 4 point score from pupils' best eight GCSEs is one-third of a GCSE grade per pupil higher in converter academies than in similar maintained schools.[4]

The average differences in attainment between sponsored and converter academies and similar maintained schools seem very small compared with how much attainment varies between schools. Academy status explains very little of the between-school variation in pupil progress.

Both sponsored and converter academies are significantly more likely to be rated by Ofsted as outstanding, or as good or outstanding and sponsored academies are significantly less likely to be rated as inadequate, than similar maintained schools. However, this analysis is based only on those schools that have been re-inspected since 2012, which means many (307 out of 979) converter academies are excluded. Analysis of missing Ofsted inspection data suggest that this introduces some bias to the comparisons, but confirms that converter academies are significantly more likely to be rated by Ofsted as good or outstanding.

There is no compelling evidence of academy status being associated with an improvement in the performance of pupils eligible for free school meals (FSM) in secondary schools.

[3] This result is also consistent with pupils in sponsored academies having better attainment in their equivalent qualifications.

[4] The size of the average difference in Key Stage 4 point score between sponsored academies and similar maintained schools is larger than that between converter academies and similar maintained schools, although the former is *not* statistically significant and the latter *is* statistically significant. The number of converter academies analysed was much larger so the differences were estimated with a greater amount of precision.

Table 1 Summary of secondary school academy analysis findings

	Sponsored academies vs similar maintained schools	Converter academies vs similar maintained schools
Average capped point score	Two thirds of a GCSE grade per pupil higher in academies	One third of a GCSE grade per pupil higher in academies
Proportion of pupils achieving 5+A*-C (incl. English & maths)	2.7 percentage points higher in academies	1.1 percentage points higher in academies
Average capped point score (GCSE only)	Negligible difference	Negligible difference
Value-added (KS2-KS4)	Two thirds of a GCSE grade per pupil higher in academies	One third of a GCSE grade per pupil higher in academies
Average capped point score (FSM pupils)	One GCSE grade per pupil higher in academies	One third of a GCSE grade per pupil higher in academies
Average capped point score (FSM gap)	Gap two-thirds of a GCSE grade per pupil narrower in academies	Negligible difference
Number of schools analysed	151 sponsored academies 252 similar maintained schools	979 converter academies 996 similar maintained schools
Proportion of schools Ofsted outstanding	5.4 percentage points higher in academies	4.9 percentage points higher in academies
Proportion of schools good or outstanding	13 percentage points higher in academies	6.4 percentage points higher in academies
Proportion of schools inadequate	11.6 percentage points lower in academies	0.8 percentage points higher in academies
Number of schools analysed	150 sponsored academies 243 similar maintained schools	672 converter academies 832 similar maintained schools

Cells highlighted in blue indicate where, after taking account of pupil characteristics such as prior attainment and the proportion of pupils eligible for free school meals, the difference between academies and a group of similar maintained schools is statistically significant.

Findings – primary schools

The differences between primary academies and similar maintained primary schools, after taking account of the characteristics of pupils taking Key Stage 2 tests in 2015, are summarised in Table 2.

The differences in school Key Stage 2 (KS2) performance between **primary sponsored and converter academies** that have been open for between two and three years and a group of similar maintained schools are small and not statistically significant.

The average Key Stage 2 point score is 0.12 points per pupil higher in primary sponsored academies than in similar maintained schools. The difference is not statistically significant. One key stage level equates to six points, so an increase of 0.12 points is equivalent to one additional pupil out of every 50 pupils achieving an extra level at Key Stage 2. The average proportion of pupils eligible for free school meals who achieve National Curriculum (NC) level 4 (the expected standard for most pupils) in sponsored academies is 2.1 percentage points higher than in similar maintained schools, although the difference is also not statistically significant.

The average Key Stage 2 point score is 0.06 points per pupil higher in primary converter academies than in similar maintained schools, and the average proportion of pupils eligible for free school meals who achieve level 4 in converter academies is 0.4 percentage points

higher than in similar maintained schools. However, neither of these differences is statistically significant.

Both sponsored and converter primary academies are more likely than similar maintained schools to be rated by Ofsted as outstanding and this difference is statistically significant. By contrast, although both sponsored and converter academies are slightly more likely to be rated as good or outstanding, and rated as inadequate, than similar maintained schools, the differences are not statistically significant. This analysis is based only on those schools that have been re-inspected since 2012, which means many converter academies are excluded. Analysis of missing Ofsted inspection data suggests that this introduces some bias to the comparisons and that while converter academies are more likely to be rated by Ofsted as outstanding, the difference is not statistically significant.

There is no compelling evidence of academy status being associated with an improvement in the performance of pupils eligible for free school meals in primary schools.

Table 2 Summary of primary school academy analysis findings

	Sponsored academies vs similar maintained schools	Converter academies vs similar maintained schools
Average point score	One extra pupil per 50 achieving one NC level higher in academies	One extra pupil per 100 achieving one NC level higher in academies
Proportion of pupils achieving NC level 4	1.2 percentage points per pupil higher in academies	0.9 percentage points per pupil higher in academies
Proportion of pupils achieving NC level 4b	1.7 percentage points per pupil higher in academies	1 percentage point per pupil higher in academies
Value-added (KS1-KS2)	One extra pupil per 50 achieving one NC level higher in academies	One extra pupil per 100 achieving one NC level higher in academies
Proportion of pupils achieving NC level 4 (FSM pupils)	2.1 percentage points per pupil higher in academies	0.4 percentage points per pupil higher in academies
Proportion of pupils achieving NC level 4 (FSM gap)	Gap 1.6 percentage points per pupil narrower in academies	Gap 0.7 percentage points per pupil wider in academies
Number of schools analysed	362 sponsored academies 849 similar maintained schools	807 converter academies 3208 similar maintained schools
Proportion of schools Ofsted outstanding	5.5 percentage points higher in academies	5.2 percentage points higher in academies
Proportion of schools good or outstanding	4.4 percentage points higher in academies	3.5 percentage points higher in academies
Proportion of schools inadequate	3.6 percentage points higher in academies	0.4 percentage points higher in academies
Number of schools analysed	344 sponsored academies 822 similar maintained schools	487 converter academies 2360 similar maintained schools

Cells highlighted in blue indicate where, after taking account of pupil characteristics such as prior attainment and the proportion of pupils eligible for free school meals, the difference between academies and a group of similar maintained schools is statistically significant.

Conclusions

This analysis has found no evidence that, in the short term, academies of any phase or type are performing at a lower level of pupil performance than similar maintained schools. Most of the attainment measures analysed are, on average, slightly higher in academies than in similar maintained schools, but the differences are generally small and many are not statistically significant.

This analysis has found an association between academy status and subsequent Ofsted ratings. Academies of both phases and types are significantly more likely to be rated as outstanding, although this finding is less robust for converter academies because many have not been re-inspected since becoming an academy. This may reflect an improvement in teaching and leadership practices in academies, which may lead to improvements in pupil attainment over the longer term. However, previous research has found that a school's Ofsted rating is not a good predictor of future improvements in pupil attainment (Education Datalab, 2016).

Based on the performance of existing academies, this evidence suggests that making all remaining local authority-maintained schools into academies is likely to make little difference to pupil performance, at least in the first few years. Indeed, the vast majority of new academies would be primary schools, and this analysis has found no compelling evidence that academy status in primary schools is associated with improved pupil performance in the short term. This raises questions about whether all schools becoming academies is the best use of resources.

The average differences in attainment between academies and similar maintained schools are very small when compared with how much attainment varies between all schools. Academy status explains very little of the between-school variation in pupil progress. Therefore, research that explores the reasons why pupil progress differs between schools, whether they are academies or maintained schools, will continue to be important for understanding what leads to school improvement.

1 Introduction

1.1 Policy context

Academy schools are independent primary and secondary schools that are directly funded by the Department for Education (DfE) rather than local authorities. Some academy schools are run by sponsors, which manage a number of academy schools and usually delegate some management functions to a board of governors. As of February 2016, there are 4922 academies in England[5] (DfE, 2016a). Academies comprise 65 per cent of secondary schools and 18 per cent of primaries.

Academies have the ability to teach a different curriculum than the national curriculum, are not bound by the school teachers' pay and conditions document and set their own admissions policy. Many obligations still apply to academies such as statutory testing, regular inspection by Ofsted, providing a broad and balanced curriculum including English, maths and science, and compliance with the school admissions code. Academies receive funding for central services that local authorities provide to maintained schools, such as school improvement, audit and asset management services, directly from central government through the education services grant (DfE, 2014a).

Academy schools have been part of the school landscape in England for more than a decade. The academy school programme began under the Labour Government in the early 2000s. The programme involved replacing poorly performing inner city secondary schools with an academy, aiming to increase school performance by introducing new management.

The policy broadened later in the 2000s to replace poorly performing schools beyond inner city areas. These early academies have since become known as 'sponsored' academies, to distinguish them from later, 'converter' academies, and because they are run by a sponsor. Sponsors are organisations such as charities, businesses or religious organisations, which are directly responsible for running a school or a group of schools.

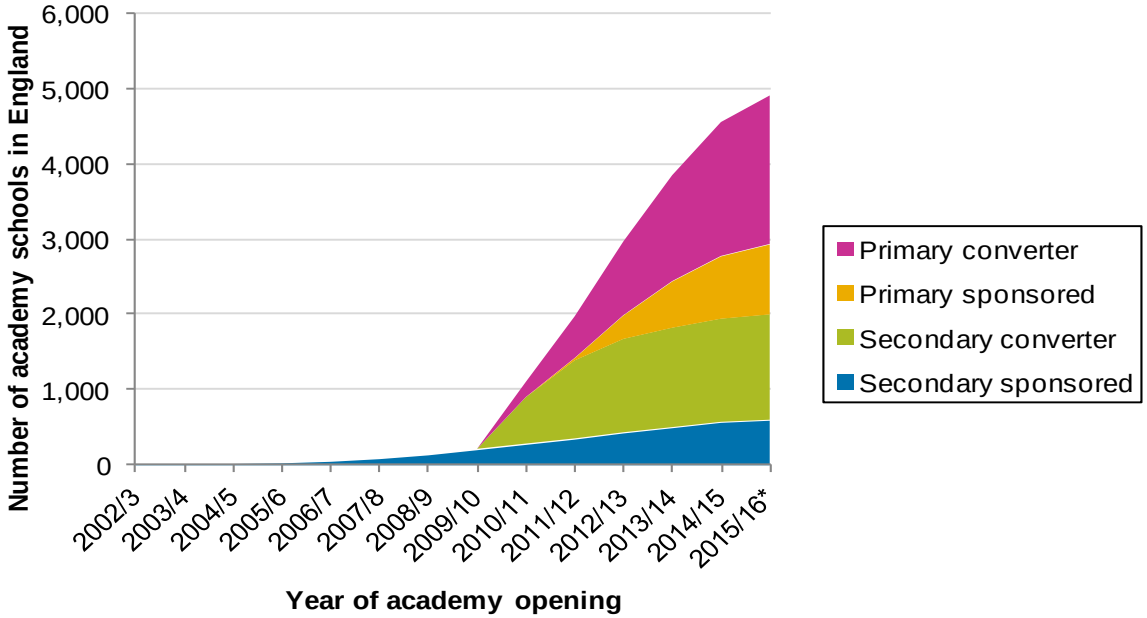
Under the Coalition Government from 2010 the number of new academies increased much more rapidly (see Figure 1.1). Schools that could demonstrate that they were high-performing according to their school performance data and / or Ofsted rating were given the opportunity to convert to academy status (so-called 'converter' academies).

The Government has announced an ambition for every school to become an academy, which would end the funding relationship between schools and local authorities (DfE, 2016d & 2016e). A national funding formula, to be fully introduced from 2020, will also remove local authorities' role in distributing schools block funding to each maintained school. Measures in the 2016 Education and Adoption Act (England. Statutes, 2016) will place an 'academy order' on all maintained schools that are inadequate, and make 'coasting'[6] schools eligible

[5] Mainstream primary and secondary schools with a maintained predecessor school: excludes free schools, studio schools, UTCs, and alternative provision and special academies.
[6] DfE (2015a): "For secondary schools, a school will be 'coasting' if in 2014 and 2015 fewer than 60% of children achieve 5 A* to C including English and mathematics and they are below the median level of expected progress and in 2016 they fall below a level set against the new progress 8 measure.

for intervention, including the discretionary power to make an academy order on maintained schools.

Figure 1.1 Number of academies open in England 2002/03 – 2015/16



Note: *2015/16 figures cover September 2015 - February 2016.
Source: DfE (2016a).

1.2 Previous research

Previous research on the impact of academy schools has considered the question that is central to this report: what impact did academy status have on the attainment of pupils in the schools that became academies? Most of that research has concentrated on the early academies. Machin and Vernoit (2011) found that pupil performance in early sponsored academies significantly improved after changing their status, compared with a group of maintained schools with similar characteristics. As would be expected with a whole-school intervention, the effect of academy status took time to improve performance: the academies open for longer showed the most significant improvement.

The intake of Year 7 pupils in the new secondary academies had higher average end-of-Key Stage 2 attainment scores than the predecessor school (Wilson, 2011), although this only explains part of the later improvement in these pupils' GCSE attainment in academies. Machin and Vernoit (2011) also found wider effects on neighbouring schools: despite a drop

This level will be set after 2016 results are available to ensure it is set at a suitable level. A school will have to be below those levels in all 3 years to be defined as 'coasting'. By 2018 the definition of 'coasting' will be based entirely on Progress 8 and will not have an attainment element.
"At primary level the definition will apply to those schools who for the first 2 years have seen fewer than 85% of children achieving level 4, the secondary-ready standard, in reading, writing and maths, and which have also seen below-average proportions of pupils making expected progress between age 7 and age 11, followed by a year below a 'coasting' level set against the new accountability regime which will see children being expected to achieve a new higher expected standard and schools being measured against a new measure of progress."

in the intake ability (measured by average Key Stage 2 scores) of neighbouring schools, GCSE results in neighbouring schools modestly improved too. Other research also found that sponsored academies improved faster than other similar maintained schools during the period 2002-2009 (NAO, 2010; DfE, 2012).

NFER analysis on exam performance in academy schools that have opened since 2010 has found that attainment progress made by pupils in sponsored academies that had been open for between two and four years was much smaller than that identified in previous research (Worth, 2015). Although the percentage of pupils who achieved five or more A* to C grades including English and maths was higher in sponsored academies than in similar maintained schools, the difference was modest (three percentage points higher in academies) and the difference in Key Stage 4 points was not statistically significant. There was no short-term improvement in school performance associated with converter academy status.

Department for Education research found that converter academies previously rated 'good' by Ofsted were more likely than maintained schools to retain or improve their subsequent rating (DfE, 2014b). However, the analysis only compared schools with the same previous Ofsted rating and did not attempt to match other characteristics: the differences identified may be due to underlying differences between the schools, for example the prior attainment of the pupils, rather than the impact academy status had.

Research on academy schools has also broadened to consider how schools are using the freedoms that academy status has given them (Cirin, 2014). An increasing number of academies are part of a multi-academy trust (MAT), a body that holds the funding agreement for several academies directly with the Department for Education. A recent body of research on academies has focused on differences in school performance between academy sponsors and MATs (Hutchings *et al.*, 2014, 2015; DfE, 2015b).

1.3 Aims of this research

Academy status can have many impacts - on academy school funding and financial management, the curriculum taught in academy schools, school admissions and the way academy staff are paid – and on different stakeholders – schools that become academies, neighbouring schools, academy chains and local authorities. Changes such as these may also feed into impacts on pupil outcomes, such as exam results.

This research focuses on measuring the impact that academy status has had on pupil attainment in GCSE exams at age 16 in secondary schools and in end-of-Key Stage 2 tests at age 11 in primary schools.

Primary schools have been able to become academies since 2010, but there has been little research on the impact academy status has had on primary academy performance. In January 2015, the Education Select Committee (GB. Parliament. HoC. Education Select Committee, 2015) called for evidence on the impact of academy status on primary schools.

The research presented in this report contributes to this research gap, providing a robust assessment of the association between academy status and pupil attainment in primary schools.

The analysis is split into four strands, analysing the association between sponsored academy status and average outcomes and the association between converter academy

status and average outcomes, for both primary and secondary schools. It is crucial to perform these analyses separately because schools became sponsored and converter academies for different reasons, in different contexts and had very different characteristics. In addition, as primary schools are generally smaller than secondary schools, the impact of academy status is likely to be very different.

The focus of the report is sponsored and converter academies, that is existing schools that became academies. The research does not consider free schools, that is, academy schools that have opened as new schools.

The analysis considers the association between sponsored and converter academy status and a number of different outcomes, and compares average achievement at KS2 and GCSE among all the pupils in academy schools and in similar maintained schools. It also considers the performance of pupils eligible for free school meals (FSM), and the within-school performance gap between FSM pupils and those not eligible. The differential use of different types of qualification by academy and similar maintained schools is also analysed.

By comparing average outcomes in academies and similar maintained schools we are attempting to capture the effect that academy status has had on school performance, compared with what might have happened if the school had remained a maintained school. The context of these comparisons is that there have also been changes to the way maintained schools have operated since 2010. Some of the freedoms that academy schools have, such as the ability to relate teachers' pay to performance, for example, have also been extended to maintained schools. Local authorities have also been more active in giving warning notices to maintained schools in recent years (NAO, 2014).

The next chapter of this report explains the sources of data used for the analysis and the methods used to analyse the data. Chapters 3 and 4 respectively present the analysis of secondary sponsored academies compared with similar maintained schools and secondary converter academies compared with similar maintained schools, while chapters 5 and 6 analyse the performance of primary sponsored academies compared with similar maintained schools and primary converter academies compared with similar maintained schools. The final chapter discusses the implications of the findings.

2 Methodology and data

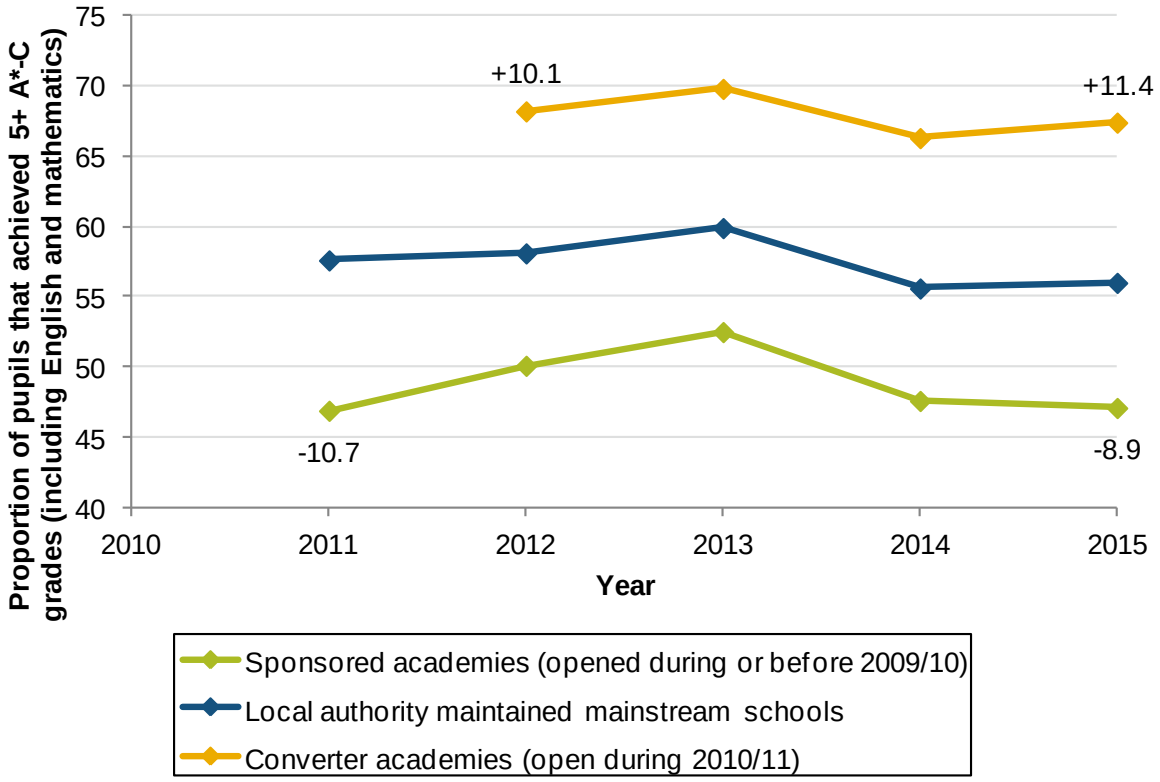
2.1 Methodology

2.1.1 Measuring the impact of academy status

A natural way to begin thinking about the impact sponsored or converter academy status has had on the attainment progress made by pupils in those schools is to compare average exam results, or average trends, of schools that are academies with those that are not. This may be problematic for a number of reasons.

Figure 2.1 shows Department for Education (DfE) school performance data over time for three different groups of secondary school: the 654 secondary converter academies that opened (i.e. became an academy) during the 2010/11 academic year, the 261 sponsored academies opened during or before the 2009/10 academic year and the 1227 secondary schools that were local authority-maintained schools in 2015.

Figure 2.1 Proportion of pupils that achieved five or more A*-C grade GCSEs including English and maths 2011-2015, by school type



Note: Lines show the average proportion of pupils that achieved five or more A*-C grades at GCSE including English and maths for three groups of schools over time. Green line: sponsored academies opened before or during 2009/10. Blue line: all schools that are local authority-maintained in 2015. Green line: converter academies opened during 2010/11. The numbers at the beginning and end of the green and yellow lines show the respective gap to the blue line.

Source: DfE (2016b).

Sponsored academies have a level of performance that is below that of LA-maintained schools, but that was the case before they became academies and is still the case afterwards. Converters tend to be high-performing, but were already high-performing when they became academies. Comparing levels of achievement between school types does not reveal what impact changing the school's type has had on school performance. Comparing levels of achievement by school type is also problematic because it does not take into account the ability of pupils when they enter the school.

Trends in performance, that is comparing how the gap between the average performance of academies and the average performance of LA-maintained schools has changed over time, may offer a more informative way of looking at the impact of academy status. However, such a comparison of trends does not take account of a statistical effect known as 'mean reversion'. Mean reversion is the tendency of statistics measured over time to tend towards the average: if a variable is above average at one point in time it is more likely to be closer to the average the next time it is measured, and if a variable is below average at one point in time it is more likely to be closer to the average the next time it is measured.

This is relevant for analysing academies because the two types of academies had above and below average respective performance when they became academies. Because we might have expected a group of schools with initially low or high performance to drift towards the average over time even if they hadn't become an academy, it is important to compare performance with a group of maintained schools that were in similar circumstances at the time, to take account of 'mean reversion'.

A better comparison is to compare schools that became academies with schools that did not become academies and had similar characteristics at the time. Then, if mean reversion does occur, it will affect the subsequent results of both groups of schools. A comparison between academies and a group of similar LA-maintained schools will take account of mean reversion and the difference in averages is more likely to represent the difference that academy status has made. Furthermore, we ensure the academies and similar maintained schools we are comparing had similar characteristics, such as the proportion of pupils eligible for free school meals, at the time they either did or did not become academies.

However, it is not possible to match schools based on factors that have not been measured, such as the support that schools receive from their local authority or the enthusiasm of school leaders for their school to become an academy. The estimated differences between academies and similar LA-maintained schools in this report therefore cannot necessarily be attributed to the causal impact of academy status on school performance.

An 'academy order' to become a sponsored academy is the standard recommendation if a school was or is under-performing. Why was that standard recommendation applied to some maintained schools (which became academies) and not to others that had similar exam results and Ofsted ratings at the same time? It could have been parental or local authority opposition to academy status, or the policy being applied differently to different schools in similar circumstances. However, another reason that similar LA-maintained schools are still maintained in 2015 could be *because* they have improved in the intervening years. This factor in particular needs to be borne in mind, as it could bias the comparisons made in this report.

Despite these issues and challenges with interpreting the findings, matching a group of LA-maintained schools with similar characteristics to academy schools is the most robust methodology available for making comparisons. This research uses a method for matching schools called ‘propensity score matching’. A detailed description of this method and how it has been applied is in Appendix A.

2.1.2 Analysis

Throughout this report, we present two analyses comparing the outcomes in academy schools in 2015 with those in similar maintained schools: a simple comparison of averages and the results of regression analysis. Comparing the average outcomes in academy schools with the average outcomes in similar maintained schools represents the average difference in outcomes that is associated with academy status.

All the academy schools analysed in this report have been academies for between two and five years, so the pupils taking GCSEs in 2015 joined the school before it became an academy. Therefore, because of the propensity score matching, there should be few underlying differences in the average characteristics of pupils taking GCSE exams in 2015 between the two groups of schools.

However, there may be some differences between academies and similar maintained schools in the particular characteristics of the pupils that took GCSE exams in 2015. For example, the cohort of pupils in academy schools may have slightly higher average Key Stage 2 scores, or have more pupils that are eligible for free school meals, than pupils in similar maintained schools.

We have used regression analysis to estimate the average difference in outcomes that is associated with academy status. Regression analysis is a statistical approach for explaining the variation in one variable with one or more other variables simultaneously; in this case the relationship between attainment outcomes and academy status, while controlling for the variation in pupil characteristics in academies and maintained schools that also help explain why attainment varies between schools.

Regression analysis acts as a cross-check to simple comparison of average outcomes, and also has the advantages that:

1. Differences in outcomes are interpreted as the *progress* pupils make between phases of education (e.g. the end of primary school and GCSEs) rather than the levels of attainment they achieve. That is, it measures what value the school is adding.
2. Differences in outcomes are estimated with a greater level of precision. Confidence intervals are narrower when underlying differences in pupil characteristics are accounted for with regression analysis.

2.1.3 Outcome measures

Secondary schools

We analyse the difference between secondary academy schools and similar maintained schools in three main attainment measures:

- average Key Stage 4 point score for the best eight GCSEs. Six points is equivalent to one grade in one subject. An A* grade is worth 58 points, an A grade 52 points, a B grade worth 46 points, a C grade worth 40 etc.
- the percentage of pupils who achieved five or more A* to C grade GCSEs (including equivalent qualifications), including English and maths
- average value-added – the Key Stage 4 points that a pupil scores, relative to the Key Stage 4 points of the average pupil with the same Key Stage 2 point score. A six-point difference in value-added is the equivalent of one grade in one subject. Value-added scores above 1000 are above the national average in terms of the amount of progress pupils are making, whereas scores below 1000 are below the national average.

We also analyse:

- average Key Stage 4 point score for the best eight GCSEs *excluding* equivalent qualifications, to compare the findings with average point score *including* equivalents. Previous research has shown greater use of equivalent qualifications in (particularly sponsored) academies compared with similar maintained schools
- average Key Stage 4 point score of pupils who are eligible for free school meals (FSM)
- the average gap in Key Stage 4 point score between FSM-eligible and non-eligible pupils in academy and similar maintained schools.

Primary schools

We analyse the difference between primary academy schools and similar maintained schools in four main attainment measures:

- the percentage of pupils who achieved National Curriculum level 4 in English and maths
- the percentage of pupils who achieved National Curriculum level 4b in English and maths. This measure is the new expected standard.
- average Key Stage 2 point score in English and maths. Six points is equivalent to one key stage level
- average value-added – the Key Stage 2 points that a pupil scores, relative to the Key Stage 2 points of the average pupil with the same Key Stage 1 point score. A six-point difference in value-added is the equivalent of one National Curriculum level. Value-added scores above 100 are above the national average in terms of the amount of progress pupils are making, whereas scores below 100 are below the national average.

We also analyse:

- the average percentage of pupils eligible for free school meals (FSM) who achieved National Curriculum level 4 in English and maths

- the average gap in the percentage of FSM-eligible and non-eligible pupils who achieved level 4 in English and maths.

The number of schools analysed for each set of comparisons is shown in Table 2.1.

Table 2.1 Sample sizes used for analysis of attainment in academies and similar maintained schools

	Academies	Similar maintained schools
Secondary sponsored academies	151	252
Secondary converter academies	979	996
Primary sponsored academies	362	849
Primary converter academies	807	3208

Ofsted ratings

We also analyse the most recent Ofsted rating of overall school effectiveness that each school received as of August 2015. Ofsted ratings are included in this part of the analysis where the inspection took place after 1st September 2012. This ensures that:

- all ratings are determined using the same Ofsted framework – the updated framework came into effect in September 2012
- all inspection ratings of academies are based on an inspection of the schools after they became academies, and all inspection ratings of similar maintained schools are based on an inspection after the school was matched to an academy. [7]

However, this restriction reduced the sample size of schools compared with that used in the GCSE and KS2 results analysis because not every school had been inspected since September 2012 or since becoming an academy. Table 2.2 shows the effect this restriction has on the sample sizes.

Table 2.2 Sample sizes used for analysis of attainment and Ofsted ratings in academies and similar maintained schools

	GCSE / KS2 analysis		Ofsted rating analysis		Sample size reduction	
	Acad	Main	Acad	Main	Acad	Main
Secondary sponsored academies	151	252	150	243	99%	96%
Secondary converter academies	979	996	672	832	69%	84%
Primary sponsored academies	362	849	344	822	95%	97%
Primary converter academies	807	3208	487	2360	60%	74%

Note: Acad = sample size for sponsored academies; Main = sample size for similar maintained schools.

[7] For the same reason, academies opened during the 2012/13 academic year and maintained schools that were matched to this group of schools are excluded from this part of the analysis if their most recent Ofsted rating was based on an inspection that took place before 1st September 2013.

This restriction has very little effect on sponsored academies and their similar maintained schools because they were initially more likely to be rated 'inadequate' or 'requires improvement', which are re-inspected more regularly. Because the comparisons are *between* academies and similar maintained schools, which have similar rates of missing inspection data, they are not likely to be biased by the missing data. However, a greater proportion of converter academies have not yet been inspected than their similar maintained schools so, as a cross-check, we use a statistical technique known as 'multiple imputation' to estimate what the missing Ofsted inspection data might have been, using 2015 school performance data.

The overall Ofsted rating of effectiveness is one of four levels for each school: outstanding, good, requires improvement, and inadequate. We analysed three outcome measures:

- whether the school is outstanding
- whether the school is good or outstanding
- whether the school is inadequate.

2.1.4 Pupil characteristics

In the analysis of attainment outcomes, regression analysis takes account of the association between fixed pupil characteristics and outcomes, to control for underlying differences when comparing academies and similar maintained schools. Those pupil characteristics are:

- average Key Stage 2 point score, that is the level of attainment of the cohort of pupils when they began secondary school (for secondary schools only)
- average Key Stage 1 point score, that is the level of attainment of the cohort of pupils when they began upper primary school / Key Stage 2 (for primary schools only)
- proportion of pupils eligible for free school meals
- proportion of pupils with special educational needs
- proportion of pupils with English as an additional language
- the number of pupils in the GCSE / KS2 cohort, that is the size of the school.

2.2 Data sources

This research combines data from a number of sources to make the comparisons between academy schools and similar maintained schools. The sources are:

- outcome measures and the characteristics of the GCSE and Key Stage 2 cohort pupils gathered from secondary and primary school performance tables, published by the DfE
- information about when the academy was opened gathered from the DfE's list of open academies (February 2016)
- Ofsted data on historical school ratings. This was used to identify which Ofsted rating academy schools had before they became academies, which Ofsted rating maintained schools had at the time, and the school's most recent Ofsted rating for comparison

- School Census and LEA and School Information Service (LEASIS) data to identify the proportion of pupils eligible for free school meals and the total number of pupils in schools before they became academies, and to identify similar information for maintained schools.

3 Secondary sponsored academies

3.1 Key findings

- The average Key Stage 4 (KS4) point score from pupils' best eight GCSEs is two-thirds of a GCSE grade per pupil higher in secondary sponsored academies than in similar maintained schools, although the difference is not statistically significant. The average difference in value-added score, that is the progress pupils made while at secondary school, is of the same order of magnitude as the difference in KS4 points and also not statistically significant.
- The proportion of pupils achieving five or more A*-C grade GCSEs including English and maths is higher in secondary sponsored academies than in similar maintained schools, and the difference is statistically significant. This is equivalent to around five additional pupils out of a typical secondary school cohort of 180 pupils achieving the five A*-C threshold.
- There is no difference in average Key Stage 4 point scores *excluding* equivalent qualifications in sponsored academies and similar maintained schools. When compared with average Key Stage 4 points *including* equivalent qualifications, this suggests that sponsored academies make slightly more use of equivalent qualifications than similar maintained schools.
- Pupils eligible for free school meals (FSM) make around one GCSE grade per pupil more attainment progress in sponsored academies than in similar maintained schools, although the difference is not statistically significant.
- Sponsored academies are significantly more likely to be rated as outstanding, or good or outstanding, and less likely to be rated as inadequate compared with similar maintained schools.

3.2 Findings

3.2.1 Key Stage 4 results in 2015

Table 3.1 compares the 2015 Key Stage 4 results of sponsored academies and similar maintained schools using three different measures. The first column compares the average in sponsored academies with the average in similar maintained schools. The second column compares the average GCSE results in the two groups using a regression model, which takes account of any differences in the pupil characteristics of the GCSE cohort which affect GCSE outcomes. The difference between the group averages is the association between academy status and school performance.

On average, both sponsored academies and similar maintained schools are below the 2015 national average in terms of Key Stage 4 points (average = 311). Pupils score around 280 points on their best eight GCSEs, which is the equivalent of eight D grades. The percentage

of pupils achieving five A*-C grades including English and maths is also below the national average for 2015 of 53 per cent.

Pupils' Key Stage 4 point score was 1.5 points higher in sponsored academies than in similar maintained schools. When the pupil characteristics of the cohort are taken into account, pupils' Key Stage 4 points score was 3.6 points higher in sponsored academies than in similar maintained schools. This is the equivalent of two-thirds of a GCSE grade per pupil. Value-added, a measure of how much progress pupils make in secondary school since leaving primary school, was 3.5 points higher in sponsored academies than in similar maintained schools; the equivalent of two-thirds of a GCSE grade per pupil. Neither of these differences is statistically significant.

After taking into account pupil differences, the proportion of pupils achieving five or more A*-C grade GCSEs including English and maths was 2.7 percentage points higher in sponsored academies compared with similar maintained schools. This is equivalent to around five more pupils (in a typical secondary school cohort of 180 pupils) achieving the five or more A*-C GCSE threshold in sponsored academies. This difference is statistically significant.

Table 3.1 Difference between sponsored academies and similar maintained schools in average GCSE outcomes

	Average	Regression model
	Capped Key Stage 4 point score	
Sponsored academies	281.9	
Similar maintained schools	280.4	
Difference	1.5	3.6
95% confidence interval		(-1.1, 8.2)
	Value-added	
Sponsored academies	983.6	
Similar maintained schools	980.4	
Difference	3.2	3.5
95% confidence interval		(-1.8, 8.8)
	Percentage achieving 5+ A*-C GCSEs including English and maths	
Sponsored academies	44.0	
Similar maintained schools	42.2	
Difference	1.7	2.7
95% confidence interval		(0.5, 4.8)
Controls for prior attainment	No	Yes
Controls for pupil characteristics	No	Yes

Note: Differences may not exactly match due to rounding.

When compared with how much KS4 point scores and the proportion of pupils achieving five or more A*-C GCSE grades vary between schools, these differences seem very small. Figure 3.1 plots the distribution of the proportion of pupils achieving five or more A*-C grade GCSEs including English and maths for sponsored academies and similar maintained

schools, and Figure 3.2 plots the distribution of the KS4 point score. Despite the average for sponsored academies being slightly higher than for similar maintained schools, the variation in performance is greater for sponsored academies. Sponsored academies are disproportionately likely to be low-performing and high-performing, and less likely to have a middling level of performance.

Figure 3.1 Distribution of the proportion of pupils achieving five or more A*-C grade GCSEs including English and maths for sponsored academies and similar maintained schools

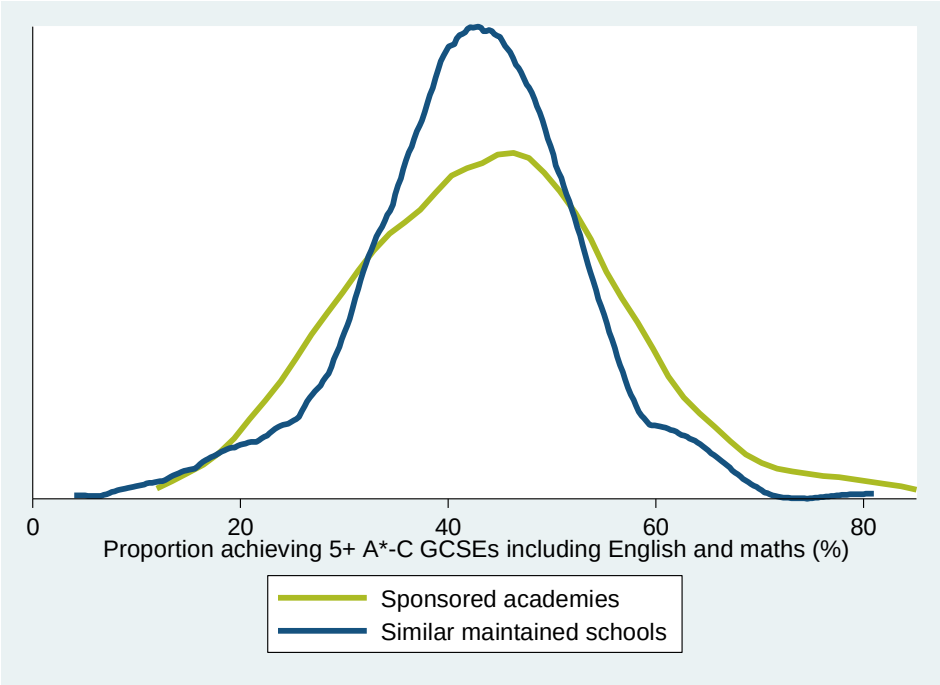
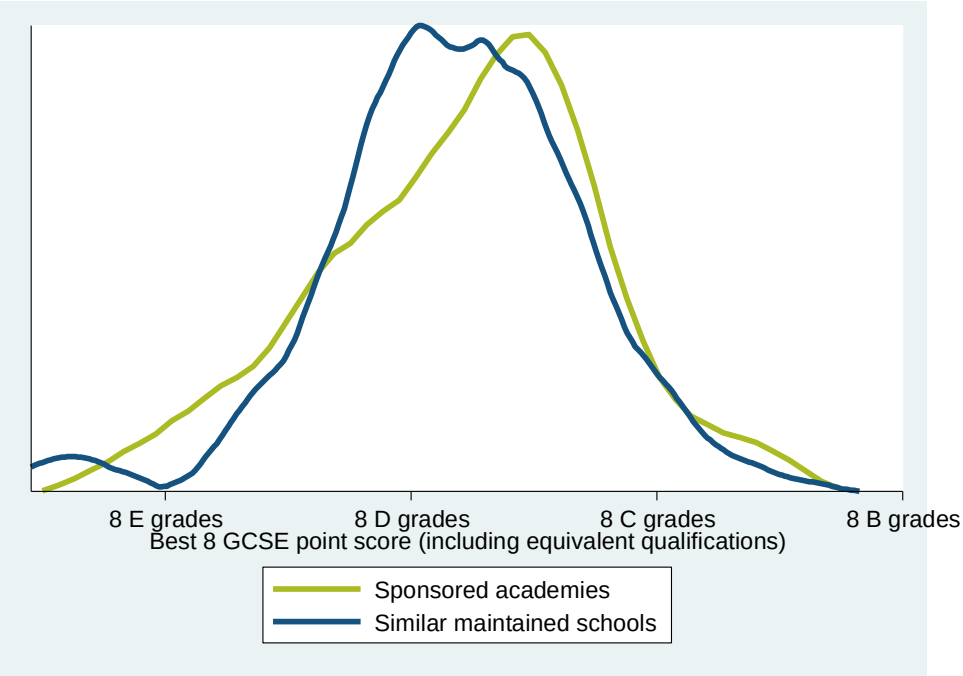


Figure 3.2 Distribution of capped Key Stage 4 point score for sponsored academies and similar maintained schools



3.2.2 Use of equivalent qualifications

Previous research has shown differences in the performance improvement in sponsored academies compared with similar maintained schools, depending on whether equivalent qualifications are included in the comparison (Worth, 2014 & 2015; DfE, 2012). The relative performance of sponsored academies appeared to be better when equivalent qualifications were included in the measures, suggesting sponsored academies were making greater use of equivalent qualifications. Changes to the way school performance tables have been calculated since 2014 have reduced the contribution that equivalent qualifications make to the main performance measures.

Table 3.2 shows a comparison of sponsored academies and similar maintained schools using two measures of KS4 points in 2015. The first measure *includes* equivalent qualifications and the second *excludes* these. When equivalents are included, sponsored academies have a higher average capped point score compared with similar maintained schools. When equivalents are excluded, sponsored academies have a lower average capped point score than similar maintained schools. That said, the difference is only marginally above zero when pupil characteristics are taken into account.

The comparisons suggest that school performance in sponsored academies compared with similar maintained schools is affected to a small extent by differences in the use of equivalent qualifications.[8]

Table 3.2 Difference between sponsored academies and similar maintained schools in average capped Key Stage 4 points including and excluding equivalent qualifications

	Average	Regression model
	Key Stage 4 points (including equivalents)	
Sponsored academies	281.9	
Similar maintained schools	280.4	
Difference	1.5	3.6
95% confidence interval		(-1.1, 8.2)
	Key Stage 4 points (excluding equivalents)	
Sponsored academies	254.3	
Similar maintained schools	256.9	
Difference	-2.6	0.1
95% confidence interval		(-5.4, 5.6)
Controls for prior attainment	No	Yes
Controls for pupil characteristics	No	Yes

Note: Differences may not exactly match due to rounding.

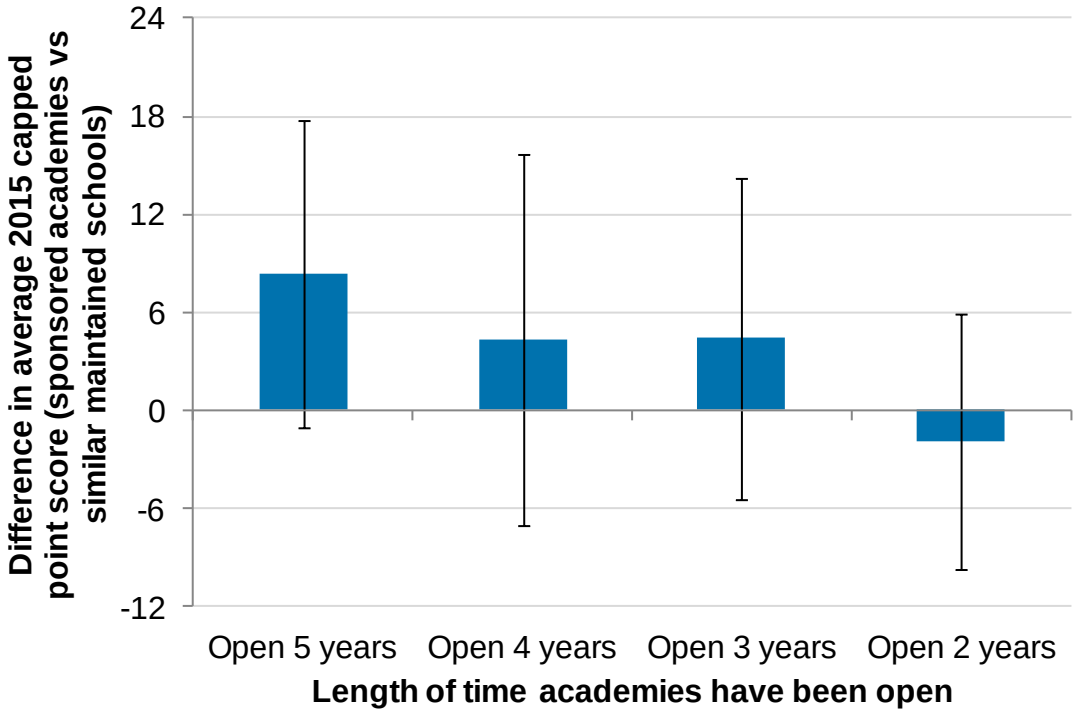
[8] This result is also consistent with pupils in sponsored academies having better attainment in their equivalent qualifications.

3.2.3 Earlier and later academies

Figure 3.3 compares the average capped Key Stage 4 points score of secondary sponsored academies, split by the year they became an academy and compared with the group of maintained schools with similar characteristics at the time. Pupils in sponsored academies open for five years achieve one and a half GCSE grades per pupil higher than similar maintained schools, whereas pupils in sponsored academies open for two years score slightly lower. However, because the number of academies opened each year is small, the confidence intervals of each estimate are wide and none of the differences are statistically significant. Nonetheless, the analysis provides tentative evidence that the positive association between academy status and school performance is stronger in schools that have been sponsored academies for longer.

This finding is consistent with findings from previous research on sponsored academies (Machin and Vernoit, 2011) and could reflect academy status taking time to 'bed in' before having an effect on pupil attainment. However, the amount of Department for Education (DfE) funding available to sponsors when a school becomes a sponsored academy has also reduced by 83 per cent between 2010 and 2014 (NAO, 2014), which could have reduced the ability of sponsors to drive substantial school improvement.

Figure 3.3 Difference between sponsored academies and similar maintained schools in average capped Key Stage 4 points, split by year of opening



Note: black lines show the 95% confidence interval of the difference.

3.2.4 Narrowing the gap

Table 3.3 compares the average capped Key Stage 4 points score of pupils eligible for free school meals in sponsored academies and similar maintained schools, and the gap between pupils eligible for free school meals and pupils that are not.

On average, pupils eligible for free school meals achieved a lower capped Key Stage 4 point score than their non-eligible peers in both sponsored academies and similar maintained schools. The gap is around 47 points nationally, which is equivalent to around eight GCSE grades per pupil: for example, the difference between eight C grades and eight B grades.

Pupils eligible for FSM in sponsored academies had a higher GCSE point score per pupil on average than FSM pupils in similar maintained schools. After taking account of pupil characteristics, the average pupil progress made by FSM pupils in sponsored academies was around one GCSE grade (5.7 points) per pupil higher than in similar maintained schools. However, the difference is not statistically significant.

The FSM gap is also narrower in sponsored academies than in similar maintained schools, by around half a GCSE grade (4 points) per pupil. This is equivalent to the existing FSM gap between schools being around eight per cent narrower. The findings from regression analysis of the FSM gap, which takes into account underlying average differences between schools in the proportion eligible for FSM and prior attainment, are very similar. However, this difference is also not statistically significant.

Table 3.3 Difference between sponsored academies and similar maintained schools in the Key Stage 4 points of FSM-eligible pupils and the gap between FSM-eligible and non-FSM pupils

	Average	Regression model
	Average capped point score (FSM pupils)	
Sponsored academies	253.7	
Similar maintained schools	249.7	
Difference	4.1	5.7
95% confidence interval		(-0.3, 11.7)
	Gap between FSM and non-FSM pupils	
Sponsored academy	-47.0	
Similar maintained schools	-50.8	
Difference	3.8	4.0
95% confidence interval		(-0.9, 8.8)
Control for prior attainment	No	Yes
Control for proportion of FSM pupils	No	Yes
Control for pupil characteristics	No	Yes

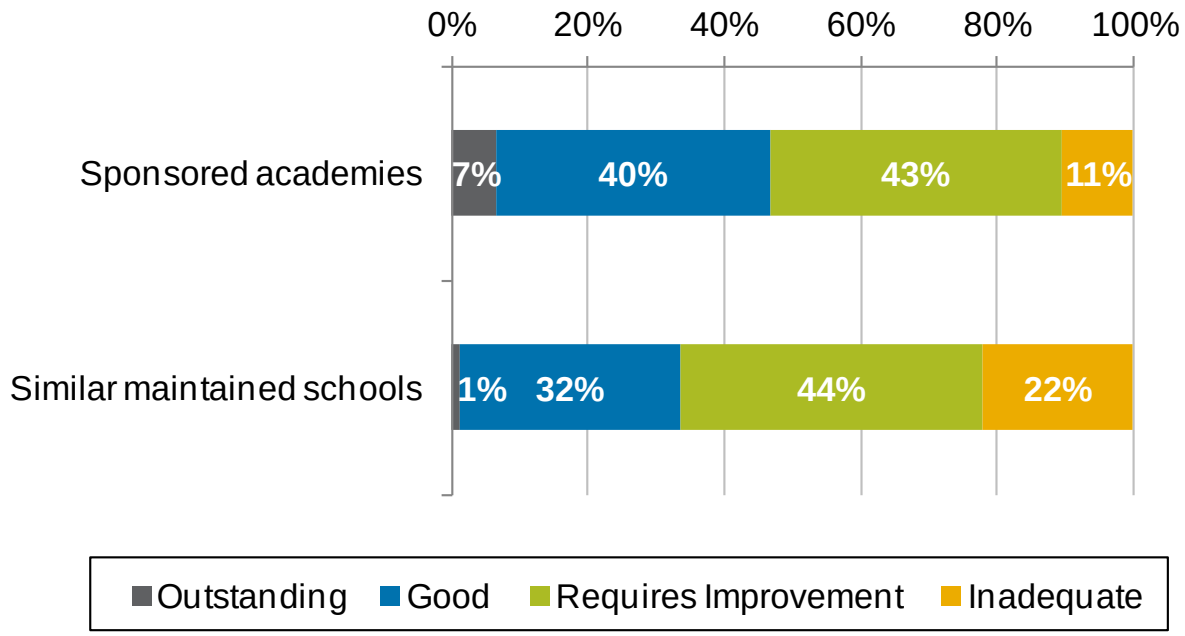
Note: Differences may not exactly match due to rounding.

3.2.5 Ofsted ratings

Figure 3.4 shows the proportions of sponsored academies and similar maintained schools that received each Ofsted rating in their most recent inspection as of August 2015. [9] Table 3.4 presents the proportion of sponsored academies and similar maintained schools that are outstanding, good or outstanding and inadequate, and the percentage point difference.

The comparisons show that sponsored academies are significantly more likely than similar maintained schools to be rated as outstanding, and good or outstanding, and significantly less likely to be rated as inadequate.

Figure 3.4 Most recent Ofsted rating (Sept 2012 – August 2015) of sponsored academies and similar maintained schools



Note: Figures may not exactly sum to 100% due to rounding.

Table 3.4 Difference in Ofsted ratings between sponsored academies and similar maintained schools

	Sponsored academy	Similar maintained schools	Difference	Statistically significant?
Outstanding	6.7%	1.3%	5.4	Yes
Good or outstanding	46.7%	33.7%	13.0	Yes
Inadequate	10.7%	22.3%	-11.6	Yes
Number of schools	150	144		

Note: Differences may not exactly match due to rounding.

[9] Note: Ofsted ratings from inspections of schools between September 2012 and August 2015. Inspections of schools that became academies in 2012/13 are excluded from this analysis if they took place before September 2013.

4 Secondary converter academies

4.2 Key findings

- The average Key Stage 4 point score from pupils' best eight GCSEs is one-third of a GCSE grade per pupil higher in secondary converter academies than in similar maintained schools. The difference is statistically significant. The average difference in value-added score, that is the progress pupils made while at secondary school, is of also one-third of a GCSE grade and statistically significant.
- The proportion of pupils achieving five or more A*-C grade GCSEs including English and maths is also higher in secondary converter academies than in similar maintained schools. This is statistically significant and equivalent to around two additional pupils out of a typical secondary school cohort of 180 pupils achieving the five A*-C threshold.
- There is no difference in the average Key Stage 4 point score *excluding* equivalent qualifications in converter academies than in similar maintained schools. When compared with average Key Stage 4 points *including* equivalent qualifications, this suggests that converter academies make slightly more use of equivalent qualifications than similar maintained schools.
- Pupils eligible for free school meals make around one-third of a GCSE grade per pupil more attainment progress in converter academies than in similar maintained schools, although the difference is not statistically significant.
- Converter academies are significantly more likely to be rated as outstanding, or as good or outstanding, than similar maintained schools. Converter academies are slightly less likely to be rated as inadequate, but the difference is not statistically significant.

4.2 Findings

4.2.1 Key Stage 4 results in 2015

Table 4.1 compares the 2015 Key Stage 4 results of converter academies and similar maintained schools using three different measures. The first column compares the average in converter academies with the average in similar maintained schools. The second column compares the average GCSE results in the two groups using a regression model, which takes account of any differences in the pupil characteristics of the GCSE cohort which explain differences in GCSE outcomes. The difference between the group averages is the association between academy status and school performance.

On average, both converter academies and similar maintained schools have a Key Stage 4 (KS4) point score above the 2015 national average (average = 311). Pupils score 326 points on their best eight GCSEs, which is around eight C grades. The percentage of pupils achieving five or more A*-C grade GCSEs including English and maths (in both converter

academies and similar maintained schools) is also above the national average (which was 53 per cent in 2015).

Simply comparing averages, pupils' KS4 point score is the same in converter academies and similar maintained schools. When the pupil characteristics of the cohort are taken into account, pupils' KS4 point score is 1.6 points higher in converter academies than in similar maintained schools. This is the equivalent of around one-third of a GCSE grade per pupil. Value-added, a measure of how much progress pupils make in secondary school since leaving primary school, is 2 points higher in converter academies than in similar maintained schools, which is the equivalent of one-third of a GCSE grade per pupil. Both of these differences are statistically significant.

When the pupil characteristics of the cohort are taken into account, the proportion of pupils achieving five or more A*-C grade GCSEs including English and maths is 1.1 percentage points higher in converter academies compared with similar maintained schools. This is equivalent to around two more pupils out of a typical secondary school cohort of 180 pupils achieving the five A*-C threshold in converter academies and is also statistically significant.

Table 4.1 Difference between converter academies and similar maintained schools in average GCSE outcomes

	Average	Regression model
	Capped Key Stage 4 point score	
Converter academies	326.4	
Similar maintained schools	326.5	
Difference	-0.1	1.6
95% confidence interval		(0.3, 3.0)
	Value-added	
Converter academies	1006.0	
Similar maintained schools	1004.2	
Difference	1.7	2.0
95% confidence interval		(0.4, 3.5)
	Percentage achieving 5+ A*-C including English and maths	
Converter academies	61.8	
Similar maintained schools	61.5	
Difference	0.3	1.1
95% confidence interval		(0.4, 1.8)
Controls for prior attainment	No	Yes
Controls for pupil characteristics	No	Yes

Note: Differences may not exactly match due to rounding.

When compared with how much the proportion of pupils achieving five or more A*-C grade GCSEs and capped Key Stage 4 point scores vary between schools, these average differences seem very small. Figure 4.1 plots the distribution of the proportion of pupils achieving five or more A*-C grade GCSEs including English and maths for converter academies and similar maintained schools, and Figure 4.2 plots the distributions of the KS4 point score. Despite the averages and the fact that the proportion of pupils achieving five or more A*-C grade GCSEs is slightly higher for converter academies than for similar

maintained schools, the distributions are virtually identical. While the association between converter academy status and pupil progress is positive and statistically significant, academy status explains very little of the between-school variation in pupil progress.

Figure 4.1 Distribution of the proportion of pupils achieving 5+ A*-C grade GCSEs including English and maths for converter academies and similar maintained schools

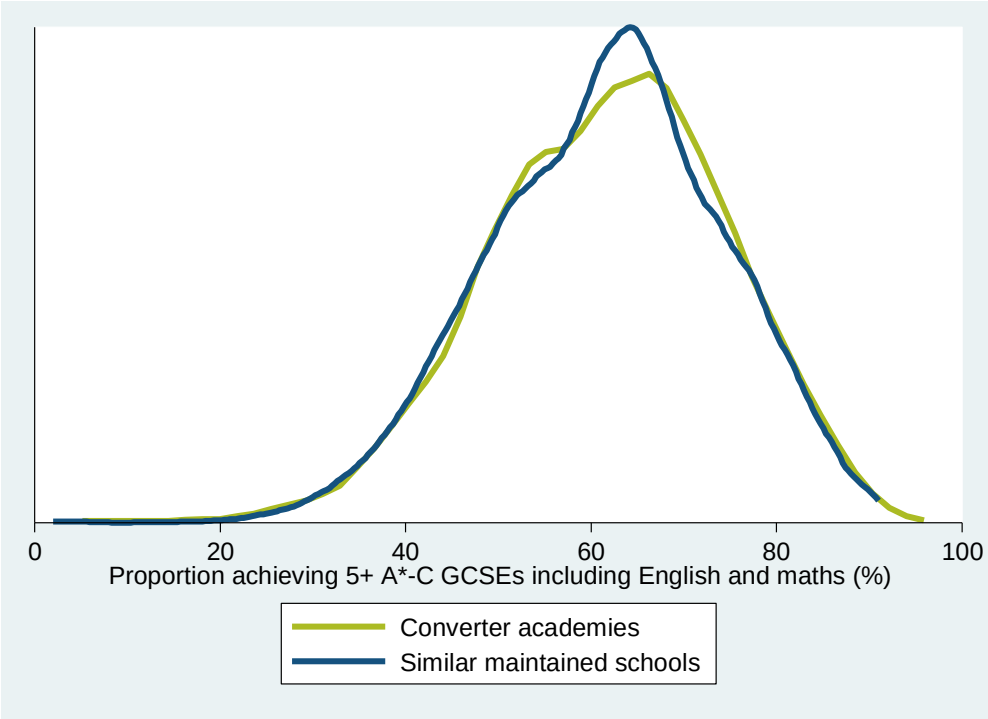
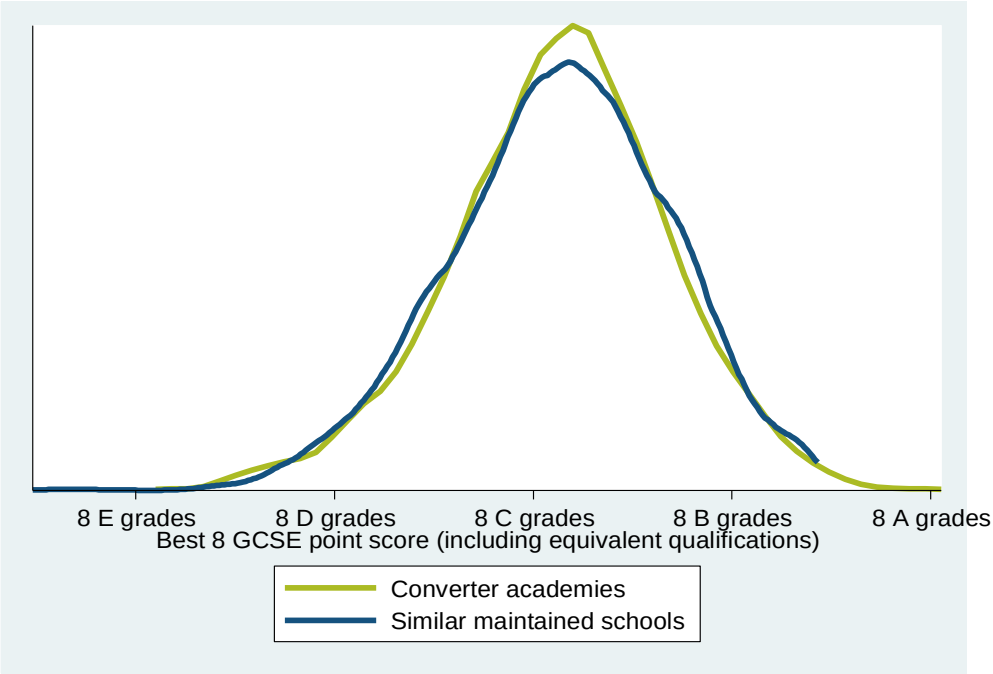


Figure 4.2 Distribution of capped Key Stage 4 point score for converter academies and similar maintained schools



4.2.2 Use of equivalent qualifications

Previous research has shown some small differences in the performance improvement in converter academies compared with similar maintained schools, depending on whether equivalent qualifications are included in the comparison (Worth, 2014 & 2015). The relative performance of converter academies appeared to be slightly better when equivalent qualifications were included in the measures, suggesting equivalent qualifications are used more in converter academies. Changes to the way school performance tables have been calculated since 2014 have reduced the contribution that equivalent qualifications make to the main performance measures.

Table 4.2 shows a comparison of converter academies and similar maintained schools using two measures of KS4 points. The first measure *includes* equivalent qualifications and the second *excludes* them. When equivalents are included, converter academies have a higher average capped point score compared with similar maintained schools. When equivalents are excluded, the difference between converter academies and similar maintained schools is marginally above zero.

The comparisons suggest that school performance in converter academies compared with similar maintained schools is affected to a very small extent by differences in the use of equivalent qualifications.[10]

Table 4.2 Difference between converter academies and similar maintained schools in average capped Key Stage 4 points (including and excluding equivalent qualifications)

	Average	Regression model
	Key Stage 4 points (including equivalents)	
Converter academies	326.4	
Similar maintained schools	326.5	
Difference	-0.1	1.6
95% confidence interval		(0.3, 3.0)
	GCSE points (excluding equivalents)	
Converter academies	312.4	
Similar maintained schools	314.3	
Difference	-1.9	0.1
95% confidence interval		(-1.6, 1.8)
Controls for prior attainment	No	Yes
Controls for pupil characteristics	No	Yes

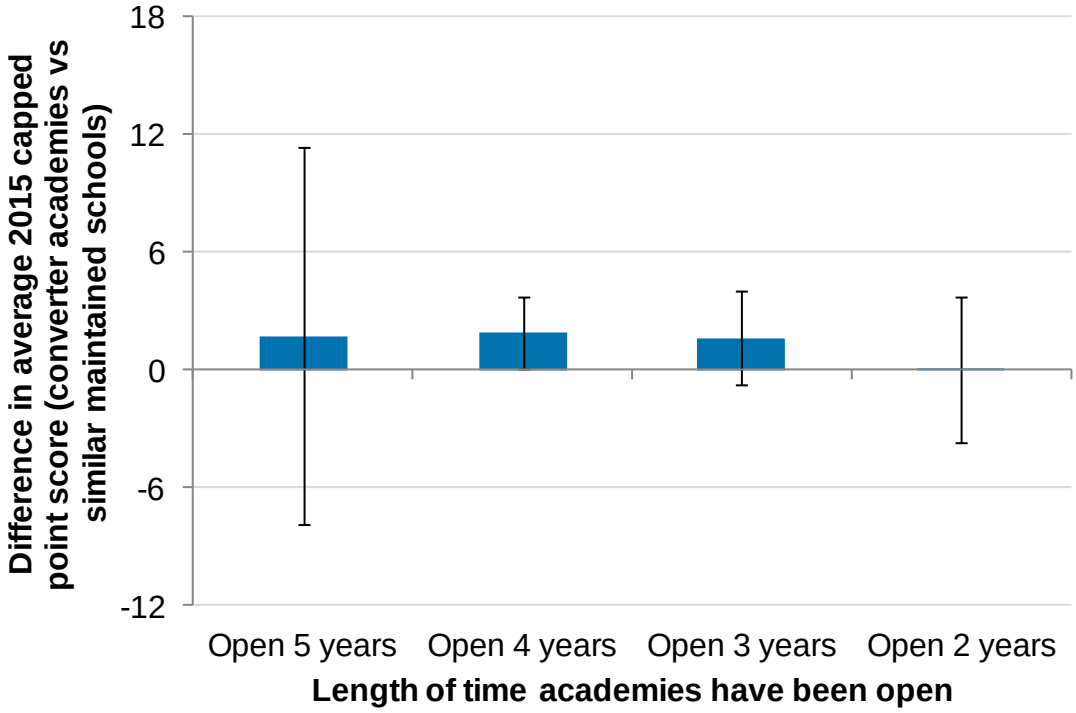
Note: Differences may not exactly match due to rounding.

[10] This result is also consistent with pupils in converter academies having slightly better attainment in their equivalent qualifications.

4.2.3 Earlier and later academies

Figure 4.3 compares the average capped Key Stage 4 points score of secondary converter academies, split by the year they became an academy and compared with the group of maintained schools with similar characteristics at the time. Pupils in converter academies open for four years achieve one-third of a GCSE grade per pupil higher than similar maintained schools. This difference is statistically significant, but very small. Other converter academy school pupils score slightly lower and the differences are not statistically significant. The analysis provides little evidence that the association between academy status and school performance is any stronger in schools that have been converter academies for longer.

Figure 4.3 Difference between converter academies and similar maintained schools in average capped Key Stage 4 points, split by year of opening



Note: black lines show the 95% confidence interval of the difference.

4.2.4 Narrowing the gap

Table 4.3 compares the average capped Key Stage 4 points score of pupils eligible for free school meals (FSM) in converter academies and similar maintained schools, and the gap between pupils eligible for FSM and pupils that are not.

On average, pupils eligible for FSM achieve a lower capped Key Stage 4 point score than their non-eligible peers in both converter academies and similar maintained schools. The gap is 47 points nationally, which is equivalent to around eight GCSE grades per pupil, for example, the difference between eight C grades and eight D grades. The gap is wider in both converter academies and similar maintained schools, at 56 points.

Pupils eligible for FSM in converter academies have a marginally lower (0.2) GCSE point score per pupil on average than FSM pupils in similar maintained schools. After taking account of pupil characteristics, the average pupil progress made by FSM pupils in converter academies is one-third of a GCSE grade (1.9 points) higher than in similar maintained schools. However, the difference is not statistically significant.

The FSM gap is also marginally narrower in converter academies than in similar maintained schools, by around half a GCSE grade (0.1 points) per pupil. The findings from regression analysis of the FSM gap, which took into account underlying average differences between schools in the proportion of pupils eligible for FSM and prior attainment, are very similar (0.5 points). The difference is also not statistically significant.

Table 4.3 Difference between converter academies and similar maintained schools in the Key Stage 4 points of FSM-eligible pupils and the gap between FSM-eligible and non-FSM pupils

	Average	Regression model
	Average capped point score (FSM pupils)	
Converter academies	281.9	
Similar maintained schools	282.0	
Difference	-0.2	1.9
95% confidence interval		(-0.4, 4.2)
	Gap between FSM and non-FSM pupils	
Converter academies	-56.0	
Similar maintained schools	-56.1	
Difference	0.1	0.5
95% confidence interval		(-1.5, 2.4)
Control for prior attainment	No	Yes
Control for proportion of FSM pupils	No	Yes
Control for pupil characteristics	No	Yes

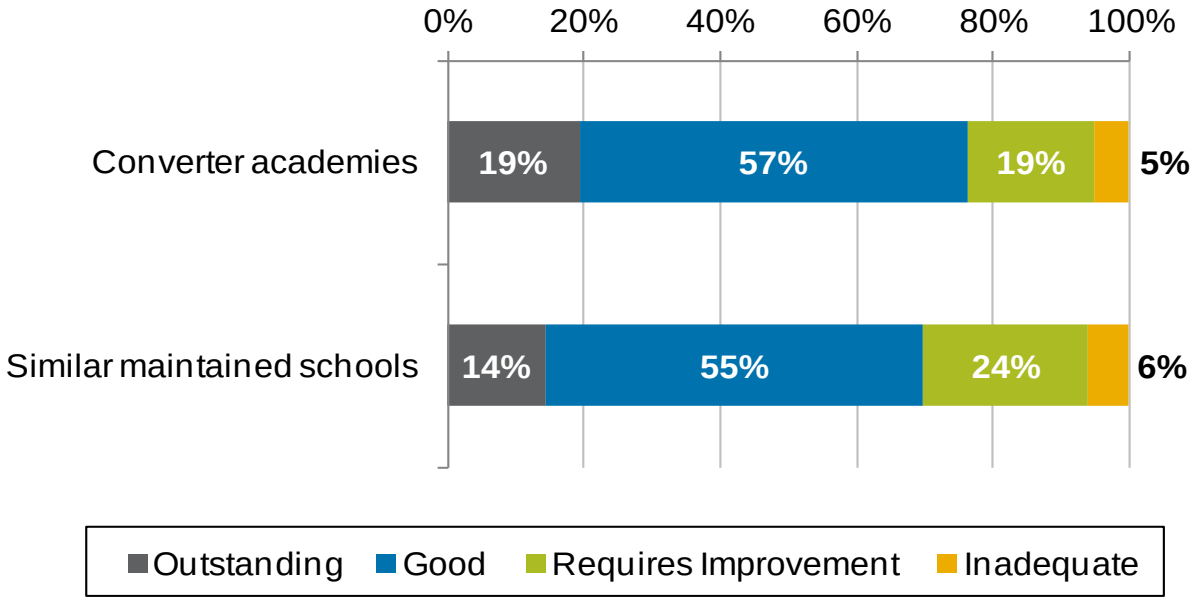
Note: Differences may not exactly match due to rounding.

4.2.5 Ofsted ratings

Figure 4.4 shows the proportions of converter academies and similar maintained schools that received each Ofsted rating in their most recent inspection as of August 2015.[11] Table 4.4 presents the proportion of converter academies and similar maintained schools that are outstanding, good or outstanding, and inadequate, and the difference in terms of percentage points. The comparisons show that converter academies are significantly more likely than similar maintained schools to be rated as outstanding and good or outstanding. Converter academies are slightly less likely to be rated as inadequate, but the difference is not statistically significant.

[11] Note: Ofsted ratings from inspections of schools between September 2012 and August 2015. Inspections of schools that became academies in 2012/13 are excluded from this analysis if they took place before September 2013.

Figure 4.4 Most recent Ofsted rating (Sept 2012 – August 2015) of converter academies and similar maintained schools



Note: Figures may not exactly sum to 100% due to rounding.

Table 4.4 Difference in Ofsted ratings between converter academies and similar maintained schools

	Converter academy	Similar maintained schools	Difference	Statistically significant?
Outstanding	19.3%	14.5%	4.9	Yes
Good or outstanding	76.2%	69.8%	6.4	Yes
Inadequate	5.2%	6.1%	-0.8	No
Number of schools	672	832		

Note: Differences may not exactly match due to rounding.

Not all converter academies and similar maintained schools have been inspected between September 2012 and August 2015 because good and outstanding schools are routinely re-inspected after five years. Converter academies that were previously rated outstanding are exempt from inspection for five years, so more converter academies than similar maintained schools have not been recently re-inspected (see Table 2.2). We perform multiple imputation analysis – estimating what Ofsted rating converter academies and similar maintained schools who have not been recently inspected might have received, based on their performance data.

Table 4.5 presents the results of this analysis. These comparisons show that converter academies are more likely than similar maintained schools to be rated as outstanding and good or outstanding, but the difference is not statistically significant. It also confirms that converter academies are significantly more likely than similar maintained schools to be rated as good or outstanding and that converter academies are slightly less likely to be rated as inadequate, but the difference is not statistically significant.

Table 4.5 Difference in Ofsted ratings between converter academies and similar maintained schools (multiple imputation analysis)

	Converter academy	Similar maintained schools	Difference	Statistically significant?
Outstanding	21.1%	16.9%	4.2	No
Good or outstanding	77.5%	72.4%	5.0	Yes
Inadequate	4.8%	5.6%	-0.7	No
Number of schools	979	996		

Note: Differences may not exactly match due to rounding.

5 Primary sponsored academies

5.1 Key findings

- The proportion of pupils achieving National Curriculum level 4 in English and maths at Key Stage 2 is higher in primary sponsored academies than in similar maintained schools, although the difference is not statistically significant. The difference is equivalent to one extra pupil out of every 87 achieving the level 4 threshold in sponsored academies.
- The average Key Stage 2 point score is 0.12 points per pupil higher in primary sponsored academies than in similar maintained schools, although the difference is not statistically significant. Average differences in value-added, that is the progress pupils made while in upper primary school / Key Stage 2, is also 0.12 points higher in academies and is not statistically significant. One key stage level equates to six points, so an increase of 0.12 points is equivalent to one additional pupil out of 49 achieving an extra National Curriculum attainment level at Key Stage 2.
- The average proportion of pupils eligible for free school meals who achieve level 4 in sponsored primary academies is 2.1 percentage points higher than in similar maintained schools, although the difference is not statistically significant.
- Sponsored primary academies are more likely than similar maintained schools to be rated as outstanding and this difference is statistically significant. Sponsored primary academies are slightly more likely to be rated as good or outstanding and rated as inadequate, but the differences are not statistically significant.

5.2 Findings

5.2.1 Key Stage 2 results in 2015

Table 5.1 compares the 2015 Key Stage 2 (KS2) results of sponsored primary academies and similar maintained schools using four different measures. The first column compares the average in sponsored academies with the average in similar maintained schools. The second column compares the average KS2 results in the two groups using a regression model, which takes account of any differences in the pupil characteristics of the KS2 cohort which explain differences in KS2 outcomes. The difference between the group averages is the association between academy status and school performance.

On average, both sponsored primary academies and similar maintained schools have a proportion of pupils achieving National Curriculum level 4 in English and maths in 2015 that is below the national average (of 80 per cent). Around 71 per cent of pupils achieved the expected level in both sponsored academies and similar maintained schools.

The proportion of pupils achieving level 4 in English and maths was 1.3 percentage points higher in sponsored academies compared with similar maintained schools. When the pupil

characteristics of the cohort are taken into account, the proportion of pupils achieving level 4 in English and maths is 1.2 percentage points higher in sponsored academies compared to similar maintained schools. This is equivalent to one extra pupil out of every 87 achieving the level 4 threshold in sponsored primary academies.

After accounting for pupil characteristics, the proportion of pupils achieving National Curriculum level 4b in English and maths is 1.7 percentage points higher in sponsored academies compared with similar maintained schools. This is equivalent to one extra pupil out of every 57 achieving the level 4b threshold in sponsored primary academies. However, neither of these differences is statistically significant.

Pupils score 0.16 Key Stage 2 points higher in sponsored academies than in similar maintained schools. When the pupil characteristics of the cohort are taken into account, pupils score 0.12 Key Stage 2 points higher in sponsored academies than in similar maintained schools. Value-added, a measure of how much progress pupils make in upper primary school / Key Stage 2, is also 0.12 points higher in sponsored academies than in similar maintained schools. None of these differences is, however, statistically significant.

One key stage level equates to six points, so an increase of 0.12 points is equivalent to one additional pupil out of every 49 achieving an extra National Curriculum level at Key Stage 2.

Table 5.1 Difference between sponsored academies and similar maintained schools in average Key Stage 2 outcomes

	Average	Regression model
	Proportion of pupils achieving NC level 4 English & maths	
Sponsored academies	72.0	
Similar maintained schools	70.6	
Difference	1.3	1.2
95% confidence interval		(-0.7, 3.0)
	Proportion of pupils achieving NC level 4b English & maths	
Sponsored academies	57.6	
Similar maintained schools	55.6	
Difference	2.0	1.7
95% confidence interval		(-0.3, 3.8)
	Key Stage 2 average point score	
Sponsored academies	27.5	
Similar maintained schools	27.3	
Difference	0.16	0.12
95% confidence interval		(-0.07, 0.31)
	KS1 – KS2 value-added	
Sponsored academies	99.9	
Similar maintained schools	99.8	
Difference	0.11	0.12
95% confidence interval		(-0.04, 0.28)
Controls for prior attainment	No	Yes
Controls for pupil characteristics	No	Yes

Note: Differences may not exactly match due to rounding.

5.2.2 Narrowing the gap

Table 5.2 compares the proportion of pupils who are eligible for free school meals (FSM) that achieve level 4 in English and maths in sponsored academies and similar maintained primary schools, and the gap between pupils eligible for FSM and pupils that are not.

On average, a smaller proportion of pupils eligible for FSM achieve level 4 in English and maths at Key Stage 2 than their non-eligible peers in both sponsored academies and similar maintained schools. The national average gap is around 14 percentage points.

A higher proportion of pupils eligible for FSM achieve level 4 in sponsored academies than FSM pupils in similar maintained schools. After taking account of pupil characteristics, the average proportion of pupils eligible for FSM that achieve level 4 in sponsored academies is 2.1 percentage points higher than in similar maintained schools. However, the difference is not statistically significant.

The FSM gap is also narrower in sponsored academies than in similar maintained schools, by 0.9 percentage points. The findings from regression analysis of the FSM gap, which take into account underlying average differences between schools in the proportion of pupils eligible for FSM and prior attainment, show the gap is 1.6 percentage points narrower in sponsored academies than in similar maintained schools. This is equivalent to the existing FSM gap between schools being around 11 per cent narrower. However, this difference is also not statistically significant.

Table 5.2 Difference between sponsored academies and similar maintained schools in the proportion of FSM-eligible pupils achieving KS2 level 4 and the gap between FSM-eligible and non-FSM pupils

	Average	Regression model
	Proportion achieving level 4 (FSM pupils)	
Sponsored academies	66.3	
Similar maintained schools	64.9	
Difference	1.4	2.1
95% confidence interval		(-0.4, 4.6)
	Level 4 gap between FSM and non-FSM pupils	
Sponsored academies	-10.9	
Similar maintained schools	-11.8	
Difference	0.9	1.6
95% confidence interval		(-1.1, 4.4)
Control for prior attainment	No	Yes
Control for proportion of FSM pupils	No	Yes
Control for pupil characteristics	No	Yes

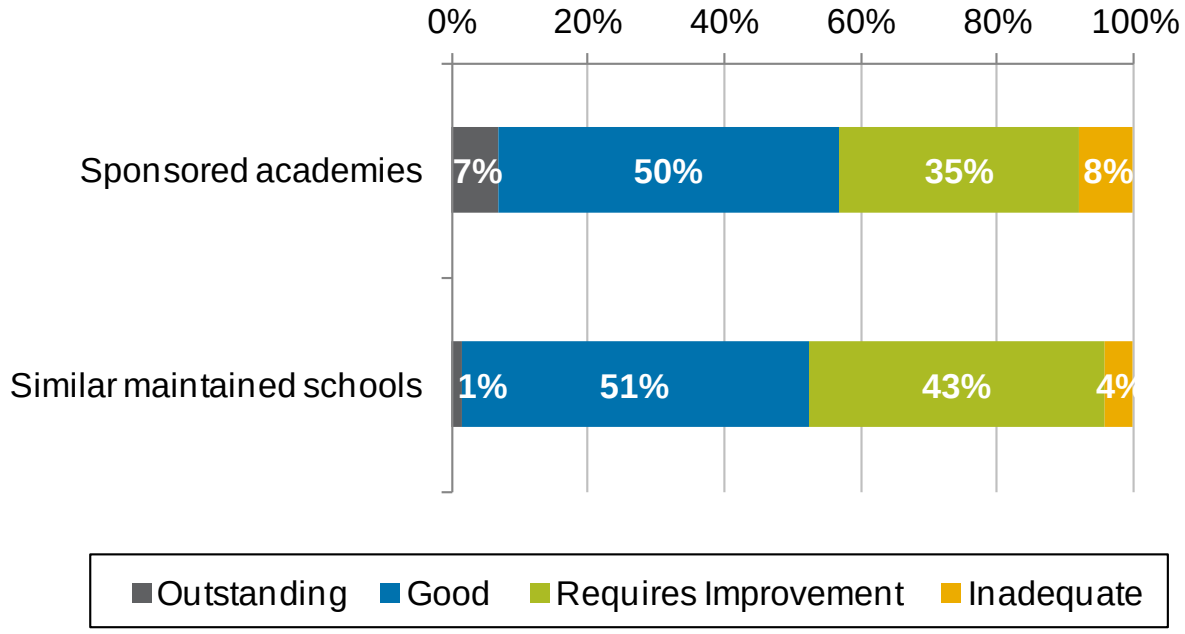
Note: Differences may not exactly match due to rounding.

5.2.3 Ofsted ratings

Figure 5.1 shows the proportions of sponsored academies and similar maintained schools that received each Ofsted rating in their most recent inspection as of August 2015.[12] Table 5.3 presents the proportion of sponsored primary academies and similar maintained schools that are outstanding, good or outstanding and inadequate, and the difference in terms of percentage points.

The comparisons show that sponsored academies are significantly more likely than similar maintained schools to be rated as outstanding. Sponsored academies are slightly more likely to be rated as good or outstanding, and rated as inadequate, but the differences are not statistically significant.

Figure 5.1 Most recent Ofsted rating (Sept 2012 – August 2015) of sponsored academies and similar maintained schools



Note: Figures may not exactly sum to 100% due to rounding.

Table 5.3 Difference in Ofsted ratings between sponsored academies and similar maintained schools

	Sponsored academy	Similar maintained schools	Difference	Statistically significant?
Outstanding	7.0%	1.4%	5.5	Yes
Good or outstanding	56.7%	52.3%	4.4	No
Inadequate	7.8%	4.2%	3.6	No
Number of schools	344	335		

Note: Differences may not exactly match due to rounding.

[12] Note: Ofsted ratings from inspections of schools between September 2012 and August 2015. Inspections of schools that became academies in 2012/13 are excluded from this analysis if they took place before September 2013.

6 Primary converter academies

6.1 Key findings

- The proportion of pupils achieving National Curriculum level 4 in English and maths at Key Stage 2 is higher in primary converter academies than in similar maintained schools, although the difference is not statistically significant. The difference is equivalent to one extra pupil out of every 116 achieving the level 4 threshold in converter academies.
- The average Key Stage 2 point score is 0.06 points per pupil higher in primary converter academies than in similar maintained schools, although again the difference is also not statistically significant. Average differences in value-added, the progress pupils made while at upper primary school / in Key Stage 2, is also 0.06 points and is not statistically significant. One key stage level equates to six points, so an increase of 0.06 points is equivalent to one additional pupil out of 100 pupils achieving an extra level at Key Stage 2.
- The average proportion of pupils eligible for free school meals who achieve level 4 in converter academies is 0.4 percentage points higher than in similar maintained schools, although the difference is not statistically significant.
- Converter academies are significantly more likely than similar maintained schools to be rated as outstanding. Converter academies are also slightly more likely to be rated as good or outstanding or rated as inadequate, but the differences are not statistically significant.

6.2 Findings

6.2.1 Key Stage 2 results in 2015

Table 6.1 compares the 2015 Key Stage 2 (KS2) results of primary converter academies and similar maintained schools using four different measures. The first column compares the average in converter academies with the average in similar maintained schools. The second column compares the average KS2 results in the two groups using a regression model, which takes account of any differences in the pupil characteristics of the KS2 cohort that explain differences in KS2 outcomes. The difference between the group averages is the association between academy status and school performance.

On average, both primary converter academies and similar maintained schools have a proportion achieving National Curriculum level 4 in English and maths in 2015 that is above the national average (of 80 per cent), with around 84 per cent of pupils achieving the expected level.

The proportion of pupils achieving level 4 in English and maths is 0.5 percentage points higher in primary converter academies than in similar maintained schools. When the pupil characteristics of the cohort are taken into account, the proportion of pupils achieving level 4

in English and maths is 0.9 percentage points higher in converter academies compared with similar maintained schools. This is equivalent to one extra pupil out of every 116 achieving the level 4 threshold in converter academies. However, this difference is not statistically significant.

After accounting for pupil characteristics, the proportion of pupils achieving National Curriculum level 4b in English and maths is one percentage point higher in converter academies than in similar maintained schools. This is equivalent to one extra pupil out of every 100 achieving level 4b in primary converter academies. This difference is also not statistically significant.

Pupils scored 0.01 Key Stage 2 points higher in primary converter academies than in similar maintained schools. When the pupil characteristics of the cohort are taken into account, pupils scored 0.06 Key Stage 2 points higher in converter academies than in similar maintained schools. Value-added, a measure of how much progress pupils make in upper primary school / Key Stage 2, is also 0.06 points higher in converter academies than in similar maintained schools. None of these differences is statistically significant. One key stage level equates to six points, so an increase of 0.06 points is equivalent to one additional pupil out of 100 pupils achieving an extra level at Key Stage 2.

Table 6.1 Difference between converter academies and similar maintained schools in average Key Stage 2 outcomes

	Average	Regression model
	Proportion of pupils achieving level 4 English & maths	
Converter academies	84.7	
Similar maintained schools	84.2	
Difference	0.5	0.9
95% confidence interval		(-0.0, 1.8)
	Proportion of pupils achieving level 4b English & maths	
Converter academies	74.7	
Similar maintained schools	74.1	
Difference	0.6	1.0
95% confidence interval		(-0.1, 2.1)
	Key Stage 2 average point score	
Converter academies	29.5	
Similar maintained schools	29.5	
Difference	0.01	0.06
95% confidence interval		(-0.04, 0.16)
	KS1 – KS2 value added	
Converter academies	100.2	
Similar maintained schools	100.2	
Difference	0.02	0.06
95% confidence interval		(-0.03, 0.15)
Controls for prior attainment	No	Yes
Controls for pupil characteristics	No	Yes

Note: Differences may not exactly match due to rounding.

6.2.2 Narrowing the gap

Table 6.2 compares the proportion of pupils who are eligible for free school meals (FSM) that achieve level 4 in English and maths in converter academies and similar maintained schools, and the gap between pupils eligible for FSM and pupils that are not.

On average, a smaller proportion of pupils eligible for FSM achieved level 4 in English and maths at Key Stage 2 than their non-eligible peers in both primary converter academies and similar maintained schools. The national average gap is around 14 percentage points.

A slightly smaller proportion of pupils eligible for FSM achieved level 4 in converter academies than FSM pupils in similar maintained schools. After taking account of pupil characteristics, the average pupil progress made by FSM pupils in converter academies was 0.4 percentage points higher than in similar maintained schools. However, the difference is not statistically significant.

The FSM gap is wider in converter academies than in similar maintained primary schools, by 1.3 percentage points. The findings from regression analysis of the FSM gap, which take into account underlying average differences between schools in the proportion of pupils eligible for FSM and prior attainment, show the gap is 0.7 percentage points wider in converter academies than in similar maintained schools. This is equivalent to the existing FSM gap between schools being around five per cent wider. This difference is also not statistically significant.

Table 6.2 Difference between converter primary academies and similar maintained schools in the proportion of FSM-eligible pupils achieving KS2 level 4 and the gap between FSM-eligible and non-FSM pupils

	Average	Regression model
	Proportion achieving level 4 (FSM pupils)	
Converter academies	74.0	
Similar maintained schools	74.4	
Difference	-0.4	0.4
95% confidence interval		(-1.4, 2.2)
	Level 4 gap between FSM and non-FSM pupils	
Converter academies	-13.4	
Similar maintained schools	-12.1	
Difference	-1.3	-0.7
95% confidence interval		(-2.4, 1.1)
Control for prior attainment	No	Yes
Control for proportion of FSM pupils	No	Yes
Control for pupil characteristics	No	Yes

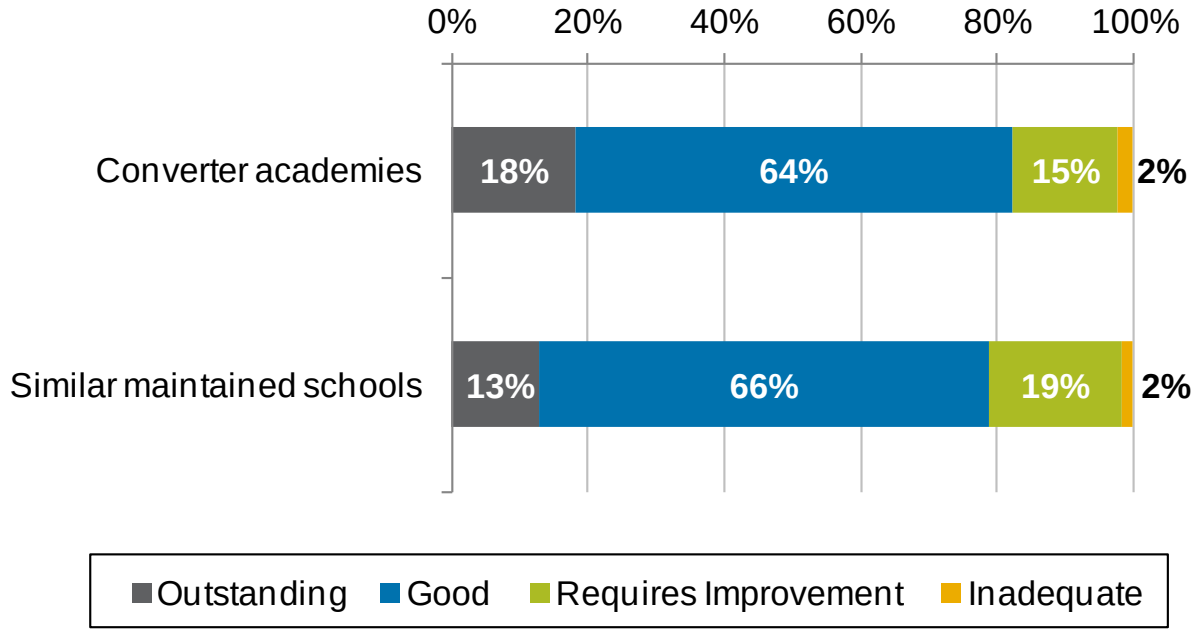
Note: Differences may not exactly match due to rounding.

6.2.3 Ofsted ratings

Figure 6.1 shows the proportions of primary converter academies and similar maintained schools that received each Ofsted rating in their most recent inspection as of August 2015.[13] Table 6.3 presents the proportion of converter academies and similar maintained schools that are outstanding, good or outstanding, and inadequate, and the difference in terms of percentage points.

The comparisons show that converter academies are significantly more likely than similar maintained schools to be rated as outstanding. Primary converter academies are also slightly more likely to be rated as good or outstanding, and rated as inadequate, but the differences are not statistically significant.

Figure 6.1 Most recent Ofsted rating (Sept 2012 – August 2015) of primary converter academies and similar maintained schools



Note: Figures may not exactly sum to 100% due to rounding.

Table 6.3 Difference in Ofsted ratings between primary converter academies and similar maintained schools

	Converter academy	Similar maintained schools	Difference	Statistically significant?
Outstanding	18.1%	12.9%	5.2	Yes
Good or outstanding	82.3%	78.8%	3.5	No
Inadequate	2.3%	1.8%	0.4	No
Number of schools	487	2360		

Note: Differences may not exactly match due to rounding.

[13] Note: Ofsted ratings from inspections of schools between September 2012 and August 2015. Inspections of schools that became academies in 2012/13 are excluded from this analysis if they took place before September 2013.

Not all converter academies and similar maintained schools have been inspected between September 2012 and August 2015 because good and outstanding schools are routinely re-inspected after five years. Converter academies that were previously rated outstanding are exempt from inspection for five years, so more converter academies than similar maintained schools have not been recently re-inspected (see Table 2.2). We perform multiple imputation analysis – estimating what Ofsted rating converter academies and similar maintained schools who have not been recently inspected might have received, based on their performance data.

Table 6.4 presents the results of this analysis. These comparisons show that converter academies are more likely than similar maintained schools to be rated as outstanding, but the difference is not statistically significant. It also confirms that converter academies are more likely than similar maintained schools to be rated as good or outstanding and that converter academies are slightly less likely to be rated as inadequate, but the differences are not statistically significant.

Table 6.4 Difference in Ofsted ratings between primary converter academies and similar maintained schools (multiple imputation analysis)

	Converter academy	Similar maintained schools	Difference	Statistically significant?
Outstanding	16.0%	13.8%	2.2	No
Good or outstanding	77.5%	72.4%	5.0	No
Inadequate	4.8%	5.6%	-0.7	No
Number of schools	807	3208		

Note: Differences may not exactly match due to rounding.

7 Discussion

Rapid growth in the number of academy schools to 4,922 by February 2016 makes continued evaluation of the impact structural changes are having on pupils and schools important for informing how future policy develops. Government ambitions to make every school an academy will make continued evaluation of the impact of changes on individual schools increasingly difficult to assess, as the number of maintained schools gets smaller and their potential comparability with academies deteriorates. Indeed, the measure in the Education and Adoption Act 2016 (England. Statutes, 2016) to place an 'academy order' on all schools rated as inadequate removes the possibility of forming a robust comparison group of similar schools to assess the impact of those changes over time.

The analysis presented in this report has found no evidence that, in the short term, academies of any phase or type are performing at a lower level of pupil performance than similar maintained schools. Most of the attainment measures analysed are, on average, slightly higher in academies than in similar maintained schools, but the differences are generally small and many are not statistically significant.

This analysis has found an association between academy status and subsequent Ofsted ratings. Academies of both phases and types are significantly more likely to be rated as outstanding, which may reflect changes that will eventually lead to improvements in pupil attainment over the longer term. However, previous research has found that a school's Ofsted rating is not a good predictor of future improvements in pupil attainment (Education Datalab, 2016).

Based on the performance of existing academies, this evidence suggests that making all remaining local authority-maintained schools into academies is likely to make little difference to pupil performance, at least in the first few years. Indeed, the vast majority of new academies would be primary schools, and this analysis has found no compelling evidence that academy status in primary schools is associated with improved pupil performance in the short term. This raises questions about whether all schools becoming academies is the best use of resources.

The average differences in attainment between academies and similar maintained schools are very small compared with how much attainment varies between all schools. Academy status explains very little of the between-school variation in pupil progress. Therefore, research that explores the reasons why pupil progress differs between schools, whether they are academies or maintained schools, will continue to be important for understanding what leads to school improvement.

Further research could also explore the impact of academy status on pupils' later outcomes such as progression to, and attainment at, further and higher education, subsequent employment destinations and productivity in the labour market as adults. Although attainment outcomes are strongly linked to improved life chances as adults, focusing only on attainment potentially misses the wider impacts that education has on pupils' prospects as adults.

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Appendix A

Methodology

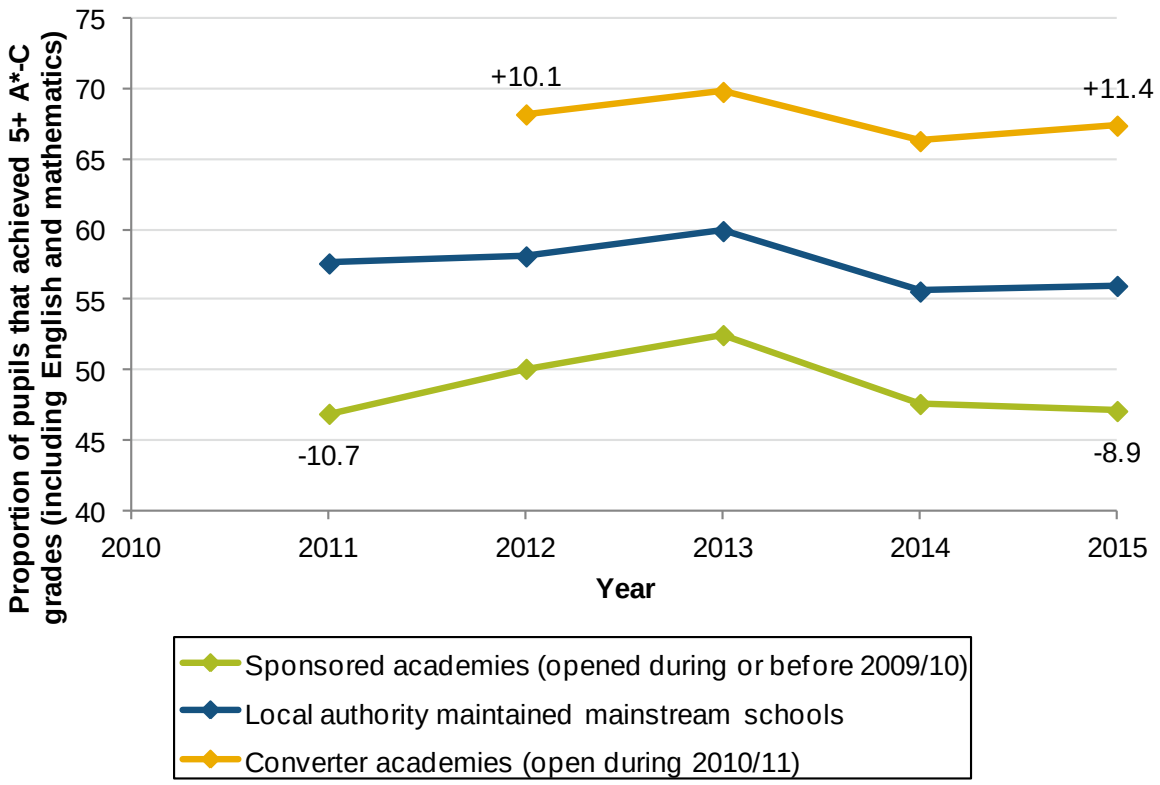
Measuring the impact of academy status

Comparing levels of achievement

A natural way to begin thinking about the impact sponsored or converter academy status has had on the attainment progress made by pupils in those schools is to compare the average exam results of schools that are academies with those that are not. This may be problematic for a number of reasons.

Figure A1.1 shows Department for Education (DfE) school performance data for 2011-2015 for three different groups of secondary school. The measure presented is the percentage of pupils that achieved five or more A*-C grade GCSEs including English and maths. The yellow line shows the average results for the 654 secondary converter academies that opened (i.e. became an academy) during the 2010/11 academic year, and the green line shows the average results for the 261 sponsored academies opened during or before the 2009/10 academic year. The blue line shows the average results of the 1227 secondary schools that were local authority-maintained schools in 2015.

Figure A1.1 Proportion of pupils that achieved five or more A*-C grade GCSEs including English and maths 2011-2015, by school type



Source: Department for Education (2016b).

Comparing levels of achievement between school types does not reveal what impact changing the school's type has had on school performance. Sponsored academies have a level of performance that is below that of LA-maintained schools, but that was the case before they became academies and is still the case afterwards. Converters tend to be high-performing, but were already high-performing when they became academies.

Comparing levels of achievement by school type is also problematic because it does not take into account the ability of pupils when they enter the school. Taking account of the intake of pupils when comparing achievement measures the *progress* they make between phases of education, which is a more accurate reflection of what the school has contributed to their education than measuring their absolute *performance*.

Comparing achievement trends

Trends in performance, that is comparing how the gap between the average performance of academies and the average performance of LA-maintained schools has changed, may offer a more informative way of looking at the impact of academy status. As an example, in addition to showing the percentage of pupils achieving five or more A*-C grade GCSEs, Figure 2.1 above also shows the percentage point gap between the two types of academy schools and all LA-maintained schools. From this we can see that the performance of pre-2009/10 sponsored academies has improved more quickly than that of maintained schools, with the gap narrowing from 10.7 percentage points in 2011 to 8.9 percentage points in 2015. The gap between 2010/11 converter academies and maintained schools has widened slightly over time, from 10.1 percentage points in 2011 to 11.4 percentage points in 2015.

Again, this measures levels of performance rather than the progress made by pupils (progress is the pupils' performance compared with those pupils with a similar level of performance at the beginning of secondary school).

In addition, such a comparison of trends does not take account of a statistical effect known as 'mean reversion'. Mean reversion is the tendency of statistics measured over time to tend towards the average: if a variable is above average at one point in time it is more likely to be closer to the average the next time it is measured, and if a variable is below average at one point in time it is more likely to be closer to the average the next time it is measured.

This is relevant for analysing academies because the two types of academies had above and below average respective performance when they became academies. Schools became sponsored academies because of perceived underperformance, which is informed by school exam results (amongst other considerations), whereas converter academies were given the choice of becoming academies if their school performance data (amongst other considerations) indicated they were high-performing. The former had GCSE results below the national average before they became academies, whereas the latter tended to have GCSE results above the national average before they became academies. Because we might have expected a group of schools with initially low or high performance to drift towards the average over time even if they hadn't become an academy, it is important to compare performance with a group of maintained schools that were in similar circumstances at the time, to take account of 'mean reversion'.

Comparing schools with similar characteristics

A better comparison is to compare schools that became academies with schools that did not become academies and had similar characteristics at the time. Then, if mean reversion does occur, it will affect the subsequent results of both groups of schools. Furthermore, we ensure the academies and similar maintained schools we are comparing had similar characteristics, such as the proportion of pupils eligible for free school meals, at the time they either did or did not become academies. A comparison between academies and a group of similar LA-maintained schools will take account of mean reversion and the difference in averages is more likely to represent the difference that academy status has made to schools in similar circumstances.

An ideal comparison between types of school would be to compare two groups of schools, where the only difference between the two groups is that one group became academies and the other group did not. Under these circumstances, randomly allocating academy status to willing schools and comparing their outcomes over time would give a very robust measure of impact. But, of course, academy status was not randomly allocated to schools.

Matching a group of LA-maintained schools with similar characteristics to academy schools can though reduce the underlying differences between the academy and maintained schools being compared. That said, it is not possible to match schools based on factors that have not been measured, such as the support that schools receive from their local authority or the enthusiasm of school leaders for their school to become an academy. These represent important underlying differences that can affect whether the school became an academy in the first instance and might also contribute to differences in performance.

The estimated differences between academies and similar LA-maintained schools in this report therefore cannot necessarily be attributed to the causal impact of academy status on school performance, because the extent to which the groups differ according to unmeasured factors that affect performance is unknown. Only under the assumption that the factors that influenced whether otherwise similar schools became academies or not, such as the attitude of parents or the local authority to academy status, are unrelated to later performance, can the differences be interpreted as causal.

An ‘academy order’ to become a sponsored academy is the standard recommendation if a school was or is under-performing. Why was that standard recommendation applied to some maintained schools (which became academies) and not to others that had similar exam results and Ofsted ratings at the same time? It could have been parental or local authority opposition to academy status, or the policy being applied differently to different schools in similar circumstances. However, another reason that similar LA-maintained schools are still maintained in 2015 could be *because* they have improved in the intervening years. This factor in particular needs to be borne in mind, as it could bias the comparisons made in this report.

Despite these issues and challenges with interpreting the findings, matching a group of LA-maintained schools with similar characteristics to academy schools is the most robust methodology available for making comparisons. This research uses a method for matching schools called ‘propensity score matching’, which is explained in the following section.

Propensity score matching

This research compares the performance of sponsored and converter academy schools with groups of LA-maintained schools that had similar characteristics at the time they became an academy. To identify the group of maintained schools for comparison we used a technique known as 'propensity score matching'.

- Matching is a two-step process. First, a 'propensity score' is estimated for each school, which is the probability of the school being an academy. Although we know whether a school is an academy or not, we imagine picking a school at random and not knowing whether it is an academy or a maintained school. The propensity score represents the probability of whether the school became an academy or not, given that school's characteristics at the time. A maintained school with the same propensity score as an academy school means that, based on their characteristics, the two schools had the same probability of becoming an academy at the time, but one did and the other did not.

Second, the comparison group of similar maintained schools is constructed by matching each academy school with the maintained schools that have the closest propensity score to it. Each secondary academy was matched with three maintained secondary schools and each primary academy with five maintained primaries. Because the match is performed 'with replacement' each maintained school could be selected into the comparison group more than once and might happen if the school has a propensity score that is among the closest three (or five) to more than one academy. As a result, some schools were matched more than once and weighted according to the number of times they were selected. The majority of comparison LA-maintained schools were selected only once.

The characteristics used to match academies and maintained schools, all measured at or before the time the academy schools became academies, are:

- the proportion of pupils achieving five or more A*-C grades including English and maths (for secondary schools only) between 2008 and the time the academy school became an academy.
- the proportion of pupils achieving National Curriculum level 4 in English and maths (for primary schools only) between 2008 and the time the academy school became an academy.
- the proportion of pupils eligible for free school meals (FSM)
- the number of pupils in the school
- the school's most recent Ofsted rating.

These characteristics are the most relevant for matching academies and similar maintained schools. School performance measures based on exams (Key Stage 4 for secondary schools and Key Stage 2 for primary schools) and Ofsted ratings were key considerations for determining whether a school became an academy. Sponsored academies were schools deemed to be under-performing whereas converter academies were schools that could demonstrate that they were high-performing. Matching the proportion of pupils eligible for FSM and the number of pupils are additional factors which describe the circumstances the school is operating in.

Matching is performed separately for schools that became sponsored and converter academies in different years. Secondary schools that became academies in 2009/10 (open for five years in 2015), 2010/11 (four years), 2011/12 (three years) and 2012/13 (two years) are included in the analysis. No primary schools became converter academies until 2010/11 and no primary schools became sponsored academies until 2011/12. Consequently, the analysis includes primary schools that became converter academies in 2010/11, 2011/12 and 2012/13 and those that became sponsored primary academies in 2011/12 and 2012/13.

For the main analysis of the 2015 attainment outcomes we combine the annual samples. This increases the sample size and therefore the precision of the analysis.

Matching analysis

Sponsored academies

Schools that became sponsored academies were schools perceived to be under-performing according to their school performance data and / or Ofsted rating. When compared with all secondary schools in England, sponsored academies had lower proportions of pupils achieving five or more A*-C grade GCSEs including English and maths, higher proportions of pupils eligible for free school meals (FSM), and were more likely to have a satisfactory / requires improvement[14] or inadequate Ofsted rating when they became academies. Likewise, compared with all primary schools in England, sponsored academies had lower proportions of pupils achieving National Curriculum (NC) level 4 in Key Stage 2 English and maths when they became academies.

A good comparison group of maintained schools should also have the same characteristics. Tables A1.1 and A1.2 summarise the average characteristics of sponsored primary and secondary academies when they became academies and of all maintained primary and secondary schools at the same time. The differences in characteristics are large and statistically significant (the ‘Unmatched’ column).

The ‘Matched’ columns show the differences between primary and secondary sponsored academies and a matched group of maintained primary and secondary schools. In contrast, the matched maintained schools have very similar characteristics to the sponsored academies at the time they became academies, and the average differences between sponsored academies and the group of similar maintained schools are small and not statistically significant.

Tables A1.1 and A1.2 compare the characteristics of the combined samples of sponsored academies and maintained schools. Tables A1.5 – A1.10 show the differences in characteristics between sponsored academies and unmatched and matched maintained schools for each cohort of academies, which is how the samples were constructed.

[14] In 2012, the ‘satisfactory’ Ofsted grade became known as ‘requires improvement’.

Table A1.1 Average characteristics of primary sponsored academies and maintained primary schools, measured at the time of becoming a sponsored academy, before and after propensity score matching

	Unmatched			Matched		
	Acad	Main	Sig?	Acad	Main	Sig?
Proportion of pupils achieving NC level 4	61%	77%	Yes	61%	61%	No
Proportion of pupils achieving NC level 4 (previous year)	55%	73%	Yes	55%	55%	No
Proportion of pupils achieving NC level 4 (average 2008-next previous year)	51%	74%	Yes	51%	50%	No
Proportion of pupils eligible for FSM in school	34%	17%	Yes	34%	35%	No
Total number of pupils in school	316	274	Yes	316	307	No
Outstanding Ofsted rating	0%	14%	-	0%	0%	-
Good Ofsted rating	14%	57%	Yes	14%	12%	No
Satisfactory/requires improvement Ofsted rating	52%	27%	Yes	52%	58%	No
Inadequate Ofsted rating	35%	2%	Yes	35%	30%	No
Number of schools	362	11,458		362	849	

Note: Acad = average for sponsored primary academies; Main = average for maintained primary schools; Sig? = is the difference in average characteristics statistically significant (p<0.05). This summary is formed from matching each cohort of academies separately using propensity score matching.

Table A1.2 Average characteristics of secondary sponsored academies and maintained secondary schools, measured at the time of becoming a sponsored academy, before and after propensity score matching

	Unmatched			Matched		
	Acad	Main	Sig?	Acad	Main	Sig?
Proportion of pupils achieving 5+ A*-C including English and maths	42%	57%	Yes	42%	43%	No
Proportion of pupils achieving 5+ A*-C including English and maths (previous year)	37%	55%	Yes	37%	37%	No
Proportion of pupils achieving 5+ A*-C including English and maths (average 2008-next previous year)	32%	50%	Yes	32%	32%	No
Proportion of pupils eligible for FSM in school	25%	17%	Yes	25%	24%	No
Total number of pupils in school	844	1007	Yes	844	844	No
Outstanding Ofsted rating	0%	15%	-	0%	0%	-
Good Ofsted rating	14%	45%	Yes	14%	13%	No
Satisfactory/requires improvement Ofsted rating	62%	36%	Yes	62%	64%	No
Inadequate Ofsted rating	24%	3%	Yes	24%	23%	No
Number of schools	151	1,137		151	252	

Note: Acad = average for sponsored academies; Main = average for maintained schools; Sig? = is the difference in average characteristics statistically significant (p<0.05). This summary is formed from matching each cohort of academies separately using propensity score matching.

Converter academies

Schools that chose to become converter academies were schools able to demonstrate that they were sufficiently high-performing according to their school performance data and / or Ofsted rating. For example, compared with all secondary schools in England, converter academies had higher proportions of pupils achieving five or more A*-C grade GCSEs including English and maths, lower proportions of pupils eligible for free school meals (FSM), and were more likely to have an outstanding Ofsted rating when they became academies. Likewise, compared with all primary schools in England, converter academies had higher proportions of pupils achieving National Curriculum level 4 in Key Stage 2 English and maths when they became academies.

Tables A1.3 and A1.4 summarise the average characteristics of primary and secondary converter academies when they became academies and of all maintained primary and secondary schools at the same time. The differences in characteristics are large and statistically significant (the ‘Unmatched’ column).

The ‘Matched’ columns show the differences between primary and secondary converter academies and a matched group of maintained primary and secondary schools. In contrast, the matched maintained schools have very similar characteristics to the converter academies at the time they became academies, and the average differences between converter academies and the group of similar maintained schools are small and not statistically significant.

Tables A1.3 and A1.4 compare the characteristics of the combined samples of converter academies and maintained schools. Tables A1.11 – A1.17 show the differences in characteristics between converter academies and unmatched and matched maintained schools for each cohort of academies, which is how the samples were constructed.

Table A1.3 Average characteristics of primary converter academies and maintained primary schools, measured at the time of becoming a converter academy, before and after propensity score matching

	Unmatched			Matched		
	Acad	Main	Sig?	Acad	Main	Sig?
Proportion of pupils achieving NC level 4	80%	75%	Yes	80%	80%	No
Proportion of pupils achieving level 4 (previous year)	77%	74%	Yes	77%	77%	No
Proportion of pupils achieving level 4 (average 2008-previous year)	77%	74%	Yes	77%	77%	No
Proportion of pupils eligible for FSM in school	16%	17%	Yes	16%	16%	No
Total number of pupils in school	316	271	Yes	316	313	No
Outstanding Ofsted rating	30%	14%	Yes	30%	32%	No
Good Ofsted rating	56%	56%	No	56%	54%	No
Satisfactory/requires improvement Ofsted rating	14%	28%	Yes	14%	14%	No
Inadequate Ofsted rating	0%	2%	-	0%	0%	-
Number of schools	807	11,535		807	3,208	

Note: Acad = average for converter academies; Main = average for maintained schools; Sig? = is the difference in average characteristics statistically significant (p<0.05). This summary is formed from matching each cohort of academies separately using propensity score matching.

Table A1.4 Average characteristics of secondary converter academies and maintained secondary schools, measured at the time of becoming a converter academy, before and after propensity score matching

	Unmatched			Matched		
	Acad	Main	Sig?	Acad	Main	Sig?
Proportion of pupils achieving 5+ A*-C including English and maths	64%	57%	Yes	64%	64%	No
Proportion of pupils achieving 5+ A*-C including English and maths (previous year)	63%	55%	Yes	63%	63%	No
Proportion of pupils achieving 5+ A*-C including English and maths (average 2008-next previous year)	57%	50%	Yes	57%	57%	No
Proportion of pupils eligible for FSM in school	11%	17%	Yes	11%	11%	No
Total number of pupils in school	1163	1007	Yes	1163	1159	No
Outstanding Ofsted rating	37%	15%	Yes	37%	38%	No
Good Ofsted rating	48%	45%	No	48%	48%	No
Satisfactory/requires improvement Ofsted rating	15%	36%	Yes	15%	15%	No
Inadequate Ofsted rating	0%	3%	-	0%	0%	-
Number of schools	979	1,135		979	996	

Note: Acad = average for converter academies; Main = average for maintained schools; Sig? = is the difference in average characteristics statistically significant (p<0.05). This summary is formed from matching each cohort of academies separately using propensity score matching.

Primary sponsored academies

Table A1.5 Characteristics of 2011/12 primary sponsored academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving NC level 4 (2012)	59%	77%	Yes	59%	59%	No
Proportion of pupils achieving NC level 4 (2011)	43%	69%	Yes	43%	44%	No
Proportion of pupils achieving NC level 4 (average 2008-2010)	48%	75%	Yes	48%	48%	No
Proportion of pupils eligible for FSM in school (2012)	37%	17%	Yes	38%	39%	No
Total number of pupils in school (2012)	309	259	Yes	310	300	No
Outstanding Ofsted rating (pre-2012)	0%	15%	-	0%	0%	-
Good Ofsted rating (pre-2012)	12%	52%	Yes	10%	10%	No
Satisfactory/requires improvement Ofsted rating (pre-2012)	65%	31%	Yes	66%	66%	No
Inadequate Ofsted rating (pre-2012)	23%	2%	Yes	24%	24%	No
Number of schools	106	11,069		106	345	

Table A1.6 Characteristics of 2012/13 primary sponsored academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving NC level 4 (2013)	62%	77%	Yes	62%	63%	No
Proportion of pupils achieving NC level 4 (2012)	60%	77%	Yes	60%	60%	No
Proportion of pupils achieving NC level 4 (average 2008-2011)	53%	73%	Yes	53%	51%	No
Proportion of pupils eligible for FSM in school (2013)	32%	17%	Yes	32%	33%	No
Total number of pupils in school (2013)	316	264	Yes	319	310	No
Outstanding Ofsted rating (pre-2013)	0%	14%	-	0%	0%	-
Good Ofsted rating (pre-2013)	15%	63%	Yes	15%	13%	No
Satisfactory/requires improvement Ofsted rating (pre-2013)	46%	22%	Yes	46%	55%	Yes
Inadequate Ofsted rating (pre-2013)	40%	1%	Yes	39%	32%	No
Number of schools	256	11,157		256	673	

Secondary sponsored academies

Table A1.7 Characteristics of 2009/10 sponsored secondary academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2010)	36%	54%	Yes	36%	37%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2009)	31%	50%	Yes	31%	31%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2008)	27%	48%	Yes	27%	28%	No
Proportion of pupils eligible for free school meals (FSM) in school (2010)	30%	17%	Yes	30%	32%	No
Total number of pupils in school (2010)	796	1017	Yes	796	817	No
Outstanding Ofsted rating (pre-2010)	0%	14%	-	0%	0%	-
Good Ofsted rating (pre-2010)	21%	45%	Yes	21%	18%	No
Satisfactory/requires improvement Ofsted rating (pre-2010)	67%	37%	Yes	67%	74%	No
Inadequate Ofsted rating (pre-2010)	13%	4%	Yes	13%	8%	No
Number of schools	39	1,111		39	110	

Table A1.8 Characteristics of 2010/11 sponsored secondary academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2011)	42%	57%	Yes	42%	43%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2010)	37%	54%	Yes	37%	37%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (average 2008 - 2009)	32%	49%	Yes	32%	32%	No
Proportion of pupils eligible for FSM in school (2011)	19%	16%	No	19%	20%	No
Total number of pupils in school (2011)	849	1014	Yes	855	813	No
Outstanding Ofsted rating (pre-2011)	0%	16%	-	0%	0%	-
Good Ofsted rating (pre-2011)	15%	44%	Yes	16%	18%	No
Satisfactory/requires improvement Ofsted rating (pre-2011)	79%	37%	Yes	78%	74%	No
Inadequate Ofsted rating (pre-2011)	6%	3%	No	6%	8%	No
Number of schools	32	1,113		32	91	

Table A1.9 Characteristics of 2011/12 sponsored secondary academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2012)	44%	58%	Yes	45%	44%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2011)	38%	57%	Yes	38%	39%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (average 2008 - 2010)	32%	50%	Yes	32%	32%	No
Proportion of pupils eligible for FSM in school (2012)	25%	17%	Yes	25%	25%	No
Total number of pupils in school (2012)	818	1004	Yes	818	838	No
Outstanding Ofsted rating (pre-2012)	0%	17%	-	0%	0%	-
Good Ofsted rating (pre-2012)	13%	41%	Yes	13%	12%	No
Satisfactory/requires improvement Ofsted rating (pre-2012)	68%	39%	Yes	66%	69%	No
Inadequate Ofsted rating (pre-2012)	20%	3%	Yes	21%	19%	No
Number of schools	38	1,125		38	100	

Table A1.10 Characteristics of 2012/13 sponsored secondary academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2013)	45%	59%	Yes	45	47	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2012)	40%	58%	Yes	40	40	No
Proportion of pupils achieving 5+ A*-C incl English & maths (average 2008 - 2011)	37%	52%	Yes	37	38	No
Proportion of pupils eligible for FSM in school (2013)	24%	17%	Yes	24%	21%	No
Total number of pupils in school (2013)	892	991	No	903	897	No
Outstanding Ofsted rating (pre-2013)	0%	14%	-	0%	0%	-
Good Ofsted rating (pre-2013)	7%	51%	Yes	7%	6%	No
Satisfactory/requires improvement Ofsted rating (pre-2013)	45%	31%	Yes	43%	42%	No
Inadequate Ofsted rating (pre-2013)	48%	4%	Yes	50%	52%	No
Number of schools	42	1,134		42	99	

Primary converter academies

Table A1.11 Characteristics of 2010/11 primary converter academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving NC level 4 (2011)	77%	69%	Yes	77%	77%	No
Proportion of pupils achieving NC level 4 (2010)	Not included in matching because of the 2010 Key Stage 2 test boycott					
Proportion of pupils achieving NC level 4 (average 2008-2009)	80%	75%	Yes	79%	79%	No
Proportion of pupils eligible for FSM in school (2011)	13%	17%	Yes	13%	13%	No
Total number of pupils in school (2011)	327	252	Yes	336	327	No
Outstanding Ofsted rating (pre-2011)	50%	14%	Yes	50%	52%	No
Good Ofsted rating (pre-2011)	39%	53%	Yes	39%	36%	No
Satisfactory/requires improvement Ofsted rating (pre-2011)	11%	31%	Yes	11%	12%	No
Inadequate Ofsted rating (pre-2011)	0%	2%	-	0%	0%	-
Number of schools	210	10,993		210	923	

Table A1.12 Characteristics of 2011/12 primary converter academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving NC level 4 (2012)	81%	77%	Yes	82%	82%	No
Proportion of pupils achieving NC level 4 (2011)	74%	69%	Yes	74%	74%	No
Proportion of pupils achieving NC level 4 (average 2008-2010)	79%	75%	Yes	79%	79%	No
Proportion of pupils eligible for FSM in school (2012)	14%	17%	Yes	14%	15%	No
Total number of pupils in school (2012)	318	259	Yes	320	320	No
Outstanding Ofsted rating (pre-2012)	31%	15%	Yes	30%	31%	No
Good Ofsted rating (pre-2012)	56%	52%	No	57%	55%	No
Satisfactory/requires improvement Ofsted rating (pre-2012)	13%	31%	Yes	13%	13%	No
Inadequate Ofsted rating (pre-2012)	0%	2%	-	0%	0%	-
Number of schools	309	11,069		309	1,391	

Table A1.13 Characteristics of 2012/13 primary converter academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving NC level 4 (2013)	79%	77%	Yes	79%	79%	No
Proportion of pupils achieving NC level 4 (2012)	78%	77%	Yes	78%	78%	No
Proportion of pupils achieving NC level 4 (average 2008-2011)	74%	73%	No	73%	73%	No
Proportion of pupils eligible for FSM in school (2013)	18%	17%	No	18%	18%	No
Total number of pupils in school (2013)	297	264	Yes	304	301	No
Outstanding Ofsted rating (pre-2013)	24%	14%	Yes	22%	24%	No
Good Ofsted rating (pre-2013)	62%	63%	No	63%	60%	No
Satisfactory/requires improvement Ofsted rating (pre-2013)	14%	22%	Yes	15%	16%	No
Inadequate Ofsted rating (pre-2013)	0%	1%	-	0%	0%	-
Number of schools	347	11,157		347	1,607	

Secondary converter academies

Table A1.14 Characteristics of 2009/10 secondary converter academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2010)	73%	54%	Yes	73	72	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2009)	70%	50%	Yes	70	70	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2008)	69%	48%	Yes	69	69	No
Proportion of pupils eligible for FSM in school (2010)	6%	17%	Yes	6%	6%	No
Total number of pupils in school (2010)	1272	1017	Yes	1272	1312	No
Outstanding Ofsted rating (pre-2010)	100%	14%	Yes	100%	100%	No
Good Ofsted rating (pre-2010)	0%	45%	-	0%	0%	-
Satisfactory/requires improvement Ofsted rating (pre-2010)	0%	37%	-	0%	0%	-
Inadequate Ofsted rating (pre-2010)	0%	4%	-	0%	0%	-
Number of schools	19	1,111		19	62	

Table A1.15 Characteristics of 2010/11 secondary converter academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2011)	65%	57%	Yes	65%	66%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2010)	63%	54%	Yes	63%	63%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (average 2008 - 2009)	58%	49%	Yes	58%	58%	No
Proportion of pupils eligible for FSM in school (2011)	10%	16%	Yes	10%	10%	No
Total number of pupils in school (2011)	1207	1014	Yes	1208	1196	No
Outstanding Ofsted rating (pre-2011)	47%	16%	Yes	46%	48%	No
Good Ofsted rating (pre-2011)	44%	44%	No	44%	43%	No
Satisfactory/requires improvement Ofsted rating (pre-2011)	9%	37%	Yes	9%	10%	No
Inadequate Ofsted rating (pre-2011)	0%	3%	-	0%	0%	-
Number of schools	505	1,113		505	731	

Table A1.16 Characteristics of 2011/12 secondary converter academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2012)	62%	58%	Yes	62%	62%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2011)	63%	57%	Yes	63%	63%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (average 2008 - 2010)	56%	50%	Yes	56%	56%	No
Proportion of pupils eligible for FSM in school (2012)	12%	17%	Yes	12%	12%	No
Total number of pupils in school (2012)	1133	1004	Yes	1137	1139	No
Outstanding Ofsted rating (pre-2012)	25%	17%	Yes	25%	25%	No
Good Ofsted rating (pre-2012)	53%	41%	Yes	53%	54%	No
Satisfactory/requires improvement Ofsted rating (pre-2012)	22%	39%	Yes	22%	21%	No
Inadequate Ofsted rating (pre-2012)	0%	3%	-	0%	0%	-
Number of schools	313	1,125		313	697	

Table A1.17 Characteristics of 2012/13 secondary converter academies and unmatched and matched maintained schools

	Unmatched		Significant	Matched		Significant
	Academies	Maintained	difference?	Academies	Maintained	difference?
Proportion of pupils achieving 5+ A*-C incl English & maths (2013)	63%	59%	Yes	63%	63%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (2012)	62%	58%	Yes	62%	62%	No
Proportion of pupils achieving 5+ A*-C incl English & maths (average 2008 - 2011)	55%	52%	Yes	55%	55%	No
Proportion of pupils eligible for FSM in school (2013)	15%	17%	No	15%	14%	No
Total number of pupils in school (2013)	1044	991	No	1048	1049	No
Outstanding Ofsted rating (pre-2013)	20%	14%	No	20%	21%	No
Good Ofsted rating (pre-2013)	59%	51%	Yes	59%	59%	No
Satisfactory/requires improvement Ofsted rating (pre-2013)	20%	31%	Yes	20%	20%	No
Inadequate Ofsted rating (pre-2013)	0%	4%	-	0%	0%	-
Number of schools	142	1,134		142	520	

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