Extended Schools: Establishing a Baseline Methodology to Estimate the Impact of the Extended School Programme on Attainment

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Glossary

Terminology abbreviations

DCSF	Department for Children, Schools and Families
ES	Extended School
KS	Key Stage
NPD	National Pupil Database
LEASIS	Local Education Authority School Information System
QLFS	Quarterly Labour Force Survey
IMD	Index of Multiple Deprivation
PSM	Propensity Score Matching
BME	Black and Minority Ethnic origin
FSM	Free School Meals
SEN	Special Educational Needs
EAL	English as an additional language
SEA	Swift and Easy Access
ICT	Information and Communications Technology

Executive Summary - Research Brief

Background and terms of reference

London Economics were commissioned by the Department for Children, Schools and Families to establish a robust methodological approach for the ongoing monitoring and evaluation of the Extended Schools programme. This report details the approach adopted and provides an indication of the potential findings that might be generated in the future using this methodology; however, given the time scale of the programme, the report does not provide any evidence at this stage on the impact of the Extended Schools programme.

Extended Schools work with Local Authorities, local providers and other schools to deliver the five child centred outcomes that emerged as part of the Every Child Matters (ECM) agenda. Extended Schools provide access to a core offer of integrated services through partnership working, including the following:

- formal, 'wraparound' childcare in primary and special schools;
- study support and homework clubs, sport, music, arts and special interest clubs;
- swift and easy access to targeted and specialist services (for example, speech and language therapy, behaviour support);
- parenting and family support, including family learning; and
- community access to school facilities such as sports grounds, ICT and adult and family learning.

The number of Extended Schools has grown steadily since their introduction in 2006. In September 2006 there were 3,277 Extended Schools (117 Nursery, 2,328 Primary, 734 Secondary and 98 Special Schools), which had increased to 8,105 by September 2007 (238 Nursery, 5,991 Primary, 1,633 Secondary and 243 Special Schools). At the time of starting this research project (March 2008), the total number of Extended Schools had increased further to 10,043 (272 Nursery, 7,542 Primary, 1,912 Secondary and 317 Special Schools).

It is important to note that although the Extended Schools make certain types and levels of services available to pupils, parents and local communities, significant flexibility was purposely incorporated into the programme. As such, there may be significant variation between Extended Schools in relation to the means of delivery of these services. Given the complexity of the programme, the heterogeneity in terms of programme delivery, the length of time for which the services have been provided and the data available for analysis, one would not necessarily expect any impact on attainment to be identifiable at this stage of the programme.

Aims and Objectives the research

The objectives of this project were to analyse routinely available attainment and administrative data held by Department for Children, Schools and Families and the Training and Development Agency for Schools (TDA), in order to develop a baseline approach for the ongoing analysis and monitoring of the early implementation of Extended Schools and allow for the detection of emerging outcomes as they may arise. Rather than identifying the current impact of Extended Schools on pupil outcomes, we have set out an analysis to provide the research building blocks to allow the Department to undertake a consistent and methodologically sound analysis in the future, as the programme embeds over time.

The analysis comprises the following elements:

- **School level analysis:** to assess the extent to which Extended Schools' services are associated with variations in attainment.

- **Pupil level analysis** to assess the extent to which pupils attending an Extended School are associated with variations in attainment.

The key aims of the research were to establish a baseline methodology to understand whether attainment varies by Extended School status, where 'Extended School status' covers:

- The length of time providing full core offer.
- The extent of variation in outcomes by Extended School for different school and pupil characteristics, especially for the most disadvantaged where relevant sub-groups for analysis include:
  - Extended Schools status;
  - School type
  - School intake characteristics
    - o proportion of pupils eligible for Free School Meals (FSM)
    - o English as an additional language (EAL)
    - o Special Educational Needs (SEN)
    - o Black or Minority Ethnic Group (BME) and
    - o Historical attainment;
  - Area disadvantage
    - o Index of Multiple Deprivation (IMD)
  - Pupil characteristics
    - o proportion of pupils eligible for Free School Meals (FSM)
    - o English as an additional language (EAL)
    - o Special Educational Needs (SEN) or
    - o Black or Minority Ethnic Group (BME);

The analysis was also intended to address the following questions if the data permitted:

- What is the comparison between Extended Schools and non-Extended Schools that were otherwise similar before the Extended School programme began?
- How have these relationships changed over time (since 2004-05)?

Caveats

The Extended Schools programme has been in operation for a very limited period of time and as has been said, it was not necessarily expected that the programme would have had any meaningful impact on educational attainment at this stage. Specifically, the data used for developing the ongoing monitoring and evaluation of the programme covers a five year period for which the Extended Schools programme has been in operation for just over one year in some schools – and for a significantly shorter period in many other schools.

Quite apart from the fact that the programme has not been in operation for very long in most schools, there are a number of other reasons for us to be cautious about any findings presented for the following reasons:

- The services that Extended Schools offer are voluntary and currently there is no centrally held information on which children and parents avail of these services. If there is any effect on particular pupils or groups of pupils, identifying these effects might be difficult. For instance, any individual pupil effect that does exist might be 'diluted' when looking at the change in attainment of all pupils in a particular cohort. Conversely, even if information were collected on which pupils and parents availed of the services on offer, the possibility of positive externalities[1] might result in underestimating the real impact of the Extended Schools programme.

- Schools that are providing access to the core offer of extended services can be fundamentally different from each other in respect of delivery 'on the ground'. For instance, some Extended Schools may have been offering the types of services associated with the Extended Schools programme for a number of years before the formal introduction of the programme, and thus formal status as an Extended School may appear to result in a limited impact on pupils attending those schools.

- In addition, despite the general aim of the policy to provide additional services to the entire community of pupils and parents, the focus and

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[1] For instance, the Extended Schools programme might result in improved behaviour for some pupils taking up services, which might result in a better learning environment and outcomes for other pupils not directly affected by the programme.

delivery of Extended Schools' services can vary significantly between schools. Some Extended Schools may focus on particular year groups while other Extended Schools might concentrate on pupils with specific characteristics (such as pupils that are eligible for Free School Meals). Such variation in the way in which the policy is delivered on the ground is likely to limit the ability of researchers to identify any consistent effect of Extended Schools on pupil outcomes in the future unless additional data is collected relating to the delivery of the programme.

Given these considerations, rather than identifying the current impact of Extended Schools on pupil outcomes, we have set out an analysis to provide the research building blocks to allow the Department to undertake a consistent and methodologically sound analysis in the future, as the programme embeds over time.

Methodological Approach

The approach to the econometric modelling of the potential educational (and other) impacts of Extended Schools is based on a two stage analysis.

The first stage of the analysis involved the classification of the Extended Schools studied according to whether and when they became an Extended School for the first time. This classification of Extended Schools resulted in the construction of three *treatment groups*. For each of these treatment groups, a sample of comparison schools was then selected from schools that never became an Extended School based on a range of school level characteristics (such as school roll, the proportion of pupils eligible for Free School Meals and prior attainment) and local area level characteristics (such as domain measures from the Index of Multiple Deprivation).

This matching process was undertaken using data from a period well in advance of the first implementation of the Extended Schools programme. The matching was carried out through a propensity score matching (PSM) model. The main report illustrates the robustness of the matching technique and the appropriateness of the comparison schools for further analysis. Specifically, the average attainment scores between the treatment and control schools were extremely close – both in terms of the attainment scores used for matching (Key Stage 1 at primary level and Key Stage 3 measures at secondary level), as well as the outcome scores associated with treatment and control schools (Key Stage 2 and Key Stage 4). This comparison and consistency of both the matching variables and outcome measures across treatment and control schools provides a strong indication of the appropriateness of the methodological approach.

The second stage of the analysis involved undertaking an assessment of the outcomes achieved at *school* level (Extended Schools versus their respective control schools) over time and by *pupils* in the Extended Schools studied (relative to similar pupils in control schools). This was achieved by undertaking a 'difference in differences' approach at school level and econometric analysis at pupil level.

In the case of the school level analysis, the main report provides an indication of whether the growth rate in attainment across the various Key Stages (using 19 indicators) is greater in the treatment schools relative to the control schools. In general, the difference in the growth rate of attainment between treatment and control schools is statistically insignificant. Given that we would not expect to see any impact in this time-period, this provides us with additional evidence of the appropriateness of the methodological approach. Had we seen a large positive impact from the programme in such a short period of time, we might have been concerned that the results were being driven by an unsound methodology that was in fact capturing selection effects[2].

At pupil level, we undertook econometric modelling[3] using a large number of model specifications to understand whether pupils (and subgroups of pupils) in the Extended Schools studied posted different outcomes compared to similar pupils in the relevant control schools. In undertaking this analysis, we controlled for a wide range of school level and pupil level characteristics to ensure that (going forward) any outcome associated with the Extended Schools programme might be properly identified.

Finding I – school characteristics

The first point to note is that the Extended Schools studied operate in significantly more challenging circumstances than 'typical' primary or secondary schools nationally. The extent of the relative disadvantage faced by Extended Schools in terms of local area characteristics and pupil characteristics is exacerbated in those schools that became an Extended School for the first time in 2006 (compared to 2007).

In particular, pupils in schools that became an Extended School for the first time in 2006 had an average point score that was 1.5 points lower in Key Stage 1 speaking and listening, 1.2 points lower in Key Stage 1 reading, 1.3 points lower in Key Stage 1 writing, 1.1 points lower in Key Stage 1 maths and 1.3 points lower in Key Stage 1 Science compared to the national average. Schools that became an Extended School for the first time in 2006 had an average point score across all Key Stages that was significantly lower than in schools that became an Extended School for the first time in 2007. This finding is entirely unsurprising given the fact that the Extended Schools

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[2] If the analysis demonstrates a significant difference in attainment between the Extended Schools studied and their comparator schools, this might imply that there are fundamental differences between Extended Schools and the comparator schools that have not been controlled for in the analysis. In other words, there may be some factors that determine the selection of schools into the Extended Schools programme that are also associated with different rates of educational attainment. If this is the case, and the analysis does not control these for these other factors, differences in attainment might be wrongly attributed to the Extended Schools programme rather than some other factor determining selection in the programme in the first instance.

[3] Econometric modelling is a technique used to isolate the specific impact of different independent variables (such as gender or eligibility for Free School Meals) on a dependent variable (such as attainment at a particular Key Stage.

programme was focused in schools operating in areas suffering from the highest levels of socioeconomic deprivation.

At secondary level, a similar picture emerges. In relation to schools that became an Extended School for the first time in 2006, pupils in those schools registered a 0.9 point lower score in Key Stage 3 English, a 1.1 lower point score in Key Stage 3 maths and a 1.0 point lower score in Key Stage 3 science compared to secondary schools nationally.

In addition to the differences in pupil attainment, other important differences from the analysis of baseline characteristics emerge. The Extended Schools studied have a significantly higher proportion of children eligible for free school meals (18.1% compared to 15.3% nationally at primary level and 16.2% compared to 14.6% at secondary level); a higher proportion of children from BME backgrounds (14.2% compared to 12.7% nationally at primary level and 13.9% compared to 13.0% nationally at secondary level); and a higher proportion of pupils with Special Educational Needs (18.2% compared to 17.5% nationally at primary level and 17.5% compared to 16.4% nationally at secondary level).

This highlights the importance of undertaking a proper matching exercise to ensure the appropriate comparison of schools with similar observable characteristics to Extended Schools.

Finding II – school level outcomes

Taking full account of the various caveats associated with the analysis, and in particular the fact that we compare the change in attainment in treatment and control schools between 2002/03 and 2006/07 (despite the Extended Schools programme being introduced for the first time in 2006), there appears to be a very small positive association between school level attainment and the Extended Schools programme at Key Stage 2 and Key Stage 4 (with little or no statistically significant difference at Key Stage 1 or Key Stage 3). We also found that there appears to be a marginally stronger relationship between school level attainment and the programme for those schools that became an Extended School for the first time earlier in the life of the programme.

Finding III – pupil level outcomes

We report the findings for completeness, although we anticipate mixed or insignificant effects from the programme at this stage. Indeed, at pupil level, the analysis indicates that at a number of Key Stages, there may be some relationship between the programme and pupil attainment (both positive and negative) though in the majority of cases there is no statistical association. For instance, the findings associated with the methodological approach adopted illustrate that across all pupils, the Extended Schools programme appears to be associated with small positive changes in pupil attainment at Key Stage 2 in Science and Key Stage 3 in Maths. Equally, pupils in the Extended Schools studied appear to under-perform pupils in control schools

at Key Stage 4 in terms of average uncapped total points score depending on the model specification.

There are also some differences in the growth rate of attainment depending on the characteristics of pupils. The results presented in the previous section indicated that attainment differences occurred in Science at Key Stage 2 and it appears that the relative out-performance was concentrated amongst non-BME pupils. In particular, whereas the entire cohort of pupils outperformed pupils in the relevant control group by 0.038 points in Science at Key Stage 2, pupils from non-BME backgrounds at the Extended Schools studied are associated with a 0.13 point relative out-performance. Also at Key Stage 2, pupils eligible for Free School Meals are associated with a gain of 0.13 points in English compared to no statistically significant relationship across the cohort as a whole.

However, at Key Stage 3, these outcomes were reversed to some extent. For the cohort of pupils as a whole, the findings indicated that the programme was associated with an out-performance in relation to maths point score (between +0.04 and 0.09); however, there appeared to be relative underperformance for pupils eligible for Free School Meals (those pupils achieved a 0.13 to 0.15 point worse outcome compared to pupils eligible for Free School Meals in control schools).

The results at Key Stage 4 are also ambiguous. The results indicate that pupils in the Extended Schools studied are associated with worse outcomes than pupils in control schools in terms of uncapped total points scores (by between 1.6 and 1.9 points). However, there are differences depending on the personal characteristics of pupils.

For pupils eligible for Free School Meals in the Extended Schools studied, there is no statistically significant effect associated with the programme; however, when considering FSM eligible pupils in schools that first became an Extended School in 2006, there is a statistically significant negative association between attainment and the Extended School programme (-5.2 points).

The associations also vary for pupils from BME backgrounds at Key Stage 4. In particular, although pupils from BME backgrounds under-perform BME pupils in the relevant control groups in terms of uncapped total point score (by 3.5 points), BME pupils in the Extended Schools studied are associated with a 9.2% increased likelihood of attaining 5 or more GCSEs at grades A*-C (excluding maths and English) and between 7.8% and 7.9% increased likelihood to attain 5 or more GCSEs at grades A*-C including maths and English.

Finding IV – timing of intervention

Given the relatively recent introduction of the Extended Schools programme, there appears to be a relatively small association between attainment and the Extended Schools programme depending on the point in time when the programme was introduced.

In relation to the analysis at school level at Key Stage 1, there is some degree of uncertainty as to whether there is any difference in attainment between those schools becoming an Extended School for the first time in 2006 (compared to 2007). The positive association between attainment at Key Stage 1 and the Extended Schools programme is concentrated in the proportion of pupils (relative to their respective control groups) achieving at or above Level 2 and Level 3 in speaking and listening and achieving at or above Level 3 in science. The negative association between attainment at Key Stage 1 and the Extended Schools programme is concentrated in the proportion of pupils (relative to their respective control groups) achieving at or above Level 3 in maths and achieving at or above Level 2 in science. Given these results, we would not infer any difference in Key Stage 1 attainment at this stage.

It is difficult to isolate a consistent impact of the timing of the Extended Schools programme on school level attainment at Key Stages 2 or Key Stage 3 at this stage, although our methodology clearly illustrates how this may be carried out in the future.

There appears to be a greater association between attainment and the timing of the introduction of the Extended Schools programme at Key Stage 4 for particular subgroups of pupils. For example, although in 2007 there is no relationship between attainment (in terms of average uncapped total point score at Key Stage 4) and the Extended Schools programme for BME pupils (compared to BME pupils in control groups), for BME pupils in schools that were part of the Extended Schools programme since 2006, the relative out-performance in terms of average uncapped total point score was +3.127 points (compared to BME pupils in control groups).

The objective of this work was to give an exemplar analysis to illustrate how the Extended Schools programme might be evaluated on an ongoing basis in the future. Future research needs to continue to take full account of the length of time for which the policy has been in operation and the delivery characteristics of the programme. Whilst the methodology proved successful, in terms of specifying a control group, no claims should be made about the success of the programme at this stage based on this report alone.

1 Background and introduction

1.1 Terms of reference

London Economics were commissioned to undertake an evaluation of the Extended Schools programme by the Department for Children, Schools and Families (DCSF) in March 2008.

The objectives of this project were to analyse routinely available attainment and administrative data held by Department for Children, Schools and Families and the Training and Development Agency for Schools (TDA), in order to develop a baseline approach for the ongoing analysis and monitoring of the early implementation of Extended Schools and allow for the detection of emerging outcomes as they may arise.

The analysis comprises the following elements:

- **School level analysis:** to assess the extent to which Extended Schools' services are associated with variations in attainment.

- **Pupil level analysis** to assess the extent to which pupils attending an Extended School are associated with variations in attainment.

The key aims of the research were to establish a baseline methodology to understand whether attainment varies by Extended School status, where 'Extended School status' covers:

- The length of time providing full core offer.
- The extent of variation in outcomes by Extended School for different school and pupil characteristics, especially for the most disadvantaged where relevant sub-groups for analysis include:
  - Extended Schools status;
  - School type
  - School intake characteristics
    - o proportion of pupils eligible for Free School Meals (FSM)
    - o English as an additional language (EAL)
    - o Special Educational Needs (SEN)
    - o Black or Minority Ethnic Group (BME) and
    - o Historical attainment;
  - Area disadvantage
    - o Index of Multiple Deprivation (IMD)
  - Pupil characteristics
    - o proportion of pupils eligible for Free School Meals (FSM)
    - o English as an additional language (EAL)

- o Special Educational Needs (SEN) or
- o Black or Minority Ethnic Group (BME);

The analysis was also intended to address the following questions if the data permitted:

- What is the comparison between Extended Schools and non-Extended Schools that were otherwise similar before the Extended School programme began?
- How have these relationships changed over time (since 2004-05)?

The Extended Schools programme has been in operation for a very limited period of time and as has been said, it was not necessarily expected that the programme would have had any meaningful impact on educational attainment at this stage. Specifically, the data used for developing the ongoing monitoring and evaluation of the programme covers a five year period, of which the Extended Schools programme has been in operation for just over one year in some schools – and for a significantly shorter period in many other schools.

Quite apart from the fact that the programme has not been in operation for very long in most schools, there are a number of other reasons for us to be cautious about any findings presented for the following reasons:

- The services that Extended Schools offer are voluntary and currently there is no centrally held information on which children and parents avail of these services. If there is any effect on particular pupils or groups of pupils, identifying these effects might be difficult. For instance, any individual pupil effect that does exist might be 'diluted' when looking at the change in attainment of all pupils in a particular cohort. Conversely, even if information were collected on which pupils and parents availed of the services on offer, the possibility of positive externalities[4] might result in underestimating the real impact of the Extended Schools programme.

- Schools that are providing access to the core offer of extended services can be fundamentally different from each other in respect of delivery 'on the ground'. For instance, some Extended Schools may have been offering the types of services associated with the Extended Schools programme for a number of years before the formal introduction of the programme, and thus formal status as an Extended School may appear to result in a limited impact on pupils attending those schools,

- In addition, despite the general aim of the policy to provide additional services to the entire community of pupils and parents, the focus and

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[4] For instance, the Extended Schools programme might result in improved behaviour for some pupils taking up services, which might result in a better learning environment and outcomes for other pupils not directly affected by the programme.

delivery of Extended Schools' services can vary significantly between schools. Some Extended Schools may focus on particular year groups while other Extended Schools might concentrate on pupils with specific characteristics (such as pupils that are eligible for Free School Meals). Such variation in the way in which the policy is delivered on the ground is likely to limit the ability of researchers to identify any consistent effect of Extended Schools on pupil outcomes in the future unless additional data is collected relating to the delivery of the programme.

Given these considerations, rather than identifying the current impact of Extended Schools on pupil outcomes, we have set out an analysis to provide the research building blocks to allow the Department to undertake a consistent and methodologically sound analysis in the future, as the programme embeds over time.

1.2 Description of the Extended Schools programme

Extended Schools work with Local Authorities, local providers and other schools to deliver the five child centred outcomes that emerged as part of the Every Child Matters (ECM) agenda. Extended Schools provide access to a core offer[5] of integrated services that include a menu of activities (though not necessarily by teachers or on the school site), including the following:

- formal, 'wraparound' childcare in primary and special schools;
- study support and homework clubs, sport, music, arts and special interest clubs;
- swift and easy access to targeted and specialist services (for example, speech and language therapy, behaviour support);
- parenting and family support, including family learning; and
- community access to school facilities such as sports grounds, ICT and adult and family learning.

The Government's ambition is for all schools to offer access to a core set of extended activities by 2010.

Childcare provision

The core offer requires all primary and special schools to offer access to high-quality, Ofsted-registered childcare from 8am to 6pm (depending on demand), five days a week, 48 weeks a year. Secondary schools do not have to offer

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[5] There is no obligation on pupils or their parents to avail of these services and there is no centrally held information at pupil level as to whether pupils actually directly benefit from the services that may be on offer.

formal childcare, although some choose to do so to support families or enable parents to use other extended services.

Varied menu of activities

Both primary and secondary schools should provide access to a varied menu of extra-curricular activities from 8am to 6pm during term time plus flexible holiday provision (provided there is sufficient demand). These activities potentially include:

- study support, 'catch up', 'stretch' activities and homework clubs;
- arts activities such as dance, drama and arts and crafts
- sports activities;
- other recreational activities, for example creative use of ICT, music lessons, languages, enterprise activities, museum visits and residential trips; and
- holiday provision and summer schools.

Swift and Easy Access

Swift and easy access (SEA) is underpinned by preventative work, through other elements of the core offer, and the wider curriculum. Where problems emerge, SEA ensures the early identification of and support for a wide range of difficulties children and young people can face.

SEA involves schools working closely with statutory agencies and the voluntary and community sector to identify children and young people with emotional, behavioural, health or other difficulties as early as possible.

The school and partnering agencies can then form a 'team around the child', planning and delivering a package of ongoing support designed to overcome barriers to learning and enable the child or young person achieve their full potential. That support package could include:

- speech and language therapy;
- child and adolescent mental health services (CAMHS);
- family support services;
- intensive behaviour support;
- counselling; and
- sexual health services.

Parenting Support

Parenting support aims to equip parents and carers with the skills to support their child's education and to deal effectively with issues that could affect the well-being of the family. Schools need to provide access to:

- local services, tailored to the needs of those parents who stand to benefit most from support;
- transition information sessions for parents whose children are joining a reception class or transferring to secondary school;
- details of local and national sources of advice and support;
- access to parenting groups that use structured, evidence-based parenting programmes;
- access to informal networking opportunities such as coffee mornings and cookery or ICT classes; and
- family learning sessions (depending on demand).

Community Access

Many schools open up facilities such as ICT suites and sports and arts facilities to the wider community. They also offer space – such as their school halls – and run further education and vocational classes and adult learning programmes.

Funding

In July 2007, the Department for Children, Schools and Families announced an additional £1.3 billion over 2008-11 to support the on-going development of services, including extended service co-ordinators in secondary schools and clusters of primary schools to ensure sustainability.

Numbers of Extended Schools

The number of Extended Schools has grown steadily since their introduction in 2006. In September 2006 there were 3,277 Extended Schools (117 Nursery, 2,328 Primary, 734 Secondary and 98 Special Schools), which had increased to 8,105 by September 2007 (238 Nursery, 5,991 Primary, 1,633 Secondary and 243 Special Schools). At the time of starting this research project (March 2008), the total number of Extended Schools had increased further to 10,043 (272 Nursery, 7,542 Primary, 1,912 Secondary and 317 Special Schools).

Delving further into the growth of Extended Schools, the data indicates that between 2006 and 2007, 5,059 schools became Extended Schools, while 231 schools no longer met the full core offer. Over the period 2007 to 2008, 2,222 schools became an Extended School, while 284 schools no longer met the full core offer.

Breakdown of activities

The core offer of the Extended School is defined as consisting of service provision along five dimensions:

- A varied menu of activities, in a safe place to be, combined with

- Childcare in primary schools (8am – 6pm, 48 weeks of the year);

- Swift and easy access to targeted and specialist services;

- Parenting support; and

- Community access to school facilities.

The level of service provided across these dimensions varies between the schools in the scheme, with full service provision across the dimensions not obligatory. The breakdown of the level of service for each dimension across the three years from 2006 to 2008 is presented in Table 1.

The analysis of TDA data illustrates that the majority of Extended Schools provide full services across all dimensions. Between 83% and 88% of the Extended Schools studied provide a full service level in four of the five dimensions, with the proportion of the Extended Schools studied offering childcare ranging between 63% and 67%. However, the fact that secondary schools are not required to provide childcare services accounts for this lower percentage, and is evidenced by the large number of 'not applicable' entries in the childcare dimension.

In addition to those schools offering 'full' services, there are also a number of schools that are defined as offering 'sustainable' services. In this context, 'sustainable' means that the service is fully embedded (and self financed) in the school and also that the service is 'full access'. There were a very limited number of Extended Schools not providing the 'full service' offering (less than 0.5% of the Extended Schools studied (see note to Table 1)).

Analysis of the numbers (taking into account the rapid growth of participation) shows that the proportion of schools providing full service is also growing annually in each dimension by between one and four percentage points per annum.

Table 1: Analysis of Extended Schools service provision			
Level of service	**2006**	**2007**	**2008**
Childcare			
Full access	2,029	5,311	6,766
Full term	27	12	1
Full term, some holidays	18	24	6
Some term	21	20	
Some term, some holidays	36	39	6
Sustainable	394	1,054	1,351
None	9	9	
Not applicable	734	1,633	1,912
Not known	3	3	1
Unclassified	6		
Total	**3,277**	**8,105**	**10,043**
Varied menu of activities			
Full	2,714	6,796	8,486
Some	58	93	1
Sustainable	499	1,209	1,555
None	1	2	
Not known	4	4	1
Unclassified	1	1	
Total	**3,277**	**8,105**	**10,043**
Parenting Support			
Full	2,754	7,001	8,856
Some	100	133	7
Sustainable	418	962	1,179
None	1	5	
Not known	4	3	1
Unclassified		1	
Total	**3,277**	**8,105**	**10,043**
Swift and easy access			
Full	2,760	6,903	8,547
Some	56	89	4
Sustainable	455	1,101	1,491
None	3	3	
Not known	3	8	1
Unclassified		1	
Total	**3,277**	**8,105**	**10,043**
Community use			
Full	2,706	6,867	8,679
Some	83	104	8
Sustainable	473	1,115	1,354
None	5	10	
Not known	5	6	1
Unclassified	5	3	1
Total	**3,277**	**8,105**	**10,043**

Source: London Economics' analysis of Training and Development Agency data from 2008. Note that there is a small inconsistency in the data but this does not affect any of the later analysis. In particular, in 2008, all schools should be classified as either offering the 'full' service offer or 'sustainable'. There are a small number of schools that are classified as providing 'some' services; however this is as a result of the data relating to service offerings being collected in real time and a slight lag between various downloads of data. Note that the 2006 and 2007 columns show the 2008 element status of each 2008 Extended School in 2006 and 2007 respectively. Figures correct as of March 2008.

2 Methodological approach

2.1 Data sources

2.1.1 National Pupil Database

The Department for Children, Schools and Families (DCSF) collects attainment data for the approximately 2.5 million pupils sitting statutory National Curriculum assessment at ages seven (Key Stage 1), eleven (Key Stage 2), fourteen (Key Stage 3) and sixteen (Key Stage 4).

Since January 2002 the Department has also carried out the School Census. This collects data on individual pupil characteristics (such as ethnicity) for all pupils in maintained schools in England.

This School Census information has been linked with current and prior attainment data in the National Pupil Database, to provide an extremely rich data source. With repeated measurements of pupil attainment, at key points in their education rather than fixed time intervals, and a yearly record of their characteristics it is possible to identify and analyse the links between characteristics and pupil attainment and progress.

Pupils are assessed by statutory National Curriculum assessment at ages seven, eleven and fourteen[6]. These assess the level a pupil has reached at the end of a Key Stage. Key Stage 1 assessments are taken at age seven, Key Stage 2 assessments at age eleven and Key Stage 3 assessments at age fourteen. Assessment at the end of Key Stage 4 (typically by those who will be sixteen at the end of the school year) is measured by achievements at GCSE and equivalents.

The National Curriculum defines expected levels for the Key stages. At Key Stage 1 the expected level is Level 2, at Key Stage 2 it is level 4 while at Key Stage 3 it is Level 5. This information is summarised in Table 2 overleaf.

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[6] An announcement to discontinue the National Curriculum assessment at Key Stage 3 was made by the Department for Children, Schools and Families in October 2008

Table 2: Illustration of Key Stages, Levels within Key Stages and Assessment within the National Curriculum			
Age	**Stage**	**Range of levels within which majority of pupils expected to work**	**Assessment**
5-6 6-7	Key Stage 1	Levels 1, 2 and 3 For most children, level 2 is the minimum expected level of attainment	Teacher Assessment in English (Reading, Writing, Speaking and Listening), Maths and Science
7-8 8-9 9-10 10-11	Key Stage 2	Levels 2, 3, 4 and 5 For most children, level 4 is the minimum expected level of attainment	National tests and teacher assessments in English, Maths and Science
11-12 12-13 13-14	Key Stage 3	Levels 3, 4, 5, 6 and 7 For most children, level 5 is the minimum expected level of attainment	National tests in English, maths and science
14-15 15-16	Key Stage 4	5 or more GCSEs at grades A*-C (including maths and English)	GCSEs or other national qualifications

2.1.2 Index of Multiple Deprivation

As part of the propensity score matching exercise (see section 2.2), we made use of the Index of Multiple Deprivation 2004 to account for the local contextual factors in which schools operated.

The Index of Multiple Deprivation 2004 is a measure of multiple deprivations at the small area level, measured across seven domains of deprivation: income deprivation; employment deprivation; health deprivation and disability; education, skills and training deprivation; barriers to housing and services; living environment deprivation; and crime. The overall IMD 2004 is conceptualised as a weighted area level aggregation of these specific dimensions of deprivation. This allows each area to be ranked relative to one another according to their level of deprivation. We provide the domains and associated weights used to derive the aggregate measure of deprivation below:

- Income Deprivation Domain (22.5%);
- Employment Deprivation Domain (22.5%);
- Health Deprivation and Disability Domain (13.5%);
- Education, Skills and Training Deprivation Domain (13.5%);
- Barriers to Housing and Services Domain (9.3%);

- Crime Domain (9.3%); and
- The Living Environment Deprivation Domain (9.3%).

In addition, we made use of the specific education, skills and training domain as a further variable for matching Extended Schools with potential control schools.

The education, skills and training domain captures the extent of deprivation in terms of education, skills and training in a local area. The indicators fall into two sub domains: one relating to education deprivation for children/young people in the area; and one relating to lack of skills and qualifications among the working age adult population. The specific categories contributing to this domain score are presented below.

Sub Domain: Children/young people
- Average points score of children at Key Stage 2 (2002).
- Average points score of children at Key Stage 3 (2002).
- Average points score of children at Key Stage 4 (2002).
- Proportion of young people *not* staying on in school or school level education above 16 (2001).
- Proportion of those aged under 21 not entering Higher Education (1999-2002).
- Secondary school absence rate (2001-2002).

Sub Domain: Skills
- Proportions of working age adults (aged 25-54) in the area with no or low qualifications (2001).

2.2 Propensity score matching

Our overall approach to the econometric modelling of the future educational impacts of the Extended Schools programme has been based on a two stage approach. The first stage of the analysis has involved the selection of a sample of comparison schools which better reflect the characteristics of the school, pupils and the local area in which Extended Schools operate. This has been achieved through a propensity score matching model.

The second stage of the analysis has been to undertake an assessment of the outcomes achieved at school level (Extended Schools versus their respective control schools) and by pupils in the Extended Schools studied (relative to pupils in control schools) over time. This has been achieved by undertaking a 'difference in differences' approach at school level and econometric analysis at pupil level.

We discuss our approach in more detail in the following sections.

2.2.1 Rationale for propensity score matching

The work undertaken on the evaluation of various government programmes (Machin *et al*. (2004)[7]) illustrate the care needed when approaching the problem of estimating the effect of policy programme on educational attainment and associated pupil level outcomes.

As previously mentioned, a key research requirement is to assess the effect of this programme in terms of educational attainment, controlling for all other factors. Schools participating in the Extended Schools programme *may not* be nationally representative given the fact that selection may have taken place (at least) on the basis of other factors such as educational 'attainment' and 'need'.

We illustrate this in Figure 1 overleaf. In the longer term, there is little point in comparing Extended Schools (represented in red) with all other schools (represented in black) as it is clear that there are other factors that are driving educational attainment at any point in time, not just participation in the Extended Schools programme. It might be found that Extended Schools are making better than national average progress but this might be associated with an entirely different policy that might be affecting Extended Schools simultaneously. To ensure a proper comparison, it is essential to determine the main characteristics of Extended Schools and create a comparison group based on those same observable characteristics (as highlighted in gold for illustrative purposes) at school level.

The optimal means of achieving this is to undertake a propensity score matching model to match those Extended Schools contained with a sample of other schools possessing similar observable characteristics (such as aggregate qualification attainment, the proportion of children eligible for Free School Meals, school roll, ward level index of multiple deprivation etc). This needs to be undertaken to ensure that the effect of the Extended Schools programme on outcomes in the second stage of the analysis is isolated rather than incorrectly attributing any impact to independent factors that might have affected the school at the same time.

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[7] 'Improving Pupil Performance in English Secondary Schools: Excellence in Cities', Journal of the European Economic Association Proceedings, 2, 396-405 (with S. McNally and C. Meghir) (2004)

Figure 1: An illustration of our approach to selecting control schools

High 'Need' – FSM eligibility

High Attainment – % 5
GCSE A*-Cs

Low Attainment – % 5
GCSE A*-Cs

Low 'Need' – FSM eligibility

△ Extended Schools

□ Comparison Schools based on observable characteristics

○ Other Schools

Figures are illustrative and not based on actual data
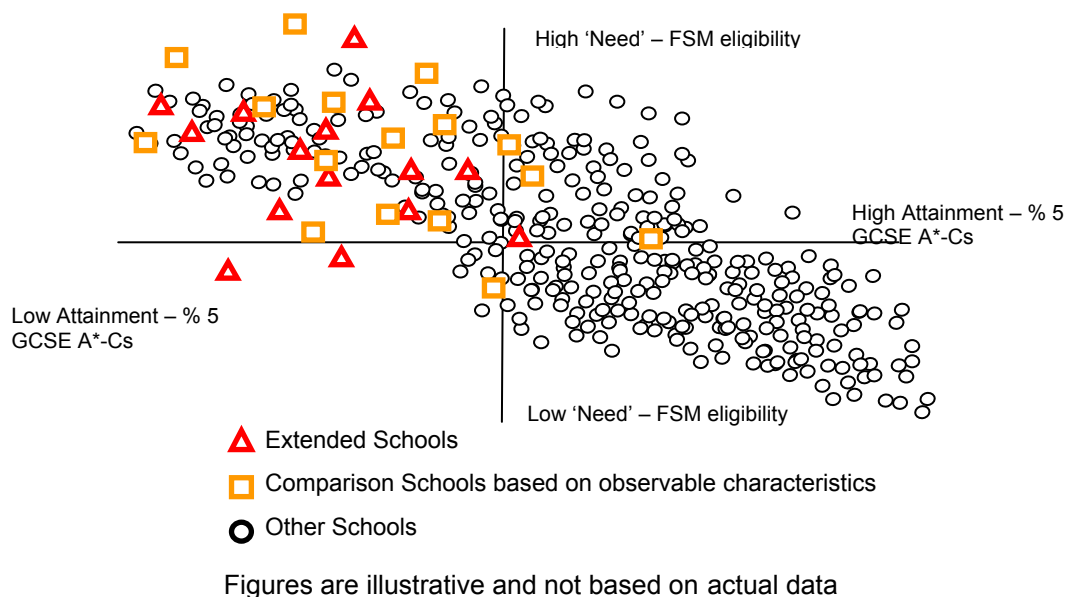
In terms of undertaking the specific propensity score matching model, we generated three treatment groups as follows using information from the Training and Development Agency:

T1   Schools that have been an Extended School at any point

T2   Schools that became an Extended School for the first time in 2006

T3   Schools that became an Extended School for the first time in 2007

From the entire population of schools that have never been an Extended School, we selected three sets of control schools – at primary and secondary level separately – based on school, pupil and socioeconomic characteristics as follows:

School and pupil level characteristics:

- Sex of school (male, female, co-educational)
- School type (comprehensive[8], middle school (deemed either secondary or primary), and primary/infant schools
- Number of full time equivalent pupils on roll

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[8] There were 12 sub-categories of comprehensive schools although the vast majority were either standard comprehensives with pupils aged between 11 and 16 or comprehensives with pupils aged between 11 and 18.

- Number of full time equivalent qualified teachers
- Pupil teacher ratios
- Proportion of children eligible for free school meals
- Proportion of children with SEN (statmented and un-statmented)
- Proportion of children from BME origin
- Proportion of children with EAL
- Average KS1 point score in 2003/2004 (reading and maths)[9]
- Average KS3 point score in 2003/2004 (English, maths and science)[10]
- Participation in other school improvement programmes:
    - City Academy (secondary schools only)
    - City Challenge
    - Excellence in Cities (secondary schools only)
    - Fresh Start
    - Improving Schools Programme
    - Specialist school (secondary schools only)

Socio economic characteristics

Deprivation Index variables:

- Overall score on Index of Multiple Deprivation
- IMD education, skills and training domain score
- IMD skills sub domain score
- IMD children/young people sub domain score

The propensity score matching model is presented overleaf along with some information relating to the validity and robustness of the matching process presented in the Annex.

2.2.2 Propensity Score matching model and validity of matching technique

Simply put, the PSM process involves creating a score which indicates the likelihood of any particular school being in the Extended School programme, and even schools not in the programme will have an estimated probability of being so. This score or probability is derived from a first stage estimation of a *probit* equation model where the dependent variable takes the value of one if a school is an Extended School and zero otherwise. School level characteristics, as described above, are then added to the model to try to predict the likelihood of schools being in the programme.

From this model each school gets a predicted probability score, which in essence indicates the likelihood of that school being in the programme with their given characteristics. This score is then used as the basis for choosing a

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[9] Primary schools only

[10] Secondary schools only

control group. In other words, Extended Schools will be matched with schools that are not in the programme but have similar propensity scores.

To undertake this process in practice, as a first step, the schools dataset is split into separate data files, one for primary schools and one for secondary schools, before the propensity score matching analysis is conducted on each. This step ensures that primary schools in the treated group (i.e. Extended Schools) can only be matched with a non-treated primary school, and similarly for secondary schools.

2.2.3 Model specification

The model specification for the propensity score match is as follows:

$$ES_{p,t,i} = \alpha_{p,t,i} + \varphi\ (X_{p,t,i}) + \beta\ (Z_{p,t,i}) + \gamma(I_{p,t,i}) + \delta(M_{p,t,i}) + \varepsilon_{p,t,i}$$

for each:

p = school phase (primary, secondary).

t = treatment type (1, 2, 3, 4, 5).

i = individual school.

where:

ES = Indicator of school *i*'s being an Extended Schools.

X = Average prior attainment score of pupils at the school (primary: Key Stage 1; secondary: Key Stage 3), prior to the introduction of the scheme, 2003/04.

Z = A range of school-level characteristics.

I = A range of domain/sub-domain IMD 2004 scores.

M = Indicators of participation by the school in other school improvement programmes (Academy, City Challenge, Excellence in Cities, Fresh Start, Improving Schools Programme, Specialist), which are presented explicitly in Table 3 overleaf.

Table 3: Usage of 'inclusion in other school improvement programme(s)' in propensity score matching		
Other School Improvement Programme	**Used as matching variable for:**	
	Primary	**Secondary**
Academy		✓
City Challenge	✓	✓
Excellence in Cities		✓
Fresh Start, 2004-08 period	✓	✓
Improving Schools	✓	✓
Specialist		✓

Statistical package and routine adopted

We have used the Stata statistical analysis package, with the *psmatch2* module[11] to conduct the propensity score matching analysis. *psmatch2* is a purpose-written routine which implements a variety of propensity score matching methods to adjust for pre-treatment observable differences between a group of treated and a group of untreated observations.

Following trial of the variety of approaches within *psmatch2*, we selected one-to-one 'nearest neighbour' matching allowing replacement of control observations after matching, subject to a common support condition. We describe this in more detail below.

One-to-one 'nearest neighbour' propensity score matching selects, for each treatment group school, the one control group school with the most similar *p-score*. Based on the range of school-level characteristics in the model, the technique picks the two most alike schools at the baseline period (prior to the introduction of the Extended School programme) with the crucial difference between them being that one school is an Extended School whereas the other is not. The starting premise is that we would expect, other things being equal, the two chosen schools to evolve along the same path with regard to educational attainment. By taking account of the fact that one is an Extended School and the other is not, we may gain an insight into the impact of the 'treatment' of the scheme had on educational attainment.

In conducting propensity score matching, there is a choice of allowing the replacement of control observations following matching or not. On the one hand, if no replacement is allowed, once a control school has been matched to a treated school, it is removed from the sample from which matches are

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[11]Leuven, E., and Sianesi, B., (2003). "PSMATCH2: Stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing". http://ideas.repec.org/c/boc/bocode/s432001.html. This version 3.0.0.

selected for subsequent treatment schools. Therefore, whilst the approach yields unique matches of a control school to each treated school, the quality of the match of the propensity scores diminishes for the later treated schools (with the dataset ordered randomly), as the size of the control observation pool is reduced.

On the other hand, if replacement is allowed, each 'matched' control school is returned to the control pool for all subsequent matches, and so the full sample of control schools is available from which to select a match for each treated school. Therefore, this approach involves a trade-off between the introduction of a possible bias in attainment (due to replication of control observations in the matched sample) and the increased 'fit' of all matches, particularly those in the latter part of the sample.

Following the trial and comparison of different propensity score models allowing and disallowing replacement scenarios, we chose to allow replacement. The primary rationale for this choice is motivated the superior 'fit' of the treated/control school matches, as illustrated in the *kernel density* charts of the propensity scores under the two scenarios presented in Annex 2. Given the large size of our sample, the trade-off between the increased efficiency of the estimator and the potential bias introduced by allowing repetition was deemed acceptable. We provide some information in Table 4 and Table 5 of the sample of schools that are contained in each treatment and control group at primary and secondary level.

Finally, the common support condition imposes the filter that the propensity score of all treatment observations must fall within the minimum and the maximum propensity score of the control observations, otherwise treated observations are dropped. This further imposes a quality filter on the matches.

Validity of matches

In spite of the data filtering and model selection criteria, as with all econometric models, it is important to gauge the 'goodness of fit' of the model to the data, which may be considered as an indicator of the overall quality of the model. In propensity score modelling, however, traditional measures of 'goodness of fit'[12] do not apply and there is no consensus in the literature on a clear metric. Therefore, following a review of the literature and research in the area, we have selected an approach which compares the difference between the propensity score of the treated school and its matched control school with the variance of the propensity scores of the treated group to gauge the validity of the matches.

The results of our validity of matches analysis show that in all cases, 100% of the difference between the predicted treated and control propensity scores lie within one standard deviation of the mean of the predicted treated group's

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[12] For example, the R^2 and adjusted- R^2 statistics.

propensity scores. This suggests that our model fits the data well and that the matches formed by the model are strongly valid.

2.2.4 Caveats

The propensity score matching approach takes account of only observed factors that differ between the treatment and selected control group (Shadish, Cook and Campbell, 2002[13]). PSM therefore does not solve all the potential biases that may emerge when trying to compare achievement or other outcomes across the control and treatment groups. This is why the second stage of the analysis will involve using a "difference in difference" analysis.

2.2.5 Comparison of treatment schools and national average

In Table 4 and Table 5 overleaf, we provide some summary statistics in relation to the various characteristics of the schools as part of the matching process. The analysis was based on information from the Schools Census and National Pupil Database from 2003/04 – deliberately chosen to be well in advance of the first schools becoming an Extended School.

We have presented the information in relation to primary schools and secondary schools separately as the matching exercise was undertaken for each phase of education independently. We also provide information on the baseline characteristics of all schools nationally to illustrate whether the Extended Schools studied might have particular characteristics that are fundamentally different from the "typical" primary or secondary school.

Attainment

The information presented in Table 4 (and Table 5) indicates that the Extended Schools studied are fundamentally different from schools more generally – both in terms of intake and outcomes.

In particular, at Key Stage 1 (used as part of matching process), pupils in schools that were an Extended School at any point (Treatment 1) achieve an average point score that is 0.5 points lower than the national average in Key Stage 1 speaking and listening, 0.4 points lower in Key Stage 1 reading, 0.4 points lower in Key Stage 1 writing, 0.3 points lower in Key Stage 1 maths and 0.41 points lower in Key Stage 1 science. Therefore the intake into Extended Schools in 2003/04 was significantly lower than primary schools more generally.

In terms of outcomes, at Key Stage 2, pupils in schools that were an Extended School at any point (Treatment 1) achieve a 0.2 point lower score in Key Stage 2 English, a 0.2 lower point score in Key Stage 2 maths and a 0.2 point lower score in Key Stage 2 science.

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[13] Shadish, W.R., Cook, T.D., and Campbell, D.T. (2002), "Experimental and Quasi-Experimental Designs for Generalized Causal Inference", Boston: Houghton-Mifflin

A similar picture emerges in relation to pupils at secondary level. In relation to schools that were an Extended School at any point, pupils in those schools achieve a 0.8 point lower score in Key Stage 3 English, a 0.4 lower point score in Key Stage 3 maths and a 0.4 point lower score in Key Stage 3 science.

At Key Stage 4, the average capped and uncapped total points score amongst pupils in schools that were an Extended School at any point is 6.3 and 8.3 points lower than the national average (respectively) and pupils in these schools are 0.3% less likely to achieve 1 or more GCSEs at grade A*-G, 2.5% less likely to achieve 5 or more GCSEs at grade A*-C and 2.8% less likely to achieve 5 or more GCSEs at grade A*-C (including maths and English).

Pupil Characteristics

Other interesting features to emerge from the analysis of baseline characteristics is the fact that the Extended Schools studied have a significantly higher proportion of children eligible for Free School Meals (18.1% compared to 15.3% nationally at primary level and 16.2% compared to 14.6% at secondary level); a higher proportion of children from BME backgrounds (14.2% compared to 12.7% nationally at primary level and 13.9% compared to 13.0% nationally at secondary level); and a higher proportion of pupils with Special Educational Needs (18.2% compared to 17.5% nationally at primary level and 17.5% compared to 16.4% nationally at secondary level). This finding is entirely unsurprising given the fact that the Extended Schools programme was focused in schools operating in areas suffering from the highest levels of socioeconomic deprivation.

In addition to these school level differences, there are also significant differences in the socioeconomic context in which the schools operate. As part of the matching exercise, we included a number of variables from the 2004 Index of Multiple Deprivation and found that schools that had been an Extended School at any point were more likely to be located in areas that suffered from higher levels of socioeconomic deprivation.

Table 4: Baseline characteristics of treatment and control schools – primary level							
	All Schools	**T_1**	**C_1**	**T_2**	**C_2**	**T_3**	**C_3**
KS1 Speak/listen av. point score	16.5	16.0	16.1	15.0	14.9	16.3	16.3
KS1 Reading average point score	16.4	16.0	16.0	15.1	15.1	16.2	16.2
KS1 Writing average point score	14.6	14.2	14.2	13.3	13.2	14.5	14.5
KS1 Maths average point score	16.8	16.5	16.5	15.7	15.6	16.7	16.7
KS1 Science average point score	17.1	16.7	16.7	15.7	15.7	17.0	16.9
KS2 English average point score^	27.8	27.6	27.7	27.3	27.3	27.7	27.7
KS2 Maths average point score^	27.8	27.6	27.7	27.2	27.2	27.7	27.6
KS2 Science average point score^	29.0	28.8	28.9	28.4	28.4	28.9	29.0
FTE pupils	234.3	248.6	251.3	271.2	269.4	245.9	248.4
FTE qualified teachers	10.3	11.0	11.1	12.1	12.0	10.9	10.9
Pupil Teacher ratio	22.4	22.4	22.5	22.4	22.5	22.4	22.4
Prop. Vol. Aided/Controlled^	36.7	31.4	40.6	25.3	32.6	32.3	37.7
Proportion eligible for FSM	15.3	18.1	17.6	23.6	23.2	16.6	16.3
Proportion BME	12.7	14.2	13.7	16.9	17.1	13.7	12.7
SEN (Statemented)	1.7	1.7	1.7	1.71	1.8	1.7	1.71
SEN (non-statemented)	15.8	16.5	16.4	18.5	18.5	16.0	16.0
IMD Score	21.2	23.7	23.5	29.5	29.3	22.2	22.2
Sample size	16,751	5,638	3,074	1,524	1,124	2,619	1,902

London Economics analysis of the National Pupil Database, LEASIS and Index of Multiple Deprivation data. ^indicates a school level variable that was not used as part of the propensity score matching process

Table 5: Baseline characteristics of treatment and control schools – secondary level							
	All Schools	**T_1**	**C_1**	**T_2**	**C_2**	**T_3**	**C_3**
KS3 English average point score	34.5	33.7	34.2	33.6	33.7	34.3	34.4
KS3 Maths average point score	35.8	35.4	35.3	34.7	34.6	35.6	35.6
KS3 Science average point score	33.8	33.4	33.4	32.8	32.7	33.6	33.6
KS4 av. uncapped total point score^	342.8	334.5	337.0	319.4	322.7	339.6	341.7
KS4 average capped total point score^	284.3	278.0	278.6	266.3	268.3	281.8	282.9
KS4 % >=1 GCSE A*-G^	95.9	95.6	95.8	94.8	94.8	95.9	95.9
KS4 % >=5 GCSE A*-C^	53.1	50.6	51.1	46.2	47.6	52.0	52.9
KS4 % >=5 GCSE A*-C (incl. E&M)^	41.5	38.7	38.9	34.2	34.9	40.2	40.9
FTE pupils	994.2	1,043.4	1,032.9	1,039.7	1,021.5	1,048.1	1,043.9
FTE qualified teachers	58.4	61.5	60.8	61.6	60.5	61.4	60.6
Pupil Teacher ratio	17.3	17.1	17.0	17.0	17.0	17.2	17.3
Prop. Vol. Aided/Controlled^	19.7	14.4	25.2	9.2	17.8	16.2	23.0
Proportion eligible for FSM	14.6	16.2	15.6	18.6	19.3	15.4	15.2
Proportion BME	13.0	13.9	13.1	14.0	14.9	14.0	13.4
SEN (Statemented)	2.5	2.6	2.7	2.8	2.92	2.5	2.6
SEN (non-statemented)	14.0	14.8	15.0	16.6	16.6	14.1	14.0
IMD Score	20.0	21.4	20.6	23.4	22.3	20.9	20.7
Sample size	3,236	1,473	569	510	297	674	385

London Economics analysis of the National Pupil Database, LEASIS and Index of Multiple Deprivation data. ^indicates a school level variable that was not used as part of the propensity score matching process

2.2.6 Comparison between different treatment groups

As part of the analysis and to understand the differences between becoming an Extended School at different points in time, we also illustrate the baseline characteristics associated with schools that became an Extended School for the first time in 2006 and those schools that became an Extended School for the first time in 2007.

Schools that became an Extended School for the first time in 2006 (Treatment group 2) have significantly lower attainment compared to schools becoming an Extended School for the first time in 2007. At primary level, schools in Treatment group 2 have lower attainment than primary schools nationally; lower attainment than the Extended Schools studied as a whole and lower attainment than schools that became an Extended School for the first time in 2007 (Treatment group 3). In particular, pupils in schools in Treatment group 2 had an average point score that was 1.3 points lower in Key Stage 1 speaking and listening, 1.1 points lower in Key Stage 1 reading, 1.2 points lower in Key Stage 1 writing, 1.2 points lower in Key Stage 1 maths and 1.3 points lower in Key Stage 1 Science (compared to Treatment Group 3). Therefore the intake into the first phase of Extended Schools is significantly lower than primary schools more generally and other phases of Extended Schools.

At Key Stage 2, pupils in schools becoming an Extended School for the first time in 2006 (Treatment group 2) achieved a 0.4 point lower score in Key Stage 2 English, a 0.5 lower point score in Key Stage 2 maths and a 0.4 point lower score in Key Stage 2 science compared to schools becoming an Extended School for the first time in 2007 (Treatment Group 3).

At secondary level, a similar picture emerges. In relation to schools that became an Extended School for the first time in 2006, pupils in those schools registered a 0.5 point lower score in Key Stage 3 English, a 0.7 lower point score in Key Stage 3 maths and a 0.6 point lower score in Key Stage 3 science compared to those schools becoming an Extended School for the first time in 2007.

At Key Stage 4, the average capped and uncapped total points score amongst pupils in schools that became an Extended School in 2006 is 10.3 and 14.3 points lower than schools becoming an Extended School for the first time in 2007 (respectively). In addition, pupils in these schools are 1.0% less likely to achieve 1 or more GCSEs at grade A*-G, 3.5% less likely to achieve 5 or more GCSEs at grade A*-C and 4.0% less likely to achieve 5 or more GCSEs at grade A*-C (including maths and English).

Given the focus of the policy in areas of high socioeconomic deprivation, the findings illustrate that the first phase of Extended Schools have a significantly higher proportion of children eligible for free school meals (23.7% compared to 16.6% at primary level and 18.6% compared to 15.4% at secondary level (compared to Treatment group 3), a higher proportion of children from BME backgrounds (16.9% compared to 13.7% at primary level), and a higher

proportion of pupils with Special Educational Needs (20.2% compared to 17.7%).

The analysis also illustrates that schools becoming an Extended School for the first time in 2006 are substantially more likely to be located in areas that suffered from higher levels of socioeconomic deprivation compared to schools becoming an Extended School for the first time in 2007.

2.2.7 Comparison between treatment and control groups

We would expect that following the propensity score matching exercise, the characteristics of the various groups of control schools should mimic the characteristics of the three treatment groups. Table 4 and Table 5 illustrate the extent of the match that has been achieved. The tables illustrate that across the entire range of characteristics upon which treatment and control schools have been selected, there is remarkable consistency between the groups of schools (both in terms of matching variables and outcome variables (such as attainment and Key Stages 2 and 4)). This fact provides us with additional evidence that the methodological approach undertaken is robust.

2.3 Difference in differences

As with other studies of this nature, we have adopted a 'difference in differences' approach to assess changes in outcome variables at school level. As previously mentioned, we have attempted to isolate the relative performance associated with schools in the programme by matching the schools affected by the Extended School programme (in the three treatment groups) and similar schools not yet affected by the policy (the three control groups) using a variety of school, pupil and local level characteristics.

Once the creation of a control group of schools has been achieved, the difference in differences approach enables comparison of progress in terms of particular school level outcomes achieved by pupils in the Extended Schools studied as compared to pupils in the control group of schools. This is presented for illustrative purposes in Figure 2 overleaf. For instance, the example in Figure 2 indicates that the difference in attainment between treatment and control schools was -1.4 percentage points prior to the introduction of the programme (i.e. treatment group underperformed control group by 1.4 percentage points). The difference in attainment following the introduction of the programme was -0.6 percentage points. Therefore, the *difference in differences* between the treatment and control schools over the period of programme operation was 0.8 percentage points (-0.6pp – (-1.4pp)).

Figure 2: An illustration of 'difference in differences'
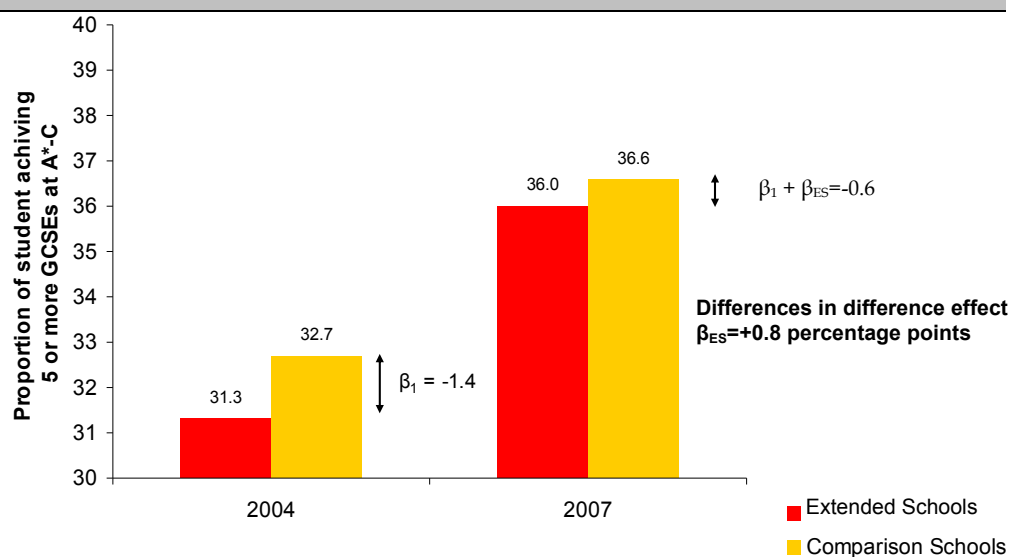
The specific variables that we have considered as part of this school level analysis between 2002/03 and 2006/07 are as follows:

- Primary Level

    o KS1 test scores of intake[14] (disaggregated by Level) including
        - Proportion of children achieving all Levels in Speaking and Listening, Reading, Writing, Maths and Science
        - Total Points score (Reading, Maths and Science)

    o KS2 test scores (disaggregated by Level) including
        - Proportion of children achieving all Levels in English, Maths and Science
        - Total Points score (English, Maths and Science)

- Secondary Level

    o KS3 test scores (disaggregated by Level) including
        - Proportion of children achieving all Levels in English, Maths and Science
        - Total Points score (English, Maths and Science)

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[14] We considered Key Stage 1 outcomes to understand whether there has been a fundamental change in the characteristics of school intake associated with being part of the Extended Schools programme.

o KS4 test scores –
- Proportion of children achieving 5 or more GCSEs at grades A*-C
- Proportion of children achieving 5 or more GCSEs at grades A*-C (including Maths and English)
- Proportion of children achieving 1 or more GCSEs at grades A*-G
- Average Points Scores (capped and uncapped)

2.4 Econometric Analysis

The econometric approach requires the comparison of educational attainment of those pupils in the Extended Schools studied with pupils unaffected by the policy in control schools, ensuring that any other time varying factors or programmes that may affect outcomes are adequately controlled for in the analysis (such as participation on other programmes).

The standard 'difference in differences' model can be presented as follows:

$$P_{ist} = \alpha_{year} + \varphi(P_{ist-1}) + \beta_1(ES_s) + \beta_{ES}(ES_s * D_a) + \gamma(X_{ist}) + \delta(Z_{st}) + \alpha_{school} + \varepsilon_{ist}$$

for t=1,2…….n

where **P$_{ist}$** term represents pupil attainment (for instance GCSE attainment) in school **s** in year **t**, **X** corresponds to a range of pupil characteristics (such as gender, ethnic origin), **P$_{ist1}$** represents pupil attainment at a previous point in time (for instance Key Stage 3 attainment), **Z** represents a range of observable school characteristics (including factors relating to the school itself and the Extended School process and participation on other government programmes) and the **α** terms are either time or school related dummy variables (fixed effects) designed to capture year on year trends or school characteristics between the treatment group and the control group that cannot be directly observed.

Given the fact that we need to assess the effect of the policy on the treatment and control schools before and after the programme is introduced, we include a dummy variable **D$_a$** which equals one in time periods after the policy was implemented and zero otherwise.

The difference in attainment between the two sets of pupils before the implementation of the policy is **β$_1$** and the difference in attainment between the two sets of pupils after the introduction of the policy is **β$_1$ +β$_{ES}$**. The 'difference in differences' approach implies that **β$_{ES}$** measures the difference in pupil attainment between those pupils in the Extended Schools studied and those who are not.

We investigated the pupil-level relationship between attainment and the Extended Schools programme for four pupil populations/sub-samples:

- Full population of students in each Key Stage

- Non-SEN pupils in each Key Stage

- BME pupils in each Key Stage

- FSM eligible pupils in each Key Stage

For each of these groups, the relationship between attainment and the Extended Schools programme was assessed with a separate econometric model for which the latest year that data is available (2006/07) at each Key Stage for the following subjects and metrics:

- Key Stage 2: English, Maths and Science point score equivalents.

- Key Stage 3: English, Maths and Science point score equivalents.

- Key Stage 4: total number of GCSE points, 'capped' GCSE points

For all but three of these models, we use a standard *ordinary least squares* econometric technique for the regression analysis. The three exceptions to this are all at Key Stage 4, for which a *probit* model is used (given the binary nature of the response variable):

- Proportion of children achieving 5 or more GCSEs at grades A*-C

- Proportion of children achieving 5 or more GCSEs at grades A*-C (including Maths and English)

- Proportion of children achieving 1 or more GCSEs at grades A*-G

In terms of the measurement of prior attainment at the school which the pupils attend, we adopt two different specifications of the model:

- School-level attainment at the same Key Stage being examined at pupil level - prior to the introduction of the Extended Schools programme (2003/04).

- School-level attainment at the previous Key Stage being examined at pupil level.

The models we estimate are designed to enable future research to focus on the relationships of greatest interest to us, once the Extended Schools programme is fully embedded. As such, we are most interested in identifying the impact on pupil attainment of the school being an Extended School at any point (Treatment 1), in order to investigate whether the Extended Schools effect is stronger for those schools that have been an Extended School for longer, we also consider a second treatment (T2) comprising those schools that became an Extended School for the first time in 2006.

Finally, we employ the same school-level characteristics as in the school-level analysis as independent variables. In terms of pupil characteristic variables, we include the following variables (where appropriate) in the model specifications:

- Gender

- Eligibility for free school meals

- Special Educational Needs

- English as additional language

- White other ethnic origin (non-British white)

- Black or minority ethnic origin

- Unclassified ethnic origin

3 Validation of the methodological approach

The objectives of this analysis were to develop a baseline approach for the ongoing analysis and monitoring of the early implementation of Extended Schools and allow for the detection of emerging outcomes as they may arise. Rather than identifying the current impact of the Extended Schools studied on pupil outcomes, this analysis provides the research building blocks to allow the Department to undertake a consistent and methodologically sound analysis in the future, as the programme embeds over time. We present the school level and pupil level results in the following sections.

3.1 School level results

Following the presentation of the methodology adopted relating to propensity score matching, in this section, we provide some information on the findings from the baseline analysis. In particular, we provide an indication of the difference in outcomes achieved by pupils within the treatment and control schools between 2002/03 and 2006/07 (the 'difference in differences' approach). Throughout this section, we provide the results according to the three treatment and control groups that were generated as part of the propensity score matching technique. These three treatment groups were as follows:

T1   Schools that have been an Extended School at any point

T2   Schools that became an Extended School for the first time in 2006

T3   Schools that became an Extended School for the first time in 2007

These three treatment groups have been selected specifically in order to identify whether there might be any difference in school level attainment depending on the nature or duration of the treatment. In particular, although Treatment group 1 contains any school that has ever been an Extended School, we have also generated 'Treatment group 2' and 'Treatment group 3' to assess whether there is any difference in school level attainment depending on the point at which the school in question first became an Extended School.

Caveats

Throughout the following sections, some care should be taken when interpreting the results. Specifically, the matching process has been undertaken based on school and level characteristics in 2003/04 to ensure that treatment and control schools were selected well ahead of the introduction of the Extended Schools programme. Although we present the change in the growth of attainment across the Key Stages between 2002/03

and 2006/07, it is clear that some of the changes that have occurred may not be attributable to the Extended Schools programme.

In addition, although we would not expect to be able to identify any impact of the Extended Schools programme, the construction of the treatment groups is such that if any impact on attainment were identified, this effect would be most likely apparent in the comparison of outcomes between Treatment Group 2 (compared to control group 2) given the greater length of time for which the programme has been in place.

3.1.1 Key Stage 1

In Table 6 overleaf we provide information on the relative outcomes of schools participating in the Extended Schools programme at Key Stage 1. We present information on the relative performance of the various treatment and control schools across a number of subject areas (speaking and listening, reading, writing, maths and science) and illustrate the relative growth in the proportion of children achieving at or above a particular Level between 2002/03 and 2006/07. For instance, in Table 6, the findings indicate that the proportion of pupils in schools that were an Extended School at any point (Treatment 1) achieving at or above Level 2 in speaking and listening increased by 0.1 percentage points more than pupils in the control schools (though not statistically significantly different from zero).

Specifically, in 2002/03, 88.1% of pupils achieved at least a Level 2 in speaking and listening compared to 88.4% in control schools. In 2006/07, these percentages were 88.1% and 88.3% respectively implying no change in attainment in the Extended Schools studied and a 0.1 percentage point fall in control schools. Therefore, the difference in difference between treatment and control schools stood at 0.1 percentage points (0.0 – (-0.1)).

The full details relating to attainment in each of the years at each of the Key Stage levels for each of the treatment and control groups is presented in Table 12 to Table 14 in Annex 1.

Table 6: Difference in Differences in attainment at Key Stage 1 between treatment and control schools 2002/2003 – 2006/2007				
		Key Stage 1 attainment		
	Proportion	**T1:C1**	**T2:C2**	**T3:C3**
Speaking and Listening	At or above Level 2	+0.1	+0.4	+0.2
	At or above Level 3	0.0	+0.1	-0.2
Reading	At or above Level 2	-0.1	+0.2	+0.2
	At or above Level 3	-0.3	-0.4	-0.4
Writing	At or above Level 2	-0.3	+0.4	+0.5
	At or above Level 3	+0.1	-0.2	-0.2
Maths	At or above Level 2	-0.2	0.0	0.0
	At or above Level 3	0.0	-0.8	-0.1
Science	At or above Level 2	-0.3	-0.1	+0.2
	At or above Level 3	-0.2	+0.3	-0.6
Total point score		-0.5	-1.3	-0.4

London Economics analysis of the National Pupil Database between 2002/03 and 2006/07

Table 6 illustrates that there appears to be little consistent difference in the growth rate of attainment between treatment and control schools at Key Stage 1. There is some evidence that attainment in the Extended Schools studied has increased at a faster rate in some areas, but this is by no means universal. In addition to this, the changes in the differential rate of attainment are not sufficiently different from zero to be categorical in our interpretation of the findings.

The findings from the analysis also suggest that participation in the programme at an earlier point in time compared to a later point in time has also had an ambiguous impact on the growth path of aggregate attainment (comparing T2:C2 to T3:C3) though any small differences in the growth rate of attainment appear to be concentrated amongst pupils at lower levels of attainment. Any findings would need to be replicated once the Extended Schools programme has fully embedded before they could be reported as potentially causal however.

3.1.2 Key Stage 2

Using the difference in difference method and accepting its underlying assumptions, there appears to be some difference in the growth rate of attainment between the Extended Schools studied and control schools at Key Stage 2. Table 7 illustrates the relative performance of schools in the various treatment and control groups over the period in terms of the proportion of children achieving at or above Levels 4 and 5 in English, Maths and Science.

For any school that has been an Extended School at any point (Treatment 1), the growth rate in the proportions of pupils achieving Level 4 or above in English, Maths and Science are 0.5, 0.1 and 0.9 percentage points higher in treatment schools than in control schools. Although the relative out-performance associated with the Extended Schools programme is replicated across all treatment groups, slightly less can be said about whether there is any differential effect depending on the length of time for which the school in question has been an Extended School.

Full details of attainment achieved at different levels across Key Stage 2 are presented in Table 15 to Table 17.

Table 7: Difference in Differences in attainment at Key Stage 2 between treatment and control schools 2002/2003 – 2006/2007

		Key Stage 2 attainment		
		T1	**T2**	**T3**
English Test (National Curriculum)	At or above Level 4	+0.5	+1.3	+1.0
	At or above Level 5	+0.7	+2.0	+1.3
Maths Test (National Curriculum)	At or above Level 4	+0.1	+0.6	+0.8
	At or above Level 5	+0.0	+0.0	+1.2
Science Test (National Curriculum)	At or above Level 4	+0.9	+0.3	+0.4
	At or above Level 5	+0.6	+0.2	+1.2
Total point score		0.2	0.2	0.4

London Economics analysis of the National Pupil Database between 2002/03 and 2006/07

3.1.3 Key Stage 3

In Table 8, we present information relating to Key Stage 3 attainment. There appears to be no relationship between being an Extended School and the growth rate in attainment by pupils at Key Stage 3. Overleaf, we provide

information on the relative growth of attainment in English, Maths and Science between 2002/03 and 2006/07 at or above Levels 5, 6 and 7.

The information presented indicates that the proportion of pupils in schools that were ever an Extended School achieving at or above Level 5 in English, Maths and Science is associated with a lower rate of growth compared to pupils in control schools (by 0.3 percentage points in English, 0.5 percentage points in Maths, 0.3 percentage points in Science, and 0.3 points in terms of average point score).

There were some differences in average attainment growth rates between schools becoming an Extended School for the first time in 2006 or 2007. Specifically, the difference in the growth rate in the proportion of pupils achieving at or above Level 5 in Key Stage 3 English, Maths and Science was -0.1 percentage points, +0.1 percentage points and +0.4 percentage points respectively compared to -1.5 percentage points, -0.4 percentage points and -0.5 percentage points for pupils in schools becoming an Extended School for the first time in 2007.

Table 8: Difference in Differences in attainment at Key Stage 3 between treatment and control schools 2002/2003 – 2006/2007				
		Key Stage 3 attainment		
		T1	**T2**	**T3**
English Test (National Curriculum)	At or above Level 5	-0.3	-0.1	-1.5
	At or above Level 6	-0.5	-0.7	-1.8
	At or above Level 7	0.0	-0.1	-0.5
Maths Test (National Curriculum)	At or above Level 5	-0.5	+0.1	-0.4
	At or above Level 6	-0.6	0.4	-0.4
	At or above Level 7	-0.8	-0.5	+0.2
Science Test (National Curriculum)	At or above Level 5	-0.3	+0.4	-0.5
	At or above Level 6	-0.3	-0.3	-0.3
	At or above Level 7	-0.2	0.0	-0.2
Total Point Score		-0.3	-0.2	-0.4

London Economics analysis of the National Pupil Database between 2002/03 and 2006/07

Detailed information relating to Key Stage 3 is provided between Table 18 and Table 20 in the Annex.

3.1.4 Key Stage 4

Finally in this section, we present information on average differences in relative attainment between treatment and control schools at Key Stage 4. The results in Table 9 are relatively consistent with the findings presented the previous section relating to Key Stage 2 attainment.

Specifically, following the comparison of average school level attainment between treatment and control schools between 2002/03 and 2006/07, we find that the Extended Schools studied are associated with a higher growth rate of pupil attainment compared to comparison schools and that there are differences in the relative levels of school attainment depending on the point at which participation in the programme first took place.

Specifically, we find that the growth rate in the average GCSE point score (uncapped) was greater in schools that were an Extended School at any point (by 0.3 points) compared to schools in the control group that had never been an Extended School at any point. In addition, we found that the average capped total GCSE point score increased faster in Extended Schools compared to control schools (by 1.4 points). Similar outcomes were established in relation to the growth rate in the proportion of pupils achieving more than one GCSE at grade A*-G and the proportion of pupils achieving more than 5 GCSEs at grades A*-C (including Maths and English). However, the growth rate of the proportion of pupils achieving more than 5 GCSE at grade A*-C, which grew at a faster rate over the period in control schools than in schools than in schools that had ever been an Extended School (by 0.2 percentage points).

Table 9: Difference in Differences in attainment at Key Stage 4 between treatment and control schools 2002/2003 – 2006/2007			
	Key Stage 4 attainment		
	T1	**T2**	**T3**
Average Total GCSE and equivalents (new style points)	0.3	2.7	0.1
Average Capped Total GCSE and equiv (new style pts)	1.4	2.4	0.4
1 or more GCSEs at A*-G	0.1	0.0	-0.0
5 or more GCSEs at A*-C	-0.2	0.7	0.4
5 or more GCSEs at A*-C including English & Maths	0.5	0.4	0.8

London Economics analysis of the national Pupil Database between 2002/03 and 2006/07

We found that for schools becoming an Extended School for the first time in 2006 outperformed schools becoming an Extended School the first time in 2007 (relative to their respective comparison group). Specifically, pupils in schools that became an Extended School for the first time in 2006 outperformed pupils in comparison schools by 2.7 points (Average total uncapped GCSE point score) compared to a 0.1 point out-performance achieved by schools that became an Extended School for the first time in 2007. Similarly, in terms of Average capped total GCSE point score, schools that became an Extended School for the first time in 2006 outperformed 2007

first time Extended Schools (relative to their respective control groups) by 2.4 points compared to 0.4 points.

In terms of the growth rate in the proportion of pupils achieving 1 or more GCSE at grade A*-G and 5 GCSEs at grades A*-C, schools becoming an Extended School for the first time in 2006 outperformed first time 2007 Extended Schools (relative to their respective control groups) by 0.01 percentage points to -0.04 percentage points and 0.7 points to 0.4 percentage points respectively.

Full details of the analysis at Key Stage 4 are presented between Table 21 and Table 23 in the Annex.

3.2 Pupil Level Results

In this section, we provide the findings from the pupil level analysis. We have estimated a large number of model specifications and provide the summary results in Table 10 and Table 11 overleaf.

Specifically, we have provided an estimate of the coefficient on the dummy variable denoting whether the school in which the pupil completed their particular Key Stage was an Extended School at any point and whether the school became an Extended School for the first time in 2006.

We have presented information on the relative outcomes achieved by pupils in the Extended Schools studied (compared to similar pupils that have not attended an Extended School) at Key Stage 2 (average points score in English, Maths and Science), Key Stage 3 (average points score in English, Maths and Science) and Key Stage 4 (average GCSE points score and equivalents (uncapped), average capped GCSE points score and equivalents, the probability of achieving 1 or more GCSEs at grades A*-G, the probability of achieving 5 or more GCSEs at grades A*-C and the probability of achieving 5 or more GCSEs at grades A*-C (including Maths and English)).

The information in relation to attainment at each Key Stage has been presented for both the entire pupil population, as well as for the population of pupils at each Key Stage excluding individuals with Special Educational Needs, pupils who are from BME backgrounds and pupils eligible for Free School Meals.

To understand the findings, the dummy coefficients represent the relative attainment outcome of pupils exposed to the Extended Schools programme compared to similar pupils that were in schools that were never part of the Extended Schools programme. For example, for any category relating to points score (at Key Stage 2, Key Stage 3 or Key Stage 4), a statistically significant coefficient of 0.2 (for instance) implies that being in an Extended School is associated with a 0.2 point increased level of attainment at that Key Stage compared to a similar pupil in a control school.

For any threshold category (i.e. 1 or more GCSEs at grades A*-G at KS4), a statistically significant coefficient of 0.02 (for instance) implies that being in an Extended School is associated with an 2 percentage point increased probability of attaining 1 or more GCSEs at grade A*-G compared to a pupil not in an Extended School.

The information is presented in the two tables is differentiated by the measure of school level attainment that has been included in the model specification (to control for the variation in prior attainment at school level).

Specifically, the dummy variables in Table 10 relate to the model specification where historical attainment at school level in 2003/04 at the same Key Stage as the (pupil level) dependent variable has been included. In other words, if

we are considering the relationship between the Extended Schools programme and pupil attainment in 2006/07 at Key Stage 4, we include pupil level attainment at Key Stage 3 in 04/05 as an explanatory variable **and** school level attainment at Key Stage 4 in 2003/04 to control for school level factors that might affect pupil outcomes.

In Table 11, we include information on school attainment at the previous Key Stage. Specifically, in addition to controlling for the prior attainment of pupils at their previous Key Stage, we also control for school level attainment of the school at the previous Key Stage. For instance, if we are estimating the relationship between the Extended Schools programme and pupil attainment at Key Stage 4 in 2006/07, we include pupil level attainment at Key Stage 3 in 2004/05 (again) as an explanatory variable **and** school level attainment at Key Stage 3 in 2004/05.

At the time of undertaking this analysis, there will have been no pupils that have progressed through an entire Key Stage in an Extended School. Hence although we would not expect to any real change in pupil outcomes at this stage, the pupil level analysis can illustrate how future research might be conducted using the richer pupil level data and making use of our control groups.

For information, the cohorts of pupils are each in excess of 400,000 and therefore, and therefore we would place very limited weight on any results that are not significant at the 10% level of confidence. In particular, we have only presented results that are statistically significant at the 5%, 1% and 0.1% levels of confidence.

		Any participation				Participation in 2006 for 1st time			
Table 10: Relationship between the Extended Schools programme and pupil attainment (controls for historical school attainment)									
		All	All (excluding SEN)	BME	FSM	All	All (excluding SEN)	BME	FSM
Key Stage 2	English – average points score	0.03	-0.00	-0.03	0.13*	-0.02	-0.07	0.16	0.04
	Maths – average points score	-0.02	-0.03	-0.07	0.04	-0.01	-0.02	0.06	0.02
	Science – average points score	0.04*	0.02	-0.13*	0.03	0.04	0.02	0.01	-0.06
Key Stage 3	English – average points score	-0.02	-0.00	0.06	-0.12**	0.00	0.01	0.19***	-0.14*
	Maths – average points score	0.04**	0.06***	-0.04	-0.13**	0.07**	0.09***	-0.20**	-0.15*
	Science – average points score	-0.02	-0.02	-0.04	-0.14**	0.01	0.02	-0.29**	-0.11
Key Stage 4	Av. Uncapped Total GCSE and equivalents	-1.62***	-1.96***	-3.49***	-0.99	-1.13*	-1.51**	1.76	-5.24**
	Average Capped Total GCSE and equivalents	0.04	-0.09	-1.05	0.25	0.09	-0.16	0.84	-1.07
	1 or more GCSEs at A*-G	-0.00	-0.00	0.04	-0.03	0.00	0.01	0.09	-0.01
	5 or more GCSEs at A*-C	-0.00	-0.00	-0.01	0.01	-0.01	-0.01	0.05*	-0.05*
	5 or more GCSEs at A*-C incl. English and Maths	-0.01	-0.00	0.03	-0.01	-0.03**	-0.03***	0.08**	-0.06*

*London Economics' analysis of National Pupil Database. * statistically significant at 5% level of confidence; ** statistically significant at 1% level of confidence; *** statistically significant at 0.1% level of confidence*

Table 11: Relationship between the Extended Schools programme and pupil attainment (controls for school intake)									
		Any participation				Participation in 2006 for 1st time			
		All	All (excluding SEN)	BME	FSM	All	All (excluding SEN)	BME	FSM
Key Stage 2	English – average points score	0.03	-0.00	-0.04	0.12	-0.01	-0.06	0.08	0.04
	Maths – average points score	-0.02	-0.03	-0.05	0.02	-0.04	-0.06	0.09	-0.02
	Science – average points score	0.03	0.00	-0.11*	0.18	0.00	-0.00	0.03	-0.06
Key Stage 3	English – average points score	-0.09	0.01	0.06	-0.12***	0.01	0.03	0.17**	-0.14*
	Maths – average points score	0.05**	0.07***	-0.01	-0.13***	0.08***	0.10***	-0.15*	-0.14*
	Science – average points score	-0.02	-0.02	0.00	-0.14**	0.00	0.02	-0.22***	-0.10*
Key Stage 4	Av. Uncapped Total GCSE and equivalents	-1.86***	-2.13***	1.86	-1.46	-1.99***	-2.38***	3.13***	-6.18***
	Average Capped Total GCSE and equivalents	0.18	0.07	0.83	0.39	-0.22	-0.40	1.12	-1.43
	1 or more GCSEs at A*-G	0.00	0.00	-0.03	-0.02	0.00	0.01	0.09	-0.01
	5 or more GCSEs at A*-C	-0.00	-0.00	-0.02	-0.01	-0.02*	-0.02*	0.09***	-0.07**
	5 or more GCSEs at A*-C incl. English and Maths	0.00	0.00	-0.04*	-0.01	-0.03***	-0.04***	0.08**	-0.06*

*London Economics' analysis of National Pupil Database. * statistically significant at 5% level of confidence; ** statistically significant at 1% level of confidence; *** statistically significant at 0.1% level of confidence*

3.2.1 Pupil level attainment at Key Stage 2

Table 10 indicates that there is a limited association between attainment at Key Stage 2 and the Extended Schools programme. In particular, the model identified only one statistically significant relationship (out of 12) between the Extended Schools programme and pupil attainment (either all pupils or pupils without Special Educational Needs). Specifically, pupils in schools that were an Extended School at any point outperform pupils in control schools by 0.038 points in Key Stage 2 science. All other coefficients are statistically insignificant. This result is unsurprising given the length (in years) of the Key Stage and the limited existence of Extended Schools.

There is little relationship between the Extended Schools programme and the attainment pupils eligible for Free School Meals or from BME backgrounds; however there are 2 categories that are affected at the 5% level of statistical significance. Within schools that have been an Extended School at any point, there appears to be a small negative association between the programme and BME pupil attainment in Key Stage 2 science and a small positive relationship between the programme and FSM eligible pupil attainment in Key Stage 2 English.

3.2.2 Pupil level attainment at Key Stage 3

At Key Stage 3, there appears to be a small positive association between pupil attainment in mathematics (for the cohort as a whole) and the Extended Schools programme. In particular, the findings indicate the pupils that have completed Key Stage 3 in a school that has been an Extended School at any point post a 0.04 point premium compared to pupils in schools that have never been an Extended School (with this difference in attainment increasing to 0.1 points when pupils with Special Educational Needs are excluded from the analysis).

Interestingly, this association in mathematics appears to be stronger for those pupils that have been part of the programme for a greater length of time. In particular, pupils that have been in schools that became an Extended School for the first time in 2006 are associated with a 0.07 and 0.09 points out-performance compared to pupils in control schools.

Considering the various subgroups of pupils, there appears to be a small negative association between the Extended Schools programme and attainment for pupils from BME backgrounds or eligible for Free School Meals with some associations exacerbated depending on the length of time the school has been in the programme.

In the case of pupils from BME backgrounds, there appears to be no association between the Extended Schools programme as a whole and attainment at Key Stage 3 (compared to BME pupils in schools that have never been an Extended School). However, when comparing pupils in schools that first became an Extended School in 2006, BME pupils post significantly better results in English (0.19 points) compared to BME pupils in

schools that have never been in the programme. However, BME pupils in schools that became an Extended School for the first time in 2006 are associated with a 0.20 point under-performance in maths and 0.29 point under-performance in science.

The results from Table 10 indicate that there is a negative relationship between attainment and the Extended Schools programme for pupils eligible for Free School Meals at Key Stage 3. There is a 0.12 to 0.14 under-performance in Key Stage 3 English, Maths and Science by FSM eligible pupils relative to FSM pupils in the control group schools. This association is not tempered by the length of time as an Extended School. For those pupils eligible for Free School Meals in schools that became an Extended School in 2006, the results indicate that these pupils appear to do marginally less well than FSM eligible pupils in control schools. The analysis indicates that they achieve between a 0.14 and 0.15 point worse outcome in English and Maths compared to FSM eligible pupils in control schools.

3.2.3 Pupil level attainment at Key Stage 4

The results at Key Stage 4 again illustrate that the relationship between the Extended Schools programme and attainment is statistically insignificant in many cases; however, depending on the model specification, there are a few cases where the model appears to predict that pupils in the Extended Schools studied achieve different outcomes compared pupils in control schools.

In Table 10, the findings illustrate that for the entire cohort of pupils there is essentially no relationship between the programme and capped point score, the likelihood of achieving 1 more GCSEs at grade A*-G or achieving 5 or more GCSEs at grade A*-C (not including maths and English). However, the models indicate that pupils in treatment schools appear to under-perform pupils in control schools by between 1.1 and 1.6 points at Key Stage 4 when considering the uncapped total point score (rising to almost 2.0 points when excluding pupils with SEN).

In addition, even though there appears to be no effect on the likelihood of achieving 5 or more GCSEs at grade A*-C for those pupils that are present in schools that have been an Extended School at any point, for those pupils in schools that became an Extended School for the first time in 2006, there is between a 2.8% and 3.1% reduced probability of achieving 5 or more GCSEs at grade A*-C compared to pupils in schools selected as part of the control group.

There appears to be a large negative association between the Extended Schools programme and attainment for some of the sub-groups contained in this analysis. In particular, pupils who are eligible for Free School Meals (in schools that became an Extended School for the first time in 2006) are estimated to under-perform pupils eligible for Free School Meals in control schools by over 5 points on the uncapped total points score measure and are between 4.6 and 5.6 percentage points less likely to achieve 5 or more GCSEs at grade A*-C (excluding and including maths and English respectively).

However, it appears to be the case that at Key Stage 4, there is an association between attainment and the Extended Schools programme for pupils from BME backgrounds. In particular, although pupils from BME backgrounds under-perform BME pupils in the relevant control groups in terms of uncapped total point score (in schools that have ever been an Extended School), the model indicates that there may be a positive relationship between attainment and the Extended Schools programme for a number of other attainment categories. In particular, the model illustrates that BME pupils appear to be up to 9.2% more likely to attain 5 or more GCSEs at grades A*-C (excluding maths and English) and between 7.8% and 7.9% more likely to attain 5 or more GCSEs at grades A*-C including maths and English.

In addition to this finding, it appears to be the case that there is a greater positive association (or a reversal of a negative association overall) depending on the length of time the school has been part of the Extended Schools programme. For example, although BME pupils in the Extended Schools studied achieve no statistically significant superior outcome compared to BME pupils in control groups in terms of average uncapped total point score at Key Stage 4, for those BME pupils in schools part of the Extended Schools programme since 2006, the difference is +3.13 points.

4 Interpretation of the findings from methodological approach

4.1.1 Relationship between Extended Schools programme and attainment at different Key Stages

At *school* level, the analysis indicates that there appears to have been some small positive association between relative attainment and the Extended Schools programme at Key Stages 2 and 4, with either a limited or insignificant relationship identified at Key Stages 1 and 3. The results indicate that schools that have participated in the Extended Schools programme have seen an increase in the relative growth of attainment between 2002/03 and 2006/07; however, care should be taken when assessing results given the relatively short period of time for which the policy has been in place.

At pupil level, the analysis indicates that at a number of Key Stages, there may be some relationship between pupil attainment and the Extended Schools programme. In particular, the findings indicate that across all pupils, there appears to be a small positive association between attainment and the Extended Schools programme for pupils at Key Stage 2 in Science and Key Stage 3 in Maths. However, against this, pupils in the Extended Schools studied appear to under-perform pupils in control schools at Key Stage 4. In particular, across all pupils at Key Stage 4, pupils in the Extended Schools studied appear to achieve a marginally lower growth rate in attainment in terms of average uncapped total points score.

4.1.2 Relationship between Extended Schools programme and attainment for different pupils

There are some differences in the relative attainment within the cohort of pupils in schools participating in the Extended Schools programme. As part of this analysis, we replicated the analysis for particular sub-groups of pupils including those that are eligible for Free School Meals and pupils from Black and Minority Ethnic origin.

The analysis presented in the previous section indicated that differences in attainment were illustrated in Science at Key Stage 2 and it appears that this out-performance was concentrated amongst non-BME pupils. In particular, where the entire cohort of pupils out-performed pupils in the relevant control group by 0.04 points in Science at Key Stage 2, pupils from non-BME backgrounds in Extended Schools outperformed non-BME pupils in control schools by 0.13 point. Also at Key Stage 2, pupils eligible for Free School Meals appeared to out-perform FSM pupils in control schools by 0.13 points in English compared to an insignificant effect across the cohort as a whole.

However, at Key Stage 3, these outcomes were reversed to some extent. For the cohort of pupils as a whole, the findings indicated that there was a

positive association between attainment and the Extended School programme (in terms of maths point score); however, there was a negative relationship between the Extended Schools programme and attainment for pupils eligible for Free School Meals. FSM eligible pupils appeared to achieve a 0.13 to 0.15 point underperformance compared to pupils eligible for Free School Meals in control schools.

The results Key Stage 4 are ambiguous. The results indicate that those pupils in schools participating in the Extended Schools programme appear to achieve a worse outcome that pupils in control schools in terms of uncapped total points scores (by between 1.62 and 1.85 points) and depending on the model specification, pupils from BME backgrounds under-perform BME pupils from control schools by up to 3.49 points. For pupils eligible for Free School Meals in Extended Schools that have been part of the programme, there is no statistically significant effect associated with the programme; however, when considering FSM eligible pupils in schools that first participated in 2006, there is a statistically significant negative effect associated with FSM eligibility (-5.24 points).

However, one of the main positive relationships identified occurs for pupils from BME backgrounds at Key Stage 4. In particular, although pupils from BME backgrounds under-perform BME pupils in the relevant control groups in terms of uncapped total point score, the model indicates that significant occur in relation to a number of other attainment categories. In particular, BME pupils are associated with a 9.2% increased likelihood of attaining 5 or more GCSEs at grades A*-C (excluding maths and English) and a 7.8% increased likelihood of attaining 5 or more GCSEs at grades A*-C including maths and English.

4.1.3 Relationship between the timing of the Extended Schools programme and attainment

Given the relatively recent introduction of the Extended Schools programme, there appears to be a relatively small effect of the policy depending on the point in time when the intervention was introduced. This does not necessarily mean however, that future research will not be able to make good use of the variation in the timing of implementation to evaluate the longer term impact of the Extended Schools programme. In the analysis at school level, we have presented the difference in the growth rate of pupil attainment over time for those schools that became an Extended School at any point, as well as separately for those schools that became an Extended School in 2006 (for the first time) and 2007 (for the first time).

At Key Stage 1, the growth in attainment appears to be ambiguous for those schools becoming an Extended School for the first time in 2006 (compared to 2007). Any positive effect at Key Stage 1 is concentrated in the proportion of pupils (relative to their respective control groups) achieving at or above Level 2 and Level 3 in speaking and listening and achieving at or above Level 3 in Science. The negative effect at Key Stage 1 is concentrated in the proportion of pupil (relative to their respective control groups) achieving at or above

Level 3 in maths and achieving at or above Level 2 in Science. Given these results, it is difficult to assume any difference in Key Stage 1 attainment at this stage.

It appears to be the case that there is a greater positive effect (or a reversal of a negative effect overall) at Key Stage 4 depending on the year in which a school first became an Extended School. For example, although BME pupils in the Extended Schools studied achieve no statistically significant superior outcome compared to BME pupils in control groups in terms of average uncapped total point score at Key Stage 4, for those BME pupils in schools part of the Extended Schools programme since 2006, the difference is +3.13 points.

5   Conclusions

London Economics were commissioned by the Department for Children, Schools and Families to establish a robust methodological approach for the ongoing monitoring and evaluation of the Extended School programme. This report details the approach adopted and provides an indication of the potential findings that might be generated using this methodology; however, the report does not provide any definitive evidence at this stage on the impact of the Extended Schools programme.

Caveats associated with the interpretation of findings

Although we have repeated the caveats to the research several times throughout the report, we feel it is important to highlight the fact that we have set out a methodological framework for future analyses. The results presented are discussed to provide an indication of the kind of research questions that might be addressed using this methodology in the medium and longer term. Certainly the analysis presented here was not intended to provide an indication of the impact of Extended Schools, as it would not be expected that the Extended Schools programme would have had any meaningful impact on educational attainment at this stage. Specifically, the data used for developing the ongoing monitoring and evaluation of the programme covers a five year period for which the Extended Schools programme has been in operation for just over one year in some schools – and for a significantly shorter period in many other schools.

In addition, there are other reasons to be cautious about interpreting the results from these types of analyses. The caveats listed below will potentially hold even in the medium and longer term.

- The services that Extended Schools offer are voluntary and currently there is no centrally held information on which children and parents avail of these services. If there is any effect on particular pupils or groups of pupils, identifying these effects might be difficult. For instance, any individual pupil effect that does exist might be 'diluted' when looking at the change in attainment of all pupils in a particular cohort. Conversely, even if information were collected on which pupils and parents availed of the services on offer, the possibility of positive externalities[15] might result in underestimating the real impact of the Extended Schools programme.

- Schools that are providing access to the core offer of extended services can be fundamentally different from each other in respect of delivery 'on the ground'. For instance, some Extended Schools may have been offering the types of services associated with the Extended Schools programme for

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[15] For instance, the Extended Schools programme might result in improved behaviour for some pupils taking up services, which might result in a better learning environment and outcomes for other pupils not directly affected by the programme.

a number of years before the formal introduction of the programme, and thus formal status as an Extended School may appear to result in a limited impact on pupils attending those schools.

- In addition, despite the general aim of the policy to provide additional services to the entire community of pupils and parents, the focus and delivery of Extended Schools' services can vary significantly between schools. Some Extended Schools may focus on particular year groups while other Extended Schools might concentrate on pupils with specific characteristics (such as pupils that are eligible for Free School Meals). Such variation in the way in which the policy is delivered on the ground is likely to limit the ability of researchers to identify any consistent effect of Extended Schools on pupil outcomes in the future unless additional data is collected relating to the delivery of the programme.

Given these considerations, rather than identifying the current impact of Extended Schools on pupil outcomes, this analysis was intended to generate the research building blocks to allow the Department to undertake a consistent and methodologically sound analysis of the outcomes achieved by pupils and schools as the programme embeds over time.

Methodological Approach

The approach to the econometric modelling of the potential educational (and other) impacts of Extended Schools was based on a two stage analysis.

The first stage of the analysis involved classification of Extended Schools according to whether and when they became an Extended School for the first time and the range of services offered as part of the programme. This classification of Extended Schools resulted in three *treatment groups* as follows:

T1   Schools that have been an Extended School at any point

T2   Schools that became an Extended School for the first time in 2006

T3   Schools that became an Extended School for the first time in 2007

For each of these treatment groups, a sample of comparison schools was then selected from schools that had never become an Extended School based on a range school level characteristics (such as school roll, proportion of pupils eligible for Free School Meals and prior attainment) and local area level characteristics (such as domain measures from the Index of Multiple Deprivation).

The matching process was undertaken using data well in advance of the first implementation of the Extended Schools programme. This was achieved through a propensity score matching model. The comparison and consistency of both the matching variables and outcome measures across treatment and control schools provides a strong indication of the appropriateness of the methodological approach.

As an indication of the success of the matching process, the average attainment scores between the treatment and control schools was extremely close – both in terms of the attainment scores used for matching (Key Stage 1 at primary level and Key Stage 3 measures at secondary level), as well as the outcome scores associated with treatment and control schools (Key Stage 2 and Key Stage 4).

The second stage of the analysis involved undertaking an assessment of the outcomes achieved at school level (Extended Schools versus their respective control schools) over time and by pupils in Extended Schools (relative to similar pupils in control schools). This was achieved by undertaking a 'difference in differences' approach at school level and econometric analysis at pupil level.

In the case of the school level analysis, the main report provides an indication of whether the growth rate in attainment across the various Key Stages (using 19 indicators) is greater in the treatment schools relative to the control schools. In general, the difference in the growth rate of attainment between treatment and control schools is statistically insignificant at this stage, which again provides some additional evidence in relation to the appropriateness of the methodological approach.

At pupil level, we undertook econometric modelling using a large number of model specifications to understand whether pupils (and subgroups of pupils) in the Extended Schools studied achieved different outcomes compared to similar pupils in the relevant control schools. In undertaking this analysis, we controlled for a wide range of school level and pupil level characteristics to ensure that any possible impact of the Extended Schools programme was properly identified rather than wrongly attributing impacts to the Extended Schools programme.

Given the results from the analysis, we are confident that the methodological approach adopted is appropriate and believe that the analysis summarised in this report will allow the Department to undertake a timely and accurate impact analysis of Extended Schools going forward.

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Annex 1 School Level Results Key Stages 1-4

Table 12: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools ever part of ES									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
Speaking and Listening	Level 1	Untreated	11.6%	11.4%	10.9%	11.3%	11.7%	0.1%	0.8%
		Treated	11.9%	11.6%	11.0%	11.7%	11.9%	0.1%	0.9%
	Level 2	Untreated	65.3%	65.2%	66.9%	67.4%	67.1%	1.8%	0.2%
		Treated	65.5%	65.3%	66.9%	67.3%	67.3%	1.8%	0.5%
	Level 3	Untreated	23.1%	23.3%	22.1%	21.3%	21.2%	-1.9%	-0.9%
		Treated	22.6%	23.2%	22.1%	21.0%	20.7%	-1.9%	-1.4%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Reading	Level 1	Untreated	13.5%	12.9%	12.7%	13.1%	14.4%	0.9%	1.6%
		Treated	13.4%	13.1%	12.9%	13.7%	14.4%	1.0%	1.6%
	Level 2	Untreated	58.5%	58.8%	60.6%	61.7%	59.9%	1.5%	-0.7%
		Treated	59.0%	59.1%	60.7%	61.6%	60.6%	1.6%	-0.1%
	Level 3	Untreated	28.0%	28.3%	26.6%	25.2%	25.7%	-2.3%	-1.0%
		Treated	27.6%	27.8%	26.4%	24.7%	24.9%	-2.6%	-1.5%
	Level 4	Untreated	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Writing	Level 1	Untreated	14.8%	14.3%	14.4%	15.3%	16.5%	1.7%	2.1%
		Treated	14.8%	14.7%	14.5%	15.6%	16.8%	2.1%	2.4%
	Level 2	Untreated	69.6%	69.2%	71.0%	71.3%	71.4%	1.8%	0.4%
		Treated	69.6%	69.1%	71.0%	70.9%	71.1%	1.5%	0.1%
	Level 3	Untreated	15.7%	16.5%	14.6%	13.4%	12.1%	-3.5%	-2.5%
		Treated	15.6%	16.2%	14.5%	13.4%	12.1%	-3.5%	-2.5%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maths	Level 1	Untreated	9.8%	9.2%	7.3%	7.9%	8.5%	-1.3%	1.2%
		Treated	9.9%	9.4%	7.4%	8.1%	8.7%	-1.2%	1.3%

Table 12: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools ever part of ES									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
	Level 2	Untreated	64.6%	65.0%	70.7%	71.2%	69.9%	5.3%	-0.8%
		Treated	65.0%	65.2%	70.5%	71.4%	70.2%	5.2%	-0.3%
	Level 3	Untreated	25.5%	25.9%	21.9%	20.8%	21.5%	-4.0%	-0.4%
		Treated	25.0%	25.4%	22.0%	20.5%	21.0%	-4.0%	-1.0%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Science	Level 1	Untreated	9.3%	9.2%	9.2%	9.8%	10.0%	0.6%	0.7%
		Treated	9.3%	9.5%	9.4%	9.9%	10.3%	1.0%	1.0%
	Level 2	Untreated	66.2%	65.9%	67.2%	67.9%	68.2%	2.0%	1.0%
		Treated	66.4%	65.5%	67.1%	68.0%	68.3%	1.9%	1.1%
	Level 3	Untreated	24.4%	25.0%	23.6%	22.3%	21.8%	-2.6%	-1.7%
		Treated	24.2%	25.0%	23.5%	22.1%	21.4%	-2.8%	-2.1%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
Speaking and Listening	Level 1	Untreated	13.8%	14.1%	13.5%	14.0%	14.3%	0.5%	0.8%
		Treated	14.1%	13.9%	13.3%	14.0%	14.2%	0.1%	0.9%
	Level 2	Untreated	66.0%	65.9%	66.9%	67.0%	67.2%	1.3%	0.3%
		Treated	66.0%	66.0%	67.1%	67.4%	67.6%	1.6%	0.5%
	Level 3	Untreated	20.2%	20.0%	19.6%	19.0%	18.4%	-1.8%	-1.2%
		Treated	19.9%	20.1%	19.6%	18.6%	18.2%	-1.7%	-1.4%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Reading	Level 1	Untreated	15.5%	15.8%	15.2%	15.4%	17.0%	1.5%	1.8%
		Treated	15.6%	15.5%	15.0%	15.9%	16.9%	1.3%	1.9%
	Level 2	Untreated	59.7%	59.3%	61.4%	62.2%	60.5%	0.7%	-0.9%
		Treated	60.0%	59.8%	61.4%	62.3%	61.3%	1.3%	0.0%
	Level 3	Untreated	24.7%	24.8%	23.4%	22.4%	22.5%	-2.2%	-0.8%
		Treated	24.3%	24.7%	23.6%	21.8%	21.7%	-2.6%	-1.8%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Writing	Level 1	Untreated	16.8%	17.0%	17.0%	18.2%	19.5%	2.7%	2.5%
		Treated	16.9%	16.9%	16.8%	17.8%	19.2%	2.3%	2.4%
	Level 2	Untreated	69.7%	68.9%	70.3%	70.4%	70.1%	0.4%	-0.2%
		Treated	69.5%	69.1%	70.6%	70.5%	70.4%	0.9%	-0.1%
	Level 3	Untreated	13.4%	14.1%	12.7%	11.5%	10.4%	-3.0%	-2.4%
		Treated	13.6%	14.0%	12.7%	11.8%	10.4%	-3.2%	-2.3%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 13: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2006

Table 13: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2006								
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
Maths		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Level 1	Untreated	11.6%	11.5%	9.0%	9.5%	10.3%	-1.3%	1.3%
		Treated	11.4%	11.1%	8.6%	9.6%	10.2%	-1.3%	1.6%
	Level 2	Untreated	66.1%	66.3%	71.4%	72.1%	70.6%	4.5%	-0.8%
		Treated	65.9%	66.3%	71.4%	72.5%	71.2%	5.3%	-0.2%
	Level 3	Untreated	22.3%	22.2%	19.6%	18.4%	19.1%	-3.2%	-0.5%
		Treated	22.6%	22.6%	19.9%	17.9%	18.6%	-4.0%	-1.3%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Science	Level 1	Untreated	11.4%	11.1%	11.4%	12.2%	12.2%	0.8%	0.8%
		Treated	11.3%	11.6%	11.4%	12.2%	12.2%	0.9%	0.9%
	Level 2	Untreated	66.8%	67.3%	67.9%	68.0%	69.2%	2.4%	1.3%
		Treated	67.3%	66.5%	67.8%	68.4%	69.3%	2.0%	1.5%
	Level 3	Untreated	21.8%	21.6%	20.7%	19.8%	18.6%	-3.2%	-2.1%
		Treated	21.4%	21.8%	20.8%	19.3%	18.5%	-2.9%	-2.3%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 14: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2007									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
Speaking and Listening	Level 1	Untreated	11.1%	10.9%	10.5%	11.0%	11.1%	0.0%	0.6%
		Treated	11.4%	10.8%	10.5%	11.2%	11.2%	-0.2%	0.7%
	Level 2	Untreated	65.8%	65.4%	67.1%	67.2%	67.4%	1.6%	0.3%
		Treated	65.2%	65.1%	66.5%	67.3%	67.2%	2.0%	0.7%
	Level 3	Untreated	23.1%	23.7%	22.4%	21.8%	21.5%	-1.6%	-0.9%
		Treated	23.4%	24.2%	22.9%	21.6%	21.5%	-1.8%	-1.4%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Reading	Level 1	Untreated	12.8%	12.4%	12.3%	12.7%	13.9%	1.1%	1.6%
		Treated	12.9%	12.3%	12.3%	13.2%	13.8%	0.9%	1.5%
	Level 2	Untreated	58.8%	58.8%	60.8%	61.2%	60.2%	1.3%	-0.6%
		Treated	58.6%	59.0%	60.7%	61.6%	60.5%	1.9%	-0.2%
	Level 3	Untreated	28.3%	28.8%	26.9%	26.0%	25.9%	-2.4%	-1.0%
		Treated	28.5%	28.6%	27.0%	25.2%	25.7%	-2.8%	-1.4%
	Level 4	Untreated	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Writing	Level 1	Untreated	13.8%	13.9%	13.9%	14.9%	16.2%	2.4%	2.3%
		Treated	14.3%	14.0%	13.9%	15.3%	16.2%	1.9%	2.3%
	Level 2	Untreated	70.1%	69.1%	71.1%	71.3%	71.5%	1.4%	0.4%
		Treated	69.4%	69.2%	71.0%	71.0%	71.5%	2.0%	0.5%
	Level 3	Untreated	16.1%	17.0%	15.0%	13.9%	12.3%	-3.8%	-2.7%
		Treated	16.2%	16.8%	15.1%	13.7%	12.3%	-3.9%	-2.8%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maths	Level 1	Untreated	9.5%	8.7%	7.1%	7.8%	8.5%	-1.1%	1.4%

Table 14: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2007									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
		Treated	9.5%	8.8%	7.2%	7.9%	8.4%	-1.1%	1.2%
	Level 2	Untreated	64.3%	64.5%	70.8%	71.2%	69.6%	5.3%	-1.2%
		Treated	64.7%	65.1%	70.3%	71.2%	70.1%	5.4%	-0.2%
	Level 3	Untreated	26.1%	26.7%	22.1%	21.0%	21.9%	-4.2%	-0.2%
		Treated	25.7%	26.1%	22.5%	20.9%	21.5%	-4.3%	-1.1%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Science	Level 1	Untreated	8.7%	8.7%	9.0%	9.4%	9.8%	1.1%	0.9%
		Treated	8.8%	8.8%	8.8%	9.4%	9.7%	0.9%	0.8%
	Level 2	Untreated	66.8%	66.2%	67.0%	68.3%	68.4%	1.5%	1.4%
		Treated	65.8%	64.9%	66.7%	67.5%	68.1%	2.3%	1.5%
	Level 3	Untreated	24.4%	25.1%	24.0%	22.4%	21.8%	-2.6%	-2.2%
		Treated	25.4%	26.3%	24.5%	23.1%	22.2%	-3.2%	-2.3%
	Level 4	Untreated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Treated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 15: Relationship between the Extended Schools programme and pupil attainment at KS2 – All schools ever part of ES									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
English	Level 3	Untreated	18.6%	16.4%	15.4%	15.8%	15.4%	-3.2%	0.0%
		Treated	19.2%	16.9%	16.1%	16.3%	15.5%	-3.7%	-0.6%
	Level 4	Untreated	52.7%	54.7%	56.0%	51.1%	50.9%	-1.7%	-5.1%
		Treated	52.7%	54.9%	56.3%	50.7%	50.7%	-1.9%	-5.6%
	Level 5	Untreated	27.5%	27.8%	27.5%	32.2%	32.9%	5.4%	5.4%
		Treated	26.9%	27.1%	26.7%	31.9%	33.1%	6.2%	6.4%
Maths	Level 3	Untreated	21.8%	20.6%	19.6%	19.0%	17.8%	-4.1%	-1.9%
		Treated	22.1%	21.1%	20.5%	19.6%	18.0%	-4.1%	-2.5%
	Level 4	Untreated	47.4%	46.7%	48.2%	46.4%	48.8%	1.3%	0.6%
		Treated	47.6%	46.8%	48.2%	46.3%	49.0%	1.4%	0.8%
	Level 5	Untreated	29.4%	31.6%	31.1%	33.5%	32.5%	3.1%	1.4%
		Treated	29.0%	31.0%	30.4%	33.0%	32.1%	3.1%	1.7%
Science	Level 3	Untreated	10.3%	11.0%	10.7%	10.8%	9.8%	-0.5%	-0.9%
		Treated	10.8%	11.4%	10.8%	10.9%	9.5%	-1.3%	-1.3%
	Level 4	Untreated	49.1%	46.1%	42.2%	43.3%	43.6%	-5.5%	1.4%
		Treated	49.2%	46.7%	42.7%	44.1%	44.0%	-5.2%	1.4%
	Level 5	Untreated	40.2%	42.4%	46.6%	45.4%	46.1%	5.8%	-0.6%
		Treated	39.6%	41.4%	46.1%	44.6%	46.1%	6.5%	0.0%

Table 16: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2006									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
English	Level 3	Untreated	21.3%	19.2%	18.5%	18.7%	18.3%	-3.0%	-0.2%
		Treated	22.1%	19.1%	18.8%	19.0%	18.0%	-4.0%	-0.8%
	Level 4	Untreated	52.3%	55.7%	57.4%	52.2%	52.1%	-0.2%	-5.3%
		Treated	52.4%	55.8%	56.8%	52.0%	51.6%	-0.8%	-5.3%
	Level 5	Untreated	24.9%	23.7%	22.9%	27.8%	28.5%	3.7%	5.6%
		Treated	24.0%	23.7%	23.3%	27.9%	29.6%	5.6%	6.3%
Maths	Level 3	Untreated	24.7%	23.6%	23.6%	21.9%	20.0%	-4.8%	-3.6%
		Treated	24.8%	23.8%	23.0%	21.9%	19.8%	-5.1%	-3.3%
	Level 4	Untreated	47.2%	47.2%	48.7%	47.8%	49.5%	2.3%	0.9%
		Treated	47.1%	47.4%	49.0%	47.3%	50.0%	2.9%	1.0%
	Level 5	Untreated	26.6%	27.9%	26.5%	29.1%	29.2%	2.6%	2.7%
		Treated	26.6%	27.4%	26.9%	29.6%	29.1%	2.6%	2.3%
Science	Level 3	Untreated	13.3%	13.6%	13.2%	13.0%	11.7%	-1.6%	-1.5%
		Treated	13.0%	13.3%	12.7%	12.7%	11.2%	-1.9%	-1.5%
	Level 4	Untreated	50.2%	48.2%	44.7%	46.0%	45.2%	-5.0%	0.6%
		Treated	50.6%	48.8%	45.0%	46.3%	45.8%	-4.8%	0.8%
	Level 5	Untreated	35.9%	37.5%	41.5%	40.3%	42.5%	6.5%	1.0%
		Treated	35.8%	37.2%	41.7%	40.4%	42.5%	6.7%	0.8%

Table 17: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2007								
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
English	Level 3	Untreated	17.6%	15.9%	15.0%	15.1%	15.1%	-2.6%	0.1%
		Treated	18.4%	16.5%	15.5%	15.7%	14.7%	-3.7%	-0.8%
	Level 4	Untreated	52.4%	54.8%	56.2%	50.8%	50.3%	-2.0%	-5.8%
		Treated	52.8%	54.8%	56.0%	50.5%	50.5%	-2.4%	-5.5%
	Level 5	Untreated	28.9%	28.3%	27.9%	33.2%	33.9%	5.1%	6.0%
		Treated	27.7%	27.7%	27.6%	32.8%	34.1%	6.4%	6.5%
Maths	Level 3	Untreated	20.5%	19.9%	19.3%	18.3%	17.3%	-3.2%	-2.0%
		Treated	21.3%	20.6%	19.9%	19.2%	17.5%	-3.8%	-2.4%
	Level 4	Untreated	47.2%	46.7%	47.8%	46.7%	48.5%	1.4%	0.7%
		Treated	47.8%	46.6%	47.9%	46.0%	48.8%	0.9%	0.8%
	Level 5	Untreated	31.1%	32.4%	31.9%	34.0%	33.2%	2.0%	1.3%
		Treated	29.6%	31.8%	31.3%	33.8%	32.9%	3.3%	1.6%
Science	Level 3	Untreated	9.9%	10.6%	10.2%	10.3%	9.3%	-0.6%	-0.9%
		Treated	10.0%	11.1%	10.2%	10.3%	9.0%	-1.0%	-1.2%
	Level 4	Untreated	48.2%	45.6%	42.1%	42.6%	43.5%	-4.6%	1.4%
		Treated	49.0%	46.2%	42.0%	43.7%	43.5%	-5.4%	1.5%
	Level 5	Untreated	41.5%	43.3%	47.3%	46.7%	46.8%	5.3%	-0.5%
		Treated	40.6%	42.3%	47.3%	45.6%	47.1%	6.5%	-0.3%

Table 18: Relationship between the Extended Schools programme and pupil attainment at KS3 – All schools ever part of ES									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
English (National Curriculum)	Level 4	Untreated	20.0%	18.7%	17.2%	17.2%	15.8%	-4.1%	-1.3%
		Treated	19.6%	18.6%	16.5%	17.2%	15.9%	-3.7%	-0.6%
	Level 5	Untreated	40.0%	42.9%	44.8%	43.8%	47.6%	7.5%	2.7%
		Treated	39.4%	42.5%	44.5%	43.6%	47.2%	7.7%	2.7%
	Level 6	Untreated	25.9%	25.5%	26.6%	25.9%	26.0%	0.1%	-0.6%
		Treated	26.3%	25.8%	27.0%	26.0%	25.9%	-0.4%	-1.1%
	Level 7	Untreated	9.9%	9.2%	8.6%	9.4%	7.3%	-2.6%	-1.3%
		Treated	10.5%	9.5%	9.3%	9.7%	7.9%	-2.6%	-1.4%
Maths (National Curriculum)	Level 4	Untreated	18.1%	16.4%	16.2%	15.0%	14.9%	-3.2%	-1.3%
		Treated	18.1%	16.3%	16.2%	15.0%	15.2%	-2.9%	-0.9%
	Level 5	Untreated	23.7%	22.9%	22.9%	21.4%	21.5%	-2.2%	-1.4%
		Treated	23.4%	23.0%	22.6%	21.2%	21.3%	-2.1%	-1.3%
	Level 6	Untreated	27.3%	30.3%	29.5%	28.8%	28.6%	1.3%	-0.9%
		Treated	26.8%	29.9%	29.0%	28.2%	28.2%	1.4%	-0.7%
	Level 7	Untreated	18.1%	18.8%	19.5%	22.3%	21.3%	3.2%	1.8%
		Treated	18.3%	18.9%	19.8%	22.3%	20.7%	2.4%	0.9%
Science (National Curriculum)	Level 4	Untreated	19.9%	23.9%	21.1%	19.4%	19.3%	-0.6%	-1.8%
		Treated	20.0%	24.2%	20.9%	19.2%	19.4%	-0.5%	-1.5%
	Level 5	Untreated	30.7%	34.5%	35.5%	33.4%	34.7%	4.0%	-0.8%
		Treated	30.4%	34.0%	35.3%	33.3%	34.4%	4.0%	-0.9%
	Level 6	Untreated	30.1%	24.3%	25.6%	27.1%	26.4%	-3.8%	0.8%
		Treated	29.7%	24.0%	25.6%	26.7%	25.8%	-3.9%	0.2%
	Level 7	Untreated	9.9%	9.8%	10.8%	13.4%	14.1%	4.2%	3.3%
		Treated	10.5%	10.5%	11.2%	14.2%	14.6%	4.0%	3.4%

Table 19: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2006									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
English (National Curriculum)	Level 4	Untreated	22.0%	20.3%	19.6%	19.2%	17.3%	-4.7%	-2.3%
		Treated	22.2%	20.9%	18.8%	19.7%	18.0%	-4.3%	-0.8%
	Level 5	Untreated	41.0%	44.0%	46.1%	45.1%	48.6%	7.6%	2.5%
		Treated	40.0%	43.6%	45.7%	44.7%	48.2%	8.2%	2.5%
	Level 6	Untreated	24.0%	23.8%	24.1%	23.7%	24.2%	0.2%	0.1%
		Treated	24.1%	23.5%	24.6%	23.5%	23.7%	-0.4%	-0.9%
	Level 7	Untreated	8.3%	8.0%	7.0%	7.9%	6.4%	-1.9%	-0.6%
		Treated	8.5%	8.0%	7.6%	7.9%	6.5%	-2.0%	-1.1%
Maths (National Curriculum)	Level 4	Untreated	19.7%	18.3%	18.3%	17.0%	16.9%	-2.8%	-1.4%
		Treated	20.0%	18.0%	17.8%	16.8%	16.9%	-3.1%	-0.9%
	Level 5	Untreated	24.9%	24.1%	24.0%	22.7%	22.4%	-2.5%	-1.6%
		Treated	24.2%	24.2%	23.5%	22.4%	22.2%	-2.0%	-1.3%
	Level 6	Untreated	25.8%	29.0%	28.0%	27.6%	27.8%	2.1%	-0.1%
		Treated	25.5%	28.7%	28.3%	28.0%	28.0%	2.5%	-0.3%
	Level 7	Untreated	16.1%	15.9%	17.1%	20.1%	19.0%	2.9%	1.9%
		Treated	16.1%	16.5%	17.7%	20.1%	18.6%	2.4%	0.9%
Science (National Curriculum)	Level 4	Untreated	21.9%	26.1%	23.4%	21.5%	21.6%	-0.2%	-1.7%
		Treated	22.1%	26.4%	22.9%	21.4%	21.6%	-0.5%	-1.4%
	Level 5	Untreated	31.5%	34.7%	35.5%	33.8%	35.2%	3.7%	-0.2%
		Treated	30.7%	34.5%	35.7%	34.0%	35.1%	4.4%	-0.6%
	Level 6	Untreated	27.2%	21.7%	23.2%	25.1%	24.4%	-2.8%	1.2%
		Treated	27.2%	21.9%	23.8%	24.9%	24.1%	-3.1%	0.4%
	Level 7	Untreated	8.5%	8.5%	9.2%	11.5%	12.1%	3.5%	2.8%
		Treated	8.8%	8.5%	9.2%	11.9%	12.3%	3.6%	3.1%

Table 20: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2007									
Subject	Level	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
English (National Curriculum)	Level 4	Untreated	19.4%	17.6%	15.9%	16.4%	14.8%	-4.5%	-1.1%
		Treated	18.5%	17.9%	15.7%	16.4%	15.2%	-3.3%	-0.6%
	Level 5	Untreated	39.5%	42.2%	43.8%	42.7%	46.8%	7.3%	3.0%
		Treated	39.2%	42.2%	44.1%	43.2%	46.8%	7.6%	2.7%
	Level 6	Untreated	26.2%	26.4%	28.0%	26.7%	27.1%	0.9%	-1.0%
		Treated	27.3%	26.7%	27.9%	26.8%	26.9%	-0.4%	-1.1%
	Level 7	Untreated	10.8%	10.6%	9.9%	10.9%	8.3%	-2.5%	-1.6%
		Treated	11.2%	9.9%	9.6%	10.2%	8.2%	-3.0%	-1.4%
Maths (National Curriculum)	Level 4	Untreated	17.5%	15.8%	15.8%	14.8%	14.6%	-2.9%	-1.1%
		Treated	17.5%	15.6%	15.6%	14.3%	14.6%	-2.8%	-1.0%
	Level 5	Untreated	23.0%	22.2%	22.3%	20.7%	20.9%	-2.1%	-1.4%
		Treated	23.2%	22.6%	22.2%	20.8%	21.0%	-2.2%	-1.2%
	Level 6	Untreated	27.0%	29.9%	29.1%	28.0%	28.1%	1.1%	-1.0%
		Treated	27.6%	30.5%	29.5%	28.5%	28.5%	0.9%	-1.0%
	Level 7	Untreated	19.4%	20.1%	20.7%	23.0%	21.7%	2.3%	1.0%
		Treated	19.0%	19.6%	20.5%	23.1%	21.5%	2.5%	1.0%
Science (National Curriculum)	Level 4	Untreated	19.4%	23.3%	20.4%	18.7%	18.8%	-0.6%	-1.7%
		Treated	19.2%	23.5%	20.3%	18.3%	18.7%	-0.5%	-1.6%
	Level 5	Untreated	29.7%	33.7%	34.7%	32.4%	33.7%	4.0%	-1.0%
		Treated	30.4%	33.8%	35.2%	33.0%	34.2%	3.8%	-1.0%
	Level 6	Untreated	30.8%	25.0%	26.2%	27.4%	26.6%	-4.2%	0.4%
		Treated	30.8%	24.8%	26.2%	27.5%	26.5%	-4.2%	0.3%
	Level 7	Untreated	11.3%	10.9%	12.1%	15.1%	15.6%	4.4%	3.5%
		Treated	11.0%	11.0%	11.9%	14.9%	15.1%	4.1%	3.3%

Table 21: Relationship between the Extended Schools programme and pupil attainment at KS4 – All schools ever part of ES								
	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
Average Total GCSE and equivalents (new style points)	Untreated	.	337.0	346.4	358.2	371.9	34.9	25.5
	Treated	.	334.5	345.0	358.0	369.8	35.2	24.7
Average Capped Total GCSE and equivalents (new style points)	Untreated	.	278.6	281.8	286.8	292.9	14.3	11.1
	Treated	.	277.9	282.3	288.0	293.6	15.7	11.3
1 or more GCSEs at A*-G	Untreated	95.9%	95.8%	96.2%	96.3%	96.5%	0.6%	0.3%
	Treated	95.6%	95.6%	95.8%	96.2%	96.4%	0.7%	0.5%
5 or more GCSEs at A*-C	Untreated	49.8%	51.2%	53.1%	55.1%	54.9%	5.1%	1.8%
	Treated	49.7%	50.6%	53.1%	54.7%	54.6%	4.8%	1.5%
5 or more GCSEs at A*-C including English and Maths	Untreated	.	38.9%	40.4%	42.1%	43.6%	4.6%	3.2%
	Treated	.	38.7%	40.4%	42.0%	43.8%	5.1%	3.4%

Table 22: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2006								
	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
Average Total GCSE and equivalents (new style points)	Untreated	.	322.7	333.0	344.0	357.7	35.0	24.7
	Treated	.	319.4	331.8	345.0	357.1	37.7	25.4
Average Capped Total GCSE and equivalents (new style points)	Untreated	.	268.3	272.3	277.1	283.5	15.2	11.3
	Treated	.	266.3	271.8	278.0	283.9	17.6	12.2
1 or more GCSEs at A*-G	Untreated	95.0%	94.9%	94.9%	95.6%	95.9%	0.9%	0.9%
	Treated	94.9%	94.8%	95.4%	95.8%	95.8%	0.9%	0.5%
5 or more GCSEs at A*-C	Untreated	46.3%	47.6%	49.9%	51.2%	50.9%	4.6%	1.0%
	Treated	45.0%	46.2%	49.2%	50.9%	50.4%	5.3%	1.2%
5 or more GCSEs at A*-C including English and Maths	Untreated	.	35.0%	36.6%	38.0%	39.7%	4.7%	3.1%
	Treated	.	34.2%	36.0%	37.5%	39.3%	5.1%	3.3%

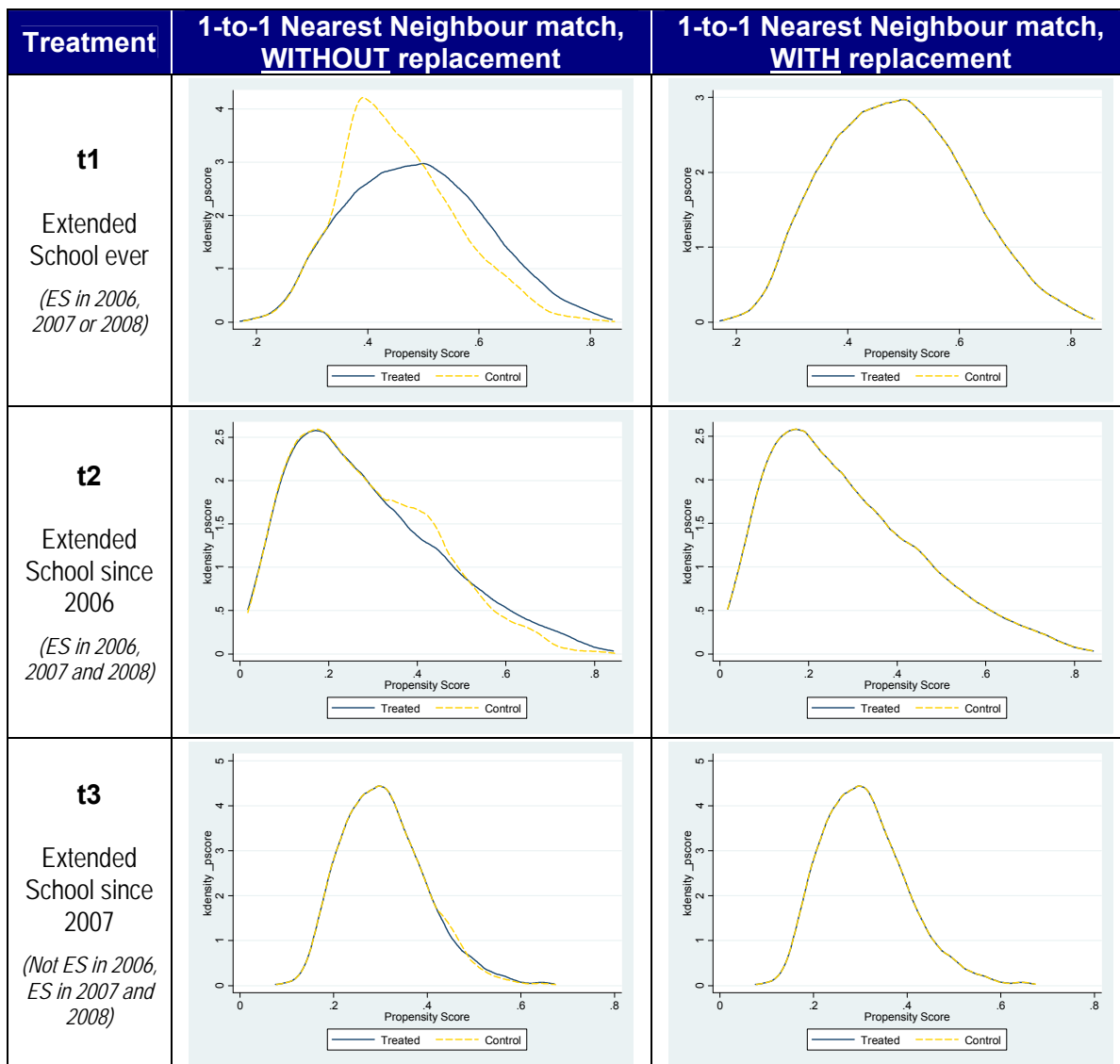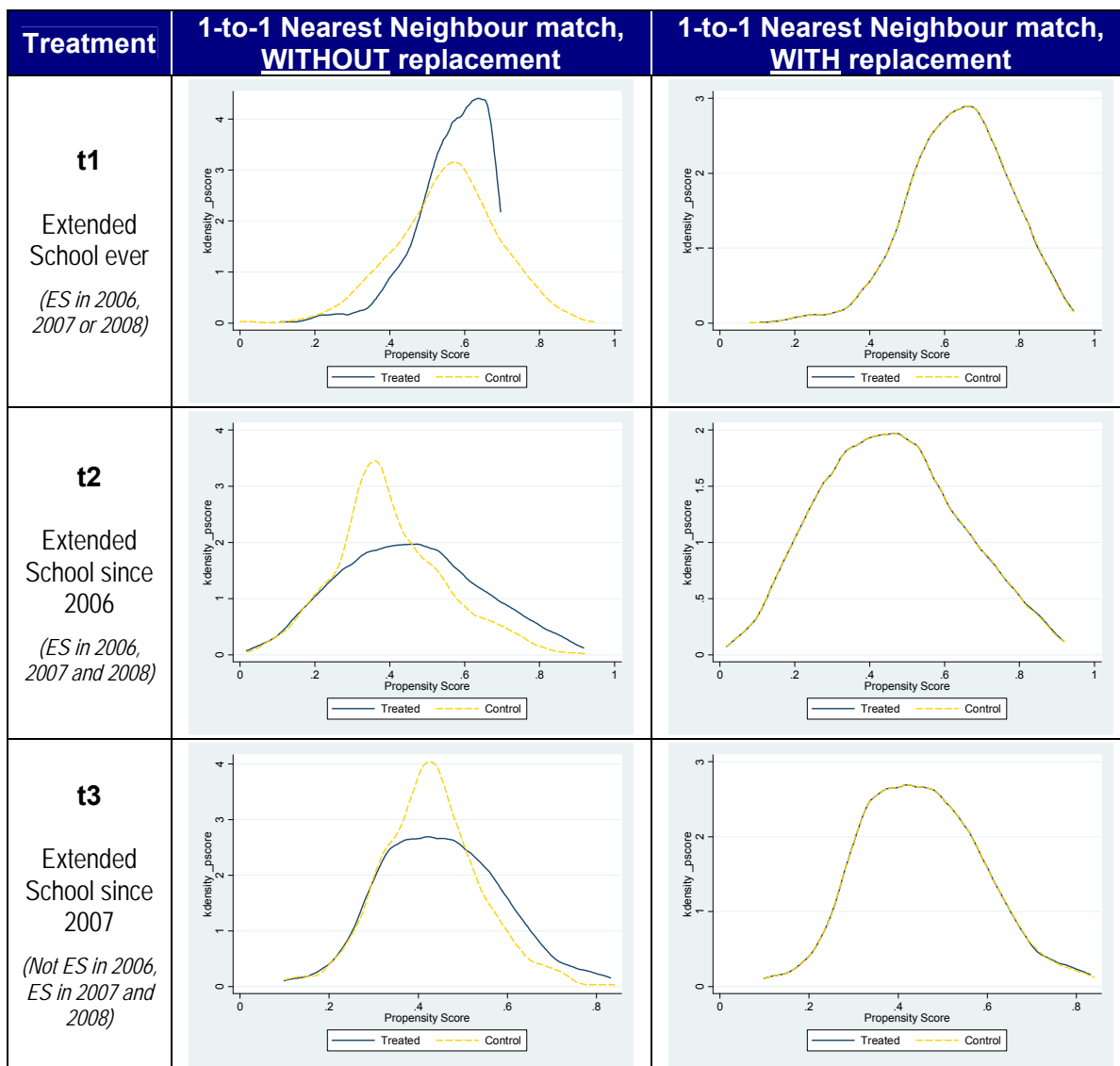| Table 23: Relationship between the Extended Schools programme and pupil attainment at KS1 – All schools becoming ES in 2007								
	Group	2002/03	2003/04	2004/05	2005/06	2006/07	Point change 02/03 - 06/07	Point change 04/05 - 06/07
Average Total GCSE and equivalents (new style points)	Untreated	.	341.7	351.9	361.9	374.8	33.1	22.9
	Treated	.	339.6	348.8	361.4	372.8	33.2	24.1
Average Capped Total GCSE and equivalents (new style points)	Untreated	.	282.9	287.0	291.5	297.1	14.2	10.1
	Treated	.	281.8	285.3	290.9	296.3	14.5	11.1
1 or more GCSEs at A*-G	Untreated	95.9%	95.9%	96.1%	96.5%	96.6%	0.7%	0.4%
	Treated	95.8%	96.0%	95.9%	96.3%	96.5%	0.6%	0.6%
5 or more GCSEs at A*-C	Untreated	52.1%	53.0%	54.9%	56.4%	56.1%	4.0%	1.1%
	Treated	51.4%	52.0%	54.0%	55.7%	55.8%	4.4%	1.7%
5 or more GCSEs at A*-C including English and Maths	Untreated	.	40.9%	42.4%	44.0%	45.3%	4.4%	2.9%
	Treated	.	40.3%	42.0%	43.6%	45.4%	5.1%	3.4%

Annex 2 Analysis of propensity score matches

A2.1   Primary schools

Treatment	1-to-1 Nearest Neighbour match, <u>WITHOUT</u> replacement	1-to-1 Nearest Neighbour match, <u>WITH</u> replacement
t1 Extended School ever *(ES in 2006, 2007 or 2008)*		
t2 Extended School since 2006 *(ES in 2006, 2007 and 2008)*		
t3 Extended School since 2007 *(Not ES in 2006, ES in 2007 and 2008)*		

A2.2   Secondary schools

Treatment	1-to-1 Nearest Neighbour match, <u>WITHOUT</u> replacement	1-to-1 Nearest Neighbour match, <u>WITH</u> replacement
t1 Extended School ever *(ES in 2006, 2007 or 2008)*		
t2 Extended School since 2006 *(ES in 2006, 2007 and 2008)*		
t3 Extended School since 2007 *(Not ES in 2006, ES in 2007 and 2008)*		

department for
children, schools and families