



Department
for Education

House prices and schools: do houses close to the best- performing schools cost more?

Ad hoc research note

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Introduction

This research note sets out the results of a new analysis that looks at house prices near the best schools in the country. The analysis considers primary schools and secondary schools separately, and splits schools in each phase into ten groups based on their performance in key stage 2 or key stage 4 tests. We look at the average difference in house prices between those in areas close to each of the ten groups of schools (with different levels of attainment) and prices in the surrounding area.

We have also reviewed existing evidence on the subject to see how our analysis compares to previous research on the link between house prices and school performance.

Key findings

- House prices near the best schools are higher than in the surrounding areas for both primary and secondary schools. The value of houses near the poorest-performing schools are also lower than in the surrounding areas.
- House prices near the 10% best-performing primary schools are 8.0% higher than in the surrounding area. Near the 10% best-performing non-selective secondary schools, house prices are 6.8% higher.
- The average home in England cost £233,000 in July 2016. If the average home were in an area close to one of the 10% best-performing schools, this is, holding other factors constant, £15,800 higher when close to one of the best-performing secondary schools and £18,600 higher near the best-performing primary schools.
- These findings are similar to the existing evidence, in that there is a clear link between the price paid for a home and access to good schools. The figures in our analysis are not directly comparable because of differences in methodologies used.
- The difference in house prices cannot be attributed to school quality alone, because this analysis does not control for other factors that affect house price. In addition, causality can run both ways: the children of better-off parents – who can afford pricier homes – are more likely to achieve the expected standards at key stage 2 and key stage 4 which we use as a proxy for school quality in the analysis. So from this analysis you can conclude that prices are higher but cannot conclude that this is due to wealthier people moving into these areas.

Approach and methodology

Our analysis divides schools into deciles of performance, based on results in headline attainment measures in 2012, 2013 and 2014. We looked at headline results rather than measures of progress as these measures were more widely reported and more likely to be used by parents.¹ We have not looked at Ofsted grades as they do not provide the level of variation which is provided by attainment measures.

At key stage 2, we looked at the proportion of pupils achieving at least level 4 in Reading, Writing and Mathematics and the proportion of pupils achieving at least level 5. The proportions are given equal weight when we group schools into deciles. At key stage 4, we looked at the proportion of pupils achieving at least 5 A*-C grades in GCSEs, including in English and Maths (5A*-CEM).

We look at house prices in the areas near the school, and compare average prices over three years – 2013, 2014, and 2015 – to average prices in the surrounding area. We chose a later timespan for house price data than for attainment data so that prices could reflect responses to school quality. In this analysis, “near the school” means within the postcode sector in which the school is located. There are approximately 6,630 postcode sectors in England and Wales. According to the 2011 Census, there was an average of 2,850 households in each postcode sector. Prices in the postcode sector are compared with those in their wider postcode district. There are 1,820 postcode districts in England and Wales, with an average of 10,400 households in each district.

More details on technical aspects of the calculation are provided in the annex, along with links to the data used in the analysis.

¹ Research suggests that 80% of parents look at headline measures, while only around a third are familiar with value added measures of pupil progress.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/275938/RR310_-_School_performance_and_parental_choice_of_school.pdf

Analysis of secondary schools

Our secondary school analysis looks at 2,632 schools. We look at all mainstream non-selective schools that reported results in 2012, 2013 and 2014.² We split schools into deciles based on performance in terms of the proportion of pupils that achieved at least 5A*-CEM. Table 1 summarises the average performance of pupils in each attainment decile.

Table 1: Average performance in each attainment decile at KS4, 2012, 2013 and 2014

Attainment deciles	Average performance at GCSEs (% achieving 5A*-CEM)
10 (poorest-performing schools)	38%
9	46%
8	50%
7	54%
6	57%
5	60%
4	63%
3	67%
2	71%
1 (best-performing schools)	80%

Figure 1 shows how average house prices vary in the areas (i.e. postcode sectors) near to the schools in each attainment decile. On average, house prices near the best-performing schools are higher than in the wider area (i.e. postcode district) – and prices near the poorest-performing schools are lower than in the surrounding area. The difference is 6.8% for the top 10% of non-selective secondary schools and 2.3% for the next two groups of schools.

² We have chosen not to look at the 163 selective schools, as we know that, on average, pupils travel further to get to selective schools. <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2016-10-25/50186/>

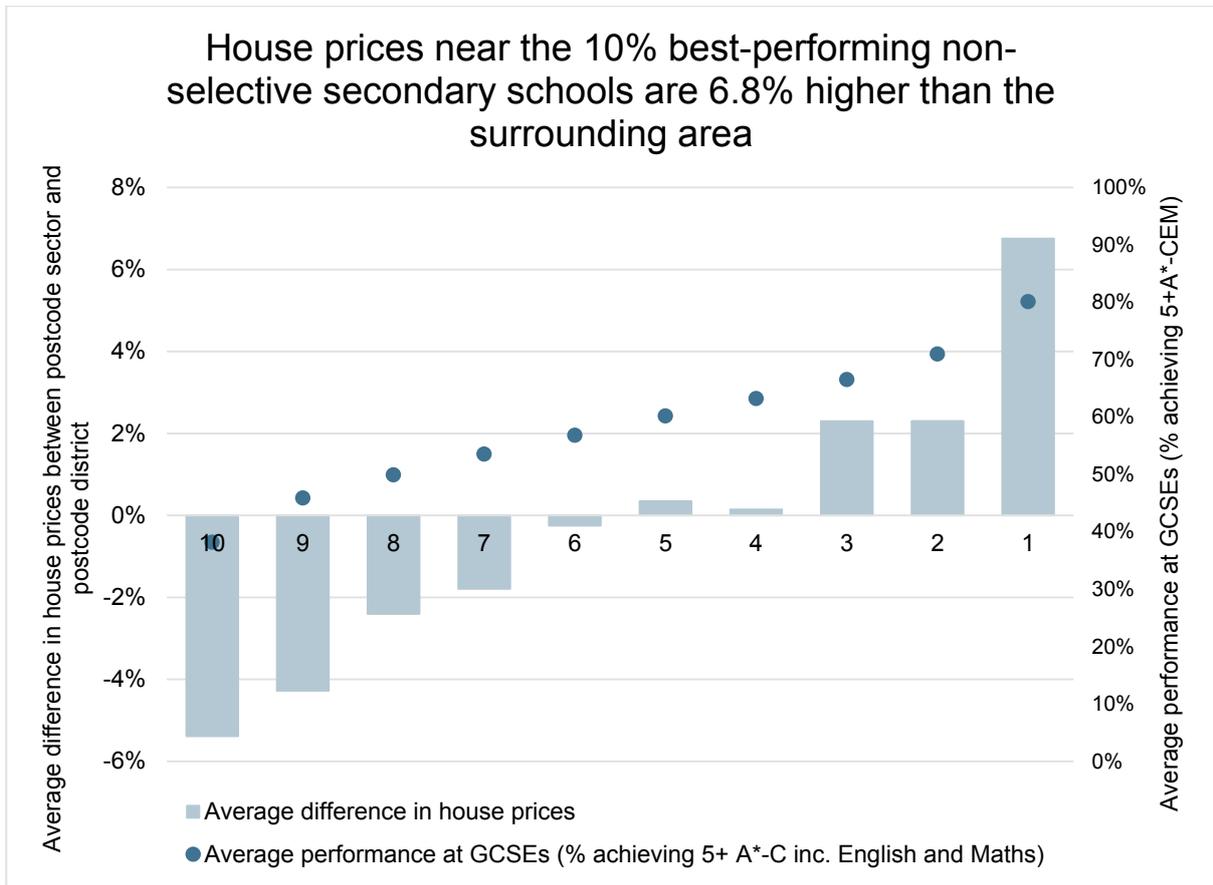


Figure 1: Average difference in house prices near to schools (compared to the surrounding area) by decile of school performance averaged across 2012, 2013 and 2014, secondary schools

Analysis of primary schools

Our primary school analysis looks at 14,524 schools. We look at all mainstream schools that reported results in 2012, 2013 and 2014. We split schools into deciles based on performance in terms of the proportion of pupils that achieved at least level 4 and level 5 in key stage 2 tests over those three years. Table 2 summarises the average performance of pupils in each attainment decile.

Table 2: Average performance in each attainment decile across KS2 tests in 2012, 2013 and 2014

Attainment deciles	Average proportion of pupils achieving level 4+	Average proportion of pupils achieving level 5+
10 (poorest-performing schools)	25%	4%
9	63%	10%
8	70%	14%
7	74%	16%
6	77%	19%
5	80%	22%
4	82%	24%
3	85%	28%
2	88%	32%
1 (best-performing schools)	93%	42%

Figure 2 shows how average house prices vary in the areas (i.e. postcode sectors) near to the schools in each attainment decile. The pattern repeats the one we saw for secondary schools: on average, house prices near the best-performing schools are higher than in the wider area (i.e. postcode district) – and prices near the poorest-performing schools are lower than in the surrounding area. The difference in prices near

the schools and in the surrounding areas is 8.0% for the top 10% of primary schools and almost 6% for the next 10%.³

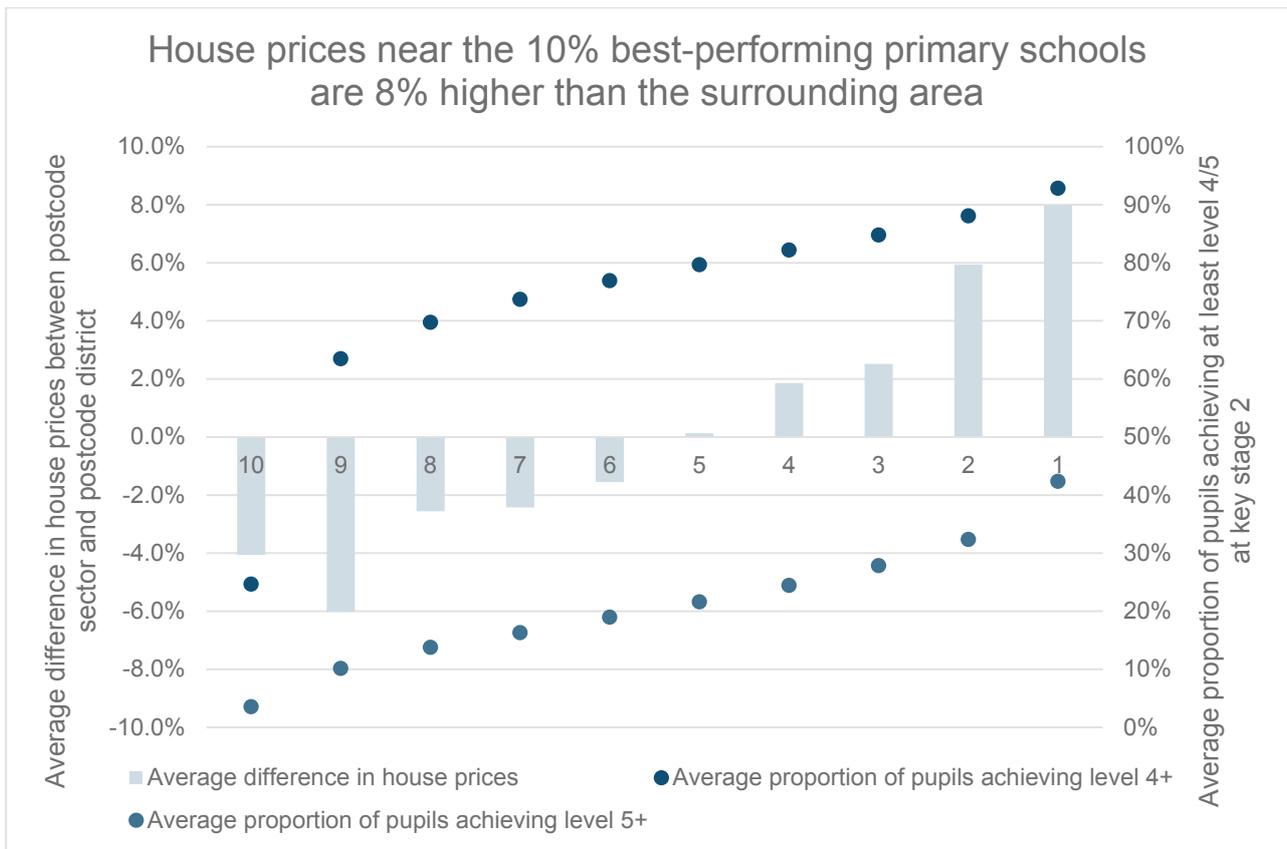


Figure 2: Average difference in house prices near to schools (compared to the surrounding area) by decile of school performance averaged across 2012, 2013 and 2014, primary schools

³ The results are not sensitive to the averaging of headline attainment measures: if our analysis looked only at level 4+, the difference for the top 10% would be 7.3% instead of 8.0%; if it looked only at level 5+, then the difference would be 8.3%.

What does this analysis tell us?

The analysis shows the difference in house prices between areas close to schools with different levels of performance, as represented by postcode sectors, and the surrounding areas, which are represented by postcode districts.

This differences observed are unlikely to represent a house price premium that can be attributed entirely to school quality. There are likely to be factors that influence both school quality, as measured in this note, and house prices. Higher house prices might themselves lead to higher levels of attainment in a particular school: children from higher-income families, which can afford more expensive homes, are more likely to do well than children from poorer families on the headline measures of attainment used to proxy school quality in this note. That said, it is also unlikely that the proximity of good school does not have any influence on the higher house prices observed.

We have expressed the house price difference in percentage terms to give equal weight to all postcode sectors regardless of the number or value of transactions in that sector. House prices and transaction volumes vary substantially across the country for reasons not linked to school quality. Depending on the geographic make-up of attainment deciles in our analysis, if we expressed the price differences in monetary terms we could show them to be higher or lower than might be expected due to variation in volumes and prices within the deciles. A hypothetical example illustrates this: a number of unrepresentatively expensive transactions in some London postcode sectors in which some of the poorest-performing schools were located could result in the observed price difference in monetary terms being reduced to almost zero.

In order to understand what the price differences might mean for the average homebuyer in monetary terms, we have put the percentage figures in the context of average house prices in all regions in England in July 2016 in table 3.⁴ This allows us to show what the difference in house prices would be if the average home were close to one of the 10% best-performing schools rather than in the wider area, other things being equal. This shows that being near one of the best schools implies a price which is £18,600 higher in the case of primary schools and £15,800 higher in the case of non-selective secondary schools. This difference varies significantly by region and reaches £38,800 and £33,000 respectively to live near the best primary and non-selective secondary state schools in London.

⁴ <https://www.gov.uk/government/news/uk-house-price-index-hpi-for-july-2016>

Table 1: House prices by region and hypothetical additions to price for the average home if it were near one of the top 10% schools, July 2016

England by region	Average price July 2016 (£000s)	Addition to price if near top 10% of primary schools (£000s)	Addition to price if near top 10% of secondary schools (£000s)
East Midlands	173.8	13.9	11.8
East of England	273.8	21.9	18.6
London	484.7	38.8	33.0
North East	129.8	10.4	8.8
North West	150.1	12.0	10.2
South East	313.3	25.1	21.3
South West	237.3	19.0	16.1
West Midlands	176.6	14.1	12.0
Yorkshire and The Humber	151.6	12.1	10.3
England	232.9	18.6	15.8

Comparing our findings to existing evidence

Gibbons (2012)⁵ stated that “the link between schools and house prices is now an established fact” and showed that a primary school one standard deviation above average performance at key stage 2 attracts a house price premium of around 3% (or a premium of around 12% for a school at the top of the league table compared to one at the bottom).⁶ Similar findings have been documented internationally.

Gibbons also notes that the “influence of school quality on house prices also feeds back into school admissions – the so-called ‘selection by mortgage’ of the richest and brightest children into the best schools. This process reinforces school segregation and inequalities in performance and achievement, and reduces social mobility across the generations.”

Hussain (2016)⁷ found a link between a change in Ofsted result and house prices. For each one-grade movement in Ofsted grade an increase in house price of around 0.5 per cent was identified.⁸ The link was stronger for schools in the least deprived areas where a unit rise in the rating leads to an approximately 1.5 per cent rise in house prices whereas for schools serving the poorest households, ratings have no impact on local house prices.

The other studies all note, as we do, that the relationship is a complex one to study, as a perfectly accurate estimate of the house-price premium would require the analysis to control for home size, the condition of the home, transport links, nearby amenities, the socio-economic composition of the neighbourhood and many other factors. The authors found that parents seem to pay for a combination of both teaching effectiveness and characteristics of the school intake (e.g. early achievement, disadvantage, ethnicity).

The Sutton Trust report “*Parent Power?*” (Francis and Hutchings 2013)⁹ analysed the responses to a survey completed by YouGov (Nov 2012) of 1,090 parents of pupils aged 5-16 years in state schools¹⁰. The survey asked respondents to indicate whether they had ever used various strategies to secure a good school place for their child. Figure 3 shows responses from parents of children in state schools. Parents from social groups A

⁵ Gibbons, S. (2012) Valuing schooling through house prices, CentrePiece, Vol 17, Issue 2 (LSE).

⁶ A 1 standard deviation change in pupils achieving at least level 4 in Reading, Writing and Maths is equal to 19 percentage points; for at least level 5, it is equal to 12 percentage points.

⁷ Hussain, I (2016) Do Consumers Respond to Short-Term Innovations in School Productivity? Evidence From the Housing Market and Parents' School Choices: university of Sussex

⁸ This analysis controlled for variables such as the type of properties on the market, proportion of pupils on FSM and ethnicity.

⁹ Francis, B. and Hutchings, M. (2013) Parent Power? Using money and information to boost children's chances of educational success, Sutton Trust.

¹⁰ The survey over-represented parents from social group A in order to secure a sufficiently large number of responses from middle class parents; this allows analysis by sub-group within this group. However, it should be noted that there are no national figures for the proportions of parents of school age children in each social group, so it is not possible to weight the data to produce findings for the whole population.

and B are much more likely to have moved to live in an area which they believed had better schools (around a third in group A reported this) or moved to live in a specific catchment area. Sutton Trust showed that higher-earning parents are more likely to move house to ensure their children can attend a good school, but did not make a specific link with house prices.

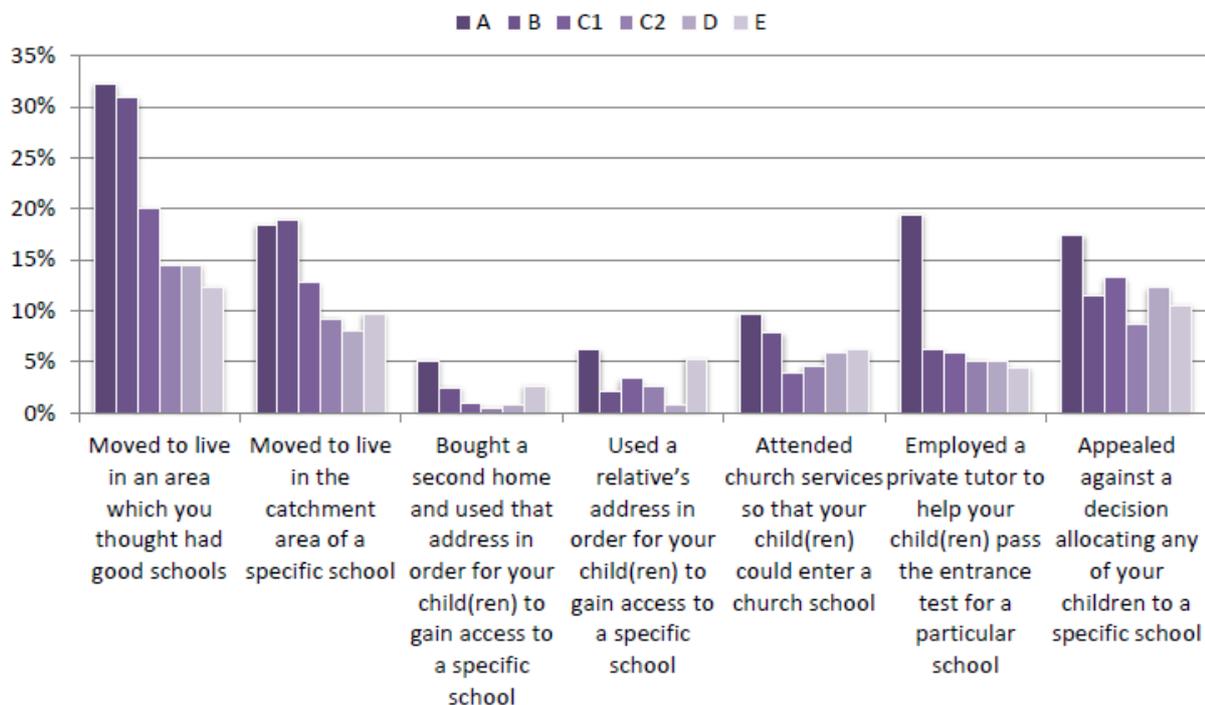


Figure 2: Percentage of respondents with a child at a state school in each social group indicating that they have used listed strategies (N=1,090); Source: YouGov and the Sutton Trust

Conclusion

The existing evidence suggests that well-off parents are more likely to have and use the option of moving to an area with good schools or into the catchment area of a specific school than are less well-off parents. Researchers have identified a link between good schools and house prices with the houses around good schools being more expensive, but estimates of the size of the house price premium vary. Our analysis gives a new perspective on the difference in house prices due to school quality, using three full years of house-price data.

This new analysis shows that house prices near the best-performing schools are higher in the case of both primary schools and secondary schools. The difference is 8.0% in the case of primary schools and 6.8% in the case of the 10% best-performing non-selective secondary schools. This difference would translate to paying an extra £18,600 for the average home if it were near one of the 10% best-performing primary schools and an extra £15,800 near the best-performing secondary schools.

These findings fit with wider research evidence on the relationship between house prices and good schools. Parents, especially those with higher earnings, are more likely to move into an area with a good school – and those strategies suggest that parents would be inclined to spend more to be near good schools. This is backed up by our analysis and previous work by Gibbons (2012) and Hussain (2016), though we cannot compare the magnitude of the relationship between school quality and house prices due to differences in the methodologies used across the various pieces of research.

We cannot attribute the entirety of the difference to school quality, as we have not controlled for all factors that affect house prices. Additionally, causality runs in both directions, which can also explain some of the difference: higher house prices – and the higher achieving children that live in more expensive homes – could lead to schools improving on our measure of school quality.

Annex – methodological and technical details

Performance measures

Our analysis groups schools into deciles of performance, based on results in headline attainment measures in 2012, 2013 and 2014.¹¹ We take the weighted average of each school's attainment in each of the three years, and then split into ten groups. The values are weighted by average attainment in the relevant year, to account for changes across all schools (see formula below). We do not weight by pupil numbers, as it is less likely that parents would be aware of the number of pupils in each year and alter their assessments of school performance in that way.

We looked at headline results rather than measures of progress, as these measures were more widely reported and more likely to have been used by parents. We have not looked at Ofsted grades as they do not provide the level of variation provided by attainment measures.

At key stage 2, we looked at the proportion of pupils achieving at least level 4 in Reading, Writing and Mathematics and the proportion of pupils achieving at least level 5. The proportions are given equal weight when we group schools into deciles. We tested the sensitivity of the model by grouping schools based on level 4 and level 5 alone, and the results are broadly similar.

At key stage 4, we looked at the proportion of pupils achieving at least 5 A*-C grades in GCSEs, including in English and Maths (5A*-CEM).

Formula for calculating weighted average attainment

$$WAA_i = \frac{(A_{i2012} * \bar{A}_{2012}) + (A_{i2013} * \bar{A}_{2013}) + (A_{i2014} * \bar{A}_{2014})}{\sum \bar{A}_{2012,2013,2014}}$$

WAA_i = Weighted average attainment for school i

A_{i2012} = Attainment of school i in 2012

\bar{A}_{2012} = Average attainment for all schools in 2012

As above for 2013 and 2014 subscripts

$\sum \bar{A}_{2012,2013,2014}$ = The sum of average attainment across all schools in 2012, 2013 and 2014

¹¹ Data can be downloaded from the Performance Tables: <https://www.compare-school-performance.service.gov.uk/download-data>.

Once each school's weighted average attainment has been worked out, we rank schools (within phases) and group them into deciles (i.e. ten equal-sized groups). A school in decile 1 is among the 10% best-performing schools from 2012 to 2014.

House price data

We look at house prices in the areas near the school, and compare average prices over three years – 2013, 2014, and 2015 – to average prices in the surrounding area. We have chosen a later timespan for house price data so that it can reflect responses to school quality.

House-price data comes from the Land Registry.¹² The Land Registry's price paid data tracks the residential property sales in England and Wales that are lodged with them for registration. The dataset is a reliable source of house-price information and consists of more than 24 million definitive records dating back to January 1995. We have used the full-year data sets for 2013, 2014 and 2015.

We look at average price paid in cash terms¹³, and do not differentiate by the type of house (e.g. detached or semi-detached), whether the property is old or new or by the duration of the tenure. We do not weight by the volume of transactions in a postcode sector or postcode district. We include all postcode sectors where there was at least one sale in 2013 to 2015.

Differences in house prices

In the analysis, "near the school" means the "in the postcode sector in which the school is located". There are approximately 6,630 postcode sectors in England and Wales.¹⁴ According to the 2011 Census, there was an average of 2,850 households in each postcode sector. Prices in the postcode sector are compared with those in their wider postcode district. There are 1,820 postcode districts in England and Wales, with an average of 10,400 households in each district. This means that, on average, for each property in a postcode sector there are 3.6 properties in the postcode sector.

¹² Available to download here: <https://data.gov.uk/dataset/land-registry-monthly-price-paid-data>.

¹³ We did not adjust for inflation. This only has an upward bias if proportionately more homes are sold in the postcode sectors in which the best schools are located later in the period observed (i.e. 2014 and 2015).

¹⁴ A postcode sector consists of the postcode district (e.g. SW1P) and the first digit of the rest of the postcode (e.g. 3 in SW1P 3BT).

Working out the difference in house prices

The average price in each postcode sector and district from 2013 to 2015 is the sum of house prices in those years in the sector or district. The difference in house prices is the average price in the sector divided by the average price in the district. A difference of 8%, for example, means that house prices “near the school” or in the postcode sector were, on average, 8% higher than in the wider postcode district.

For each school, we match a house-price difference figure depending on the postcode sector in which that school is located. The following formula then works out the average house-price difference for each decile of school performance.

$$Diff_d = \overline{HPD}_{i \text{ in } d}$$

$Diff_d$ = Average difference in decile d

$\overline{HPD}_{i \text{ in } d}$ = Average house price difference for each school i in decile d

The average difference in house prices for each decile of school performance can be read as “the average difference in house prices between the postcode sectors in which these schools are located and the wider postcode district in which these schools are located”.

Our analysis does not control for the number of high-performing schools. This means that we treat a postcode sector where there is only one high-performing school in the same way we do a postcode sector where all schools are high-performing.



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