

Steve Gibbons describes how a series of influential CEP studies has confirmed the widespread belief that there is a link between house prices and the quality of local schools – and explains the nuances of the findings and their significance for public policy for education, cities and social mobility.

Big ideas

Valuing schooling through house prices

It is a truth universally acknowledged in the chatter of middle class dinner parties in Britain that good schools push up house prices. Stories of anxious parents buying or renting at inflated prices in the catchment areas of well-regarded schools are commonplace. But before CEP's research on this issue began more than a decade ago, there was almost no British evidence to back up these anecdotes.

In a series of widely quoted studies, CEP researchers have been at the forefront of efforts to bring rigorous evidence on the scale of these effects into the public domain. Thanks to this work, the link between schools and house prices is now an established fact. What's more, this finding has a significant influence on both education policy – including

measures to improve poorer children's access to good schools – and private sector behaviour – for example, the way that estate agents present property details.

What's a good school worth?

So how much are people prepared to pay for good state schools? It turns out that the amounts are substantial. The most recent CEP research for England shows that a primary school one standard deviation above the average in terms of the performance of its pupils in key stage 2 tests (at age 11) attracts a house price premium of around 3%. This means that a school right at the top of the league tables attracts a premium of around 12% relative to one at the bottom. At the time of the study in 2006, this was equivalent to £21,000 (Gibbons et al, 2012).

A similar picture emerges for Paris, where in 2004, the best schools attracted a premium of up to €17,500 (Fack and Grenet, 2010). And this is not just a European story: countless studies from the United States and elsewhere produce comparable results, as shown in our extensive surveys of the research evidence (for example, Black and Machin, 2010; Machin, 2011). In fact, a link between better schools and higher house prices has emerged as one of the most stable empirical regularities, with studies worldwide reporting effects of a similar order of magnitude.

These numbers make a great deal of sense in terms of investment in children's future labour market skills. The potential earnings benefits in later life from a good state primary education outstrip the costs of buying a house near a good school.

Why this matters for policy

While on the surface it might look like a trite research question, establishing the link between schools and housing costs is of much more profound importance than just informing parents' school choices. Education economists are interested in the question because they want to learn about how much people value school quality and because they want to understand which dimensions of school quality matter most to parents.

Answers to the question are also crucial for guiding public policy and deciding how to spend public money in ways that generate the greatest public benefit. House prices help here because their geographical patterns trace out the quality and value placed by society on a wide range of public and environmental amenities, including schools.

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. The problem is rooted in the fact that places are usually offered first to children who live nearest to a school.

Faced with strong evidence on house price effects and in an effort to give poorer children the opportunity to enrol in high performing schools, recent policy has tried to loosen the link between where children live and the schools they attend. This thinking underlies the use of lotteries and banding for allocating places in popular schools, most famously in Brighton.

The link between schools and house prices also sheds light on the general shortage of what parents perceive as high quality schools, influencing the policy measures to extend competition, choice and the quality and diversity in provision through the academy and 'free school' programmes.

Outside the field of education, urban economists, estate agents and planners are also interested in school/house price patterns because they provide information about how housing markets operate, the factors causing the segregation of rich and poor into different neighbourhoods and the more general spatial structure of cities.

A link between better schools and higher house prices is one of the most stable empirical regularities worldwide



The nitty gritty: how to work it out

Despite the apparent simplicity of the research question, getting good answers about the link between school quality and local house prices turns out to be far from straightforward. The line of inquiry comes from a long tradition in the US research literature, developed from work on valuing air quality and other environmental amenities where there is no explicit market price.

The theory is intuitively easy to understand. Spending on housing is spending on a bundle of goods: structural quality, access to transport, green space, shops, safety from crime, views, environment and so on, alongside school quality. The market price of a house therefore reflects the availability of these attributes and amenities, and buyers' willingness to give up other forms of consumption to pay for them. The premium that buyers pay for a house close to a good school relative to an equivalent house near a bad school (holding other factors constant) intuitively tells us something about the willingness to pay for good schooling.

But distilling these school effects from data on house prices and school quality presents a big challenge. The words 'holding other factors constant' encapsulate the problem. Ideally, we would like to compare houses that are identical in all respects apart from the quality of the schools to which they offer access, so as to work out the direct 'causal' effect that schools have on prices.

Researchers have developed increasingly sophisticated techniques to try to do this. The basic procedure is to take the price of a house and its associated local school quality, and compare them with the prices of similar neighbouring houses that offer access to a different set of schools. The assumption here is that the close neighbours provide a set of (almost) identical 'twins' with which comparisons can be made.

This method is used in the first CEP paper on the topic (Gibbons and Machin, 2003), in extensions with more detailed housing data (Gibbons and Machin, 2006) and in work using more advanced techniques for assigning schools to houses in the data (Gibbons et al, 2012).

These analyses also refined the idea by comparing closely neighbouring houses on either side of the boundaries of school catchment areas, an idea borrowed from an analysis of the US city of Boston (Black, 1999). The reasoning is that houses that are next to each other but in different catchment areas are effectively identical apart from a sharp difference in

the quality of the school that a child gets to attend.

In Britain, school catchment areas are rarely rigidly defined, so we have used the boundaries of local education authorities (LEAs), which acted as catchment area boundaries for primary schools. Few primary school age children attend schools in LEAs outside that of their home, so neighbours in adjacent LEAs can face very different quality schools.

In this research, we effectively show that if you live on an LEA boundary on the side of a good school, you will be paying more than your neighbour across the street who lives in a different LEA with less successful schools. The same idea is applied in the study of Paris, where catchment areas are set out explicitly.

What matters to parents about schools?

Although these studies have generated rigorous evidence on the school quality premium, just knowing by how much school quality pushes up house prices isn't really enough. There are many other important and more nuanced questions, to which answers are needed.

Which aspects of schools drive up house prices? Is it headline performance indicators, the peers that a child can expect at school, the quality of the teaching, the leadership, the buildings and infrastructure, the expenditure per pupil or something else? Does school quality matter more in some parts of town than others? And does the availability of private schooling as an outside option set a cap on the house price premium?

A big question is what parents are actually paying for, especially whether they are just looking for a school that boosts their child's achievement or something more subtle about the school environment. We show that the answer is a little of both (Gibbons et al, 2012).

Educational researchers typically measure the effectiveness of school teaching through the 'value-added' a school provides – that is, how much a child's test scores improve after a number of years at the school relative to other children. Our research pitches this measure in a race against characteristics of the school intake – such as their early achievements, ethnicity and poverty – to see which wins out as a factor driving local house prices.



The potential earnings benefits in later life from a good state primary education outstrip the costs of buying a house near a good school

The result is too close to call. Value-added is always crucial, but prior ability of the school intake and associated socio-demographic characteristics – particularly entitlement to free meals – are also strong drivers. It looks like people value schools not only for what they can do to raise their child's achievements but also for the quality of their intake. This is not that surprising when you consider that the main public source of information on school quality is the league tables – and the headline indicators are responsive to both intake and teaching effectiveness.

Other evidence also finds that objective indicators of school quality influence demand for secondary school places. For example, we show that the proportion of children reporting that they are happy has no effect on house prices, while intake quality and value-added again have a large influence (Gibbons and Silva, 2011).

Is it worth going private?

Once we know that the quality of state schools raises house prices, an obvious question is how these costs compare with the costs of a private education. Our evidence shows that paying for state education in England through housing is still a cheaper option than paying for private education. But the gap is not as big as you might think.

Our calculations imply that getting a child into a state primary that delivers in the top 10% of achievement (assuming you could find such a school) would set you back about £26,000 at 2006 prices. That's about £3,000 a year if you decided to pay that amount off over the seven years of primary schooling on a 5% mortgage interest rate (Gibbons et al, 2012). By comparison, seven years of private schooling at the time would have cost an average of £3,800 per term or nearly £80,000. So state primary schools still look like a good deal for parents.

The availability of private schools as an outside option also comes into play in determining the geographical patterns of the school/house price premium. This issue is specifically addressed in the study of Paris, where private schooling takes a much greater share than in England.

The evidence from Paris shows that penetration of the local market by private schools noticeably dampens the effects of state schools on house prices. Presumably

Parents value schools not only for what they can do to raise their child's achievements but also for the quality of their intake

this is because home-buyers in these areas are much less interested in state school quality. Ironically, local private schools – institutions normally accused of increasing educational inequalities – could help alleviate inequality in access to state schools, by reducing the demand pressures on top performing state schools.

Summing up

Dinner party chatter about schools and house prices turns out to be a fruitful avenue of research. It is possible to quantify the link – and the link matters for educational policy. 'Pricing in' public goods through housing is one of the most fruitful and still under-exploited areas in applied economics, and the wealth of new data on house prices and local outcomes (such as crime) will make this a growing area in the future.

Paying for state education in England through housing is still a cheaper option than paying for private education

Steve Gibbons is research director of the Spatial Economics Research Centre (SERC), a reader in economic geography at LSE and a research associate in CEP's education and skills programme.

Further reading

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Sandra Black and Stephen Machin (2010) 'Housing Valuations of School Performance', in *Handbook of the Economics of Education*, Volume 3 edited by Eric Hanushek, Stephen Machin and Ludger Woessmann, North Holland.

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