

A central focus of current education policy is to expand parents' choice over where their children go to school and to promote competition between schools. A long-running CEP research programme by **Stephen Gibbons, Stephen Machin** and **Olmo Silva** has been assessing the effects on both educational outcomes and inequalities between schools.



The educational impact of parental choice and school competition

Choice in education is an issue that ranks high on the political agendas of governments around the world and is increasingly being pushed hard in the UK. While many regard choice as a value *per se*, most proponents emphasise the improvement in educational standards that could result from it.

There are two main economic arguments for moving from a neighbourhood-based system – in which pupils attend their local school – to a system based on parental choice. The first is about allocation: more choice allows better matching of pupils with schools according to parental tastes and pedagogical needs. If every parent can find a school that educates their child at least as effectively as under a neighbourhood-based system, then average achievement must improve.

The second argument is about teaching technology: if families are free to

choose, then the mechanisms of market discipline will ensure that schools offer high standards. For this to work, school finances (and headteachers' incentives) must be linked to school popularity via pupil numbers: unpopular schools must lose pupils and money while popular schools gain pupils and additional funding. So schools must innovate and adapt to meet parental demand for 'quality' or shrink and ultimately close.

There are counter-arguments in defence of a neighbourhood-based school admission system. For example, it is claimed that teaching proceeds better in a stable environment, where teachers are not under competitive pressures. Classes in a choice-based system may suffer higher pupil turnover, which can further disrupt teaching. And the distances that pupils have to travel will be greater under a choice-based system, and this may have a detrimental effect on achievement because of lateness or stress.

But the biggest concern about wider

parental choice seems to be that even if it has the potential to boost pupil achievements, this may come at the cost of increased inequality across schools. The fear is that if the most disadvantaged families are least able to exercise choice, then less socially disadvantaged, higher ability pupils will end up concentrated in schools with the best resources and teaching, so that the gains from competition are unevenly distributed.

But there are also reasons to think that breaking the link between where pupils live and where they attend school will *reduce* inequalities between schools. This might happen if, for example, pupils in social housing can more easily access schools in better neighbourhoods.

Since the theoretical advantages of competition and choice seem so uncertain, is the current policy focus on expansion of parental choice and school competition founded on a strong evidence base?

Unfortunately not: extensive US research using various methods and data

sources is very mixed in its findings about the performance effects of this type of policy. The scant UK-based research has been similarly inconclusive. Moreover, none of the evidence so far reveals whether any improvements in educational standards are caused by pupils finding more suitable schools or by efficiency gains induced by market discipline.

More has been written about the effects of choice and competition on segregation in the UK context, but again there is no consensus. Much of this work is based on observations of what has happened in schools since the reforms started in the late 1980s: while some researchers claim that these reforms led to a decrease in social stratification, others find evidence for the opposite.

So, on the basis of the available international evidence, the conclusion that the gains from competition and choice more than compensate for any losses resulting from greater inequality – what US education economist Caroline Hoxby calls ‘a tide that lifts all boats’ – seems unduly optimistic.

Measuring choice and competition in education

Our research has mainly focused on the effects of parental choice and school competition on pupil progress during primary education. As a measure of choice we use detailed information on where pupils live and where they go to school in order to work out which alternative schools they had available. Knowing this, we can deduce which schools are ‘competitive’ – in the sense that their pupils had many choices available – and which are not.

Our study focuses on an area around and including London, which encompasses 200,000 pupils in 2,400 primary schools. The area is urban and suburban in character, but there is great variation in the number of schools that are accessible from a particular home.

How do we work out which schools a pupil can reach from their home? We do this by studying how far other children travel to local schools. So, for example, if pupils at Springfield Primary travel, on average, 1km to school and Lisa lives within 1km of Springfield Primary, then we would treat Springfield Primary as a possible choice for Lisa – even if she actually attends a different school.

Once we know how many choices pupils have, it is easy to work out which schools are more competitive: simply calculate the average number of choices that pupils have in each school. If all the pupils in a school have that school as their only option, then the school is ‘monopolistic’, rather than competitive. But if, on average, pupils in a school have lots of alternatives, then the school has to compete with those other schools to attract its pupils.

Ideally, we need to look at differences in choice and competition that vary according to where a family lives and where schools are located; but we do not want to consider differences that are the result of the choices parents make about which school to attend or which school to live close to.

We isolate this by looking closely at local education authority (LEA) boundaries. This is because, for the years in our data, LEA boundaries imposed important institutional restrictions on parental choice: families were allowed to apply to schools in LEAs other than their LEA of residence, but in practice primary school pupils rarely crossed LEA boundaries to go to school. This is probably because parents felt that banking on admission outside their own LEA was a high-risk strategy: they had to make separate applications to each LEA and may have doubted that they would be given the same priority as pupils who lived in the same LEA as the school.

Indeed, it turns out that, in our study area, only 4.7% of community school pupils attend schools outside their home LEA. The highest rate of LEA crossing is for pupils in ‘voluntary aided’ schools (predominantly faith schools), but this is still only about 10%.

Because families living near LEA boundaries generally do not cross to neighbouring LEAs, they face longer journeys than families in the interior of an LEA to reach the same number of schools. And since travel is costly, they face a more restricted set of choices and are more likely to send their children to nearby schools inside their own LEA. In turn,

In general, greater competition arising from more parental choice does not boost the performance of primary schools

schools near to LEA boundaries face less competition because they do not have to compete with so many other schools for this pool of pupils.

In short, the nearer a pupil lives to the LEA boundary, the less choice they will have, and the nearer a school is to the LEA boundary, the less competition it will face. If more competition and choice improve the rate at which a pupil progresses at school, then we would expect to see lower attainment among pupils living and attending school near LEA boundaries than among pupils living centrally. We can use this relationship to determine whether competition and choice really make a difference.

The link between competition and performance in primary schools

Is there really any difference in the number of choices that pupils have (according to our definition) and do schools in different locations really face varying degrees of competition? The number of school choices available to families certainly differs from place to place. On average, apart from their own school, every child has one to two schools they could have gone to instead. Very few children have more than three local alternatives. But one in four pupils have no other schools within a reasonable travel distance.

These differences show up as variation in the level of competition faced by different schools. This can be seen in Figure 1, which maps our competition index over the London area.

Some schools (those located in the darkest shaded areas) have as many as seven competitor schools. But many others (those located in the unshaded areas) appear to be completely monopolistic in the sense that there are no local alternatives for their pupils: our detailed analysis shows that this is the case for one in every ten schools.

The map shows that this variation is only partly related to urban centrality and density. Some of the highest values of our competition index occur in suburban districts such as Barnet and Brent, while schools in some inner city areas like south Hackney or Southwark face little competition from each other.

Our first question is whether this variation in any way affects a child’s progress at primary school. As a measure

of academic progress, we use the standard 'value-added' scores collected by the Department for Education and Skills to track pupil and school performance in the primary years.

It turns out that there is indeed a positive correlation between the competition that a school faces from other schools, and the rate at which pupils at that school progress. In contrast, the number of choices that parents have at their home address is unrelated to their children's rate of progress.

Taken at face value, this indicates small but significant gains for pupils in schools facing more competition, but no individual gains from being offered more school choices. But when we look instead at differences between pupils living close to and far away from LEA boundaries, the picture is quite different. Schools close to LEA boundaries where the market is less competitive actually perform slightly better than schools further away from the boundary – the implication being that greater competition tends to reduce school performance (see Table 1).

Using this approach, we find that an increase of one additional competitor school reduces average pupil progress by about half a term (5-6 weeks) between the ages of 7 and 11. But we do not have

Table 1:

Summarising the effects of parental choice and school competition on pupil attainment

	Age 7-11 progress in community primary schools	Age 7-11 progress in voluntary aided primary schools	Index of pupil diversity in ability in primary schools (Gini)	Age 11-16 progress in secondary schools
Number of choices a pupil has from home	No relationship	No relationship	–	–
Competition from one additional school	Reduces pupil progress by 0.9 value-added points	Increases pupil progress by 1.6 value-added points	Reduces ability diversity index by 0.3% to 0.4%	Small positive impact

very precise estimates and cannot rule out the possibility that there is simply no relationship at all between competition and performance. If we look at the number of school choices available to parents using this method, we again find no measurable impact on their children's personal attainment at school.

Autonomy, urban density and school performance

Perhaps the reason we find little real positive benefit from competition is because the mechanisms to make it work

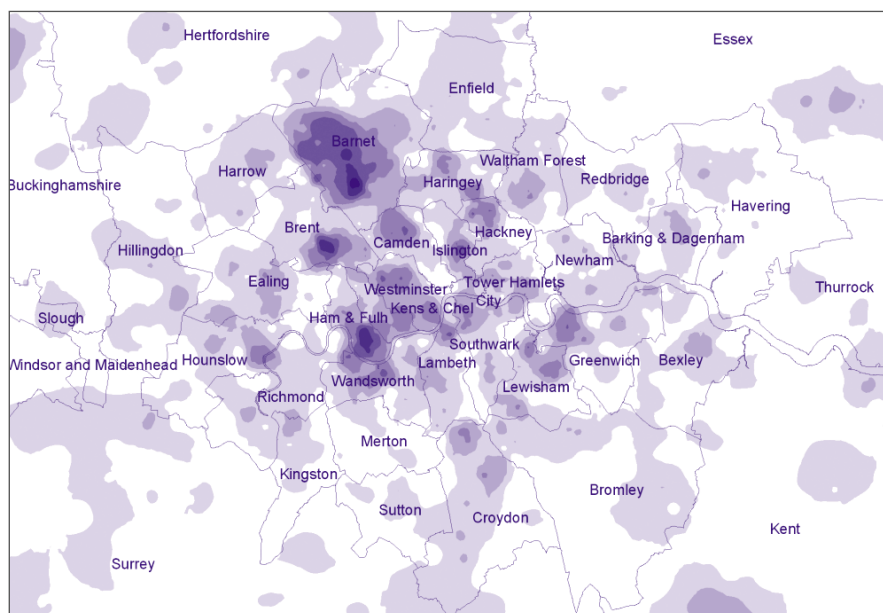
are just not in place: schools must have the right incentives to respond if competition is to be effective in raising standards.

While all state schools in England are funded according to the number of pupils on the roll, and headteachers' pay is linked to performance (both going some way towards providing the right incentives), admissions policy and autonomy from LEA control also play a role. What usually happens is that a central LEA admissions team simply reallocates pupils from popular, oversubscribed schools to unpopular schools, preventing competitive incentives from operating.

Some schools are, however, quite independent of LEA influence and control their admissions – especially faith schools and others classed as voluntary aided. In these schools, the religious or charitable institution that owns the school premises has a majority representation on the governing body and a strong influence over its running; the governing body is also the admissions authority. In community schools, governance is shared more equally among LEA representatives, teaching staff and parents, and admissions are controlled by the LEA. Perhaps the place to look for competition effects is among schools in the voluntary aided sector.

In this sector, we do find some evidence that competition is positively related to performance. For voluntary aided schools, one additional competitor is linked to a 1.6 point increase in the average pupil value-added at a school, or 16-19 weeks of progress in one of the core subjects, between the ages of 7 and 11. Then again, this estimate is quite imprecise and

Figure 1: Primary school competition in the Greater London area



Note: This figure maps the local average of the school-level competition index described in the text. A school in the unshaded areas has none or just one competitor school. A school in the darkest shaded areas has six or seven competitor schools. Each level of shading represents a one-school interval in the competition index between these two limits.

does not suggest a particularly strong link between competition and performance.

We have also used an alternative strategy to uncover the possible effects from competition on *secondary* school attainments. In this work, we look more generally at how urban density affects pupil test results.

The impression that most people have is that schools in densely populated inner-urban areas offer a poor education. In fact, by looking at the changes in academic achievement that take place after pupils move from primary school to secondary school, we show that density is a *good* thing. Pupils perform slightly better when they are at school in places that are highly urbanised and – particularly importantly – where there are many other neighbouring schools.

There are many possible explanations for the stronger performance of pupils in dense school markets, but a strong candidate is greater inter-school competition among secondary schools located close together in more urban settings.

The link between competition and segregation in primary schools

So greater competition arising from more parental choice does not seem to boost performance among primary schools generally. But it may be effective among some autonomous primary schools and among secondary schools.

Critics of choice-based reforms point to their potential costs in terms of increased inequality between schools. They argue that better-off parents are more able to make good decisions about school quality and to get what they want from the admissions authorities, as well as being less constrained by transport costs.

The main concern here is not just that schools become segregated in terms of pupils' ethnicity or income, but also that academically able and less able children become segregated into different schools. This means that some schools and pupils could lose out because of the additional difficulties and resource costs involved in teaching lower ability groups.

One key question is whether the potential gains in performance we find in a minority of schools are accompanied by wider inequalities. We can answer this question within the same framework we used when looking at pupil attainment in primary schools, but now asking whether

schools facing high levels of competition draw in pupils with a narrower range of abilities than more monopolistic schools.

To measure the diversity of abilities within a school, we use one of many standard indices of inequality between individuals. The index we choose in our work on segregation is the Gini index, calculated on pupil test results at the ages of 7 and 11. The test results at the earlier age mainly capture intake differences, whereas results at the age of 11 also reflect influences during the primary school years.

The key point is that if competitive schools are more educationally segregated, they will have lower pupil Gini indices than non-competitive schools. This is exactly what we find, although our estimates are not so precise that we can be completely confident of our conclusions: schools located near LEA boundaries where there is less choice and which therefore face less competition tend to have pupils with a wider range of abilities; this is true at the ages of both 7 and 11.

Although not precisely estimated, the possible effects of competition on ability segregation are very large. The average school that enrolls pupils who have no other feasible alternatives has a diversity index of around 0.41. By contrast, a highly competitive school enrolling pupils with as many as eight alternative choices would have a diversity index of just 0.25.

The effects of expanding choice

Choice and competition have been at the centre of recent policy debates on how to improve educational standards. But as it stands, according to our research, pupils with many primary schools close to home do no better than pupils who have few local schools. So either families are not exercising the choice that they have or they are making choices that do not offer any academic benefits.

On the other hand, our research provides some support for the view that policy intervention to introduce market mechanisms as a means of stimulating inter-school competition and innovation may work to boost pupil achievements. Although there seem to be no general benefits from competition at the primary level – it seems weakly linked to worse performance – we do find some evidence that schools running their own admission



Market mechanisms in education may come at the cost of increased social polarisation

systems and characterised by more autonomous governance structures have higher educational standards in more competitive markets. And pupils do seem to do better if their secondary school is in an urban environment and not geographically isolated from other schools.

On the downside, we have also uncovered evidence that school competition increases inequality, with high- and low-ability pupils more segregated in schools that face more competition. This suggests that whatever performance advantages it offers, further expansion of market mechanisms in education may come at the cost of increased social polarisation.

This article summarises a series of research papers, including: 'Choice, Competition and Pupil Achievement' by Stephen Gibbons, Stephen Machin and Olmo Silva, Discussion Paper No. 56 from the Centre for the Economics of Education (CEE) at CEP (<http://cee.lse.ac.uk/cee%20dps/ceedp56.pdf>); 'Competition and Accessibility in School Markets: Empirical Analysis Using Boundary Discontinuities' by Stephen Gibbons and Olmo Silva, in *Improving School Accountability: Check-ups or Choice* edited by Timothy Gronberg and Dennis Jansen (Elsevier); and 'Urban Density and Pupil Attainment' by Stephen Gibbons and Olmo Silva, mimeo, CEP.

Stephen Gibbons, Stephen Machin and Olmo Silva are all CEE researchers and active members of CEP's wider research programme on education and skills.