

# Briefing note: The impact of school facility expenditures on pupil attainment

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## Summary

- In June 2020 the Prime Minister announced a £1bn school rebuilding in England, in an effort to bridge the attainment gap and rebuild the economy after the Covid-19 pandemic.
- There is very limited evidence on the impact of school facility expenditures on pupil attainment. Overall, most international evidence, focused on the US, suggests positive effects. Better school facilities are in particular reported to improve pupils' and teachers' effort.
- In England, large scale programmes have been implemented since the early 2000s. Despite the considerable amount of public money dedicated to these programmes, there is very little evidence on their impact.

## Recommendations

Policymakers should :

- Commission more research on this issue in England, especially noting potential disparities regionally.
- Target school building expenditure on areas of deprivation with low school attendance.

## The Issue

Prime Minister Boris Johnson announced on June 29, 2020 a 10-year investment program for upgrades and refurbishments in English schools. This rebuilding programme is set to start in 2020-21 with the first 50 projects supported by £1 billion in funding. It aims at improving pupils' outcomes and reducing inequalities, as part of the government "levelling up" agenda. The Prime Minister said "as we bounce back from the pandemic, it's important we lay the foundations for a country where everyone has the opportunity to succeed, with our younger generations front and centre of this mission."



# £1bn

funds the rebuilding programme  
has committed to the first 50  
projects

What impact can we expect on pupils' outcomes? This briefing note summarises the empirical evidence on the relationship between pupils' outcomes and capital investment in schools. To what extent do better school facilities translate into better pupil outcomes? First, it examines the recent international evidence, mostly focused on the United States, which finds, overall, positive effects. Second, it highlights the lack of evidence on school rebuilding and refurbishing programmes in England.

## International evidence suggests that better school facilities do matter

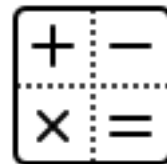
Research on the return on school facilities investment for increasing pupil attainment is very scarce. This is largely due to the difficulty in finding convincing research designs to identify the causal impact of school facilities investment.

Identifying the causal impact of school facilities raises major empirical challenges because schools selected for refurbishments are not comparable to those not selected. Selected schools are more likely to be struggling and

have lower outcomes. Thus, a naive analysis will fail to disentangle the impact of new school facilities from the impact of other confounding factors.

Most of the existing causal studies focuses on the US. Overall, there is no consensus on this issue, but the majority of studies find positive effects (Jackson, 2019). The main empirical approach used in these studies is a regression discontinuity design. It relies on the fact that school facilities investments are decided by school districts through bond elections.

The basic idea is that even if districts in which a bond measure passes tend to be different from districts where bond measures fail, these differences likely shrink as comparisons focus on close elections. When this condition holds, we can attribute outcome differences between students who live in districts that narrowly pass and fail to better school facilities (Martorell et al., 2016). Several studies using this empirical approach find no statistically significant impact on pupil achievement (Martorell et al., 2016; Cellini et al., 2010; Goncalves, 2015) but others find small positive impacts (Conlin and Thompson, 2017; Hong and Zimmer, 2016).



# 10%

increases of test scores in maths  
after spending four years in new  
school facilities, according to one  
US study

Another frequently used approach is to compare the evolution of pupil outcome within schools, before and after renovations, through an event study. Papers using this method also find positive impact (Neilson and Zimmerman, 2014; Lafortune and Schonholzer, 2019). For example, Lafortune and Schonholzer (2019), analyse a large disadvantaged school district in Los Angeles and find that spending four years in new school facilities increases test scores by 10 % of a standard deviation in math and 5 % in English. This effect is quite large: by comparison, a 10 % variation in teacher pay translates into a 2% variation in student performance (Britton and Propper, 2016).

According to Lafortune and Schonholzer (2019), the main mechanism through which better school facilities improve pupil attainment is non-cognitive improvements: pupils are less absent and teachers report greater effort.

## But there is not enough evidence on the impact of improved school facilities in England

Since the early 2000s, both the Labour and coalition governments have implemented school renovation programmes. Building Schools for the Future (BSF) was launched by the Labour government in 2003. It aimed at refurbishing or rebuilding all 3,500 secondary schools in England over 18 years, with an estimated cost of £55bn. BSF focused on the most deprived local authorities in order to reduce educational inequalities. BSF encountered many difficulties during its implementation, especially regarding building quality (Mahony and Hextall, 2013). In July 2010, Education Secretary Michael Gove decided to cancel this programme saying it was wasteful and bureaucratic.

BSF was replaced by the Priority School Building programme in 2014 in order to get “more value for money”. The Priority School Building programme, which runs out next year, spent £4.4bn on 537 repair and rebuild projects in schools buildings in the worst conditions across the country.

# £4.4bn

how much the Priority School Building programme has spent since 2014



Unfortunately, despite the considerable amount of public money dedicated to these programmes, there is very little evidence on their impact. To our best knowledge, there is only one study on BSF (Thomson, 2016). This study compares, using quasi-experimental methods, renovated schools to those whose projects were cancelled when the coalition government came to power in 2010. Results

show that BSF has no impact on pupil attainment, which raises the question of its cost-efficiency.

## Summary

There is very limited evidence on the impact of school facility expenditures on pupil attainment. Overall, most international evidence, focused on the US, suggests positive effects. Better school facilities are in particular reported to improve pupils' and teachers' effort.



***“More research is needed”***

In England, large scale programmes have been implemented since the early 2000s. Despite the considerable amount of public money dedicated to these programmes, there is very little evidence on their impact.

More research is needed on this issue in England. Policymakers should commission more research, especially noting potential disparities regionally. They should target school building expenditure on areas of deprivation with low school attendance.

Future research should:

- compare school/pupil outcomes in schools before and after receiving capital investments with schools not receiving such investments.
- collect detailed data on criteria of eligibility for capital investments,
- collect detailed spending of what exactly was improved, such as classrooms, heating or sport infrastructures.

## References

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