

School funding, pupil performance and crime

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This Data Insight summarises findings from working with the Ministry of Justice & Department for Education linked dataset - England. Using data from the National Pupil Database and the Police National Computer, the research analyses the effect of school funding programmes on crime. The data was made available through the Ministry of Justice Data First initiative funded by ADR UK.

Background

This project aimed to assess whether three school funding programmes that have been found to have raised pupil attainment also had the effect of reducing the proportion of pupils committing crime. This study focuses on the effect of the two programmes that targeted funding toward secondary schools* that were linked to a larger government initiative, Excellence in Cities. These programmes were:

- **The Leadership Incentive Grant** – A programme from 2003-2006 that provided additional funding (approximately £0.5 million) to secondary schools with low GCSE pass rates and/or high proportions of pupils eligible for free school meals. This programme was never officially evaluated. However, Cook (2021) found that the policy had a positive effect on pupils' GCSE performance, but that the effects took around four years to materialise.
- **Pupil Learning Credits** – An early forerunner of the pupil premium policy where, in 2001, secondary schools in mostly urban areas with high proportions of pupils eligible for free school meals were allocated additional per pupil funding. This was to support additional provision for disadvantaged pupils aged 11-14. The official evaluation of this programme³ found a positive effect on age 14 (KS3) maths attainment.

* The effect of a programme targeted at primary schools is the subject of a separate Data Insight publication.

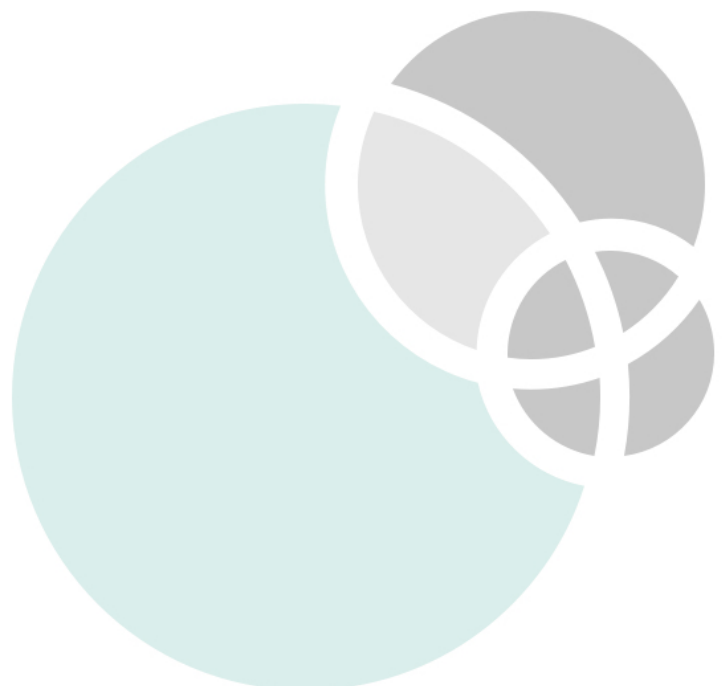
What we did

The methodology was based around estimating the causal effects of both programmes on crime, using regression models on the linked datasets.

Both the Leadership Incentive Grant and the Pupil Learning Credits programmes were awarded to schools on pre-determined thresholds that related to either their percentage pass rate at GCSE or their percentage of pupils eligible for free school meals. This feature of funding eligibility enables researchers to use 'regression discontinuity' methods to discover whether an intervention is the cause of a particular outcome. This approach is based on the idea that if a policy stops being implemented over a threshold of a certain variable (for example, if a school achieves above a particular percentage pass rate at GCSE), then the effects of the policy can be estimated by observing whether outcomes 'jump' over this threshold.

For example, for a certain group of schools, eligibility for Leadership Incentive Grant funding was based on whether schools had 30% or less of pupils attaining five A*-C grades at GCSE in 2000 or 2001. I can then test for whether subsequent education and crime outcomes are significantly higher or lower according to whether a pupil was enrolled in a school either side of this threshold. Likewise, Pupil Learning Credits funding was awarded to schools whose proportion of pupils eligible for free school meals was greater than 35% in 2000, so I can test for the effect of this funding on outcomes in a similar way. In both cases, I also estimated the effect of the policy using propensity score matching; this method matches pupils affected by the policy with pupils not affected by the policy based on pupil level characteristics such as prior attainment, ethnicity and gender.

Crime outcomes were defined as a binary outcome of whether an individual had a record in the PNC. This ranged from a simple measure of 'record' or 'no record', to more detailed measures of whether an individual had a record for a certain type of crime, and whether a custodial sentence was imposed.



What we found

The Leadership Incentive Grant did not seem to affect crime outcomes

While the research was able to replicate earlier published work on the effect of the Leadership Incentive Grant on GCSE performance, implementing the same methods on crime outcomes indicated that the policy had no effect on crime outcomes.

There are a few possible reasons for this that can be speculated upon: although the Leadership Incentive Grant seems to have increased GCSE performance on the broad summary measure of GCSE performance, further analysis revealed that it did not appear to do so on GCSE passes in English and Maths. It may be that these qualifications are the most important in terms of post-16 education and labour market outcomes, which in turn may be influential on the likelihood of involvement crime.

Secondly, at the time, the accountability framework for schools concentrated on increasing the percentage of pupils with five A*-C grades at GCSE. This may have incentivised schools to focus resources on pupils predicted to achieve at the grade C/D borderline, whereas my analysis finds that those most likely to commit crime tend to have GCSE attainment further down the attainment scale.

The results from the analysis of the Pupil Learning Credits programme were mixed

The analysis of the Pupil Learning Credits programme replicated the results of the official evaluation. This research found that the intervention increased maths attainment at age 14 for pupils affected by the policy by around 5 percentage points (the official evaluation estimated this effect to be around 2-3 percentage points).

It also extended the original evaluation findings by showing that these benefits were sustained – subsequent maths GCSE performance was also increased for schools affected by the Pupil Learning Credits programme. Focussing specifically on pupils who were targeted by the policy – those eligible for free school meals – finds larger effects on attainment. There appears to be quite strong evidence that this policy delivered on its objectives, that is, to raise the attainment of disadvantaged pupils via increased per pupil funding.

However, the results for crime outcomes were less certain; although my research found crime reducing effects, these were not statistically significant. This may be due in part for the reasons outlined above with regards to school accountability.

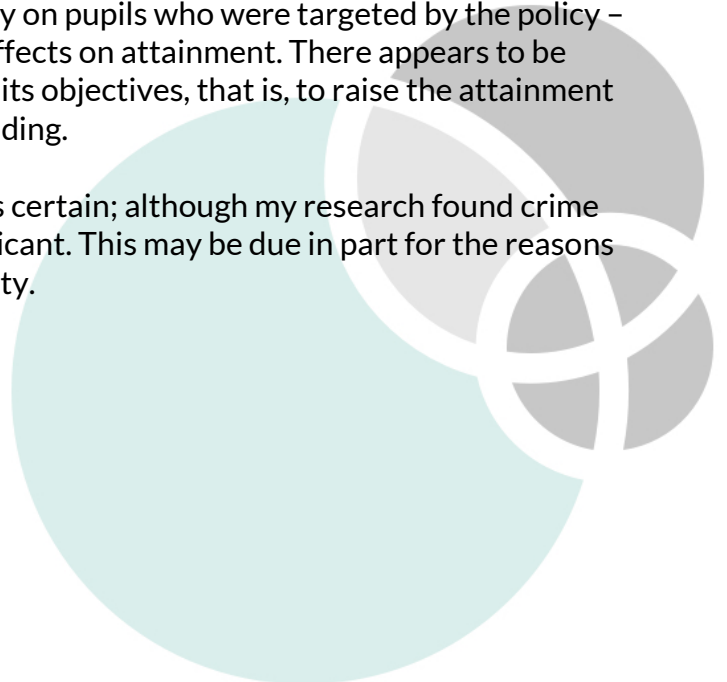
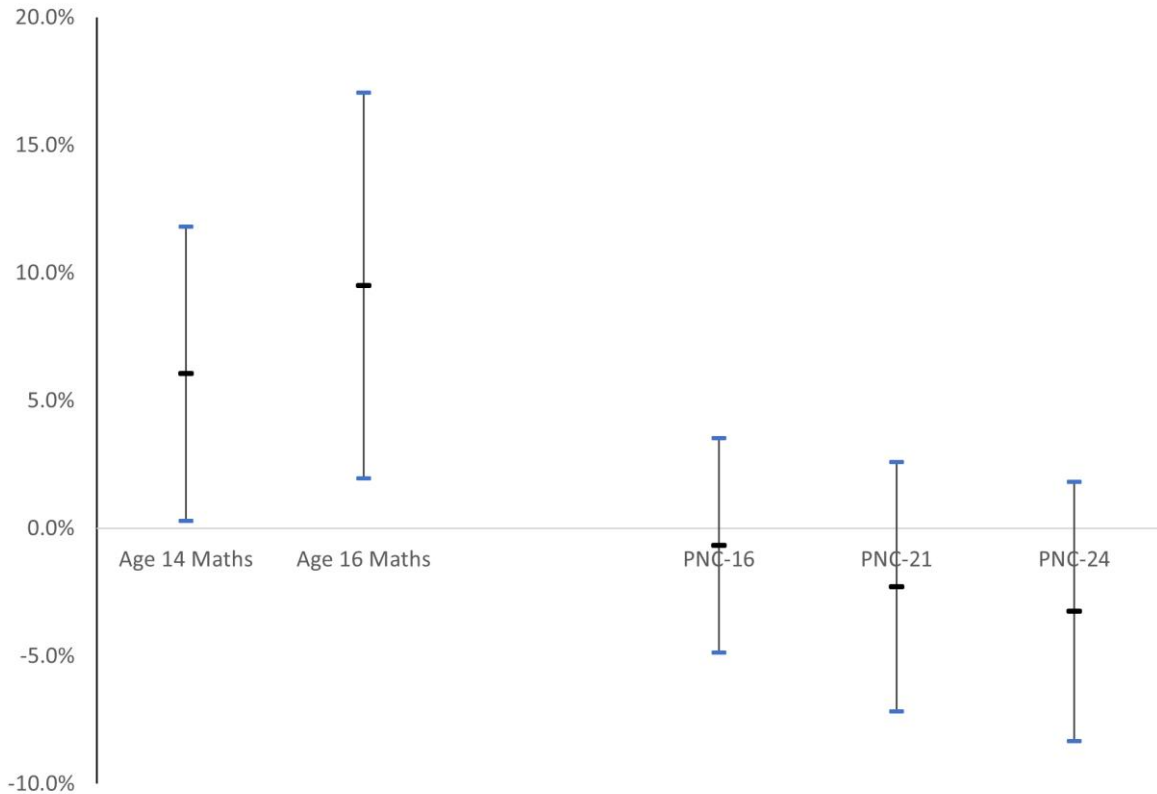
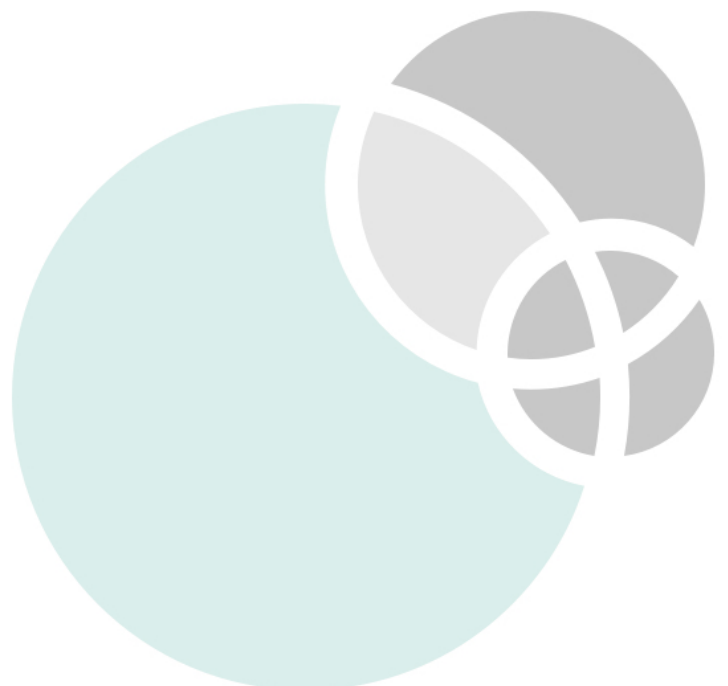


Chart 1 – estimated effects of the Pupil Learning Credits programme on attainment and crime outcomes Regression Discontinuity method



Note: Outcomes are as follows: Age 14 Maths = achieving the expected level or above in KS3 maths assessment; Age 16 Maths = Achieving grade C or above in GCSE maths; PNC-X = having a record on the Police National Computer at age X or under.



Why it matters

Both the Leadership Incentive Grant and Pupil Learning Credits policies targeted funding towards schools with low attaining, disadvantaged intakes of pupils. These intakes are also those that have characteristics that are correlated with higher criminal activity¹. The policies were quite different in their design – the Leadership Incentive Grant increased school funding for improved school management, whereas the Pupil Learning Credits policy awarded increased per pupil funding directed at additional provision for disadvantaged 11-14 year olds. Both policies aimed to improve GCSE performance of the targeted groups and appeared to have achieved this. However, neither policy detectably affected crime outcomes.

One of the reasons for this may be that increasing the focus on GCSE performance may have had the effect of incentivising schools to concentrate on improving published school performance measures, which may only weakly correlate with pupils' long-term outcomes. Indeed, research² suggests that high performing schools in terms of academic results may not be the most effective in terms of improving pupils' non-cognitive outcomes, such as avoiding criminal behaviour.

A second reason for the seemingly ineffective approach of both policies in reducing crime despite their positive educational effect is that they both targeted pupils in secondary school. It may be that trajectories toward criminal behaviour are more strongly influenced by factors earlier on in an individual's life. Secondary school might therefore be 'too late' to substantially influence crime outcomes, at least via education policy.

Improved the quality of education is typically suggested as a means of preventing crime. What my work demonstrates is that this is not a given and that further work is needed to understand how best resources might be allocated in education to contribute to this aim.

What next?

A number of changes to school funding arrangements have occurred since the policies considered as part of this study. Most notable is the implementation of pupil premium funding in 2011. This targeted funding at pupils from disadvantaged backgrounds. Future work may attempt to evaluate whether this funding resulted in reduced crime, though the design of the policy makes evaluation challenging.

As the Ministry of Justice & Department for Education linked dataset expands to more cohorts, the opportunities for assessing the effects of education policy on crime increase. One such area is testing for whether interventions funded by the Education Endowment Foundation have any effect on crime; another would be to test whether other national level education policies like the promotion of synthetic phonics have any crime reducing effects.

Acknowledgements

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About ADR UK

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