

Judging the impact of Pupil Premium policy

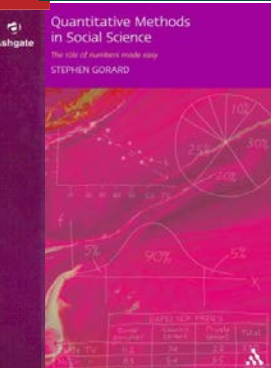
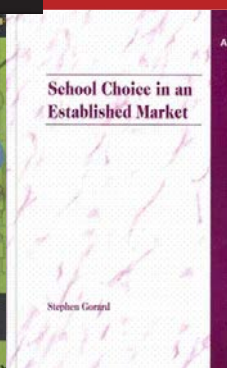
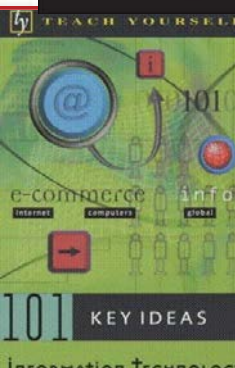
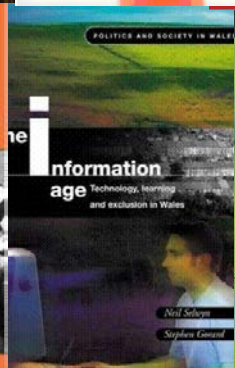
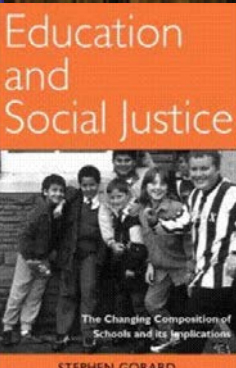
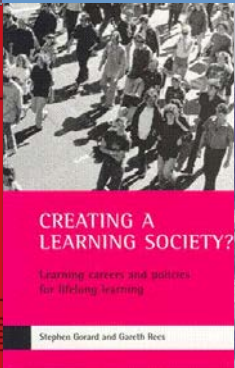
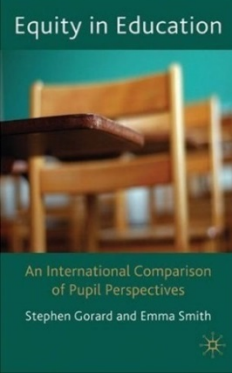
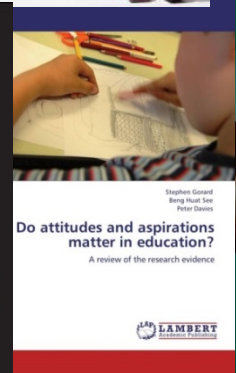
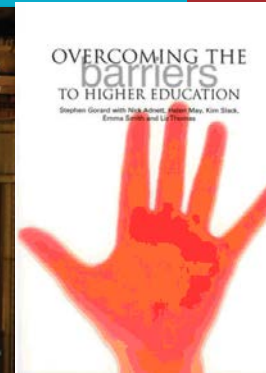
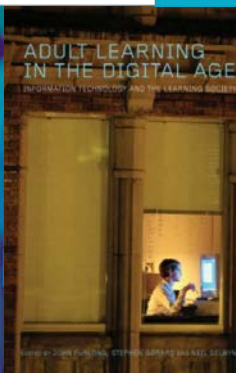
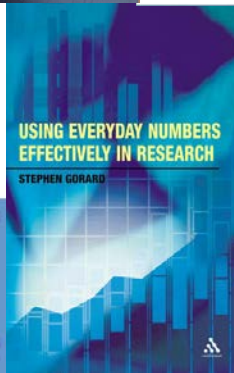
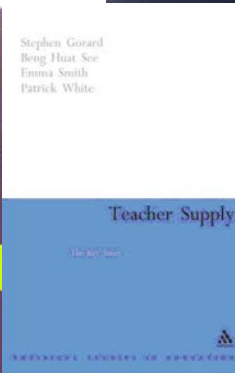
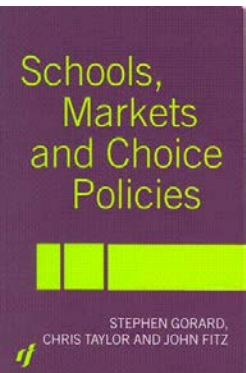
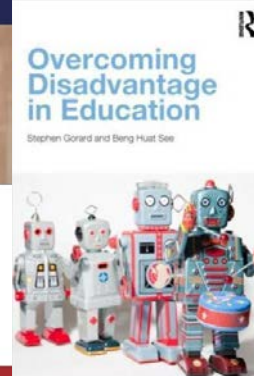
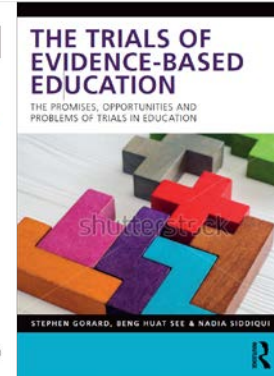
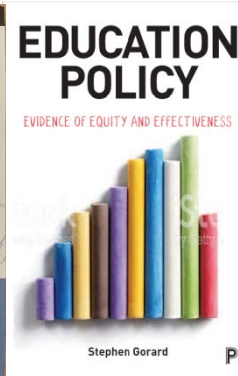
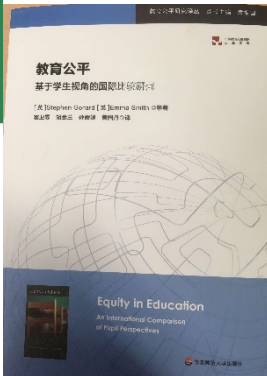
Stephen Gorard, Nadia Siddiqui and Beng Huat See

Durham University Evidence Centre for Education, <https://www.dur.ac.uk/dece/>

s.a.c.gorard@durham.ac.uk

@SGorard

How can we get educators to use research evidence?
A review of the best ways to get evidence into use from many areas of public policy
Stephen Gorard, Naomi Griffin, Beng Huat See and Nadia Siddiqui



NPD derived explanatory variables for modelling KS4 outcomes

Missing data

Flag variables for each year a pupil has any characteristic not known

Attainment

Mean KS1, 2 3 and 4 scores for each school

Pupil characteristics

The month of birth in the school year – relative age within year group

The number of years in total a pupil was eligible for FSM, or identified as EAL or SEN, up to KS2, 3 and 4

Flag variables representing each category of ethnic group (Major), SEN or not, and SEN statement or not, for each year

Flag variables representing whether a pupil was FSM-eligible for every year of their schooling

School and home

The number of pupils, and the number of pupils in each background category, in each school

The between school FSM-segregation residual, for each school

The between school segregation residual of pupils always identified as FSM-eligible, for each school

Flag variables representing school type, such as Academy Converter or not

Economic region of England

Whether a pupil attended school in the same local authority as residence

Whether a pupil attended school in an area with grammar schools

Estimate of variation in KS4 outcomes explained by each step of the model

Year	R	Increase in R	Variables
1 (primary school start)	0.546	-	2005 background, missing values
	0.576	0.030	2005 school mean background
2 (KS1 end)	0.578	0.002	2006 background, missing values
	0.579	0.001	2006 school mean background
2 (KS1 attainment)	0.684	0.106	KS1 scores for pupil
	0.685	0.001	KS1 scores school, interaction
3 (KS2 start)	0.692	0.007	2007 background, missing values
	0.693	0.001	2007 school mean background
4	0.701	0.008	2008 background, missing values
	0.701	-	2008 school mean background
5	0.708	0.007	2009 background, missing values
	0.709	0.001	2009 school mean background
6 (KS2 end)	0.717	0.008	2010 background, missing values
	0.718	0.001	2010 school mean background
6 (KS2 attainment)	0.820	0.102	KS2 scores for pupil
	0.821	0.001	KS2 scores school, interaction
7 (secondary school start)	0.826	0.005	2011 background, missing values
	0.827	0.001	2011 school mean background
8	0.829	0.002	2012 background, missing values
	0.829	-	2012 school mean background
9 (KS3 end)	0.833	0.004	2013 background, missing values
	0.834	0.001	2013 school mean background
9 (KS3 attainment)	0.883	0.049	KS3 scores for pupil
	0.885	0.002	KS3 scores school, interaction
10 (KS4 start)	0.888	0.003	2014 background, missing values
	0.888	-	2014 school mean background
11 (KS4 end)	0.899	0.029	2015 background, missing values, summary
	0.900	0.001	2015 school mean background, summary
11 (KS4 type of school)	0.900	0.000	Region and type of school

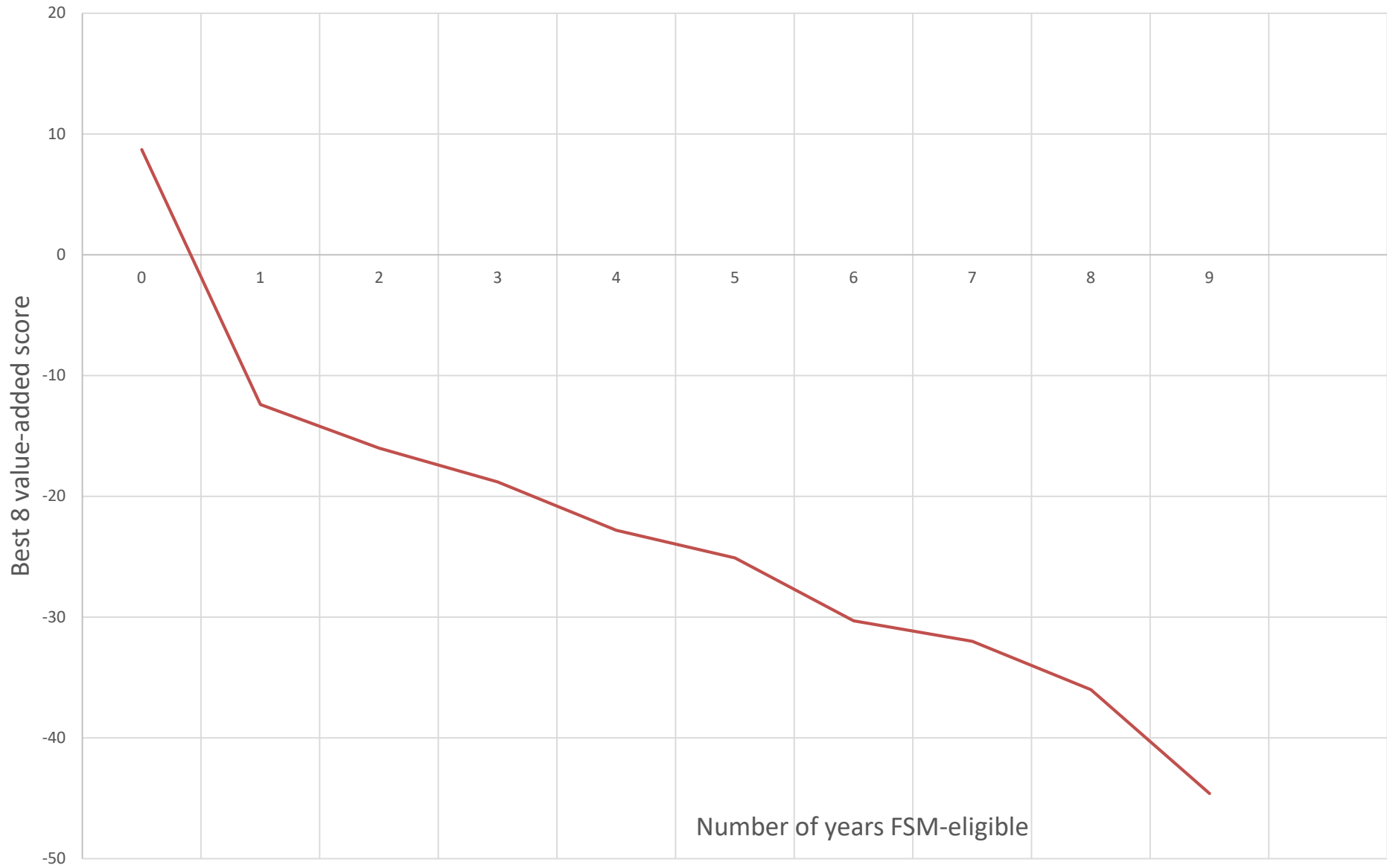
Standardised regression coefficients, Years 1 to 6 at school

Variable	Year 1	Year 2, KS1 end	Year 3	Year 4	Year 5	Year 6, KS2 end
Individual predictors						
Sex of pupil	0.080	-	-	-	-	-
Age in year	-0.012	-	-	-	-	-
FSM eligible	-0.217	-0.083	-0.053	-0.053	-0.051	-0.054
FSM missing	-0.035	-	-	-	-	-
SEN statement	-0.282	-	-0.127	-0.143	-0.148	-0.154
SEN no statement	-0.321	-	-0.116	-0.131	-0.138	-0.148
SEN missing	-0.073	-	-0.070	-0.046	-0.056	-0.085
English not first language	0.075	0.034	0.064	0.033	0.016	-0.021
Language missing	0.026	0.003	0.021	0.001	0.020	0.030
Ethnic group Black	0.024	-	0.016	0.009	0.012	0.007
Ethnic group Asian	0.014	-	0.029	0.032	0.028	0.026
Ethnic group Chinese	0.025	-	0.019	0.020	0.019	0.021
Ethnic group other	0.027	-	0.019	0.017	0.021	0.019
Ethnic group missing	-	-	0.016	0.017	0.005	0.018
Travelled to another authority	-	-0.010	-0.005	-0.005	-0.006	-0.007
School and area predictors						
IDACI score	-0.132	-0.072	-0.044	-0.040	-0.030	-0.021
Number of pupils in school	-0.005	0.021	0.004	0.011	-0.028	-0.008
FSM level in school	-	-0.023	-	-0.021	-	-
FSM segregation, school	-0.052	-	-0.022	-	-0.039	-0.019
SEN statement level, school	-0.087	-	-0.040	-0.025	-0.046	-0.030
SEN no statement level, school	0.008	-	-0.010	-0.015	-0.019	-0.012
End of KS						
School mean years FSM	-	-	-	-	-	-0.051
Individual points score	-	0.408	-	-	-	0.574
School mean of points score	-	-0.037	-	-	-	-0.040

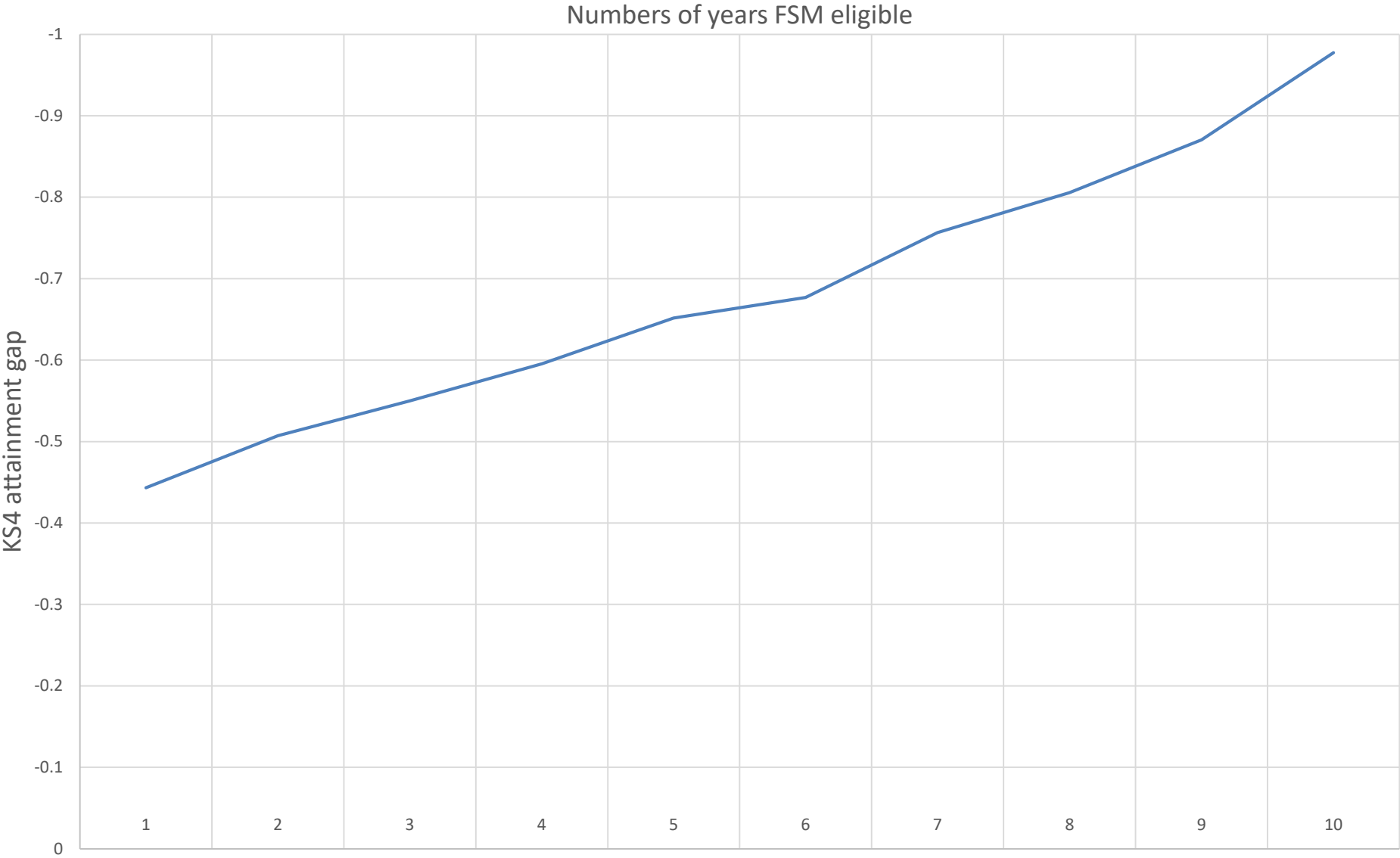
Standardised regression coefficients for KS4 Region and school type

Variable		Standardised coefficient
School in NE England or not		0.003
School in area with grammar schools		0.001
Community school or not		-0.004
Comprehensive school or not		-0.002
Grammar school or not		-0.020
Academy converter or not		-
Free school, Studio or UTC		0.003
Voluntary-aided (faith) or not		-
Voluntary controlled (faith) or not		0.001
Special school or not		0.026

Comparison of Best 8 value-added scores by years FSM, England, KS4 capped points, 2015

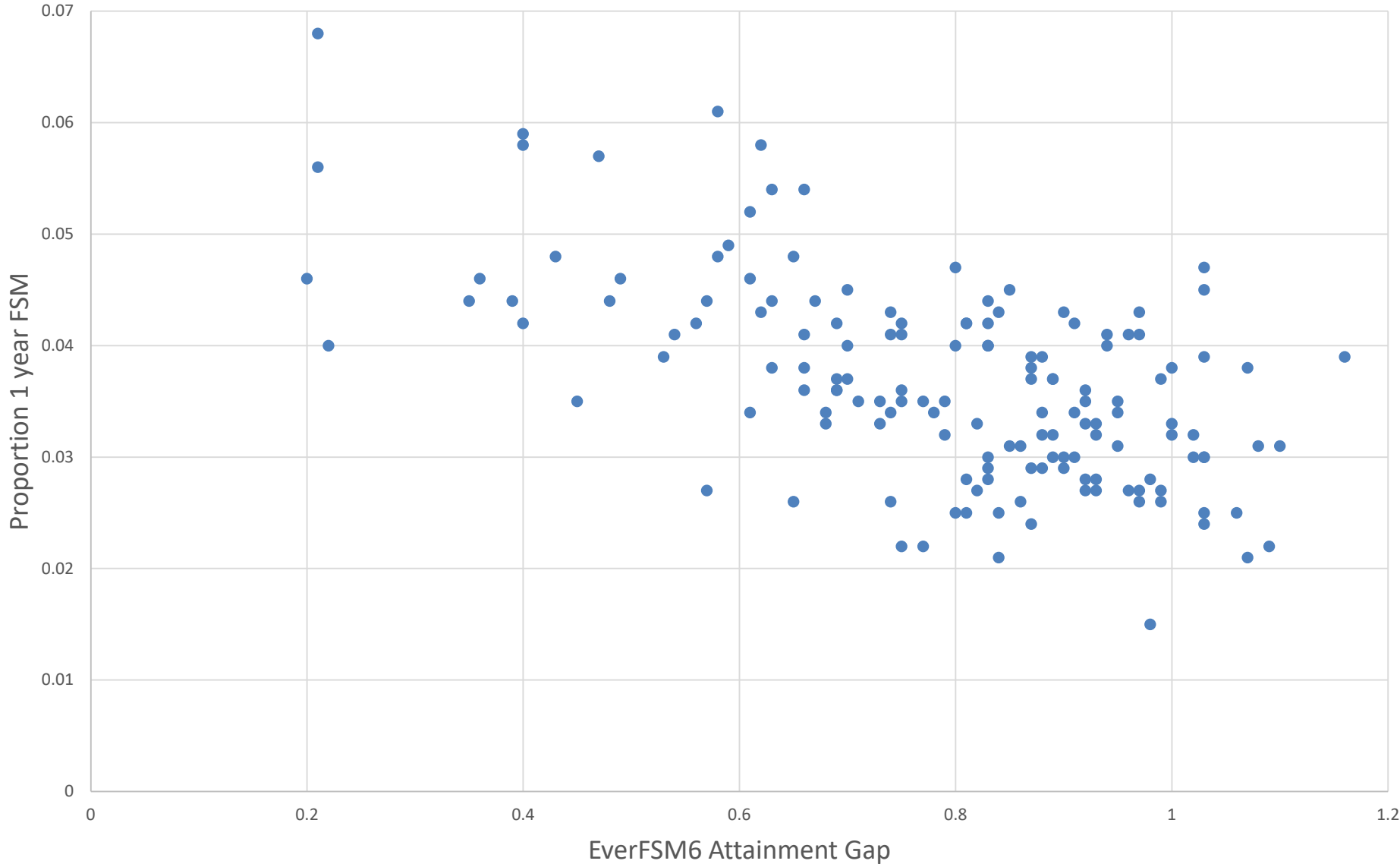


Comparison of attainment gap by years FSM, England, KS4 capped points, 2015



The research described here was funded by ESRC grant number ES/N012046/1

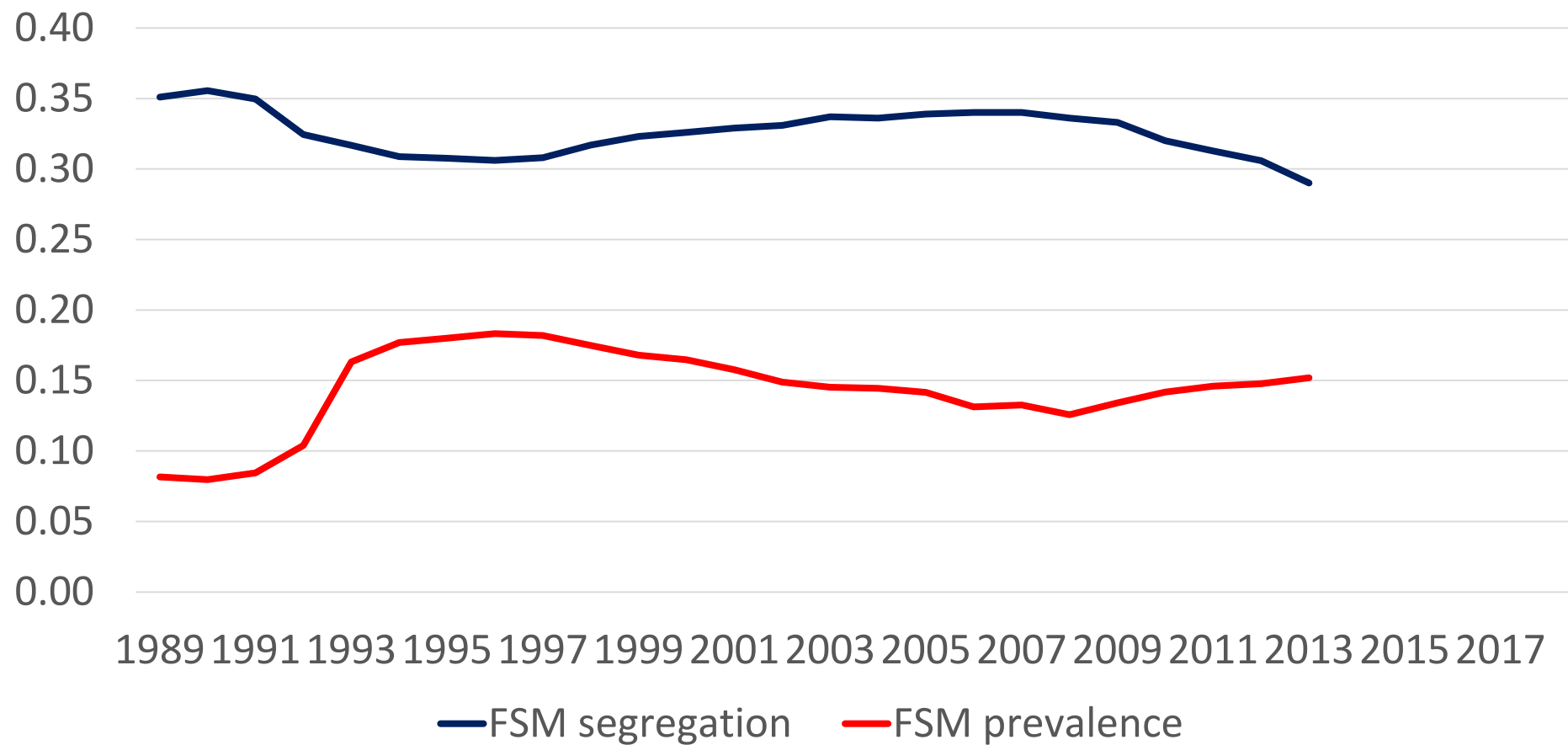
Comparison of local authority EverFSM6 attainment gap by proportion of pupils FSM-eligible for only one year, KS4 capped points,



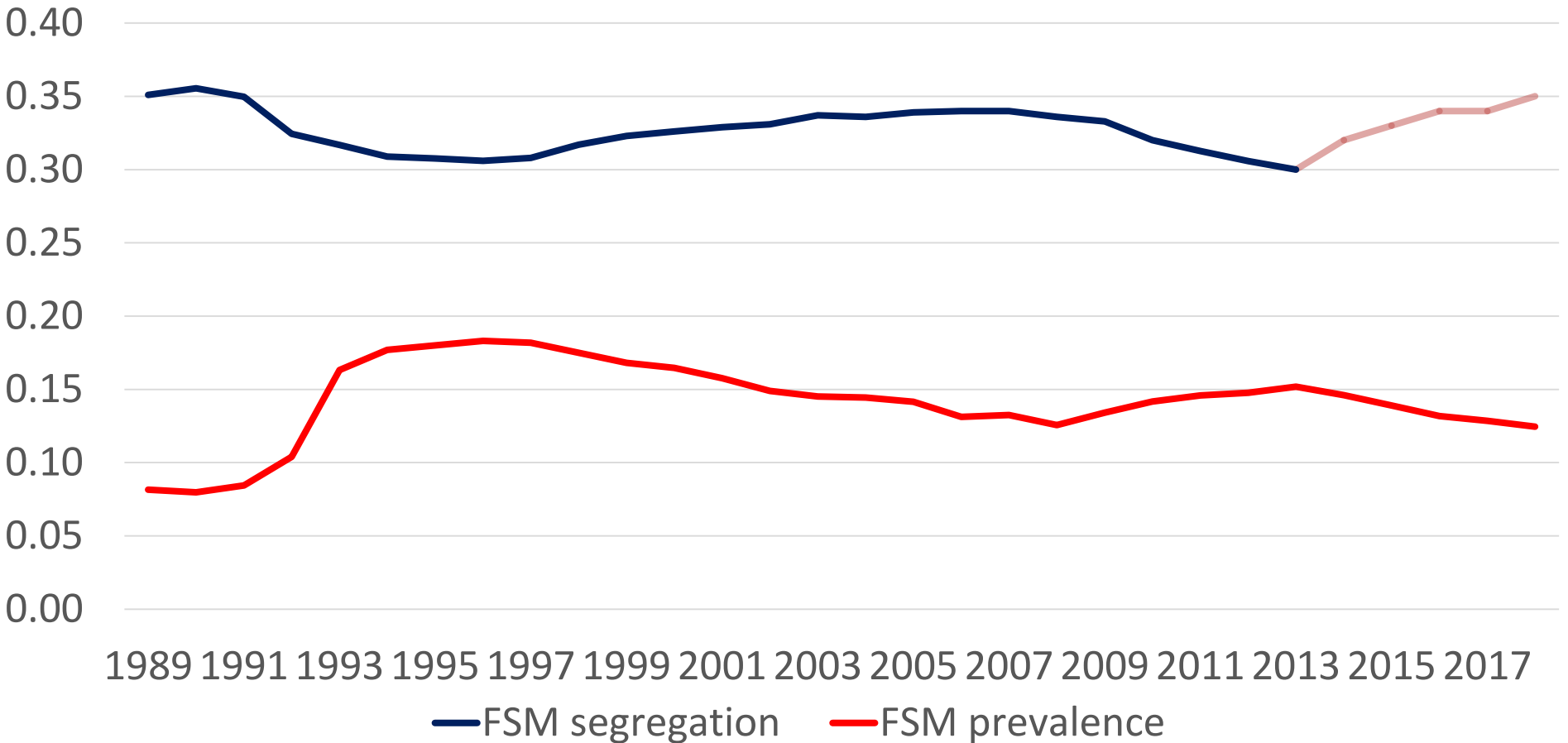
Examples of authorities from London and the north of England, 2015

Local authority	EverFSM6gap	Percentage only one year FSM	Percentage only two years FSM	Percentage in private school	Residual attainment gap
Leicestershire	0.83	0.038	0.028	0.063	-0.977
Warrington	0.84	0.041	0.025	0.001	-0.830
Westminster	0.47	0.061	0.057	0.285	+1.063
Lambeth	0.62	0.061	0.058	0.056	+1.558
ENGLAND	0.82	0.047	0.035	0.062	0

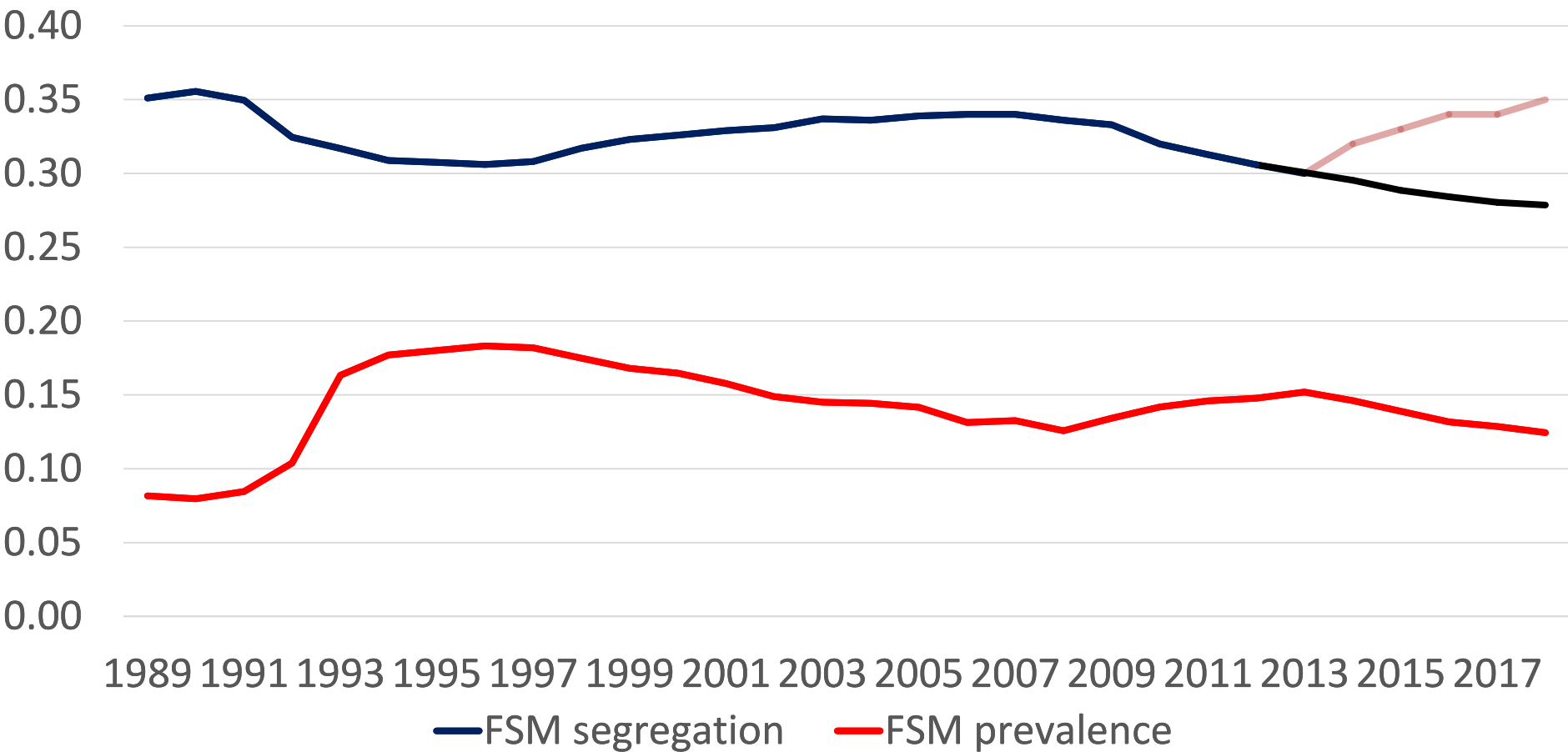
As the proportion labelled as living in poverty rises, they are more evenly spread between schools, and vice versa



After 2012, the proportion of pupils eligible for free school meals drops (in line with GDP).
Segregation 'should' increase

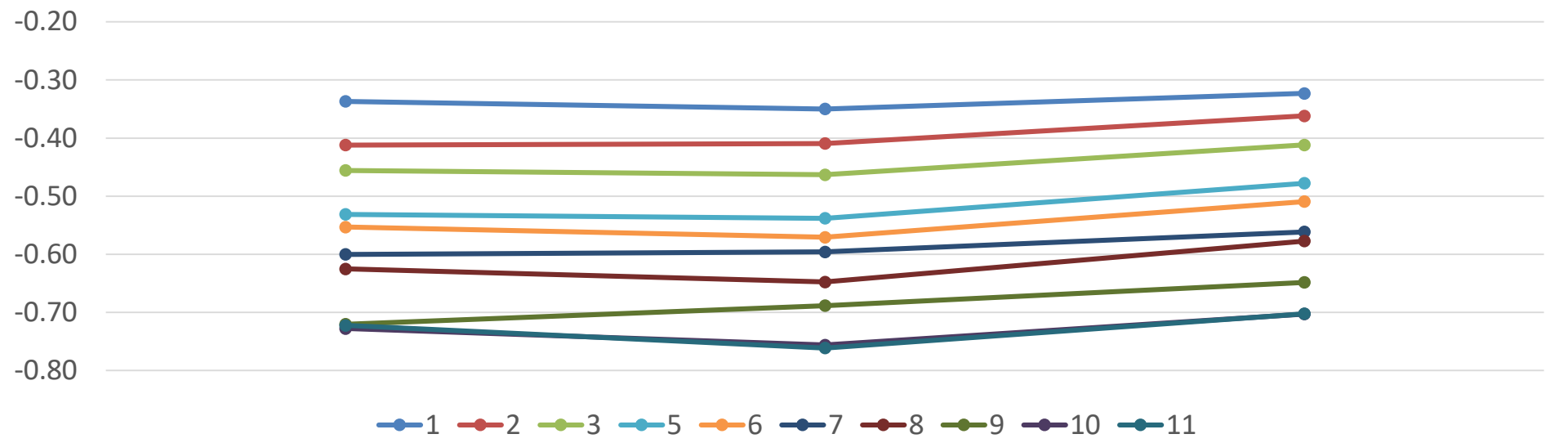


After 2012, the proportion of pupils eligible for free school meals drops (in line with GDP).
Segregation also drops

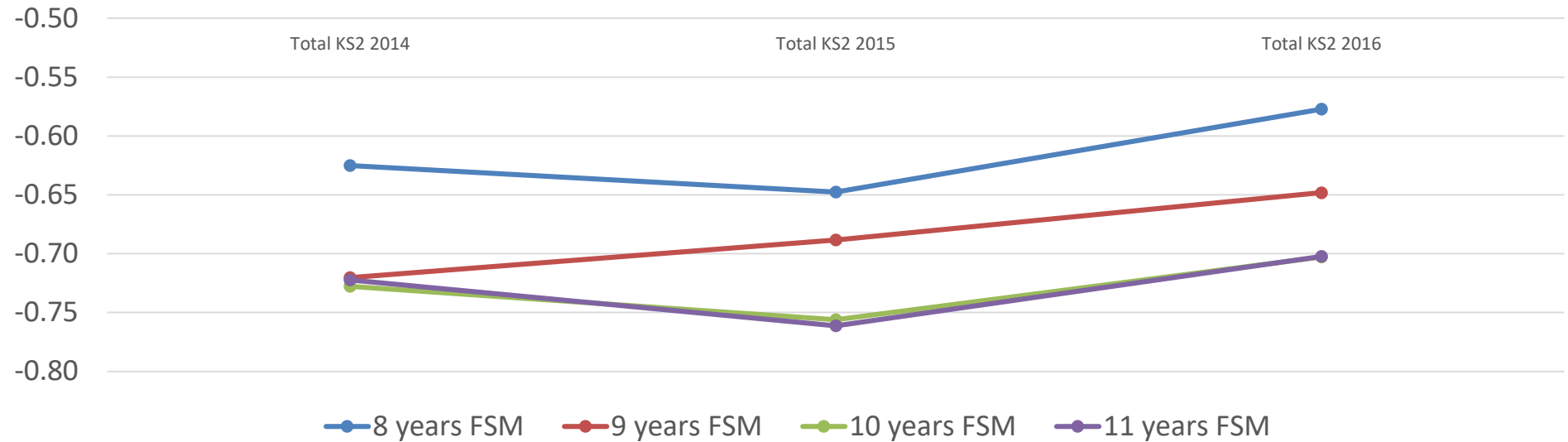
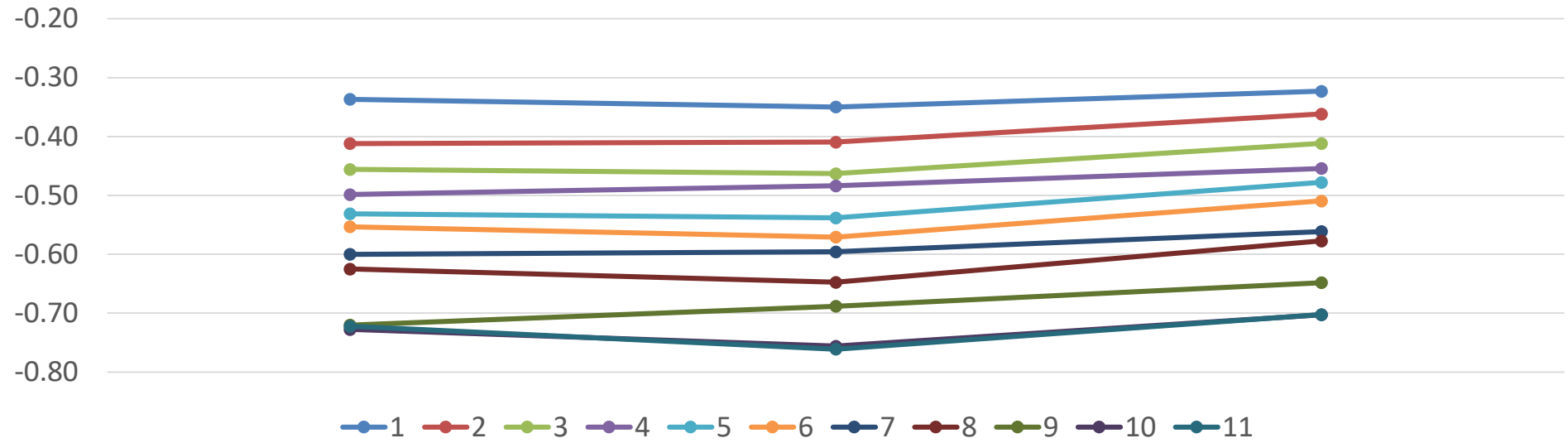


'Effect' size achievement gap at KS2, between FSM-eligible pupils and non-eligible

	2014	2015	2016
1 year FSM-eligible	-0.34	-0.35	-0.32
2 years FSM-eligible	-0.41	-0.41	-0.36
3 years FSM-eligible	-0.46	-0.46	-0.41
4 years FSM-eligible	-0.50	-0.48	-0.45
5 years FSM-eligible	-0.53	-0.54	-0.48
6 years FSM-eligible	-0.55	-0.57	-0.51
7 years FSM-eligible	-0.60	-0.60	-0.56
8 years FSM-eligible	-0.63	-0.65	-0.58
9 years FSM-eligible	-0.72	-0.69	-0.65
10 years FSM-eligible	-0.73	-0.76	-0.70
11 years FSM-eligible	-0.72	-0.76	-0.70

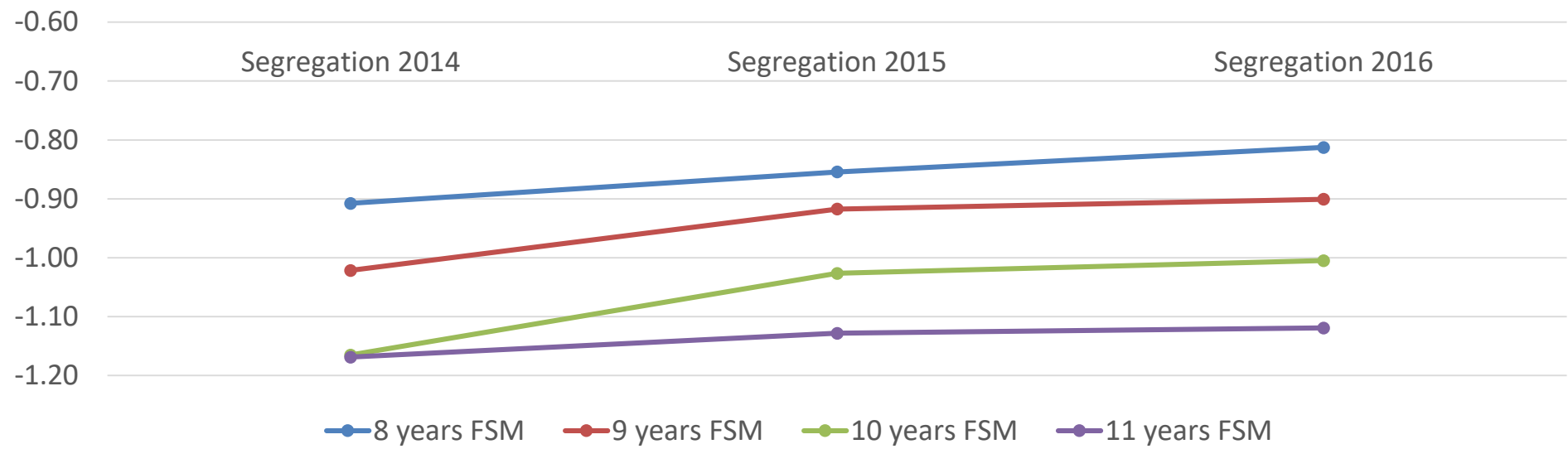
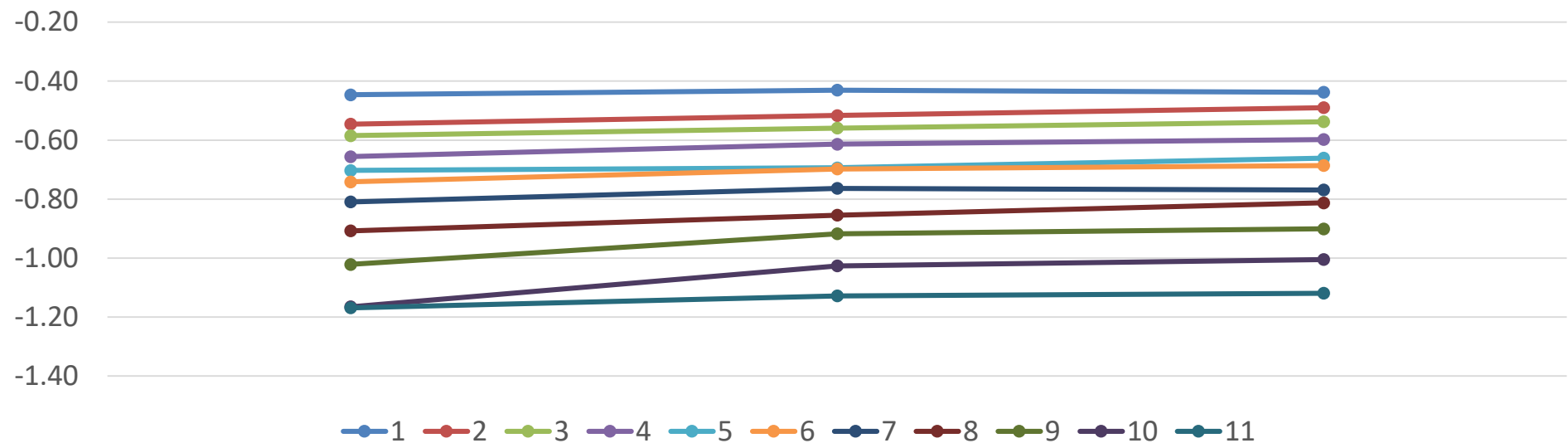


'Effect' size achievement gap at KS2, between FSM-eligible pupils and non-eligible



Similar for KS1

'Effect' size gap in school segregation, between FSM-eligible pupils and non-eligible



Relevant publications

- Gorard, S. (1999) Keeping a sense of proportion: the "politician's error" in analysing school outcomes, *British Journal of Educational Studies*, 47, 3, 235-246
- Gorard, S. (2005) Academies as the 'future of schooling': is this an evidence-based policy?, *Journal of Education Policy*, 20, 3, 369-377
- Gorard, S. (2009) Does the index of segregation matter? The composition of secondary schools in England since 1996, *British Educational Research Journal*, 35, 4, 639-652
- Gorard, S. (2012) Who is eligible for free school meals?: Characterising FSM as a measure of disadvantage in England, *British Educational Research Journal*, 38, 6, 1003-1017
- Gorard, S. (2015) The complex determinants of school intake characteristics, England 1989 to 2014, *Cambridge Journal of Education*, 46, 1, 131-146
- Gorard, S. (2018) *Education policy: Evidence of equity and effectiveness*, Bristol: Policy Press
- Gorard, S. and Siddiqui, N. (2019) How trajectories of disadvantage help explain school attainment, *SAGE Open*, forthcoming
- Gorard, S. and Taylor, C. (2002) What is segregation? A comparison of measures in terms of strong and weak compositional invariance, *Sociology*, 36, 4, 875-895
- Gorard, S., Siddiqui, N. and Boliver, V. (2017) An analysis of school-based contextual indicators for possible use in widening participation, *Higher Education Studies*, 7, 2, 101-118