



Socioeconomic Concentration of Private Schooling in Britain

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Motivation

In Britain, private schooling has been associated with considerable labour market advantages.

Because high up-front fees limit access for all but high-income families, the sector is believed to contribute to low social mobility.

- ➔ But little is known about whether participation is becoming more or less exclusive to affluent families, or about the effects of financial resources beyond current income
- ➔ Moreover, there has been no assessment of widening participation efforts by the sector through the distribution of bursaries or scholarships.

The British Private School System

- One in eleven schools in Britain are private
- Spending per student: ≈ 2.5 times larger than in state schools (-5.3% gap in DEU)
- Three-quarters are registered charities. No direct government support.
- Full autonomy over student intake, management, and curriculum.
- Participation rate stable at 7%

What has changed?

- School fees?: 60% rise in real terms since 2000. £14,280 per year for day school, £33,684 for boarding
- Income and income inequality?: Since 2009, no growth across the distribution. Top-income share has not risen.
- Housing market?: House price surge, but with regional differences. Housing wealth has become less leveraged since 2009.
- Financial support?: Around 30% of pupils in private school receive some fee reduction. Sector claims increasing number of bursaries open up schools to 'low-income' families.

Research Questions

1. How has the income concentration of private school attendance been changing in Britain?
2. To what degree is private school participation determined by permanent, not just current, income differences?
3. What is the effect of housing wealth gains on private school attendance?
4. How has the level of financial support from bursaries or scholarship changed, and how has its relationship with income changed?

Empirical Model

$$(1) \quad Pr(S_{ij} = 1 | Y_j, X_{ij}) = \beta_j Y_j + \delta X_{ij} + \varepsilon_{ij}$$

S_{ij} ... Private School indicator for child i from family j

Y_j ... Permanent financial income of family j

X_{ij} ... Set of controls (demographics, region, period effects)

$$(2) \quad Pr(S_{ij} = 1 | Y_j, X_{ij}) = \beta_j \tilde{Y}_j + \delta X_{ij} + v_{ij}$$

Where \tilde{Y}_j measures current income, $v_{ij} = -\beta_j \theta_j + \varepsilon_{ij}$

Data

- Family Resources Surveys, 2004-2015
- Annual cross-sectional survey of around 25k (20k from 2011) households on composition, economic activity, education, material deprivation, income and wider financial resources
- Restricted to children aged 5-15 years in private, non-pensioner households in Britain. $N_c = 80,779$ in 51,740 families
- Income variables from the Household Below Average Income.

Additional Data:

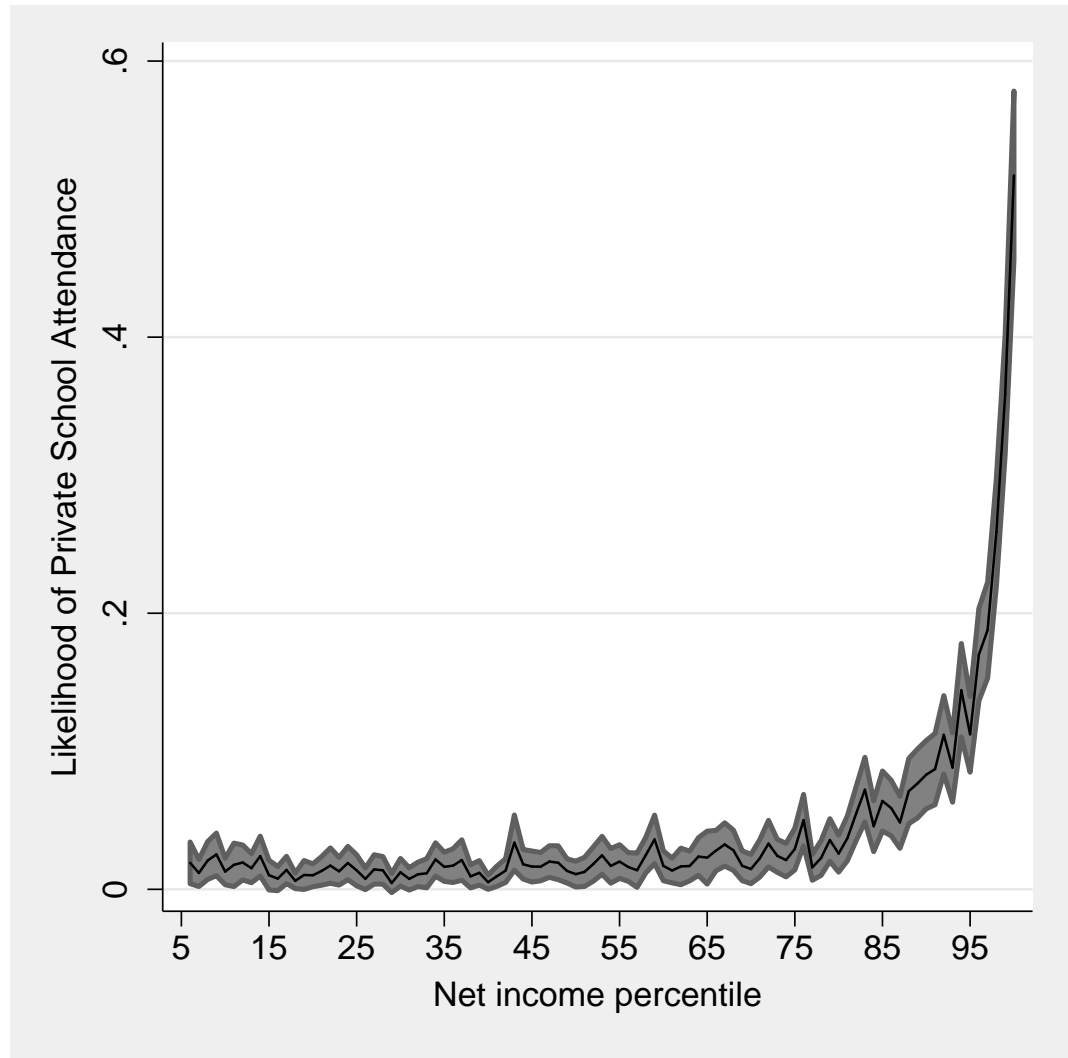
'Affordability'

(`Regional Day school fees` × `Number of children aged 5-15`) > .45 · `Net income`

(Short-term) House Wealth Gains:

- Projected house prices gains in the 4 years before the FRS interview
- Derived from initial house price for owner-occupiers in FRS in combination with the UK House Price Index at region level
- Expressed as average weekly changes in 2014 GBP

Participation across the income distribution



Income Concentration

Income Rank (decile)	1994-2003	2004-2015	2004-2015	
			2004-2008	2009-2015
	Concentration Index			
	0.580	0.549	0.553	0.545
	Income Composition of Private School Students			
10 th	0.483	0.487	0.484	0.490
8 th & 9 th	0.237	0.228	0.232	0.225
6 th & 7 th	0.114	0.105	0.103	0.106
≤5 th	0.165	0.179	0.181	0.179

Declining 'affordability': Proportion of families who may not be able to pay for private school out of current net income

Income rank	2004-2008	2009-2015	Δ
10 th	0.043	0.080	0.037
8 th & 9 th	0.294	0.438	0.145
6 th & 7 th	0.672	0.665	-0.007
$\leq 5^{\text{th}}$	0.852	0.886	0.033
Total	0.614	0.652	0.037

Bursaries and scholarships

Income rank	% in secondary private school in receipts of grants/ bursaries		Average real annual value of grants/ bursaries per student (in £)	
	2004-2008	2009-2015	2004-2008	2009-2015
High Affordability	13.4	12.0	526	475
Low Affordability	18.6	18.2	1,111	1,057
Total	14.8	14.1	680	676

Marginal effect of £100 more income per week on the likelihood of private school attendance

	(1) Pooled	(2) 2004-2008	(3) 2009-2015
Low	0.002***	0.002***	0.003***
Affordability	(0.000)	(0.000)	(0.000)
High	0.009***	0.010***	0.009***
Affordability	(0.000)	(0.001)	(0.001)
Diff	0.007***	0.008***	0.006***
	(0.001)	(0.001)	(0.001)

Permanent and current income

Control for 'luck': We use information on material wellbeing from FRS to derive an estimate 'luck' which we plug into the estimation model

Findings:

1. The marginal income effect rises from 0.5 to 0.8 percentage point.
2. Change in permanent income has the same estimated effect on the likelihood of private school attendance on families in the low- and high affordability 'region'
3. No significant change of the income effect over time

Housing wealth

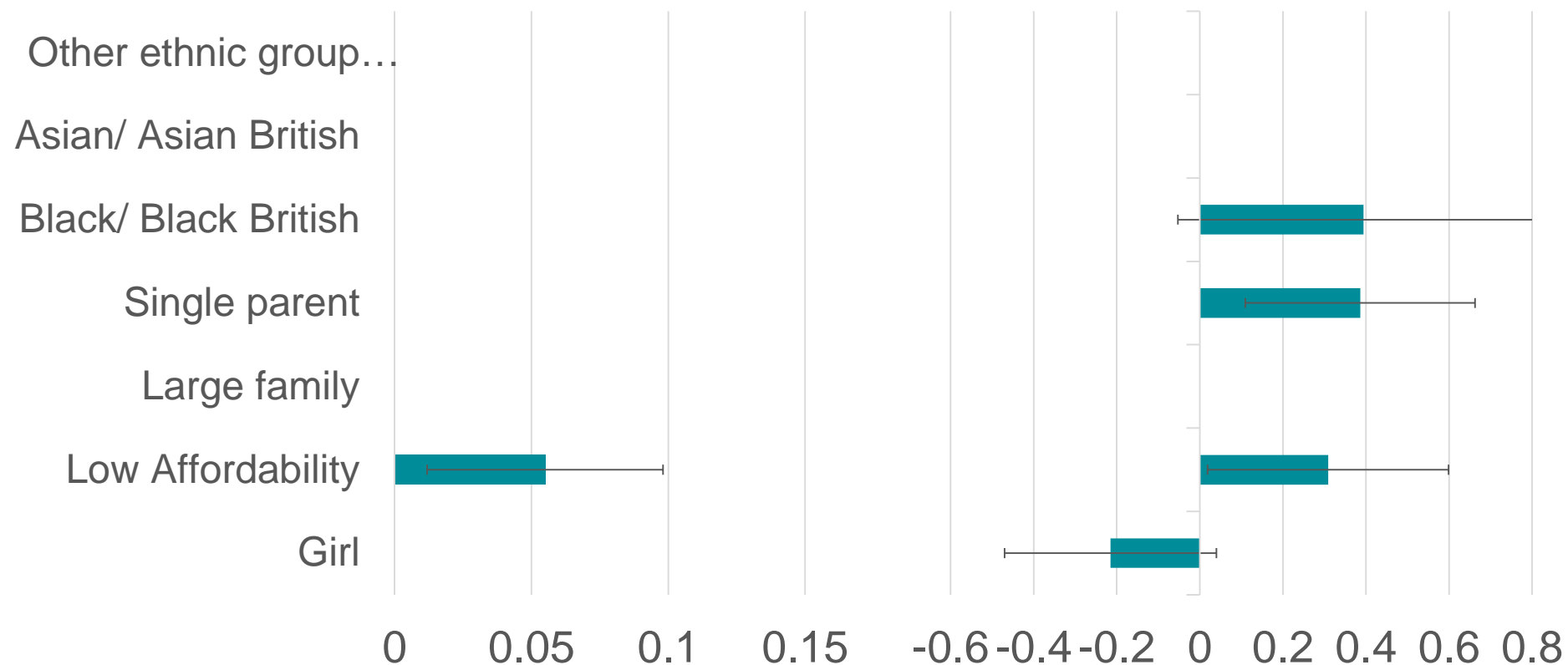
Marginal effect of £100 higher house price change per week on private school attendance

	(1)	(2)	(3)	(4)	(5)
	Pooled	2004-2008	2009-2015	Low Affordability	High Affordability
Net weekly income / 100	0.006*** (0.000)	0.004*** (0.001)	0.006*** (0.001)	-0.001 (0.001)	0.009*** (0.001)
Weekly house price gain/100	0.005*** (0.001)	0.006*** (0.001)	0.004* (0.002)	0.005*** (0.001)	0.005*** (0.001)
N	28,408	13,833	14,575	13,157	12,859

Bursaries/ scholarships

Likelihood of Financial Award

Award Value



Conclusions

- Private school remains concentrated among the affluent. Differences go deeper than current income.
- Current income matters, but more above a cut-point
- Permanent income and housing wealth are significant determinants of private school attendance.
- Financial awards favour families who could not otherwise afford private schooling
- But there is no sign that the sector has become more socially inclusive

Thank you!