The socio-economic gradient in teenagers’ reading skills: how does England compare to other countries?

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Background

• Social mobility has emerged as one of the key academic and political topics in the UK over the past decade

• Economics:
  - intergenerational income mobility has decreased in the UK
  - Stronger association in the UK than elsewhere

• Some disagreement by Sociologists about the above (Goldthorpe, Saunders)

• Nevertheless, seems to be broad agreement that education is one of the key drivers of intergenerational persistence

• Hence intergenerational educational mobility (i.e. link between family background and children’s attainment) a key topic in its own right
A model of intergenerational persistence

Three key stages:
(1) Development of cognitive (and non-cognitive) skills
(2) Investment in higher education
(3) Labour market entry and outcomes
Focus today……..

Three key stages:
(1) Development of cognitive skills
(2) Investment in higher education
(3) Labour market entry and outcomes
Aims of this paper

• Document the relationship between family background and teenagers’ reading skills

• How England currently compares to other countries on average

• Is the association between family background and low achievement greater in England than other developed nations…………..…………..or is it that low SES children struggle to obtain the highest level of skill?

• Is there evidence England has managed to weaken the association between family background and children’s outcomes over past decade?
Benefits of international comparison
**Why compare educational mobility cross-nationally**

- Some part of the association between parental abilities and children’s outcomes will be due to heredity.

- Hence difficult to know whether our estimates of this association are “big”

- Beller (2009) and Blanden (2009):
  - Cross-national studies provide a *comparative context*
  - Other countries act as a benchmark. Can assess whether the association in England is particularly “weak” or “strong”

- Becoming increasingly attractive with the advent of major international studies of children’s ability (e.g. PISA) over past decade
Comparator nations

• Focus on comparison between England and the Anglophone countries (US, Canada, Australia) plus Germany and Finland

• Countries England often compared with – particular focus of policymakers

• Anglophone countries of particular interest given that they share a number of similar features (language, culture, historical ties, income inequality) but differ in terms of intergenerational mobility

• Recent Sutton Trust social mobility summit focusing on the Anglophone countries

• Also compare to wider selection of 22 OECD nations
Inequality versus intergenerational income mobility

Anglophone countries similar in terms of income inequality…..

….. but intergenerational income elasticity bigger in UK/ US than Australia or Canada
Data
Data – PISA 2009

• Study of 15 year-olds’ skills in reading, maths and science held every three years

• Average response rate of both schools and pupils high (≈ 90%)

• In 2009, reading was assigned the “major domain” (my focus)

• 40 test points ≈ 1 year of additional schooling

• Family background – quintiles of parental occupation based on ISEI index.

• Compare High SES (Top quintile) VS Low SES (Bottom quintile)

• E.g. Doctors/Lawyers VS Labourers/Roofers
Methods
Follow existing literature (Schuetz 2008, Woessman 2004) in estimating ‘capture all’ regressions with only basic controls (gender, immigrant status).

• Hence estimates will reflect all the channels by which family background influences children’s performance

• I focus on results for:
  - the most advantaged 20% in each country VS the least advantaged 20% (i.e. top versus bottom ISEI quintile)
  - On average, and at each decile of the PISA reading test distribution
Methodology – OLS & Quantile regression

Low SES
High SES

OLS

QREG

x

Low SES
High SES

\( OLS \)

\( Q\text{REG} \)

\( x \)

\( M^L \)

\( M^H \)

\( Q^L \)

\( Q^H \)
Results
Relationship between family background and test scores by ability: 2009
**BUT** the relationship between SES and high achievement in England seems particularly strong

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Quantile regression results

Comparatively strong association between SES and high achievement.
Results – Change over time

Evidence of change in family background effect: 2000-2009
Results – Change over time

Test point difference between advantaged and disadvantaged groups

Percentile

- 2000
- 2003
- 2006
- 2009
......But caution is required

- How comparable is PISA data over time for England?
- I discuss this issue in another paper:

  “England's "plummeting" PISA test scores between 2000 and 2009: Is the performance of our secondary school pupils really in relative decline?”

- Some major changes to how survey is conducted……
  - Test month
  - Survey population
  - Response rates

- But evidence of weakening relationship between SES and educational attainment consistent with other papers (Gregg and Macmillan 2010; Sullivan et al, 2011)
Implications for policy

• Access to “elite” universities and top professions require candidates to have high level skills……..

• ……but very strong association in England between SES and high achievement (SES gap > 2 years of schooling)

• Such pathways are hence currently not viable options for most disadvantaged teenagers

• Key to widening university access, entry to top professions and top end social mobility is to reduce the link between family background and high achievement
Possible policy options…..

- **Raising aspirations** of disadvantaged young people (to boost attainment)?

- **Change incentives** of schools / pupils away from “floor targets”?

- **Targeted gifted and talented schemes**?

- **A return to CSE / O-Levels !!?**
Conclusions

• The difference between advantaged and disadvantaged children’s PISA 2009 reading test scores in England is similar (on average) to that in most other developed countries

• Yet the association between family background and high achievement seems to be stronger in England than elsewhere

• Some evidence of a reduction in the association between family background and average test scores since 2000

• Any reduction that has happened since 2000 seems to have occurred due to a narrowing of SES differences at the bottom of the test distribution