Socio-economic differences in higher education participation and outcomes

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Motivation: rising socio-economic inequalities in HE participation and degree acquisition over time

**Difference in HE participation/degree acquisition rates between those in the top and bottom income quintile groups**

- NCDS: HE participation at age 19
- BCS: HE participation at age 19
- BHPS: Degree acquisition by age 23
- Change: NCDS to BHPS

Motivation: what has happened since then?

- Participation in higher education has risen dramatically
- Fees and student support arrangements have changed significantly
- SES differences in some measures of attainment have been falling
SES gap in terms of % getting 5 A*-C grades in GCSEs and equivalents has fallen substantially.
Motivation: what does this mean for SES gaps in HE participation and outcomes?

• Changes to student finance:
  – Concerns that prospect of high fees/debt levels would create a barrier to participation/retention for poorer students and hence increase SES gaps

• Prior attainment:
  – Given key role in driving HE participation, poorer students “catching up” with their better off peers may decrease SES gaps

• Mass HE participation:
  – Potential “selection effects”: lower ability students may be less likely to complete their degree and less likely to graduate with a 1st or a 2:1
    • Effect on SES gaps ambiguous (depends where new participants are drawn from)

• Empirical question . . .
Plan for today

- Document socio-economic gaps in HE participation, drop-out, degree completion and degree class
- Explore the extent to which these gaps can be explained by differences in other characteristics, especially prior attainment
- Compare these results to differences by school characteristics (including differences in labour market outcomes)
- What policy implications can be drawn from our results?
Data

• Analysis of participation, drop-out, degree completion and degree class uses linked NPD-ILR-HESA data
  – Allows us to follow the population of pupils attending schools in England from age 11 through to potential degree completion

• Analysis of labour market outcomes uses DLHE data
  – Survey of those leaving university in 2007, 6 months and 3.5 years later

• Key covariates of interest:
  – Socio-economic status
    • Combine FSM eligibility at age 16 with measures of local area deprivation based on pupils’ home postcode at age 16
    • Split state school population into five equally sized groups based on this index
    • Add private school students to top quintile group
  – School performance:
    • % of pupils in school achieving at least 5 A*-C grades at GCSE
    • Pupils split into five equally sized groups on the basis of this measure
HE participation
Outcomes: HE participation

- Participation at any UK university for the first time at age 18 or 19
- Participation at a “high status” institution, where high status is:
  - Russell Group institutions (20 in total pre-2012)
  - Plus any UK university with a 2001 average RAE score higher than the lowest amongst the Russell Group (an extra 21 institutions)

- Focus on cohorts first eligible to participate 2004-05 to 2010-11
  - 34.7% participated for the first time at age 18 or 19
  - 12.0% attended a high status institution (34.7% of participants)
HE participation overall and at high status institutions for state school pupils first eligible to go in 2010-11, by SES

% pupils going to university at age 18/19: highest SES quintile group including state school pupils only

Source: authors' calculations based on linked schools and universities administrative data for the cohort first eligible to start university in 2010-11 (who sat their GCSEs in 2007-08)
HE participation overall and at high status institutions for all pupils first eligible to go in 2010-11, by SES

% pupils going to university at age 18/19: highest SES quintile group including state and private school pupils

Source: authors’ calculations based on linked schools and universities administrative data for the cohort first eligible to start university in 2010-11 (who sat their GCSEs in 2007-08)
What explains differences in HE participation between pupils from most and least deprived backgrounds?

Source: authors’ calculations based on linked schools and universities administrative data for the cohort first eligible to start university in 2010-11 (who sat their GCSEs in 2007-08)
Summary

• Large differences in HE participation overall and at high status institutions on the basis of socio-economic status
• But these gaps can largely be explained by differences in prior attainment between pupils from different backgrounds
  – Especially participation at high status institutions
• Particularly emphasise the substantial explanatory power of KS4
  – Addition of Key Stage 5 controls adds little to this picture
• Suggests that secondary school is a potentially vital period for interventions to “widen” participation in HE
Drop-out, degree completion and degree class
Outcomes: drop-out

• Drop-out in first or second year:
  – Defined only for those who went to university at age 18 or 19
  – Focus on those who leave the sector completely; anyone who transfers to another university is included in the zeroes

• Need to be able to observe three years of data to define measure
  – Means focus on those first eligible to go 2004-05 to 2008-09

• 11.5% drop-out on our measure
• Slightly lower (9.7%) if we focus on full-time first degree entrants
Outcomes: degree completion and degree class

- For both outcomes, focus on those completing within 5 years
  - Means need to be able to observe 5 years of data to define measure
  - Hence focus on those first eligible to go in 2004-05 to 2006-07

- Degree completion:
  - Defined for those who went to university at age 18 or 19 to study full-time for a first degree in a non-medical subject
  - 78.2% complete their degree within 5 years on our definition

- Graduate with a 1st or a 2:1:
  - Sample as above but additionally restricted to those who complete their degree within 5 years
  - 64.6% of degree Completers graduate with a 1st or a 2:1 on our definition
% of HE participants who drop-out, complete their degree and graduate with a first or 2:1, by percentile of socio-economic background

Source: authors’ calculations based on linked NPD-HESA data for the cohorts first eligible to start university between 2004-05 and 2008-09 for drop-out, and between 2004-05 and 2006-07 for degree completion and degree class.
What explains differences in university outcomes between pupils from high and low SES backgrounds?

Source: authors’ calculations based on linked NPD-HESA data for the cohorts first eligible to start university between 2004-05 and 2008-09 for drop-out, and between 2004-05 and 2006-07 for degree completion and degree class.
How does this compare to the differences between pupils from the highest and lowest performing schools?

Source: authors’ calculations based on linked NPD-HESA data for the cohorts first eligible to start university between 2004-05 and 2008-09 for drop-out, and between 2004-05 and 2006-07 for degree completion and degree class.
Summary

• Differences in HE outcomes smaller, on average, than participation, and in expected direction (but amongst selected sample)

• Controlling for attainment on entry to university substantially reduces SES differences; comparing students on the same courses makes little difference over and above accounting for attainment
  – Students from high SES backgrounds still, on average, less likely to drop out, more likely to complete degree and less likely to get first or 2:1 than students from low SES backgrounds

• Different picture when comparing outcomes by school performance
  – Students from high-performing schools are, on average, more likely to drop out, less likely to complete degree and less likely to get first or 2:1 once we account for differences in attainment prior to university entry
Policy implications?

• Attainment during secondary school still a key driver of progression and performance at university, so SES gaps in these outcomes may fall if attainment rises earlier in the school system.

• Differences by school characteristics suggest that pupils from low performing schools with the same attainment as those from high performing schools have, on average, higher “potential”
  – Universities may wish to account for this in making entry offers
  – If they do, they are likely to get it right on average

• Same is not true for individual/neighbourhood measures of SES
  – Does not mean that no students from lower SES backgrounds will go on to outperform students from higher SES backgrounds at university
  – But it is not true on average: makes it more challenging for universities to identify low SES students with high potential to do well
Early labour market outcomes
Is HE a route to social mobility?

- Returns to education in the UK largely accrue to qualifications
  - Also vary by institution, subject and degree class
- But those from low SES backgrounds are less likely to attend a high status institution, less likely to complete their degree and less likely to get a first or 2:1, even conditional on prior attainment
- Do such differences persist into the labour market too?
- Look at earnings differences 6 months and 3.5 years after graduation for those who attended private vs. state schools
Differences in earnings between graduates who previously attended private vs. state schools

Source: authors’ calculations based on Destination of Leavers from Higher Education data for UK-domiciled students who studied full-time for a first degree and graduated in 2006-07.
Summary

• Private school students earn more than state school students, even when we compare those who went to the same universities, studied the same subjects and went into the same occupations

• Why?
  – Better social networks?
  – Better non-cognitive skills?
  – Or are we still not measuring ability well enough?
    • Can check this now that NPD-HESA and DLHE have been linked

• But as things stand, those from lower socio-economic backgrounds and state schools do not appear to benefit to the same extent from higher education: challenge for social mobility?
Relevant published work


- Crawford, C. (2012), *Socio-economic gaps in HE participation: how have they changed over time?*, IFS Briefing Note BN133.


