

What you study and where matters – but so does parents' income

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First 'big data' research approach to graduate earnings reveals significant variations depending on student background, degree subject and university attended.

Latest research has shown that [graduates](#) from richer family backgrounds earn significantly more after graduation than their poorer counterparts, even after completing the same degrees from the same

universities.

The finding is one of many from a new study, published today, which looks at the link between earnings and students' background, degree subject and university.

The research also found that those studying medicine and economics earn far more than those studying other degree subjects, and that there is considerable variation in graduates' earnings depending on the university attended.

The study was carried out by the Institute of Fiscal Studies and the universities of Cambridge and Harvard, including Professor Anna Vignoles from Cambridge's Faculty of Education. It is the first time a 'big data' approach has been used to look at how graduate earnings vary by institution of study, degree subject and parental income.

The researchers say that many other factors beyond graduate earnings, such as intrinsic interest, will and should drive student choice. However, they write that the research shows the potential value of providing some useful information that might inform students' choice of degree – particularly to assist those from more disadvantaged backgrounds who might find it harder to navigate the higher education system.

"It would seem important to ensure there is adequate advice and guidance given that graduates' future earnings are likely to vary depending on the institution and subject they choose, with implications for social mobility," write the researchers in the study's executive summary.

The research used anonymised tax data and student loan records for 260,000 students up to ten years after graduation. The dataset includes cohorts of graduates who started university in the period 1998-2011 and

whose earnings (or lack of earnings) are then observed over a number of tax years. The paper focuses on the tax year 2012/13.

The study found that those from richer backgrounds (defined as being approximately from the top 20% of households of those applying to higher education in terms of family income) did better in the labour market than the other 80% of students.

The average gap in earnings between students from higher and lower income backgrounds who went to a similar university is £8,000 a year for men and £5,300 a year for women, ten years after graduation.

Even after taking account of subject studied and the characteristics of the institution of study, the average student from a higher income background earned about 10% more than other students.

The gap is bigger at the top of the distribution – the 10% highest earning male graduates from richer backgrounds earned about 20% more than the 10% highest earners from relatively poorer backgrounds. The equivalent premium for the 10% highest earning female graduates from richer backgrounds was 14%.

The study also showed that graduates are much more likely to be in work, and earn much more than non-graduates. Non-graduates are twice as likely to have no earnings as are graduates ten years on (30% against 15% for the cohort who enrolled in higher education in 1999).

Partly as a result of this, half of non-graduate women had earnings below £8,000 a year at around age 30, say the researchers. Only a quarter of female graduates were earning less than this. Half were earning more than £21,000 a year.

Among those with significant earnings (which the researchers define as

above £8,000 a year), median earnings for male graduates ten years after graduation were £30,000. For non-graduates of the same age median earnings were £21,000. The equivalent figures for women with significant earnings were £27,000 and £18,000.

"The research illustrates strongly that for most graduates higher, education leads to much better earnings than those earned by non-graduates, although students need to realise that their subject choice is important in determining how much of an earnings advantage they will have," said Professor Vignoles.

The researchers also found substantial differences in earnings according to which university was attended, as well as which subject was studied. They say however that this is in large part driven by differences in entry requirements.

For instance, more than 10% of male graduates from LSE, Oxford and Cambridge were earning in excess of £100,000 a year ten years after graduation, with LSE graduates earning the most. LSE was the only institution with more than 10% of its female graduates earning in excess of £100,000 a year ten years on.

Even without focusing on the very top, the researchers say they found a large number of institutions (36 for men and 10 for women) had 10% of their graduates earning more than £60,000 a year ten years on. At the other end of the spectrum, there were some institutions (23 for men and 9 for women) where the median graduate earnings were less than those of the median non-graduate ten years on.

However, the researchers say that it is important to put this in context. "Given regional differences in average wages, some very locally focused institutions may struggle to produce graduates whose wages outpace English wide earnings, which includes those living in London where full

time earnings for males are around 50% higher than in some other regions, such as Northern Ireland," they write.

In terms of earnings according to subject, medical students were easily the highest earners at the median ten years out, followed by those who studied economics. For men, median earnings for medical graduates were about £50,000 after ten years, and for economics graduates £40,000.

Those studying the creative arts had the lowest earnings, and earned no more on average than non-graduates. However, the researchers say that some of these earnings differences are, of course, attributable to differences in student intake – since students with different levels of prior achievement at A-level take different subject options.

"When we account for different student intakes across subjects, only economics and medicine remain outliers with much higher [earnings](#) at the median as compared to their peers in other subjects," write the researchers.

After allowing for differences in the characteristics of those who take different subjects, male medical graduates earn around £13,000 more at the median than similar engineering and technology graduates, the gap for women is approximately £16,000. Both male and female medical graduates earn around £14,000 more at the median than similar law graduates.

"Earnings vary substantially with university, subject, gender and cohort," said study co-author Neil Shepherd of Harvard University. "This impacts on which parts of the HE sector the UK Government funds through the subsidy inherent within income contingent student loans. The next step in the research is to quantifying that variation in funding, building on today's paper."

More information: How English domiciled graduate earnings vary with gender, institution attended, subject and socio-economic background. www.ifs.org.uk/publications/8233

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