

Graduating in austerity: Measuring the impact of welfare cuts on degree choices and university graduation

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At a glance

Research question: How do welfare cuts affect university-goers' degree choices and subsequent career paths? Welfare payment cuts, such as those implemented under the 2012 Welfare Reform Act, add to the financial strain on households. While governments resort to these austerity measures to ease budgetary pressure, little is known about their impact on a key demographic—those considering entry into higher education.

Finding highlights:

- The late 2000s and early 2010s saw marked improvements in the key stage 4 (KS4) pass rate and key stage 5 (KS5) enrolment rate.
- Higher education enrolment remained largely stable over this period, but students entering universities were more likely to be poorly matched to their degrees.
- Students from local areas that experienced larger welfare cuts during the 2012 welfare reform were 5.3% more likely to make poor matches to degrees and 1.3% less likely to complete their degrees.
- While the impacts on student-degree matches are the same across students from different socioeconomic backgrounds, the negative impact on degree completion is greater for students coming from more deprived backgrounds.

Dataset(s) used: Longitudinal Education Outcomes (LEO) - England

Summary

This Data Insight draws on the [Longitudinal Education Outcomes \(LEO\) - England](#) dataset to examine the effects of welfare cuts on students entering higher education.

Welfare cuts driven by austerity policies add financial burdens to households. Not only do the recipients face direct impacts in the form of reduced benefits, but these cuts could also hurt jobs and affect the local economy. While it is essential to understand the impact of welfare cuts on household finances, little is known about their impact on education decisions. Such impacts could especially be consequential for those who are transitioning between stages of education.

One such demographic is young adults, who still depend on their parents to fill gaps in financial support but are making important decisions about their careers, such as whether to enrol in higher education, which university to attend, and which subjects to study. For them, a small distortion in their current education choices could have a long-lasting impact on their future career or income.

One of the biggest overhauls of the UK welfare system in recent history was implemented through the 2012 Welfare Reform Act. Local authorities faced significant welfare cuts under this reform, although the extent of cuts varied across areas. We study the impact of the 2012 reform on the career choices of university students by comparing those who lived in the local areas that experienced deeper welfare cuts and those who lived in less-affected areas before and after the reform.

Using the LEO dataset, we find that the period leading to the welfare reform saw marked improvement in the KS4 pass rate and KS5 enrolment rate. The gains in KS4 and KS5 were the highest among deprived students, narrowing the socioeconomic gaps in educational outcomes. Although higher education enrolment remained largely stable over this period, deprived students made some gains in entering higher education. The graduation rate from universities, however, shows a small dip, especially around the time of the welfare reform. Also, the same period shows that the students entering universities were more likely to poorly match (i.e., undermatch) to their degrees. An investigation of how much of this was caused by the 2012 Welfare Reform Act shows that the reform had a negative impact by making students more likely to undermatch to degrees and less likely to complete their degrees. Students from more deprived backgrounds experienced a greater negative impact on degree completion.

What we found

Improvement in early stages did not lead to improved higher education outcomes

The late 2000s and early 2010s saw noticeable improvements in the KS4 pass rate and the KS5 enrolment rate (Figure 1). During the period from 2007-2013, the percentage of students completing KS4 with at least five GCSEs (including English and Maths) increased by 31%. The same period also saw a 49% increase in the KS5 enrolment rate. The university enrolment rate remained mostly stable, gaining only 5%. The graduation rate among university-enrolled students also increased initially, then declined slightly over the last couple of years. These numbers show that the educational attainment at KS4 or KS5 during this period did not translate into a higher success rate at the university level.

Declining socioeconomic gaps in education outcomes

This period also saw the gap in educational outcomes at KS4 and KS5 shrinking between the most and least deprived students (Figure 2). At the beginning of the period (2005/06), the KS4 pass rate was 36 percentage points higher for the top 25% least-deprived students compared with those at the bottom 25% of the deprivation index, i.e., the most deprived students. This gap shrank to 25 percentage points by 2012/13. The KS5 enrolment gap also declined from 32 percentage points to 21 percentage points. The university enrolment gap shrank, although by a smaller magnitude. However, the gap in the university graduation rate widened during this period. The gap increased from 12 percentage points in 2005/06 to 14 percentage points in 2012/13.

Negative impact of the 2012 welfare reform on student-degree matches

An important marker of the quality of higher education received is how well students are matched to their degrees. If a student chooses a degree that is typically studied by low-attaining students, it could have implications for their future job opportunities and earnings. Socioeconomically disadvantaged students are often more likely to undermatch to degrees, that is, they enrol in degrees where most of their peers are academically low-performing. One way to test whether the negative shocks arising from the 2012 welfare reform had any lasting impact on students' careers is to understand its impact on student-degree matches. A comparison of areas that faced high welfare cuts with areas that faced low welfare cuts shows that students from high welfare-cut areas are most likely to mismatch, more specifically, undermatch to their degrees. The 2012 welfare cut increased the likelihood of undermatching by 0.9 percentage point (Figure 3). With a 17% average undermatching rate during this period, it amounts to a 5.4% increase in the likelihood of undermatching due to the reform. There is no detectable impact on overmatching, which is a phenomenon where students enrol in degrees that are typically studied by high-achieving students.

Negative impact on the degree completion rate, especially among deprived students

The 2012 welfare reform also had a negative impact on university graduation. Students from areas exposed to larger welfare cuts showed a reduced likelihood of graduating from university. A comparison of the magnitude of these impacts across deprived and non-deprived students shows a distinct pattern—the impact of undermatching appears to be not very different for deprived and non-deprived students, whereas the impact on degree completion or graduation rate is notably larger among deprived students. These results imply that while all students based on socioeconomic status are likely to undermatch to degrees due to the welfare cut, it is the deprived students who end up quitting their degrees.

Figure 1: **Improved KS4 or KS5 outcomes were not accompanied by a similar increase in university enrolment or graduation.** The normalized GCSE pass rate (2005/06 level=100) showed a 31% increase between 2006 and 2013, whereas the enrolment rate increased by 49% during this period. Compared to that, university enrolment increased at a much lower rate, with the university graduation rate even showing a slight decrease over this period.

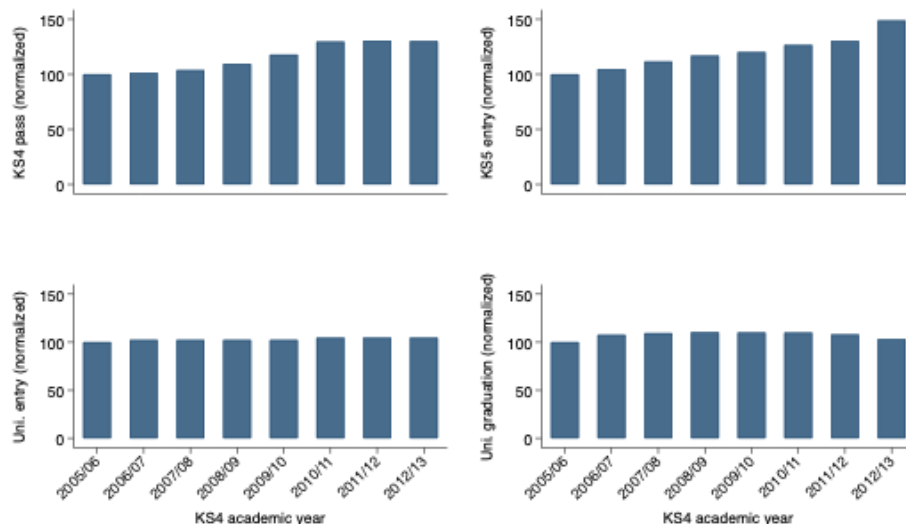


Figure 2: **A narrowing of socioeconomic gaps observed at KS4 or KS5, but not at the university level.** Comparing students in the most deprived quartile (bottom 25%) with those in the least deprived quartile (top 25%) reveals that the socioeconomic attainment gap narrowed at both KS4 and KS5. However, this trend reversed in higher education, with students from more deprived backgrounds becoming increasingly less likely to graduate.

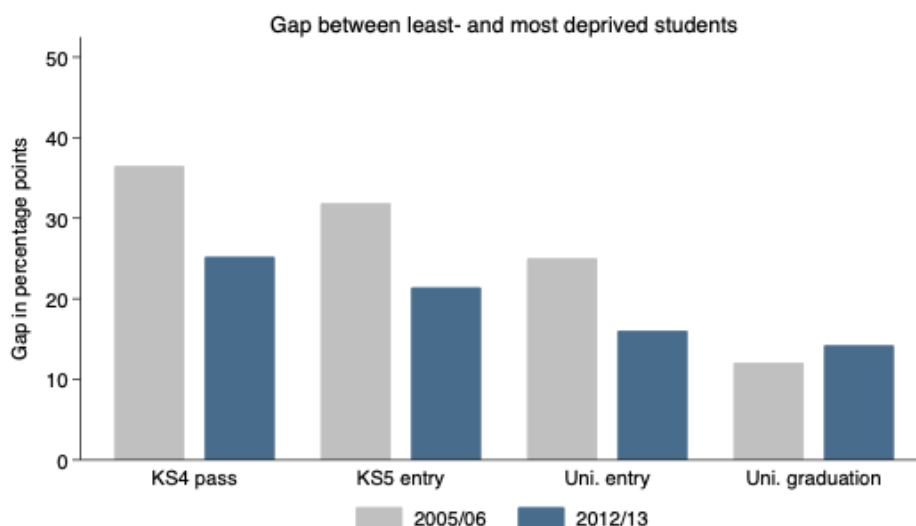
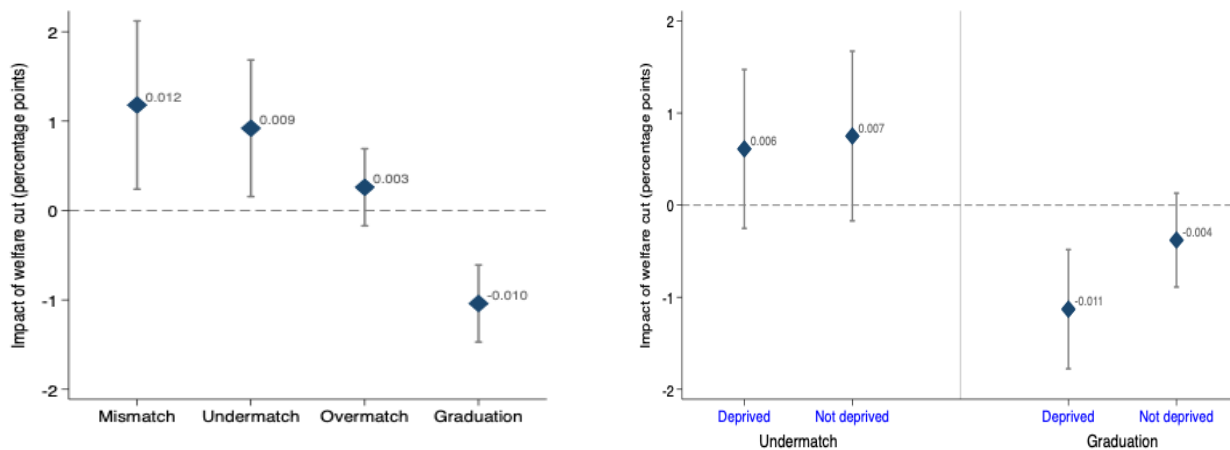


Figure 3: Welfare cuts implemented through the 2012 reform worsened education outcomes for university students. The causal impacts measured for the 2012 welfare reform, which saw substantial welfare cuts, show an increased mismatch between students and degrees, mainly due to increased undermatching. The reform also had a negative impact on university graduation. Especially, deprived students, such as those in the top two quartiles of the deprivation index, are less likely to graduate due to the welfare reform.



Key findings

- The late 2000s and early 2010s saw marked improvements in the key stage 4 pass rate and key stage 5 enrolment rate.
- Higher education enrolment remained largely stable over this period, but students entering universities were more likely to be poorly matched to their degrees.
- Students from local areas that experienced larger welfare cuts during the 2012 welfare reform were 5.3% more likely to make poor matches to degrees and 1.3% less likely to complete their degrees.
- While the impacts on student-degree quality matches are the same across students from different socioeconomic backgrounds, the negative impact on degree completion is greater for students coming from more deprived backgrounds.

Why it matters

The quality of the degree has implications for future earnings

The findings suggest that austerity-driven welfare cuts compel university entrants to choose lower-quality degrees relative to their academic performance. The complementarity between student quality and degree quality has important implications for future earnings. Studies have found that high-ability students who attend low-quality degrees earn less in the future compared to their well-matched peers (Cavaglia et al. 2024). Thus, welfare cuts could increase inefficiency in the higher education market by forcing students to match with low-quality degrees, and the resulting impact on earnings could be felt across generations.

Deprived students need extra support to narrow the inequality in higher education

The negative impact on degree completion observed among deprived students indicates that, while means-tested maintenance support has widened access to higher education for disadvantaged groups, it has been insufficient to protect them from the adverse effects of sudden economic shocks. The existing higher education gap between the most- and least-deprived students has been well-documented by Crawford et al. (2017), who show that students from disadvantaged backgrounds are more likely to drop out, less likely to finish degrees within five years, and less likely to attain a first-class or upper second-class degree than their advantaged peers. These differences persist even when comparing students with similar attainment or schooling background.

Together, these findings suggest that policies designed solely to increase participation are unlikely to eliminate inequalities in higher education outcomes. More targeted support is needed to provide sufficient insurance against adverse income shocks during study. In this context, the government's proposal to reintroduce a means-tested maintenance grant for students from lower-income households represents a move towards strengthening the student support system, although the proposed grant is substantially less generous than the maintenance grant scheme abolished in 2016 (Bolton, 2024).

What we did

This study uses the [Longitudinal Education Outcomes \(LEO\) - England](#) dataset to measure the impacts of welfare cuts on education outcomes of those entering university. To measure the complementarity between student quality and degree quality, we calculate mismatch scores based on A-level performance of the students. We use the percentile ranking of a student's A-level performance in a given academic year as an indicator of their ability. To measure degree quality, we use the percentile ranking of the median student enrolled in a degree in a given year. A degree is defined as a subject-university pair.

We then calculate a mismatch score as the percentile gap between student quality and degree quality percentiles. Following Dillon and Smith (2017), we consider a student mismatched with their degree if the gap exceeds 20 points. If the degree quality is below student quality (i.e., the gap is negative), the student is undermatched. If the degree quality is above student quality (i.e., the gap is positive), the student is overmatched.

We consider eight cohorts of students starting from KS4 academic year 2005/06 (or KS5 academic year 2007/08) to 2012/13 (or KS5 academic year 2014/15). This time period includes both the cohorts entering higher education before and after the reform. To quantify the causal impact of the 2012 reform, we compare areas that experienced deeper welfare cuts with those that experienced smaller welfare cuts. Any difference in student outcomes post-reform across these areas captures a combined effect of the impact of policy and any underlying differences across these areas, whereas the difference in outcome from the pre-reform period shows only the underlying differences across these areas.

Following a standard difference-in-differences (DID) estimation approach for impact evaluation, we subtract the pre-reform differences from the post-reform differences and isolate the causal impact of the policy. To measure the magnitude of the welfare cuts across local areas, we use the district-level financial loss per working-age adult used in Fetzer (2019).

Lastly, an important aspect of our analysis involves examining the impacts across students from different socioeconomic statuses. We use the quartiles of the Income Deprivation affecting children Index (IDACI) at KS4 level to understand whether students are coming from most-deprived backgrounds (i.e., quartile 4 of IDACI score) or least-deprived backgrounds (quartile 1 of IDACI score).

Key terms used in this analysis

- Degree: a pair of university and subject.
- Student-degree matches: the alignment between the percentile ranking of a student's A-level performance and the quality of degree, where the latter is measured by the percentile ranking of A-level performance by the median student enrolled in a degree
- Mismatch: a substantial gap (i.e., 20 points or more) in student and degree percentile ranking
- Undermatch: a degree percentile ranking being substantially lower (i.e., 20 points or more) than a student's percentile ranking
- Overmatch: a degree percentile ranking being substantially higher (i.e., 20 points or more) than a student's percentile ranking

What next?

The next step is to calculate the earnings penalty due to mismatch and degree incompleteness. This would require calculating the median earnings percentile of each cohort of students by the percentile of their A-level performance and their mismatch status. For a given percentile of A-level performance, the difference in earnings percentiles between those who well-match and those who mismatch to their degrees can be used as a measure of the mismatch penalty. Similarly, the difference in earnings percentiles between those who complete their degrees and those who drop out early will show the dropout penalty.

Another aspect to understand is how university students cope with the austerity shock, specifically, whether they are more likely to engage in part-time work. If deprived students are more likely to quit degrees and accept low-skill and low-pay employment, that would have future implications for their earnings, although it would not show up as an increased degree-student mismatch.

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