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The full returns to higher education in the UK

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Abstract
University education is known to generate significant earnings returns, but its full value may be understated without considering its wider effects on individual wellbeing. This paper estimates the complete lifetime return to higher education in the UK by combining income effects with monetised wellbeing effects. Building on recent evidence, we estimate the full discounted lifetime benefit of attending university is £146,000 on average, with approximately one quarter of this arising from non-pecuniary gains. For students at the margin of enrolment, returns remain substantial at £78,000. These benefits are achieved at no long-run fiscal cost to the government.

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1. Introduction

Higher education has long been associated with substantial earnings premiums. Crucially, a substantial part of this relationship appears to be causal – reflecting the actual benefit of attending university. In the UK, Britton et al. (2020) estimate that enrolling in an undergraduate degree leads to a discounted increase in lifetime gross earnings of approximately £240,000 for men and £140,000 for women.

However, research shows education has wider implications for wellbeing. For example, using variation in schooling from historic compulsory schooling laws in England, Oreopoulos and Salvanes (2011) find an additional year of education increases the probability of reporting being satisfied with life by 3.5 percentage points after income has accounted for.

This paper incorporates these wider wellbeing effects to estimate the complete lifetime return to undergraduate education. We do so for university students as a whole and for those students close to the margin of enrolment. We then relate benefits to the fiscal costs of providing university places.

2. Lifetime benefits of higher education

We base all calculations of financial returns to university enrolment on Britton et al. (2020), who provide a comprehensive set of estimates for undergraduate degrees in the UK[1]. We take the average of their estimated net lifetime income effects (deducting taxation and loan repayments) for men and women in England to produce a single figure. We discount future earnings into present value at the Treasury Green Book rate of 3.5%.

We also exploit their disaggregation of effects by university type to estimate returns for students closer to the margin of enrolment (the policy-relevant group). Students who attend less selective universities with lower entry requirements are more influenced by changes in higher education policy than students admitted to more selective institutions, who are likely to attend university regardless. We therefore use the estimated lifetime income effect of enrolling at one of the forty least selective

[1] Gross earnings effects relate to the whole of the UK, whilst differences in loan repayment means net effects are specific to England.

universities in the UK to proxy the marginal returns to providing higher education[2]. This effect is around half that of the average across all universities.

To capture the role of education in wellbeing beyond income, we use evidence on its effect on self-reported life satisfaction. Life satisfaction (0-10 scale) can be monetised based on UK Treasury Green Book supplementary guidance, with a one unit increase experienced over one year valued at £15,258[3]. We base effect sizes on Clark et al. (2018), who suggest a one standard deviation increase in education – roughly equivalent to the expected change in education from enrolling in an undergraduate degree – increases self-reported life satisfaction by +0.07 after accounting for higher income[4]. We apply this effect across an individual's working life, assuming retirement at 68[5]. Conservatively, we do not account for changes to wellbeing in retirement, reflecting that wider wellbeing effects may be a function of non-pecuniary aspects of work such as occupational prestige. We also do not account for higher wellbeing experienced whilst at university since, although students consistently report higher life satisfaction on average than those in work, we lack rigorous causal evidence on effects.

It is unclear whether the wider wellbeing effects of higher education scale in proportion to earnings effects. This might be the case, for example, if they result from non-pecuniary aspects of work that are also positively related to the quality as well as quantity of education (Oreopoulos & Salvanes, 2011). For students at the margin of enrolment likely to attend less selective institutions, we opt to be conservative and assume that non-pecuniary benefits scale down in proportion with earnings effects.

Combining these estimates gives the complete lifetime return to enrolling in higher education in England, with results reported for both all students and those closest to the margin in Table 1. Non-pecuniary benefits account for nearly a quarter of total individual returns – a sizeable factor generally overlooked in policy discussions. Because most of the difference between gross and net earnings effects is due to taxation rather than loan repayments, these estimated returns can be viewed as broadly representative for the UK as whole.

[2] Whilst some young people whose enrolment in higher education is in doubt will end up going to more selective universities, the requirements for prior educational attainment is a key determinant of the total size of the higher education sector.
[3] Expressed in 2023 prices.
[4] Clark et al. (2018) control for household income. This means the household income effect arising from assortative mating, where attending university increases the likelihood of having a university-educated partner who earns more (Greenwood et al., 2014), is also controlled for.
[5] This is consistent with Britton et al. and reflects current state pension policy, with the age of eligibility scheduled to rise to 68.

Table 1: Lifetime returns to higher education (discounted)		
	All universities	**Least selective**
Net earnings effect	+ £112,000	+ £60,000
Non-pecuniary benefits	+ £34,000	+ £18,000
Total	£146,000	£78,000

3. The cost of providing higher education

Returns to the individual capture only part of future benefits of higher education, since gross earnings gains are shared with the Exchequer. Based on the estimates of Britton et al. (2020), we quantify these fiscal flows and relate them to the initial outlay to fund a higher education place.

Since higher education funding is a devolved policy area in the UK, fiscal calculations depend on the nation a student is from and attending university in. The initial outlay to support tuition and living costs will be comparable – each undergraduate student requires the government to provide or underwrite around

£55,000 for tuition and maintenance[6]. However, the fiscal cost this entails depends on the balance between loans and grants[7], as with loans initial outlays are partially offset by future repayments[8].

[6] Fee caps mean this does vary widely across institutions.
[7] In England, tuition fees (capped at £9,535) are paid through government-backed student loans, with additional maintenance loans to support living costs (amount is dependent on family income). Wales has a similar tuition funding system but offers means-tested support for maintenance through a mix of loans and non-repayable grants. Northern Ireland also provides students tuition loans and maintenance loans/grants, but caps tuition fees at a lower rate (£4,750), with more generous public funding through teaching grants making up part of the difference. In Scotland, tuition costs for Scottish students are covered directly and entirely by the Scottish Government, with maintenance costs supported through loans and small grants.
[8] The Treasury method for booking the cost of underpayment (the Resource Accounting and Budgeting (RAB) charge) differs from the treatment of loan repayments here. Whilst we also consider cost in terms of the difference between loans issued and the present value of future loan repayments., the RAB discounts future repayments at the Treasury's real financial instrument discount rate rather than the Green Book discount rate applied to taxation flows generally. We prefer to treat loan repayments in the same way as other flows, especially given the mechanical formula underlying the real financial instrument discount rate can produce seemingly illogical results (the rate is currently negative – a pound

Table 2 quantifies these flows for England. Once additional tax revenue is accounted for[9], there is a large net benefit to the Exchequer from each university enrolment. This is only realised in the long term, with an average payback period of 29 years[10]. Exact figures will differ for the other nations of the UK but will be broadly comparable because tax flows are more important than loan repayments.

Table 2: Net fiscal cost per student (discounted)		
	All universities	**Least selective**
Loans and grants	+ £55,000	+ £55,000
Loan repayments	- £18,000	- £9,000[11]
Tax revenue	- £111,000	- £53,000[11]
Net cost	- £74,000	- £7,000

Returns to the government are much smaller for pupils close to the margin of higher education participation (defined based on enrolling at one of the least selective universities). This reduction is much larger than for individual earnings due to the progressivity of the tax system. It is expected that the government will slightly more than break even from providing additional higher education places, with an estimated payback period of 44 years for marginal students[12].

4. Policy discussion

The UK is at the end of a remarkable expansion in higher education. Around half of those turning 25 today have participated in higher education, up significantly from even a decade ago, when this was below 40%[13]. However, entrance rates have stopped increasing in recent years (Bolton, 2025). At the same time, the higher education sector is facing significant financial pressures, partly due to a sustained real terms decline in per student funding. This prompts a renewed assessment of the

paid back in the future is worth more to the government the longer it takes to pay back). However, it is worth noting that the cost of writing off unpaid loans in practice is also incurred in the future, and care should be taken in inferring non-payment rates based on discounted repayments.

[9] Savings from reduced benefit payments are not included. Because these are calculated at the household level, they are complex to model and subject to large uncertainty. The supplementary estimates of welfare savings provided by Britton et al. are small in magnitude and would not meaningfully alter net cost calculations.

[10] 33 years for women and 25 years for men. Calculations based on tables provided by Britton et al.

[11] Assuming the proportional breakdown of fiscal benefits is the same across institution type.

[12] Author's calculations based on assuming fiscal flows follow the same age profile across university type.

[13] 49.0% of the 2012/13 cohort of 15-year-olds started higher education by age 25, compared to 38.8% of the 2001/02 cohort (Bolton 2025).

value of higher education and whether continued growth in participation remains a worthwhile investment.

This paper suggests that greater participation in higher education in the UK is creating major benefits. We find that existing estimates understate this contribution, with wider wellbeing effects increasing the expected individual returns to higher education by around one third, to £146,000 on average. Importantly, we show large returns are still expected for the type of student whose enrolment may depend on future policy decisions, with no long-run net cost to government for these students. This is despite a number of conservative assumptions: analysis does not account for benefits outside of a working life, productivity spillovers that accrue to the firm or positive general equilibrium effects from having an educated workforce. Taken together, the results support efforts to maintain and promote the participation of young people in higher education.

However, this recommendation comes with important caveats. The estimates from Britton et al. are measured relative to not attending university, which includes some young people who do not pursue any further education or training. For some of these individuals, alternative pathways such as apprenticeships may offer better returns than higher education. A complex but important question not addressed here – nor in previous work – is how returns to university compare with other post-secondary options for different types of students.

Substantial variation in returns across both institutions and degree subjects – documented in detail by Britton et al. – also cautions against blanket advocacy for expanding higher education. In some cases, expected financial returns are negative for a sizeable share of enrolees. It is likely that some of this variation also extends to wellbeing returns, particularly where disappointing labour market outcomes are reflected in non-pecuniary aspects of work such as job security or occupational prestige. Evidence on whether and where unmet expectations after graduation harm wellbeing would be valuable in this regard.

5. Conclusion

Recently, Britton et al. have provided comprehensive estimates of the financial returns to undergraduate degrees in England. This paper extends this work by incorporating wider wellbeing effects to produce a unified estimate of lifetime value. We estimate that the average student enrolling in higher education can expect total lifetime returns worth nearly £150,000, reducing to around £80,000 for students closer to the margin of enrolment. In the long run, students more than pay for their own education through additional tax contributions. Policymakers should ensure continued investment in university access, not only as a route to higher earnings but as a long-term driver of national wellbeing.

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