The Economic Inefficiency of Student Fees in England:

Why paying tuition fees from the public purse makes financial sense

Author:

Dr Kevin Albertson

April 2017

Dr Kevin Albertson is a professor of economics at Manchester Metropolitan University. His background is in statistics and economics with a particular interest in behavioural economics, economics and crime, and the analysis of government policy. He is co-author of the critically acclaimed text book '*Crime and Economics: An Introduction*', and the Haynes manual '*How to Run the Country*'.
For more information please follow this link:
http://www2.mmu.ac.uk/business-school/about-us/our-staff/afe/profile/index.php?id=882

The Intergenerational Foundation (www.if.org.uk) is an independent, non-party-political charity that exists to protect the rights of younger and future generations in British policy-making. While increasing longevity is to be welcomed, our changing national demographic and expectations of entitlement are placing increasingly heavy burdens on younger and future generations. From housing, health and education to employment, taxation, pensions, voting, spending and environmental degradation, younger generations are under increasing pressure to maintain the intergenerational compact whilst losing out disproportionately to older, wealthier cohorts. IF questions this status quo, calling instead for sustainable long-term policies that are fair to all – the old, the young and those to come.

For further information on IF's work please contact Liz Emerson:

Intergenerational Foundation
19 Half Moon Lane
London SE24 9JS
0044 (0)7971 228823
@inter_gen

www.if.org.uk
liz@if.org.uk

Contents

Foreword

In 2014 Peter Scott, Professor of Higher Education Studies at University College London, wrote, "It is now as close to a consensus as makes no difference that the current regime for funding higher education in England through high fees paid by students – or repaid by some graduates – is bust."[1]

Three years later and the government is still marching on with the marketisation of higher education. As peers debate the Higher Education Reform Bill and academics squabble over how to make the higher education finance system sustainable, those bearing the financial burden – the students themselves – have been largely forgotten. Once earning £21,000 or more, they face a minimum effective tax rate of 41% when National Insurance and income tax is added to the cost of their student loan repayments. Graduates face a long tail of student indebtedness as 9% of their income over £21,000 is removed at source each and every year for up to the next 30 years to service these loans. The effect will be a reduced ability to save for the milestones previous generations passed so easily, such as moving out of the parental home, saving for a first home, saving for a family, and saving for their own old age.

Also forgotten is the cost of funding higher education to the taxpayer, and how the costs fall both today and tomorrow. The current government is hoping to sell the first of four tranches of student loans (2002–2006) in order to provide "value-for-money" to the taxpayer.[2] These loans are valued at £4 billion and, it is argued, "selling assets reduces fiscal pressures, and gives headroom for the government to invest in other policies with greater economic or social returns."[3] But this may not present "value-for-money" for taxpayers if the government undersells the loan book, and ties the hands of future governments and taxpayers by guaranteeing the returns of a sale for the next 30 years.

However, most forgotten is the value that a highly educated workforce brings to society as a whole. This paper takes us back to basics and argues that it is economically inefficient to run the higher education system on the principles of free market economics. With a new tranche of loans being sold off, now may be the time to have a national conversation about how best to fund higher education in England.

Angus Hanton

Co-founder, Intergenerational Foundation

1 The Conversation, 19 November 2014: https://theconversation.com/can-england-ever-return-to-an-era-of-free-higher-education-34437
2 Department for Education (2017): https://www.gov.uk/government/news/government-launches-first-sale-from-the-student-loan-book
3 Financial Times, 8 February 2017: https://www.ft.com/content/ab80561e-edfc-11e6-930f-061b01e23655

Overview

In the following, we consider the way in which Higher Education (HE) is funded in England. The current system generally requires students pay the cost of their education, such payments often backed by “student loans”. To repay these loans, graduates face the equivalent of an additional 9% (effective) “tax” when they earn over £21,000 a year.[4] Many graduates are expected to repay more than the cost of their degree in real terms as the top rate of interest on student loans exceeds the rate of price inflation (as measured by the March Retail Price Index, RPI) by 3%.[5,6]

Not only is this socially unjust, in the sense that earlier generations (including those who voted for the current system) did not have to face such additional payments, but it is economically inefficient. According to the government’s own figures, the wider social benefit of a young person getting a higher educational qualification more than makes up for the cost. It follows that social efficiency requires higher education be subsidised.

The growth in Higher Education – and fees

In four decades, the number of students enrolled in Higher Education in the UK has quadrupled, from 621,000 (of which 560,000 were undergraduates)[7] in 1970/71 to 2,299,355 in 2013/14.[8] This increase has partly been driven by young peoples’ aspirations, politics, and the jobs market.

Over the last forty-something years, the UK demand for labour in manufacturing has declined and there has been an increase in the demand for labour in the service sector. Service sector jobs generally pay less than do manufacturing jobs, and they also require a different set of employee skills. As the relative rates of pay available from unskilled employment have declined,[9] young people have sought to compensate by increasing their productivity and employability through education. In short, the proportion of young people acquiring HE qualifications has increased.

This increase in Higher Education must be paid for. The argument has been made by free-market economists that, as students reap the benefits of Higher Education – when they graduate they can expect a higher rate of pay than they would have received had they not

4 Student Loans Company: http://media.slc.co.uk/repayment/qsg/how-do-i-repay.html
5 Student Loans company: http://media.slc.co.uk/repayment/qsg/how-much-do-i-repay.html#s2-5
6 It is worth noting that inflation as measured by the RPI generally exceeds the official measure of price inflation, which is based on the CPI. See http://inflationmatters.com/cpi-vs-rpi in this regard.
7 Office of National Statistics (2010) Social Trends 40: Table 3·7. http://webarchive.nationalarchives.gov.uk/20160105160709/http://ons.gov.uk/ons/rel/social-trends-rd/social-trends/social-trends-40/index.html
8 Universities UK (2015) Patterns and Trends in UK Higher Education 2015: Figure 1. www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/patterns-and-trends-2015.pdf
9 The Guardian, 9 February 2017: www.theguardian.com/money/2017/feb/09/men-earnings-20s-millennials-generation-x-resolution-foundation

graduated, the so-called "graduate premium" – they ought to bear the costs.[10] This certainly seems to be the approach that David Cameron had in mind in 2010 when, as Prime Minister, he argued prior to his government's increasing tuition fees to a maximum of £9,000 per year:

> ***I think it's clear that long-term, responsible reform of higher education means: making it more sustainable, by asking successful graduates who go on to earn a good salary to make a bigger contribution.***[11,12]

This analysis ignores the fact that it is not solely the individual who benefits from Higher Education.[13] The government's own figures (see below) indicate that society – or, if you prefer to believe there is no such thing as society, then the UK as a whole – reaps an even greater benefit from HE than does the graduate. It follows that the nation ought to contribute to the cost of this education.

In the following, we compare the costs and the benefits of Higher Education in England. A comparison of who bears these costs and who reaps the benefits indicates that Higher Education ought to be subsidised.

It should be borne in mind that there is also a debate regarding whether or not too many young people are going to university. It has been suggested that the increase in highly-qualified individuals has meant merely that jobs which would have previously employed a school-leaver may now advertise for – and employ – a graduate.[14] On the other hand, there is evidence the graduate premium been remarkably constant over the last few decades,[15] implying that the demand for graduates has increased along with supply. However, those are issues for another day; we seek merely to show the government's policy is inconsistent with its own data.

---

10 Independent Institute, 29 January 2015: http://blog.independent.org/2015/01/29/milton-friedman-on-free-college

11 Department for Education: www.gov.uk/government/speeches/pms-speech-on-education

12 It should be noted that it was not the Coalition government (2010 to 2015) which introduced student fees. The Teaching and Higher Education Act 1998, which introduced a fee of £1000 per year, was passed under the New Labour government. The Higher Education Act 2004, also passed under New Labour, subsequently allowed an increase to £3000 per year.
www.telegraph.co.uk/education/educationnews/8057871/Grants-loans-and-tuition-fees-a-timeline-of-how-university-funding-has-evolved.html
These fees were condemned by members of the then opposition Conservative party.
www.theguardian.com/politics/2016/may/17/george-osborne-pledge-to-scrap-very-unfair-tuition-fees-comes-to-light

13 It also conveniently overlooks the fact that our young people have hardly been the ones who oversaw the decline in number of high-paid low-skilled manufacturing jobs. This decline has been one of the drivers behind the growth in the demand for Higher Education.

14 The Guardian, 11 October 2016: www.theguardian.com/money/2016/oct/11/huge-increase-in-number-of-graduates-bad-for-uk-economy

15 Institute for Fiscal Studies: www.ifs.org.uk/publications/8426

The costs and benefits of Higher Education

Higher Education benefits

According to analysis published by the UK government,[16] the graduate premia in 2013 were £252,000 for women and £168,000 for men. Note that this is net earnings – that is, after taxes and student loan repayments. In other words, this is what the graduates themselves make back over a career. It follows that the average student graduating from an average programme at an average institution enjoys a premium of £210,000.

The public benefit of a typical graduate is even greater. For example, the tax premium on graduates – including the extra tax paid compared with non-graduates – is £264,000 for men and £318,000 for women[17] (£291,000 on average).

The expected fiscal return on a typical degree is therefore £501,000. This accrues in the ratio 42% to the graduate and 58% to the nation.

On top of this, there are social returns to consider. In the first place, as the economist Adam Smith has argued,[18] there are substantial efficiency gains which arise from people's specialisation into different professions. Consider the fact that my next-door neighbour is a nurse means that I do not have to generalise from economics into health care, just in case one of my family members becomes ill. The same logic applies to all professions. If it were not for specialisation – underpinned by training and education – we would all have to become jacks-of-all-trades, masters of none, and economic growth would decline markedly.

To the benefits of specialisation, we ought also to consider that many valuable members of the community will engage in unpaid work (for example, *pro-bono* legal representation) or underpaid work.[19] In this case, the benefits of education are not fully monetised. In addition, we also must bear in mind that, in general, graduates are statistically less likely to engage in risky lifestyles and are generally more law-abiding, tolerant, stable and innovative than non-graduates. It follows that increased engagement with Higher Education reduces criminal justice and NHS costs.

---

16 Department for Business, Innovation and Skills: www.gov.uk/government/uploads/system/uploads/attachment_data/file/229498/bis-13-899-the-impact-of-university-degrees-on-the-lifecycle-of-earnings-further-analysis.pdf

17 Department for Business, Innovation and Skills: www.gov.uk/government/uploads/system/uploads/attachment_data/file/229498/bis-13-899-the-impact-of-university-degrees-on-the-lifecycle-of-earnings-further-analysis.pdf

18 See the reverse side of a Bank of England £20 note for a summary of this argument.

19 It ought to be borne in mind that the wage a person receives does not, as some suppose, represent their contribution to society, but rather how strong a bargaining position they enjoy. As Friedrich Nietzsche has pointed out, "Justice is… reprisal and exchange upon the basis of an approximate equality of power." Where power is unequal, we might expect little justice. (See Nietzsche, F.W. (1908) *Human, All Too Human: A Book for Free Spirits*, p.112 http://www.gutenberg.org/files/38145/38145-h/38145-h.htm)

Although it is not straightforward to quantify these social benefits, what analysis *is* available indicates that they are likely to be of a similar order to directly monetised benefits (taxes and wages).[20] It therefore seems reasonable to estimate the non-market benefits of the successful completion of an average Higher Education programme to be £291,000 for society and a further £210,000 accruing to the individual.

It seems reasonable, therefore, to estimate a lower bound of the value of a typical degree to be £1,002,000. This is comprised of £501,000 in monetary terms (as above) and a further £501,000 in social benefits.

Higher Education costs

The cost of study consists of upfront costs and opportunity costs. Regarding the former, the sum of the tuition costs and estimated associated expenditure (travel, books etc.) was £10,133 per year in 2012/2013.[21] We do not include living costs – accommodation, food etc. – as presumably young people will bear these whether they go to university or not. Allowing for inflation, we estimate upfront costs to be £10,461 per year for 2017/18; £31,383 for a three-year degree.

On top of this, we must also include the opportunity cost, the forgone wages which the individual might have earned if they were not a full-time student for six months of the year. If the individual had worked an additional 37½ hours each week for six months extra each year over the course of three years, they would have earned at least £16,380.[22]

The full cost of the degree is therefore the sum of the upfront and opportunity costs: £47,763. Note that this is a lower bound figure, as a young person might have been able to secure employment paying more than the minimum wage had they not been at university. Also, as many students attend university away from their home town, their costs might exceed this estimate.

Who should pay

We estimate that the cost of an individual degree is £47,763 and the benefit is £1,002,000, which gives a benefit to cost ratio of 20:1.[23] These benefits accrue in the ratio 42% to the individual and 58% to the nation as a whole (this will be the case, even if we consider only the monetised return). It seems reasonable that the cost of the qualification ought to be

---

20 TIAA Institute: https://www.tiaainstitute.org/public/pdf/institute/research/advancing_higher_education/ahe_hels0312b.pdf

21 National Union of Students: www.nus.org.uk/en/advice/money-and-funding/average-costs-of-living-and-study

22 www.gov.uk/national-minimum-wage-rates

23 The reader might like to compare this to the benefit to cost ratio of the projected high-speed railway HS2, which is 2·3:1, according to analysis published by the government: www.gov.uk/government/uploads/system/uploads/attachment_data/file/365065/S_A_1_Economic_case_0.pdf or to the benefit to cost ratio of the projected third runway at Heathrow – estimated to be 10:1 by the Airports Commission: https://your.heathrow.com/takingbritainfurther/tag/value

borne in the same ratio, which is to say the individual ought to bear £20,020 of the cost of the degree and the state ought to bear the remaining costs, which amount to £27,742.

Over a three-year degree programme, this implies that the state's contribution ought to be £9247 per year. In short, **the efficient level of public contribution will be made if the state pays the yearly tuition fee** and leaves the student to fund the rest of their Higher Education.

Note that this is very much a lower bound figure, as stated above. Where there is uncertainty (for example, regarding the opportunity cost of a student's time or accommodation), we have tended to underestimate costs. On top of this, we have not considered the spill-over effects associated with the very existence of universities. An analysis of data from UNESCO's World Higher Education Database indicates that the UK's national income would increase by 0·7% (£11·3 billion based on 2010 figures) if each of the UK's ten regions had an additional university.[24] The cost of this would be approximately £1·6 billion. We have not included this additional benefit in the calculation.

24 The Conversation, 15 September 2016: https://theconversation.com/how-universities-boost-economic-growth-65017

Conclusion

Under the current fee structure of Higher Education, English graduates enter the workforce with greater student debt than graduates of other nations, and the rate of interest on such debt is twice the OECD average.[25] One might expect the wages paid to English graduates to increase in order to compensate them for having taken on this extra burden; however, UK wage growth is very weak by international standards.[26] There is no evidence that graduates are able to pass on their extra effective "tax" liability to employers.[27]

The current funding system allows the state effectively to free-ride on the young person's HE investment to the tune of between a quarter and a half a million pounds, depending on how social benefits are monetised.[28] It follows that the current funding system is inefficient, as the cost of HE to the student in England reduces the graduate premium, implying there will be fewer than the optimal number of graduates, leading to a skills shortage. This will reduce economic growth – and potentially alienate our youth.

Economic efficiency would suggest that the costs of Higher Education should be borne in the same proportion as the benefits accrue. In this case, **the public contribution to Higher Education per student per year should cover the costs of tuition**, while the remaining costs (including opportunity costs) should be borne by the student.

Ultimately, public funding of HE fees is more fair on our young people – but, more than that, it is more efficient. It is a very good investment!

25 Intergenerational Foundation: www.if.org.uk/wp-content/uploads/2013/07/Squeezing-our-students_-An-English-OECD-Comparison.pdf

26 The Guardian, 27 July 2016: www.theguardian.com/money/2016/jul/27/uk-joins-greece-at-bottom-of-wage-growth-league-tuc-oecd

27 Indeed, according to the Complete University Guide, average real starting salaries for graduates dropped by 11% between 2007 and 2012: www.telegraph.co.uk/education/10763570/Graduate-earnings-premium-cut-by-up-to-a-third-in-five-years.html

28 Through migration, the economy of England also benefits from the Higher Education investment of Wales, Scotland, Northern Ireland and, for that matter, other EU member states.