

Institution: Lancaster University		
Unit of Assessment: 17, Business and Management		
Title of case study: Lifting the undergraduate student cap on universities by demonstrating the value of higher education		
Period when the underpinning research was undertaken: 2009 - 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Ian Walker	Professor	2008–present
Period when the claimed impact occurred: 2013 - 2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact Walker's research on the financial returns to higher education (HE) was highly influential in the 2013 decision by HM Treasury (HMT) to remove the undergraduate numbers cap. Approximately 303,000 more young people were able to access higher education undergraduate courses because of the lifting of the 'cap' between 2014 and 2020 (with approximately 145,000 of those additional students graduating between 2017 and 2020). The economic benefit of this was considerable. Walker's widely cited 2013 estimates of financial returns imply that these students will have individually benefitted to the tune of approximately GBP200,000, on average (but the variance across subjects was large). Applying this average to a conservative view of the number of additional graduates would imply benefits totalling around GBP29 billion of additional present value lifecycle wealth for those cohorts (and even larger net gains to HMT through additional tax receipts). Walker's subsequent research developed the econometric methodology and applied it to the Longitudinal Education Opportunities (LEO) database (under DfE research contracts in collaboration with the Institute for Fiscal Studies (IFS)). This work generated wider impact by providing detailed course-level estimates - suggesting that, although the average return was high, a large minority of graduates earned negative financial returns. This finding (that was suggested by the subject differentials in the Walker 2013 research) subsequently became a highlight of the Augar 2019 Review of HE Finance. Walker's 2013 research was also decisive in a Supreme Court judgement that found BIS to have unlawfully denied student loan access to a particular class of immigrant children.		
2. Underpinning research The 2009 financial crisis and subsequent austerity implied that the arrangements for funding mass HE were no longer tenable by placing an increasing burden of HE funding on taxpayers. Research [R1] carried out in 2010 in collaboration with Zhu (Dundee), using the Labour Force Surveys (LFS), demonstrated the robustness of the average graduate wage premium. This found, using quantile regression methods, that the returns to marginal students were similar to the average returns – suggesting that post expansion cohorts would experience approximately the same returns as the pre-expansion cohorts. This finding was recently substantiated in unpublished IFS/UCL research by Blundell et al. [R2], funded in 2012 by a GBP60,000 BIS contract also in collaboration with Zhu, consolidated the findings in [R1] - that returns were robust to the expansion - and provided large and precise estimates of heterogeneous financial returns across subjects with large returns to Law/Economics/Management, Medicine, and STEM, modest returns to Social Studies, and small, even negative, returns for Arts (although, Blackaby et al (1999) was the earliest attempt to provide LFS estimates of graduate earnings differentials by subject). [R2] also incorporated calculations of additional income tax (and NI and VAT) payments associated with higher earnings, and the impact of fees and loan repayments. This facilitated the calculation of net lifetime present value effects that averaged approximately		

GBP200,000 per student. The [R2] research also explored the effects of the impact of fees at various levels on students from different socioeconomic backgrounds, showing how low return students would be protected and how low parental income students would benefit. The effects of the rise in fees to GBP9,000 per annum would have, on average, only a small proportional effect on the net lifecycle returns relative to pre-existing fee levels.

The appendix of [R2] presented tests of the sensitivity of the estimated average graduate wage premium to 'ability bias' and found that an implausible degree of ability bias would be required to reduce the average wage premium to a low level. However, this test of the sensitivity of the average returns was not applicable to the results in the multiple treatment case (i.e. by subject). Instead, [R3] attempted to address ability bias at both subject and institution levels by implementing a methodology that weighted the data to improve counterfactual comparisons and controlled for prior ability at the course level (using the average A-level scores on each course by cohort from HESA data), to reduce ability bias. This substantiated the findings in [R2] on the extent of heterogeneity by subject and added estimates of heterogeneity across institutions (similar findings were a feature of IFS-based research by Britton et al., *Oxford Bulletin of Economics and Statistics*, 2019, that exploited HMRC's in-house ability to merge tax returns with Student Loan Company data, together with the idea in [R3] to exploit course-level A-level scores from HESA.

Reflecting a recommendation in Walker's 2013 report [R2] that even better data could be created by merging administrative records to facilitate more detailed and precise analyses, the Dept. of Business, Innovation, and Skills (BIS) developed the Longitudinal Education Opportunities (LEO) database, launched in 2016. The resulting database, and the methodology developed in [R3], enabled Walker (with collaborators from the universities of Dundee, Cambridge, Westminster, Bath, together with IFS) to pursue a more detailed, DfE funded, research agenda.

The work carried out between 2016 and 2018 in [R4] (for undergraduate courses) and [R5] (for postgraduate courses) applied the weighting methodology in [R3] to the new LEO data to facilitate more precise course level findings that controlled for ability bias using the *individual* level prior ability measures available in LEO. Allowing for the young nature of the individuals in the LEO data, [R3] broadly matched earlier Labour Force Survey findings. It was also able to illustrate the considerable heterogeneity in returns - in much more detail than was possible with LFS data - with a large minority of courses showing negative early returns.

3. References to the research

[R1] Walker, I., & Zhu, Y. (2011). Differences by Degree: Evidence of the Net Financial Rates of Return to Undergraduate Study for England and Wales. *Economics of Education Review*, 30(6), 1177-1186. <https://doi.org/10.1016/j.econedurev.2011.01.002> (227 citations on Google scholar (GS), Altmetric score of 37).

[R2] Walker, I., & Zhu, Y. (2013). [*The impact of university degrees on the lifecycle of earnings: some further analysis*](#). BIS Research Report 112.

[R3] Walker, I., & Zhu, Y. (2018). University selectivity and the relative returns to higher education: Evidence from the UK. *Labour Economics*, 53, 230-249. <https://doi.org/10.1016/j.labeco.2018.05.005> (14 citations on GS).

[R4] Belfield, C., Britton, J., Buscha, F., Dearden, L., Dickson, M., van der Erve, L., Sibiet, L., Vignoles, A., Walker, I., & Zhu, Y. (2018). [*The Impact of Undergraduate Degrees on Early-Career Earnings*](#). Department for Education Research Report, 2018. (33 citations on GS, Altmetric score of 291). Featured in a Royal Economic Society 2019 conference 'special session'.

[R5] Britton, J., Buscha, F., Dickson, M., van der Erve, L., Vignoles, A., Walker, I., Waltmann, B. & Zhu, Y. (2020). [*The earnings returns to postgraduate degrees in the UK*](#). Department for Education Research Report. (Altmetric score of 25).

Grants: [R2] was funded by a GBP60,000 BIS-tendered contract with Lancaster in 2012/13.

4. Details of the impact

Walker's research, conducted over a period of more than a decade, played a significant part in abolishing the home student numbers cap on HE by HM Treasury from 2014/15 and the work contributed to the argument for increasing student fees.

This decision to raise the cap in December 2013, and then remove it altogether, facilitated the further expansion of HE with substantial impact on net (of tax and loan repayment) incomes for the additional graduates - by improving their skills and raising their productivity in the labour market. The modelling showed that there would be corresponding increases in government revenue arising from this additional GNP.

Walker's further research with IFS [R4] using LEO was used in the Augar review to emphasise the large minority of students who experience low returns to HE, which is an important plank of their arguments to reform post-18 provision. It has also been an input into the Teaching Excellence Framework (TEF) because it provides value-added estimates at the course level that inform judgements on teaching quality that augment the Office for Students' (OfS) National Student Survey (NSS) ranking of courses and the OfS institutional medals table.

Finally, the work on [R2] has been used, against BIS, in the Supreme Court judgement that BIS had unlawfully denied student loan access to a member of a particular class of immigrant children.

Impact mediated via the cap on home undergraduate numbers

In November 2013, BIS produced a report illustrating the benefits of HE classified according to market and non-market benefits, using details from Walker's research [R2] to open the first part of the discussion on 'increased tax revenues' in the section: 'Economic (Market) Benefits to Society' of higher education [S1, p.36].

In the December 2013 Autumn Statement, the Chancellor announced the lifting of the cap on HE numbers for 2014/15 and removing it for 2015/16 onwards and, in support of this policy change, directly cited Walker's results (and only this research) from [R2], *"The fact that the wage premium has held up despite expansions in the number of students shows both that the demand for graduates remains high and that higher education is a very good investment for those who want to pursue it. Research suggests that the average net return over a lifetime of securing a degree is more than £100,000. Recent work by the Department for Business, Innovation and Skills (BIS) suggests that this is even higher, around £165,000 for men and £250,000 for women, taking account of fees and other costs of attending university"* [S2, p54].

In December 2013 the Universities Minister further justified the government's policy based on the effect of HE on incomes. He referred to [R2] when he stated, *"The expansion in higher education has had little impact on the considerable positive graduate earnings premium, which today stands at comfortably over £100,000 - according to the latest study (£168,000 for men and £252,000 for women). The benefits to the Exchequer are also substantial – the net lifetime benefit to the public finances of a man choosing to go to university is around £260,000 and for a woman, around £315,000"* [S3].

The then Universities Minister subsequently cited the research extensively in his book 'A University Education' [S4] and also in his evidence to parliamentary committees to support the expansion of HE, the rise in HE fees, and the lifting of the cap [S5].

The Minister of State for Universities, Research and Innovation provided a 2017 update on the impact of the removal of the student numbers cap, saying, *"In fact, even as the sector has grown and more young people have entered higher education, the direct wage benefits have endured. Graduates on average still enjoy a large wage premium, worth some £170,000 additional earnings over a lifetime for a man, and £250,000 for a woman"* [S6].

HMT expected that, as a result of lifting the cap, there would be 30,000 extra students in the first year (2014/15) and 60,000 pa thereafter, leading to 330,000 entrants between 2014 and 2020 [S2]. HMT stated that their 60,000 figure represented the number of young people who have the grades to enter higher education but cannot currently secure a place (with the initial 30,000 reflected an assumed lag in adjusting to this). UK domiciled first degree non-mature continuation rates are 92% according to Office for Students. If this applied to the *anticipated* additional students, this would mean that there would be additional 303,600 *graduates* in the UK because of the removal of the cap.

However, there has been no research that has estimated the *counterfactual* undergraduate numbers, in the absence of lifting the cap, relative to the actual (known) number of undergraduates that we actually observe given the lifting of the cap. Taking the rise on the overall HEIPR age 17-30 measure, from 46.5% in 2013/4 to 50.2% in 2017/8 then, had the annual cohort size remained the same (at around the average of 658,000), this would have implied an extra 20,000 university undergraduate entrants in 2014/5, 38,000 in 2015/6, 48,000 in 2016/7, and 52,000 in 2017/18 all relative to 2013/4 (after 2017/18 the extra entrants would not have completed their degrees until 2021 or later). Allowing for the 92% continuation rate, this would suggest that an additional 145,000 students would have *graduated* between 2017 and 2020.

Applying the GBP200,000 average rise in present value lifetime income [R2] to these additional graduates gives an overall gain of approximately GBP29 billion (i.e., approximately GBP200,000 per graduate for approximately 145,000 extra graduates in the UK). This assumes, conservatively, that there is no impact of undertaking HE courses on the earnings of those additional students, following the removal of the cap, who subsequently drop-out - as [R2] suggests.

Note that this GBP29 billion figure **does not** count the effect of the policy on students entering HE after 2017. Rather it reflects the present value of the investment in additional human capital by the additional students entering and graduating in or before 2020. Since this human capital cannot be sold (because it is embedded in the graduates), and it does not suddenly depreciate to zero at the end of 2020, it is legitimate to capture this as a present value.

Impact via LEO and wider policy issues

The Walker/Zhu report to BIS [R2], the earlier work [R1] and the subsequent work [R3], all relied on the Labour Force Survey data. [R2] recommended that the government should develop better data for more detailed analysis by combining their own administrative datasets ([R2] p60, fn 55) to create LEO – reinforcing other arguments for doing this. Primary legislation was passed in 2016 and it was not until 2018 that the LEO data became available. The only research team working on HE with LEO to date has been the Walker/IFS collaboration under DfE contractual funding, but the data is also used in the Teaching Excellence Framework (TEF) [S6], by DfE to describe graduate outcomes [S7], and by a few other research teams working on DfE projects - including vocational education research that complements the HE work described here.

In May 2019, the Augar Review, in response to the increased debate around the cost and value of HE, heavily cited Walker/IFS LEO research on the impact of undergraduate degrees on early-career earnings. This confirmed the earlier [R2] findings (and those in Britton et al, 2019) that a sizeable minority of graduates had negative (early) financial returns. The Augar report advised that low return HE students should be recommended to instead follow a vocational track. The review makes several references directly to [R4] research (and 18 more references to derivative IFS work that were based on the findings in [R4]) in support of its proposals [S8].

Finally, [S6] shows that in 2017 LEO metrics would be introduced as supplementary data informing the Teaching Evaluation Framework (TEF) which rates teaching quality – prior to this, TEF was largely based on expert review informed by National Student Survey (NSS) results. The research in [R4] makes clear that money is not the only consideration for

prospective students - but offers complementary quality metrics based on labour market outcomes associated with course-level value added.

Impact on social mobility

Walker's research in [R2] was used in evidence in a 2015 Supreme Court case (BIS v. Tigere) that asserted that BIS had unlawfully denied student loan access to a member of a particular class of immigrant children. The court, which hears only those cases of 'the greatest public or constitutional importance affecting the whole population', found against BIS and the evidence from Walker's research in BIS's own report [S1] was decisive in this. In her judgement the then Deputy President of the Supreme Court stated that, "... *the additional short-term cost of enabling these students to have loans pales into insignificance compared with the costs of removing the cap on student numbers. I conclude, therefore, that the application of the settlement rule to this appellant could not be justified and was incompatible with her Convention rights*" [S9].

A Senior Education & Community Care Solicitor at Just 4 Kids Law (J4KL) said the following in relation to the use of Walker's evidence in the case, "*Professor Walker's report and witness statement was considered by the Supreme Court when making their decision in this case, and I believe they gave his evidence considerable weight when considering the government's justification for interfering with the convention rights of the young people affected by the student loan rules*", and later added, "*Without this key evidence, I am not sure if the case would have been decided in favour of the Appellant, as it helped us prove that a key element of the legal test had not been met...the impact for those young people who were able to get student loans has been life-changing*" [S10].

BIS changed their practices to define a new class of eligibility and amended student support rules accordingly, taking effect in England from August 1st 2016. The BIS explanatory memo [S11] suggested that this would permit an additional 2,400 cases per annum, which if typical, will have enabled access to HE courses for an additional 12,000 students and generated a further aggregate benefit of approximately GBP960 million using the GBP200,000 estimate for those graduating in 2019 and 2020.

5. Sources to corroborate the impact

[S1] Department for Business, Innovation & Skills (BIS) Report 146 [The Benefits of Higher Education Participation for Individuals and Society: key findings](#), 2013, p.36.

[S2] [HM Treasury, Autumn Statement](#), 2013.

[S3] Universities Minister, '[Robbins Revisited: Bigger and Better Higher Education](#)', Social Market Foundation, December 2013, p.18.

[S4] A University Education, Oxford University Press, 2017, Ch 5, pp.129-136.

[S5] Commentary by the Universities Minister to House of Lords Economic Affairs Committee on [Parliamentlive.tv](#). 2017.

[S6] Minister of State for Universities, Research and Innovation: speeches to [Universities UK](#) and to Reform, 2017.

[S7] Email from Policy Modelling Analyst (Longitudinal Educational Outcomes), Department for Education, 2020.

[S8] Dept. for Education, [Post-18 review of education and funding](#) (the Augar review), 2019.

[S9] Supreme Court judgement [Tigere v BIS](#), 2015.

[S10] Testimonial from a Senior Education & Community Care Solicitor at J4KL

[S11] [Explanatory memo to The Education \(student fees, awards and support\) \(amendment\) Regulations 2016](#)