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The Case for an All-Age Graduate Tax in England

Andy Green and Geoff Mason

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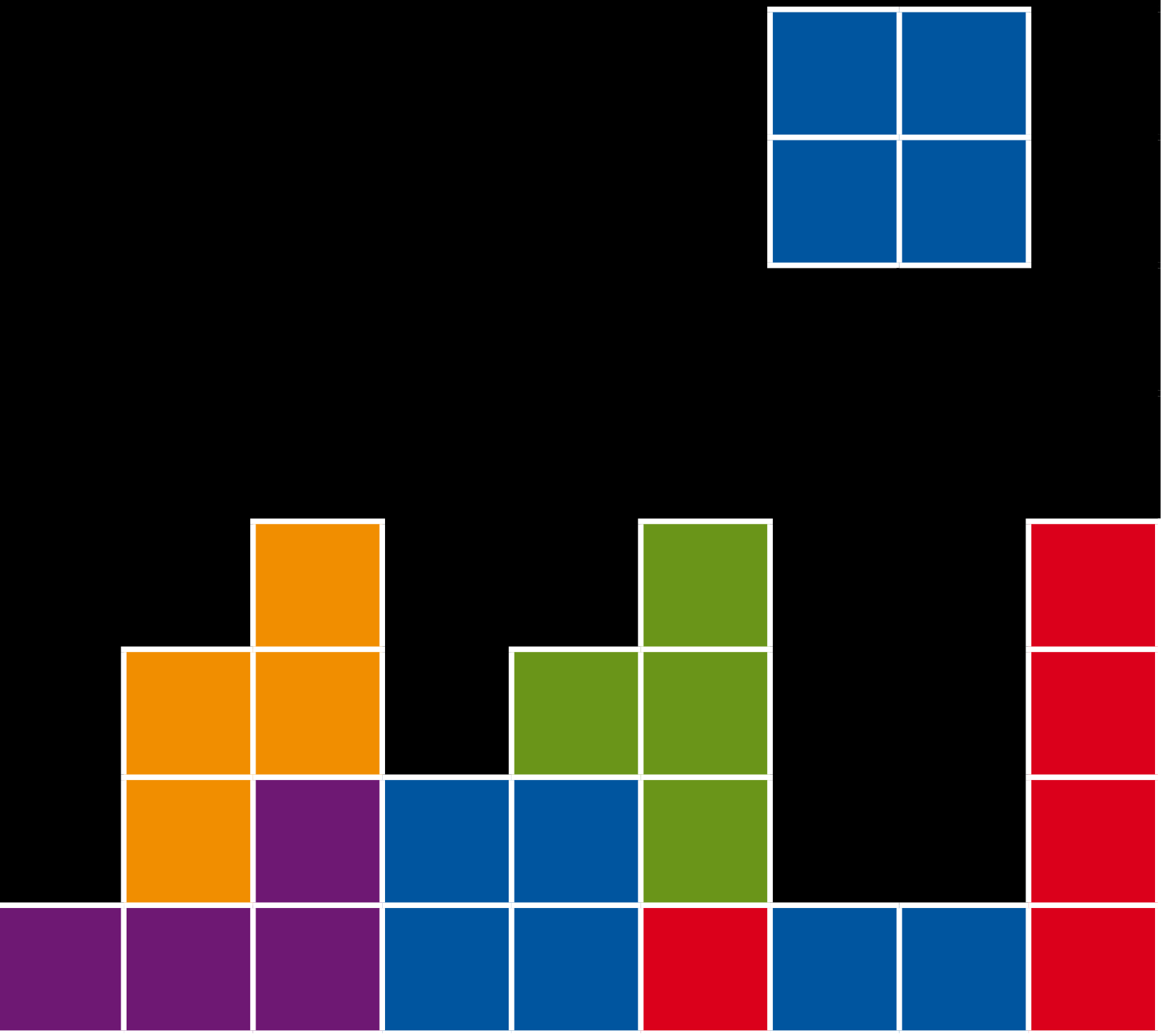

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The Case for an All-Age Graduate Tax in England

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Abstract

Following the large increase in Higher Education (HE) tuition fees in 2012, together with later variations in the terms of repayment and the interest rate to be paid, new graduates are now leaving university with very heavy debt repayment obligations. These debts are both inequitable and difficult to sustain. Inequitable, because current and future generations of students are expected to pay for HE opportunities which previous generations of graduates received for free. Difficult to sustain, because three quarters of current student borrowers are not expected to be able to repay their loans in full before their outstanding debt is written off after 30 years, as provided for in the current loan system. The full extent of these under-payments is hard to predict. Hence, the long-term fiscal foundations of the income-contingent loan system are both uncertain and weak.

This paper sets out a proposal for an all-age graduate tax which would have three key advantages compared to the present HE loan system. First, in the interests of inter-generational equity, this tax would be applied to all existing generations of graduates, not just to recent graduates who are expected to meet the onerous repayment obligations attached to student loans. Second, graduate tax payments made by those earning over £21 000 would be lower at all levels of earnings, than are current annual loan repayments, and thus less burdensome on graduates. Third, an all-age graduate tax would contribute to government tax revenue from the first year that it was introduced, bringing substantially more revenue than the current level of loan repayments made to the Student Loans Company. It would thus provide a more secure fiscal foundation to HE finances than can be achieved through the present loan system. Furthermore, an all-age graduate tax could also provide a means of tackling the problem of accumulated loan debt incurred by recent graduates.

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Executive Summary

Following the large increase in Higher Education (HE) tuition fees in 2012, and later changes in the terms of loan repayment, including higher interest rates, new graduates are now leaving university with very heavy debt repayment obligations.

The present system of students borrowing to pay for tuition fees, which they then pay back through income-contingent loan repayments over a 30 year period, is frequently justified on the grounds that graduates earn more on average than non-graduates and therefore should be expected to contribute to the costs of the privileged higher education that they have received.

However, the debt now incurred by new graduates is in its own way inequitable, as well as being difficult to sustain. Inequitable, because current and future generations of students are expected to pay for HE opportunities which previous generations of graduates received for free. Difficult to sustain, because three quarters of current student borrowers are not expected to be able to repay their loans in full before their outstanding debt is written off after 30 years, as provided for in the current loan system. The full extent of these under-payments is hard to predict. Hence, the long-term fiscal foundations of the income-contingent loan system are both uncertain and weak.

A common response to these problems is to call for tuition fees to be abolished and for the costs of free HE to be paid out of general tax revenue. However, there are also many other urgent claims on general tax revenue and many would argue that it would be inequitable to load too much of the costs of higher education on non-graduate taxpayers, who have not received private benefits from higher education study. Hence, in this paper we have set out an alternative proposal for an all-age graduate tax (GT) which could – if tuition fees are abolished - contribute substantially to the costs of HE students' tuition and maintenance in England.

An all-age graduate tax would have three key advantages compared to the present HE loan system. First, in the interests of inter-generational equity, this tax would be applied to *all* existing generations of graduates, not just recent graduates who have taken out loans for fees and maintenance. Second, annual graduate tax payments for those over the £21,000 income threshold would be lower – in most cases substantially lower - than loan repayments under the current system and would therefore represent less of a financial burden on younger graduates who may also be struggling with high rents and mortgage payments. Third, an all-age graduate tax would contribute substantially to government tax revenue from the first year that it was

introduced and thus provide a more secure fiscal foundation to HE finances than can be achieved through the present loan system.

This loan system is notable for the fact that student loan repayments are collected through the tax system, with repayments calculated by employers, taken directly from the salaries of indebted graduates and sent to HM Revenue and Customs (HMRC). Self-employed graduates are expected to declare their loan repayment obligations in their annual self-assessment tax returns. The effective level of 'taxation' for indebted graduates is relatively high: nine percent of all gross annual earnings above £21,000 over a 30 year period, with no adjustment for tax-free personal allowances as occurs with income taxation.

By contrast, an all-age graduate tax could be levied and collected in similar ways to graduate loan repayments but at much more tolerable rates than nine percent. For illustrative purposes, we have presented estimates of potential tax revenue from an all-age graduate tax which could be levied in two different ways:

Graduate Tax (GT) Option 1: 2.5 percent of taxable income for employed graduates in England aged 20-64 who received a subsidised education in an English university.

GT Option 2: 2.0 percent of taxable income in the basic rate tax band and 3.0 percent of taxable income in the higher rate tax band for employed graduates meeting the same criteria for age, country of residence and subsidised education in an English university.

A £21,000 threshold for the all-age graduate tax to be applied is proposed so that graduates of all ages earning below this level are spared the burden of the tax in the same way that recent graduates earning below this level are not expected to start repaying their loans.

For recent graduates the reduction in monthly outgoings under GT Option 1 for an all-age graduate tax would be considerable. For those with a gross annual income of £35,000, monthly outgoings would decline from an expected £105 per month to £50 per month. Under GT Option 1, it is only when the gross annual income of employed graduates aged 20-64 rises to £60,000 that their monthly graduate tax payments approach the level of monthly loan repayments currently expected of recent graduates earning £35,000.

Drawing on Labour Force Survey data on the annual earnings of English-domiciled graduates in employment aged 20-64, we estimate that GT Options 1 and 2 would have yielded approximately £3.6-3.7 billion in annual tax revenues in 2016, more than double the annual loan repayments made by English-domiciled graduates in that year. This level of tax revenue

represents about 30-31 percent of the estimated total annual cost of providing tuition and maintenance for students studying towards First degree qualifications in England in 2016.

Thus an all-age graduate tax levied at the rates discussed in our examples could make a substantial and immediate contribution to the costs of first degree tuition and maintenance were student fees to be abolished. As at the present time, a further substantial proportion of higher education costs would continue to be paid out of general taxation, consistent with the fact that higher education generates many social benefits as well as private benefits.

An all-age graduate tax could also provide a means of tackling the problem of accumulated loan debt incurred by graduates in recent years. We suggest that indebted graduates could be offered a choice between continuing with their loan repayments and letting their payments under the all-age graduate tax be formally substituted for their debt repayments. For most of these graduates, the monthly graduate tax payments would be less onerous over a long period of time than their debt repayment obligations. However, there would be some long-term benefits in terms of tax revenue because, in common with all other graduates, these indebted graduates would be liable to pay the all-age graduate tax throughout their working lives – in contrast to their outstanding loan repayments which are scheduled to be written off after 30 years.

This approach to the question of accumulated student loan debt would recognise the fact that, while the problem has taken only a few years to develop, it will take decades even to be partially resolved. An all-age graduate tax would provide an equitable and fiscally responsible means of addressing the issue over the long term.

The paper acknowledges that the many potential advantages of an all-age graduate tax will not be secured without concerted efforts to overcome practical and political difficulties. As with any new tax, it will be unpopular with some sections of the target group of tax-payers and concerns will arise about the scale of possible avoidance of the tax. Successful implementation of such a tax will therefore require both further research and investigation into the concept and persuasive campaigning to build political and social support for it.

First, the specific examples that we offer of how such a tax could be designed and implemented are highly preliminary in nature. If any political parties or other organisations are interested in developing the proposal further, new research and investigation will be needed into alternative

tax designs and in developing projections of future graduate tax revenue under those different designs, to be compared with projections of future student loan repayments under the present tuition fee and loan system. Ideally, these projections would take account of potential behavioural responses to an all-age graduate tax as compared with behavioural responses to increases in student indebtedness under the present system. In addition, policy work is needed to assess how an all-age graduate tax might be combined with other initiatives such as expanding the links between apprenticeship training and HE study.

Second, political parties or other organisations interested in the proposal will need to press its main underlying argument concerning inter-generational equity in a convincing and determined way. It should not be assumed that graduates in older age groups will automatically resist paying such a tax. Many older graduates will take the future interests of their own children and grandchildren into consideration when evaluating the merits of an all-age graduate tax, and others will recognise the social benefits of enhancing equity between different generations.

1. Introduction

Tuition fees for higher education (HE) in England were first introduced in 1998 at a rate of £1000 per year. In 2006 this level of fees was trebled and in 2012 the maximum fee level was sharply increased again to reach £9000 per year. In order to help students pay such fees, an income-contingent loan system was introduced in 2006 in which students who took out tuition fee loans would not be expected to start repaying those loans until they were employed and earning above a specified income threshold (set at a gross annual income of £21,000 in 2012). After a specified period – 30 years in the case of student borrowers since 2012 – all outstanding loan repayments are written off.

HE students are now also expected to borrow on similar terms to help pay for their living costs during their studies. After various changes in the availability of student maintenance grants over recent years, these grants were finally abolished in 2016 and replaced by extended provision of income-contingent maintenance loans.

This system is frequently justified on the grounds that university graduates earn more on average than non-graduates and therefore should be expected to contribute to the costs of the privileged higher education that they have received. In a typical example of this thinking, the former Secretary of State for Education, Michael Gove, said recently that it was 'wrong if people who don't go to university find that they have to pay more in taxation to support those who do.'[1]

However, the indebtedness which has been loaded onto HE students since 2006 is in its own way inequitable as well as being difficult to sustain.

Inequitable, because current and future generations of students are expected to pay for HE opportunities which previous generations of graduates received for free (Green, 2017). Difficult to sustain, because student debt levels are already higher in England than in any other developed country and a very high proportion of current student borrowers – recently estimated at 77 percent by researchers at the Institute for Fiscal Studies (IFS) - are not expected to be able to repay their loans in full before their outstanding debt is written off (Belfield et al, 2017).

[1] Heather Stewart, 'Michael Gove mounts defence of university tuition fees', *The Guardian*, 2 July 2017.

This level of write-off is defended by the current Universities Minister Jo Johnson in the following way: 'The government consciously subsidises the studies of those who for a variety of reasons, including family responsibilities, may not repay their loans in full…. This is a vital and deliberate investment in the skills base of this country, not a symptom of a broken student finance system.'[2]

However, uncertainties about future debt write-offs have contributed to the worsening of the loan terms faced by recent graduates and current students, for example, unfavourable changes to the formulae by which interest rates have been calculated since 2012 and the freezing of the loan repayment threshold announced in 2016.[3] In the January 2017 Fiscal Sustainability Report produced by the Office for Budget Responsibility (OBR, 2017), the student loan element of the National Debt is projected to represent about 11 percent of Gross Domestic Product (GDP) in 2037-38, up from 5 percent in 2017-18.[4] Since the National Debt as a whole is projected to represent about 95 percent of GDP in 2037-38,[5] student debt will remain a relatively small part of the story so far as the Government's ability to finance the National Debt over coming decades is concerned. But because the overall National Debt : GDP ratio remains far above the level to which it had fallen before the 2008-09 recession, the growth of student loan debt must be one of many real concerns to HM Treasury - and this may explain some of the changes to interest rates and loan repayment thresholds and other steps taken since 2012 to increase debt collection from recent and future graduates.[6]

A common response to the widely recognised increase in pressure on indebted graduates is to call for tuition fees to be abolished and for the costs of free HE to be paid out of general tax revenue. However, many would argue that this would be unfair on non-graduates taxpayers who have not received private benefits from HE study. There are also many other urgent claims on general tax revenue, including the need to meet the costs of high-quality health, social care and primary, secondary and vocational education services. Hence it will be difficult for any government to give top priority to free HE services over other claims on general tax revenue.

[2] Quoted by Helen Warrell, 'Political pressure builds to relieve student loans burden,' *Financial Times*, 8 July 2017.
[3] See Section 2.1 below for details of these changes to interest rates and to loan repayment thresholds.
[4] OBR, 2017, Chart 3.12: Additions to net debt from student loans.
[5] OBR, 2017, Chart 1: Central projection of the primary balance and Public Sector National Debt
[6] See McGettigan (2014) for an interesting description of the accounting conventions agreed in 2014 by HM Treasury and the government department then responsible for higher education (Department for Business, Innovation and Skills, BIS) which seemed likely to "incentivise BIS to change student loan repayment terms" (p6).

In this paper we set out an alternative proposal for an all-age graduate tax which could - if tuition fees are abolished - contribute substantially to the costs of HE students' tuition and maintenance in England. Such a tax would still recognise that, although HE provides many social benefits, it also confers many private benefits that are unevenly distributed between individuals – and there is a case for asking graduates to pay more than non-graduates in the long-term for the private benefits arising from HE. An all-age graduate tax would have three key advantages compared to the present HE loan system. First, in the interests of inter-generational equity, this tax would be applied to *all* existing generations of graduates, not just to recent graduates who have taken out loans for fees and maintenance. Second, annual graduate tax payments for recent graduates earning over the £21,000 threshold would be lower – in most cases substantially lower - than loan repayments under the current system and would therefore represent less of a financial burden, particularly for graduates in their thirties and forties who may be spending relatively high proportions of their incomes on rent or mortgages. Third, an all-age graduate tax would contribute substantially to government tax revenue from the first year that it was introduced, providing a more secure fiscal foundation to HE finances than can be achieved through the present loan system.

The paper is ordered as follows. In Section 2 we describe the workings of the current student loan system and compare student loan repayments at given levels of income with the levels of additional tax payable under different scenarios of an all-age graduate tax. We also provide estimates of the extent to which the revenue from different kinds of all-age graduate tax could contribute to covering the costs of tuition and student maintenance for First degree (Bachelors) courses in England. In Section 3 we discuss how our proposed all-age graduate tax stands up to the arguments for and against graduate taxes of different kinds that were set out in the influential 1997 Dearing Report on Higher Education, and have been reiterated since by other commentators. Section 4 summarises our main findings.

2. Student Loan Repayments, the Revenue from an All-Age Graduate Tax and the Costs of HE Tuition and Maintenance in England

2.1 Student Loan Repayments

Throughout this report we focus primarily on England in order to concentrate on the broad policy alternatives under discussion without being distracted by institutional differences between the four UK nations (which deserve to be the subject of other research papers). However, where certain information also applies to UK students outside England, this is duly noted.

Details of how student loan repayments are calculated are shown on the www.studentloanrepayment.co.uk website. As of 5th July 2017, 'Plan 2' borrowers in England and Wales – those who had taken out loans on or after 1st September 2012 - were expected to contribute to repayment of their loan in all pay periods where their gross (pre-tax) income exceeded a threshold of £21,000 per year or £1750 per month or £404 per week. The stipulated rate of repayment was nine percent of all income above this threshold.

For example, those with a gross annual income of £35,000 were expected to pay £105 per month, calculated as follows:

1) £35,000 less £21,000 = £14,000
2) 9% of £14000 = £1260
3) £1260/12 = £105

For graduate employees, the repayments are calculated by employers, taken directly from their salaries and then sent directly at the end of each tax year to HM Revenue and Customs. Self-employed graduates are expected to declare that they have a student loan to repay in their annual self-assessment tax returns.

It is notable that this calculation method takes no account of the difference between gross income and taxable income (adjusted for tax-free personal allowances), in contrast to the way in which income tax, for example, is calculated.

As of 31st March 2017, the outstanding debt on loans taken out by HE students based in England was £89.3 billion, up from £39.6 billion five years earlier, according to Student Loans Company (SLC) data. This represented just under 90 percent of the £100.5 billion outstanding debt on student loans across the UK at 31st March 2017 (SLC, 2017). In total approximately

1.24 million HE students in England received SLC support of some kind in 2015-16 (ONS, 2016).

This rapid growth in student debt largely reflects the increase in tuition fees in 2012 and the accompanying increase in real interest rates charged to student loans, both while borrowers are studying and after they graduate.[7] More recently, the total debt outstanding has been further increased by the abolition of maintenance grants in 2016 and their replacement by extended provision of income-contingent maintenance loans. Future repayment rates will also rise following the 2016 announcement of the £21,000 repayment threshold being frozen in cash terms for five years[8] and the increase in the interest rate on many student loans from 4.6 percent to 6.1 percent which is planned for 1st September 2017.[9] The combined effect of these changes could lead to an estimated average debt of £50,000 at the time of graduation for new students entering university in 2017 (Belfield et al, 2017:17).

As noted above, recent estimates by IFS researchers suggest that as many as 77 percent of current student borrowers are not expected to be able to repay their loans in full before their outstanding debt is written off – up from 42 percent in the pre-2012 student loan system (ibid:19).

Turning to a second measure of debt write-off, the most recent IFS estimates suggest that about 31 percent of the value of government lending to students will not be paid (ibid:7). This is lower than a previous IFS estimate of 43 percent of student borrowing to be written off (Crawford et al, 2014) and to a considerable extent it reflects changes in government accounting procedures with a lower discount rate being applied to future repayments by graduates (Belfield et al, 2017:8). Another reason for the reduction in the estimated share of student borrowing to be written off is the impact on student repayment obligations of the freezing of the £21,000 salary threshold for repayments, as described above.

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[7] [7]For loans taken out before 1st September 2012, the annual interest rate charged in the year ending 31st August 2017 was 1.6%. For loans taken out since 1st September 2012, the interest rates charged in the year ending 31st August 2017 were 4.6% whilst studying and, following graduation, ranged on a sliding scale from 1.6% (for students whose annual income was £21,000 or less) to 4.6% (for students whose income was £41,000 or more). Source: https://www.slc.co.uk/students-and-customers/loan-repayment/interest-rates.aspx [26.8.17]

[8] Government guidelines originally stated that the repayment threshold would be uprated annually in line with average earnings. The retrospective changes in this and other loan terms establish a precedent for any of the terms and conditions of student loans to be changed without primary legislation. See Thompson (2016) for an exploration of the possible consequences.

[9] Lucy Warwick-Ching, 'Student loan interest rates will rise to 6.1 per cent', *Financial Times*, 13 April 2017. The interest rate on loans for current students is calculated as the Retail Price Index rate from March of each year plus 3%.

There will always be considerable uncertainty attached to estimates of the share of student debt that will need to be written off, if only because of the difficulty of predicting future trends in graduate earnings. However, even after taking such uncertainty into account, the order of magnitude conveyed by the IFS's careful estimates makes it clear that the level of debt write-off under the current student loan system will be substantial. It will therefore need to be covered by an equally substantial public subsidy to HE tuition and maintenance costs over the next 30 years and beyond.

This level of implied public subsidy under the current student loan system is one of several different factors which need to be taken into account in assessing the relative importance of the potential revenue from an all-age graduate tax, to which we now turn.

2.2 How an All-age Graduate Tax Might Work

As described above, student loan repayments by graduate employees are calculated by their employers, taken directly from their salaries and then sent directly at the end of each tax year to HM Revenue and Customs. At the same time, the loan repayment obligations of self-employed graduates are calculated and processed through their annual self-assessment tax returns. Thus student loan repayments are effectively collected in ways that resemble taxation and are undoubtedly experienced by many indebted graduates as a form of taxation. Indeed, in 2010 the then Universities Minister, David Willetts, was quoted as saying that students should consider university fees 'more as an obligation to pay higher income tax' than as a debt.[10]

As things have turned out, the effective level of 'taxation' for indebted graduates is relatively high: nine percent of all gross annual earnings above £21,000 over a 30 year period, with no adjustment for tax-free personal allowances as occurs with income taxation. [11]

Our proposition is that an all-age graduate tax could be levied and collected in similar ways to graduate loan repayments and that this could be done at much more tolerable rates than nine

[10] Quoted by Andrew Hough, 'Students "are a burden on taxpayers", new universities minister believes', *Daily Telegraph,* 10 June 2010.

[11] Recent estimates prepared by London Economics suggest that 'the effective marginal tax rates for graduates (i.e. the proportion of every £1 of additional earnings paid in income tax, National Insurance or student loan repayments) are prohibitive compared to both graduates without loans, and non-graduates…. [In some occupations these marginal tax rates for indebted graduates range] up to 51% for an extended period of time' (Halterbeck and Conlon, 2017: iii)

percent. Here, for illustrative purposes, we present estimates of potential tax revenue from an all-age graduate tax which could be levied in two different ways:

Graduate Tax (GT) Option 1: 2.5 percent of taxable income for employed graduates in England aged 20-64 whose gross annual income exceeds the £21,000 threshold applied in the student loan repayment system.

GT Option 2: 2.0 percent of taxable income in the basic rate tax band and 3.0 percent of taxable income in the higher rate tax band for employed graduates meeting the same criteria for age, country of residence and income level.

We focus on graduates aged 20-64 because of the relatively large sample sizes available in the Labour Force Survey for employed graduates in that broad age band. There is no reason in principle, however, why a graduate tax should not be extended to graduates above the age of 64 if so decided by any government. (A) GT Option 1: tax levied at 2.5% of taxable income for graduates with gross annual incomes of £25,000 or more; tapered tax rates for gross incomes between £21,001-£24,999.

Table 1: Estimated Individual Tax Liabilities under All-Age Graduate Taxes

(A) GT Option 1: tax levied at 2.5% of taxable income for graduates with gross annual incomes of £25,000 or more; tapered tax rates for gross incomes between £21,001-£24,999.

Gross annual income (£)	Taxable income (a)	Tax rate (%)	Annual tax payment	Monthly tax payment
21000	10000	0	0	0
21500	10500	0.25	26	2
22000	11000	0.75	83	7
23000	12000	1.5	180	15
24000	13000	2.0	260	22
25000	14000	2.5	350	29
30000	19000	2.5	475	40
35000	24000	2.5	600	50
40000	29000	2.5	725	60
45000	34000	2.5	850	71
50000	39000	2.5	975	81
55000	44000	2.5	1100	92
60000	49000	2.5	1225	102
65000	54000	2.5	1350	113
70000	59000	2.5	1475	123
75000	64000	2.5	1600	133
80000	69000	2.5	1725	144

(B) GT Option 2: tax levied at 2.0% of taxable income in the basic rate tax band; and 3.0% in the higher rate tax band; applies to graduates with gross annual incomes of £25,000 or more; tapered tax rates for gross incomes between £21,001-£24,999.

Gross annual income (£)	Taxable income (a)	Maximum tax rate (%)	Annual tax due: basic rate (b)	Annual tax due: higher rate (c)	Annual tax payment (total)	Monthly tax payment
21000	10000	0	0	0	0	0
21500	10500	0.25	26	0	26	2
22000	11000	0.75	83	0	83	7
23000	12000	1.5	180	0	180	15
24000	13000	2.0	260	0	260	22
25000	14000	2.0	280	0	280	23
30000	19000	2.0	380	0	380	32
35000	24000	2.0	480	0	480	40
40000	29000	2.0	580	0	580	48
45000	34000	3.0	640	60	700	58
50000	39000	3.0	640	210	850	71
55000	44000	3.0	640	360	1000	83
60000	49000	3.0	640	510	1150	96
65000	54000	3.0	640	660	1300	108
70000	59000	3.0	640	810	1450	121
75000	64000	3.0	640	960	1600	133
80000	69000	3.0	640	1110	1750	146

Notes:
(a) Gross annual income less £11,000 personal allowance applicable in the 2016-17 tax year
(b) Basic rate tax band in 2016-17: taxable income ranging from £0-32,000
(c) Higher rate tax band in 2016-17: taxable income ranging from £32,001-150,000

A £21,000 threshold for the all-age graduate tax to be applied is proposed so that graduates of all ages earning below this level are spared the burden of the tax in the same way that recent graduates earning below this level are not expected to start repaying their loans. In order to ensure that tax obligations do not exceed repayments under the present loan system, and to avoid sudden large jumps in tax liability, we also allow for tax rates to be tapered from 0.25 percent to 2 percent for gross income levels between £21,000 and £24,999.

For recent graduates the reduction in monthly outgoings under GT Option 1 for an all-age graduate tax would make a considerable difference to net incomes. To take the earlier example of those with a gross annual income of £35,000, monthly outgoings would decline from an expected £105 per month to £50 per month, calculated as follows:

1) £35,000 less £11,000 (personal allowance in 2016-17) = £24,000

2) 2.5% of £24,000 = £600
3) £600/12 = £50

As shown in Table 1, Part A, under GT Option 1, it is only when the gross annual income of employed graduates aged 20-64 rises to £60,000 that their monthly graduate tax payments approach the level of monthly loan repayments currently expected of recent graduates earning £35,000. In the case of GT Option 2, the equivalent level of monthly payments would only apply to graduates with gross annual incomes of approximately £64,000 (Table 1, Part B).

2.3 Potential Revenue from an All-Age Graduate Tax Levied on First Degree Graduates, England, 2016

Clearly, both GT Options 1 and 2 offer the prospect of graduate contributions to HE tuition and maintenance costs being spread more equitably across employed graduates of all ages, not just loaded on to recent graduates who have student loans to repay. We now go on to investigate the level of revenue which could be generated by these tax options.

In order to assess the number of graduates who might be potentially eligible to pay a graduate tax, and to gather information on their salary levels, we draw on Labour Force Survey (LFS) data for 2016. To obtain sample sizes sufficiently large to be disaggregated by age and gender, we focus on the 20-64 year old age group. However, there is no reason in principle why an all-age graduate tax should not be extended to employed graduates aged 65 or older nor indeed to graduate pensioners with taxable income above a stipulated level; these would be decisions for government ministers to take.

In 2016 there were just under 10 million graduates aged 20-64 domiciled in England of whom 52 percent were female. 'Graduates' are here defined as persons holding First (Bachelor) degrees or higher qualifications. Approximately 8.6 million of English-domiciled graduates aged 20-64 were in employment of some kind (including self-employment), comprising 90 percent of male graduates in this age group and 83 percent of female graduates. A markedly higher share of female graduates were employed part-time (18 percent) compared to 5 percent of male graduates.

To estimate the number of English-domiciled graduates in employment who might have received subsidised undergraduate education in English universities, we define as 'English-educated' all graduates who fall into one of the following two categories:

(1) English-domiciled and English-born
(2) English-domiciled, born in other European Economic Area (EEA) countries and who had arrived in the UK before the age of 21.[12]

As shown in Table 2, this generates a total of 6.3 million employed graduates aged 20-64 who we treat as English-educated for purposes of our revenue estimates. This may be regarded as a conservative estimate because it omits some 970,000 UK-born and EEA-born graduates currently domiciled and working in England, some of whom may have received subsidised undergraduate education in English universities: these comprise English-domiciled graduates born in Scotland, Wales or Northern Ireland and others born in other EEA countries but who arrived in the UK after the age of 21. Conversely, of course, an unknown proportion of those classified here as English-educated may *not* have received subsidised undergraduate education in English universities. This includes an increasing number of young English-domiciled graduates who chose to go abroad to study for their degrees and who should therefore not be subject to a graduate tax in England. Available data do not allow us to quantify the numbers in this category, and only new information collected either by employers or HMRC through self assessment tax returns could establish exactly how many would not be liable for the tax.

Another important caveat is that, as discussed by the Office of National Statistics (ONS, 2015), there are reasons to regard the LFS as an inferior source of information on earnings compared to, say, the Annual Survey of Hours and Earnings (ASHE), with the LFS tending to under-report salary levels. However, surveys such as ASHE do not contain the information on educational qualification levels to analyse the revenue implications of all-age graduate taxes.

In Table 3 we present LFS-derived salary information for English-domiciled graduate employees aged 20-64 who were either born in the UK or, if foreign-born, arrived in the UK from EEA countries before age 21. Self-employed graduates are excluded. These estimates show a very wide dispersion in gross annual salaries across genders and age-groups, with mean gross annual earnings for all graduate employees aged 20-64 estimated at £35,545 (just under

[12] We use this age cut-off on the assumption that very few foreign-born EEA graduates domiciled in England would have been able to complete a degree in their home country and then migrated to England before the age of 21, since degrees are not normally completed before age 22 in these countries. Those with degrees who migrated before age 21 are therefore likely to have acquired them in England. It should be noted that we are also excluding non-EEA foreign born graduates (so-called 'international students') who, if they obtained their degree in England since 1981 have been paying 'full-cost' fees.

£42,390 for males; just under £29,100 for females). As shown in Table 4A, an estimated 73 percent of these graduates earned £21,000 or more per year, the threshold for loan repayments under the present HE funding system. Only 28 percent of graduates (41 percent of males, 18 percent of females) earned enough to be eligible to pay the higher rate of tax (Table 4B).

Table 2: English-Educated Graduates Aged 20-64 in Employment in England, 2016

8.6 million	graduates aged 20-64 in employment domiciled in England
of whom	
6.1 million	71% born in England
342000	4% born elsewhere in UK
187000	2% EEA-born, arrived in UK before age 21
629000	7% EEA-born, arrived in UK at age 21 or older
432000	5% non-EEA born, arrived in UK before age 21
932000	11% non-EEA-born, arrived in UK at age 21 or older
	'English-educated' defined as:
6100000	English-domiciled and English-born
	plus
187000	English-domiciled, EEA-born and arrived in UK before age 21
6.3 million	**TOTAL: English-educated graduates, domiciled in England, aged 20-64 in employment**

Source: Derived from Labour Force Survey 2016 (all quarters). Population-weighted estimates.

Table 3: English-Domiciled Graduate Employees Aged 20-64, 2016: Distribution of Gross Annual Salaries, Analysed by Gender and Age Group (population-weighted)

MALES	**Mean gross annual salary**	**10th percentile**	**25th percentile**	**Median**	**75th percentile**	**90th percentile**		***Unweighted n =***
Age group:								
20-24	20441	8008	13884	20020	25584	30004		*229*
25-29	30573	16016	21996	28548	35984	44980		*515*
30-39	43343	20228	28808	39000	52000	73008		*1093*
40-49	52148	21996	34008	44980	65988	90012		*1006*
50-59	52288	20800	33800	47580	65988	98020		*772*
60-64	43384	12012	22776	38012	55016	86996		*209*
Total	**42388**	**16484**	**25012**	**37024**	**52780**	**76492**		***3824***
FEMALES	**Mean gross annual salary**	**10th percentile**	**25th percentile**	**Median**	**75th percentile**	**90th percentile**		***Unweighted n =***
Age group:								
20-24	18150	7800	12584	17992	22984	26988		*320*
25-29	25436	9984	17992	24492	30524	38480		*688*
30-39	30752	11024	18980	28756	38480	51012		*1470*
40-49	32741	10192	17992	30004	43004	56004		*1179*
50-59	32336	10192	18200	30004	42016	53976		*878*
60-64	29034	6500	11648	24024	39988	57980		*173*
Total	**29098**	**9984**	**17264**	**26000**	**37024**	**48984**		***4708***
TOTAL GRADUATE EMPLOYEES	**Mean gross annual salary**	**10th percentile**	**25th percentile**	**Median**	**75th percentile**	**90th percentile**		***Unweighted n =***
Age group:								
20-24	19185	7800	13000	18980	24024	29016		*549*
25-29	27969	13988	19968	26000	34008	43212		*1203*
30-39	36751	14976	23348	33488	44980	62504		*2563*
40-49	42215	12948	24024	38012	52988	79976		*2185*
50-59	42209	12948	23504	38012	53976	79976		*1650*
60-64	36817	8424	16016	31980	47008	79976		*382*
Total	**35545**	**12012**	**20228**	**30004**	**44980**	**65000**		***8532***

Source: Derived from Labour Force Survey 2016 (all quarters).
Notes: Population-weighted estimates. Refers to English-domiciled graduates who were either born in the UK or, if foreign-born, arrived in the UK from EEA countries before age 21. Excludes self-employed graduates. Gross annual salary is here defined as gross weekly pay in main job multiplied by 52. In calculating summary measures of income, observations are excluded if reported hourly pay <£1 or hourly pay>£100.

Table 4: English-Domiciled Graduate Employees Aged 20-64, 2016: Proportions Earning £21,000 or More Per Year, Analysed by Gender and Age Group (population-weighted)

A: Percentage of graduates earning £21,000 or more per year

	Males	**Females**	**Total**
	Est. % of graduates earning £21,000 or more per year		
Age group:			
20-24	46	35	40
25-29	77	63	71
30-39	89	70	79
40-49	90	69	79
50-59	90	69	79
60-64	77	56	67
Total	**82**	**64**	**73**

B: Percentage of graduates eligible to pay higher rate of tax (a)

	Males	**Females**	**Total**
	Est. % of graduates earning £21,000 or more who are eligible to pay higher rate of tax		
Age group:			
20-24	<1	<1	<1
25-29	13	1	10
30-39	42	20	29
40-49	55	25	41
50-59	58	24	42
60-64	43	22	32
Total	**41**	**18**	**28**

Source and notes: See Table 3
(a) Taxable income in excess of £32,000 per year

Under GT Option 1 (2.5 percent tax levied on all graduates with gross annual earnings of £25,000 or more per year, with lower rates for those earning between £21,000-24,999), we estimate that total annual revenue would be approximately £3.58 billion (Table 5A). Under the more progressive GT Option 2 (2.0 percent tax levied on taxable income in the basic rate tax

band and 3.0 percent of taxable income in the higher rate tax band), the estimated total annual revenue would be higher at £3.70 billion (Table 5B). Both these revenue estimates for 2016 are more than double the annual loan repayments made by English-domiciled graduates in 2015-16.[13]

These calculations are intended to be purely illustrative. A range of alternative options in all-age graduate tax design could usefully be explored, for example, with different rates of tax being applied, or the £21,000 lower bound to eligibility for the tax being replaced by another figure, or with the tax being extended to graduates above the age of 64. Nonetheless, the revenue estimates presented in Table 5 give some idea of the orders of magnitude associated with different rates of graduate tax.

Table 5: Estimated Tax Revenue from All-Age Graduate Taxes Levied on English-Educated Graduates Aged 20-64 in Employment in England, 2016

A: GT Option 1: 2.5% tax levied on all graduates with gross annual earnings of £25,000 or more per year; tapered tax rates for gross earnings between £21,001-£24,999.

6.3 million	TOTAL: English-educated graduates, domiciled in England, aged 20-64 in employment (Table 2)
of whom	
4.6 million	73% earn £21,000 or more per year (Table 4A)
£43,000	Mean gross annual earnings of those earning £21,000 or more per year
£32,000	Mean annual taxable pay of those earning £21,000 or more per year, assuming average personal allowance of £11,000 for tax year starting 5 April 2016.
£100 million	Estimated tax revenue foregone due to tapering of tax rates at annual incomes below £25,000
£3.58 billion	**Estimated annual revenue [= (4.6 million * £32000 * 0.025) less £100 million]**

[13] In 2015-16 borrowers who received loans as English-domiciled students studying in the UK repaid an estimated £1.66 billion pounds to the Student Loans Company. Repayments by EU-domiciled students studying in England are excluded from this estimate. Source: ONS/SLC/Department of Education, Statistical First Release, Student Loans in England: Financial Year 2016-17, Tables 4a(ii) and 4b(ii).

B: GT Option 2: 2.0% tax levied on taxable income in the basic rate tax band and 3.0% of taxable income in the higher rate tax band for all graduates with gross annual earnings of £25,000 or more per year; tapered tax rates for gross earnings between £21,001-£24,999.

£64,000	Mean gross annual earnings of graduates earning £21000 or more per year who are eligible to pay higher rate of tax (28% of graduates earning £21,000 or more; see Table 4B)
£53,000	Assumed mean annual taxable pay of graduates earning £21,000 or more per year who are eligible to pay higher rate of tax
£60 million	Estimated tax revenue foregone due to tapering of tax rates at annual incomes below £25,000
£3.70 billion	**Estimated annual revenue [= ((4.6 million * £32000 * 0.02) + (4.6 million * 0.28 * (£53,000-£32,000) * 0.03)) less £60 million]**

Notes:
Salary estimates derived from LFS 2016 as described in notes to Table 3.
Basic rate tax band in 2016-17: taxable income ranging from £0-32,000
Higher rate tax band in 2016-17: taxable income ranging from £32,001-150,000

2.4 Potential Contribution of All-Age Graduate Tax Revenue to Paying for First Degree Tuition and Maintenance Costs

In order to evaluate the extent to which the revenue from an all-age graduate tax in England might contribute to covering the costs of First degree tuition and maintenance in English universities, we first need to estimate the total number of students who are currently receiving subsidised higher education in England. We take care to include part-time students in this assessment, as well as full-timers, since part-time students are often neglected in discussions about tuition fees and student loan debt.[14]

To this end we first identify four groups of students enrolled in English universities in 2015-16:

[14] In fact part-time higher education enrolments have declined sharply (particularly among older students) since the 2006 and 2012 increases in tuition fees.
Source: http://www.hefce.ac.uk/analysis/HEinEngland/undergraduate/parttime/
For background information on the associated decline in employer support for employees engaging in part-time higher education, see Mason (2014).

(1) 926, 485 full-time First degree students enrolled in English universities who were domiciled in England prior to their studies (HESA, 2017b, Table N).[15]

(2) An estimated 129,700 part-time First degree students enrolled in English universities who were domiciled in England prior to their studies (derived using the ratio of part-time to full-time English-domiciled undergraduate students in English universities in that year shown in HESA, 2017a, Table 7).[16]

(3) 58,195 full-time First degree students enrolled in English universities whose domicile prior to commencing their studies was in other EU countries outside the UK (HESA, 2017a, Table 1a).

(4) 1575 part-time First degree students enrolled in English universities whose previous domicile was in other EU countries outside the UK (HESA, 2017a, Table 1a).

We then estimate the total annual costs of providing tuition and maintenance for these four groups of students by adding together:

(1) Total annual tuition fees chargeable to these students;

(2) Estimated costs of teaching subsidies to universities for these students, provided by the Higher Education Funding Council for England (HEFCE);

(3) Estimated costs of maintenance grants for these students.

As shown in Table 6, this yields an estimate of approximately £12.0 billion per year as the total annual cost of providing tuition and maintenance for subsidized students studying towards First degree qualifications in England in 2016. Annual revenue of approximately £3.6-3.7 billion from an all-age graduate tax would represent approximately 30-31 percent of these costs.

[15] In HESA data 'domicile' refers to the normal country of residence of students prior to commencing their programme of study (Source: https://www.hesa.ac.uk/support/definitions/students#domicile).
[16] We estimate this because HESA only provides numbers for both full- and part-time English domiciled students for undergraduates as a whole, not for first-degree undergraduates.

Thus an all-age graduate tax levied at the rates discussed in our examples could make a substantial and immediate contribution to the costs of First degree tuition and maintenance in higher education were fees to be abolished. Moreover, it is likely that the proportion of employees liable for the graduate tax will continue to increase over the coming decades, as cohorts with low HE qualification rates exit the labour force and are replaced by cohorts with much higher HE qualification rates.[17]

Table 6: Estimated Total Annual Costs of Tuition and Maintenance for First Degree-Level Higher Education in English Universities, 2016

	Number of students	**Estimated cost per student per year**	**Estimated total costs (£mn)**
Tuition fees for full-time students	984680	9000	8860
Tuition fees for part-time students	131275	4500	590
HEFCE teaching subsidies to universities for full-time students (a)	984680	700	690
HEFCE teaching subsidies to universities for part-time students (a)	131275	350	45
Maintenance grants for full-time students (b)	984680	1730	1700
Maintenance grants for part-time students (b)	131275	865	115
TOTAL			**12000**

(a) Estimated costs per student per year derived from Crawford et al, 2014, Table B1, Row 3, updated to 2016 prices (undiscounted). The estimates assume that full-time students' degree courses are three years in duration and that part-time courses last on average six years, with annual fees at 50% of full-time fees on average. The total annual fees charged to part-time students in English universities are not recorded, because they vary in individual cases according to how many modules are taken. However, universities require a number of completed modules for graduation which is the same for part-time and full time students. The table excludes other government spending on higher education such as capital grants, research grants and grants for 'widening participation'. It also omits the costs of the National Scholarship Programme which was abolished in 2015.

(b) Estimated costs per student per year derived from Crawford et al, 2014, Table B1, Row 5, updated to 2016 prices (undiscounted). Assumed that students' degree courses are three full years in duration and that part-time costs are 50% of full-time costs.

[17] An estimate of future trends in the size of the tax base for an all-age graduate tax would have to take account of any changes in employment rates amongst graduates, whether future non-UK EEA students would be entitled to subsidised HE study in England, and how many, if any, would be likely to enrol on subsided courses and remain in the country to work.

As at the present time, a further substantial proportion of higher education costs would continue to be paid out of general taxation, consistent with the fact that higher education generates many social benefits as well as private benefits (Marginson, 2007; McMahon, 2009).

2.5 Tackling Accumulated Student Loan Debt

As noted in Section 2.1, the outstanding debt on loans taken out by HE students based in England was £89.3 billion at 31st March 2017, just under 90 percent of the £100.5 billion outstanding debt on student loans across the UK at that date.

Clearly, if tuition fees are to be abolished or reduced in the future, this would raise serious concerns about inequity in relation to the unfortunate cohort of graduates who would be left exposed to high levels of debt for the tuition fees applied during their years of study.

Another important advantage of an all-age graduate tax is that it could provide a means of addressing the problem of accumulated loan debt. Rather than excuse indebted graduates from the all-age graduate tax because they have student loans to repay, it would be more equitable and viable in the long run for indebted graduates to be offered a choice between maintaining their loan repayments or being subject to an all-age graduate tax in the same way as other graduates - but with the tax payments of indebted graduates formally substituting for their debt repayments. Conversely, graduates who have already paid their tuition fees in full should be exempted from the all-age graduate tax in full or in part (depending on the level of fees involved, as deemed appropriate by the government of the day).

For most indebted graduates, monthly graduate tax payments would be less onerous over a long period of time than their debt repayment obligations. However, there would be some long-term benefits in terms of tax revenue because, in common with all other graduates, these indebted graduates would be liable to pay the all-age graduate tax throughout their working lives – in contrast to their outstanding loan repayments which are scheduled to be written off after 30 years.

This approach to the question of accumulated student loan debt would recognise the fact that, while the problem has taken only a few years to develop, it will take decades even to be partially resolved. An all-age graduate tax would provide an equitable and fiscally responsible means of addressing the issue over the long term.

3. The Dearing Report's Views on Graduate Taxes

3.1 Responses to Dearing

The present student loan system, with all its disadvantages, has its roots in the Dearing Report (1997), following which tuition fees were introduced at £1000 per year, maintenance grants were temporarily abolished and income-contingent maintenance loans were introduced. Subsequently, in 2006, tuition fees were raised to £3000 per year and income-contingent tuition fee loans were introduced. These innovations paved the way for the heavy increase in tuition fees and student debt from 2012 onwards.

In this context it is not often noted that the Dearing Report gave some thought to the option of funding HE (at least in part) through graduate taxes, on both existing graduates and future graduates (Paragraphs 20.25-20-29). It decided against both options but conceded that many of the options it did consider in more detail '(had) some features of a graduate tax' (Paragraph 20.29) – such as deferred contributions by future graduates (Paragraphs 20.30-20.34) and collecting contributions from future graduates in work (Paragraphs 21.40-21.49).

The Report's Recommendation 82 stated that:

'We recommend to the Government that the Inland Revenue should be used as the principal route for the collection of income contingent contributions from graduates in work, on behalf of the Student Loans Company' (Paragraph 21.49).

In making this recommendation, the Dearing Report was specifically referring to collecting income-contingent contributions from future graduates in work. It had earlier briefly considered the possibility of applying a graduate tax to existing graduates but rejected this option on the grounds of:

'[the] apparent difficulty of defining a "graduate" retrospectively and then identifying all individuals caught by the definition' (Paragraph 20.26).

Twenty years later, and following the pioneering work of HM Revenue and Customs (HMRC) in implementing the collection of student loan repayments through the tax system (as described in Section 2.1 above), these objections to all-age graduate taxes carry less weight.

For example, with regard to tax revenue deducted at source from employees' gross earnings, employers already take responsibility for calculating loan repayments that recent graduates are

obliged to pay.[18] In the case of existing graduates, employers could be required to set a date each year for graduate employees to notify them of their qualification status, and then seek instructions from HMRC as to what level of graduate tax (if any) should be collected from each employee – in the same way that student loan repayments are collected by employers. 'Qualification status' in this context could be decided on the basis of employees' answers to questions about whether they hold First/Bachelor degree qualifications, the universities from which they gained such qualifications, the year(s) in which these qualifications were awarded, and their nationality. Responsibility for the accuracy of these responses would fall on the individual employees themselves; it would not be reasonable to expect employers to take on responsibility for checking the information.

In the case of graduates who already fill out self-assessment tax forms (for example, those in self-employment), the relevant tax forms already require them to provide answers to a number of detailed questions. It would not be difficult to require self-assessment tax-payers to answer additional questions about whether they hold First/Bachelors degree qualifications, the universities from which they gained such qualifications, the years in which the qualifications were awarded and their nationality

As with any new tax, concerns will arise about possible avoidance and, as we discuss further below, different options for design and implementation of an all-age graduate tax need to be explored with a view to minimising this problem. However, in general terms, the incentives for honest compliance with an all-age graduate tax by individual graduate employees – and the penalties for non-compliance – would be the same as for any other element of the tax system.

The Dearing Report raised a number of additional issues relating to taxes on future graduates which it considered made them undesirable as a means of financing higher education (Paragraph 20.28). We consider each of these in turn.

[18] For details of these calculations, see HMRC, 'Student Loan repayments: guidance for employers', published 15 July 2014, last updated 7 December 2016. Available at: https://www.gov.uk/guidance/special-rules-for-student-loans

Dearing 20.28, Point 1: [A tax on future graduates] 'would provide no mechanism for those who might wish to pay at the time they receive the tuition (to avoid tax) and thereby foregoes any short-term benefits to the Exchequer, institutions, or graduates'

If tuition fees are abolished and replaced by an all-age graduate tax, the issue of upfront payment of fees will no longer be relevant.[19] Regarding short-term benefits to the Exchequer, one of the attractions of an all-age graduate tax (as described above) is that it would contribute substantially to government tax revenue from the first year that it was introduced.

Dearing 20.28, Point 2: [A tax on future graduates] 'is open-ended: those graduates who are particularly successful will be expected to contribute large sums in total (even if their success has little to do with their higher education) which may encourage avoidance of the tax'

Our all-age graduate tax proposal is designed to be 'progressive' in that those who earn most contribute most towards the overall costs of their higher education. This differs from the present loan system where most graduates have incurred similar debts for tuition fees but lower-earning graduates have to contribute a higher proportion of their incomes to pay off their debts than do higher-earning graduates.

Whether or not high-earning graduates in older age groups believe that higher education contributed towards their success, the main alternative at present to the onerous system of loan repayments imposed on younger generations of graduates is for university tuition and student maintenance costs to be wholly funded out of general taxation. An all-age graduate tax would be more discriminating than relying on general tax revenue in this way since it reduces the obligation for non-graduate tax-payers to support a higher education system in which they did not participate.

Dearing 20.28, Point 3: [A tax on future graduates] 'would provide no safeguard that higher education would receive any benefits from the contributions, since to provide such safeguards would cut across the general principle that tax revenue is not earmarked for particular services'

This would be true of an all-age graduate tax as with any form of income tax. However, future governments will continue to make pledges on higher education funding and, as with all such

[19] Arguably, the right to pay tuition fees up front, which exists under the current fee and loan system, is inequitable because students with less affluent parents currently end up paying more in student loan interest than students whose parents are able to pay their fees up front.

spending commitments, it would be up to the electorate to hold them to account. In this particular case, we would recommend that future governments be obliged to publish figures for the revenue generated from an all-age graduate tax and to demonstrate how this revenue had been used to augment the portion of higher education funding pledged from general taxation. If the purposes for which the all-age graduate tax revenue is spent are clearly spelt out in this way, this tax may become more palatable to those liable to pay it than any non-hypothecated increase in income tax would be.

Dearing 20.28, Point 4: 'defining what length or type of higher education study made an individual liable for a 'graduate' supplementary tax would be difficult'

It should be possible for HMRC – in consultation with higher education experts - to agree on a definition of eligibility for an all-age graduate tax, taking into account the kind of information which individuals can readily make available, namely, the level and type of higher education qualifications which they hold, the universities which awarded those qualifications and the year(s) in which these qualifications were awarded.

Our proposal limits liability for the graduate tax to those who have a First (Bachelor) degrees, or a higher level degree from an English University. It should also be noted that there is a widely accepted definition of what constitutes a Bachelor degree and that the Higher Education Statistics Agency (HESA) uses it for the purposes of compiling data on participation rates in different types of HE course. Undergraduate and post-graduate qualifications are also defined by the OECD's International Standard Classification of Education (ISCED) which, in its 2011 incarnation (UNESCO/OECD, 2011), classifies Bachelor degrees at ISCED level 6 and post-graduate degrees at ISCED levels 7 and 8. To participate in OECD international surveys, the Department for Education has to make a return to OECD specifying how the different qualifications available in England/UK should be attributed within the different classifications. This experience with classification of qualifications should help in establishing which specific HE qualifications make holders liable for the graduate tax.

Once HMRC has decided on the criteria for liability for the tax, employers should be able to use the qualifications information supplied by their employees to check on-line what tax rates (if any) should be applied to each employee. As we have described above, these and other practicalities involved in implementing an all-age graduate tax should be made easier by HMRC's experience of setting up the current system of collecting student loan repayments through employers.

Dearing 20.28, Point 5: 'it would not be straightforward (or necessarily desirable) to secure alignment with funding arrangements for further education;

This is hardly an argument against an all-age graduate tax since there are good reasons to believe that expansion of full-time higher education in England (and the UK as a whole) has been over-emphasised in government policy at the expense of high-quality vocational education and intermediate skills training (Green and Mason, 2015; Wolf, 2016; Green, 2017). Arguably, the introduction of an all-age graduate tax would be consistent with rebalancing of education policy towards vocational and technical education below graduate level, as called for in a recent government Green Paper on industrial strategy (DBEIS, 2017).

Dearing 20.28, Point 6: 'there is no experience of graduate tax systems elsewhere in the world".

Lack of experience elsewhere did not stop Australia devising an income-contingent student loan system which was later emulated by several other countries, including England. These systems have proved to be highly inequitable with regard to the distribution of higher education costs between younger and older generations of graduates. The time has now come for policy-makers to think imaginatively about how this inter-generational inequity can be alleviated.

3.2 Responses to Other Objections Raised to Graduate Taxes.

It is often noted (including by reviewers of this paper) that it would be difficult to collect the graduate tax from graduates who went abroad to work (see also Goodman et al, 2002). This is indeed a problem and one that does not arise to the same degree with loan repayments. In the latter case graduates with loans have a legal obligation to pay back their loans, according to the specified conditions, even after they have gone to work abroad. The Student Loans Company has a record of all persons with loan obligations, who are obliged to notify the company if they go to work abroad, even for a short period. If they fail to do so they are subject to additional interest charges, for which repayment can be legally enforced. In the case of a graduate tax system, it would be more difficult to collect taxes from graduates working abroad. Those who are still tax domiciled in England would be obliged to pay tax on foreign earnings and, presumably, if HMRC declared that they were liable, it would also be possible to collect graduate taxes from such people. However, for those resident abroad and not tax domiciled in England the options for collecting the tax would be much more limited. They might be liable to pay the tax on foreign earnings repatriated to the UK but even in this case, it would not be

enforceable unless HMRC already had records of such persons holding degrees from English Universities.

Inevitably, some graduates migrate to work and pay taxes in other countries, as do workers with non-graduate qualifications. The real question of interest here is whether and to what extent graduates might be motivated to emigrate primarily in order to avoid a graduate tax. It seems unlikely that life-changing decisions of this kind would be made unless other influences besides taxes were also at work. Further research and investigation of potential behavioural responses to an all-age graduate tax is beyond the scope of this paper but it would be useful if such research could be carried out in time to inform the design of a graduate tax and related enforcement mechanisms.

An objection in principle to a graduate tax that is also commonly raised in discussions, is that it represents a 'retrospective' tax. This objection may seem initially plausible since few taxpayers like to pay new taxes which they think they might have avoided had they been given sufficient advance warning (in this case it would have had to be given many decades before to have allowed older graduates to have made different decisions about HE participation). However, the argument does not stand up to fuller scrutiny since almost all new taxes could be argued to have 'retrospective' effects on the current costs and benefits of decisions made by individuals in the past. Individual taxpayers might argue, for instance, that recent reductions in capital gains tax were unfair to them because, had they known in advance, they would have invested more of their income in property and assets, thereby benefitting more from the tax change. Some people wishing to sell more expensive homes may argue that they should have been warned about recent increases in stamp duty earlier so that they could have sold their homes earlier with lower costs. Governments generally provide some advance warning of changes in taxation policy but there are clearly limits to how far this can be applied.

Governments do sometimes apply new tax rules differentially to different age groups – as with some changes in tax allowances. However, it is hard to see what ethical case could be made for applying a graduate tax more leniently to older generations of graduates. They have received private gains from their degrees which are unlikely to be exceeded, or even matched, by younger graduates and they will, in any case, be liable for the tax for much shorter periods than young graduates.

4. Assessment

Following the sharp increase in HE tuition fees in 2012, together with later variations in the terms of repayment and the interest rate to be paid, new graduates are now leaving university with very heavy debt repayment obligations.

The present system of students borrowing to pay for tuition fees and then making income-contingent loan repayments over a 30 year period is frequently justified on the grounds that graduates earn more on average than non-graduates and therefore should be expected to contribute to the costs of the privileged higher education that they have received.

However, the debt now incurred by new graduates is in its own way inequitable as well as being difficult to sustain. Inequitable, because current and future generations of students are expected to pay for HE opportunities which previous generations of graduates received for free. Difficult to sustain, because three quarters of current student borrowers are not expected to be able to repay their loans in full before their outstanding debt is written off after 30 years, as provided for in the current loan system. The full extent of these under-payments is hard to predict. Hence, the long-term fiscal foundations of the income-contingent loan system are both uncertain and weak.

A common response to these problems is to call for tuition fees to be abolished and for the costs of free HE to be paid out of general tax revenue. However, there are also many other urgent claims on general tax revenue, and many would argue that non-graduates should not have to make disproportionate contribution to the costs of a higher education system from which they have not benefitted personally. Hence, in this paper we have set out an alternative proposal for an all-age graduate tax which could – if tuition fees are abolished - contribute substantially to the costs of HE students' tuition and maintenance in England.

An all-age graduate tax would have three key advantages compared to the present HE loan system. First, in the interests of inter-generational equity, this tax would be applied to *all* existing generations of graduates, not just recent graduates who are expected to meet the onerous repayment obligations attached to student loans. Second, annual graduate tax payments for those over the £21,000 threshold would be lower – in most cases substantially lower - than loan repayments under the current system and would therefore represent less of a financial burden on younger graduates who may also be struggling with high rents and mortgage payments. Third, an all-age graduate tax would contribute substantially to government tax

revenue from the first year that it was introduced and thus provide a more secure fiscal foundation to HE finances than can be achieved through the present loan system.

Discussions for and against tuition fees in higher education have been raging for over a decade and have been a central feature of policy arguments between the main political parties during all general elections since 2005. However, these debates have, arguably, been overly polarised between those advocating that higher education should be funded entirely out of general taxation and those arguing that current student and recent graduates should make an additional contribution through fees, funded through loans.

We argue in this paper that an all-age graduate tax offers a more imaginative approach to policy making, occupying a middle ground where opposing claims can be reconciled in a more equitable manner. The intense public interest in university tuition fees at the present time raises hopes that our idea for an all-age graduate tax will be seriously debated.

However, the many potential advantages of an all-age graduate tax will not be secured without concerted efforts to overcome practical and political difficulties. As with any new tax, it will be unpopular with some sections of the target group of tax-payers and concerns will arise about the scale of possible avoidance of the tax. Successful implementation of such a tax will therefore require both further research and investigation into the concept and persuasive campaigning to build political and social support for it.

First, the specific examples that we offer of how such a tax could be designed and implemented are highly preliminary in nature. If any political parties or other organisations are interested in developing the proposal further, new research and investigation will be needed into alternative tax designs and in developing projections of future graduate tax revenue under those different designs, to be compared with projections of future student loan repayments under the present tuition fee and loan system. Ideally, these projections would take account of potential behavioural responses to an all-age graduate tax as compared with behavioural responses to increases in student indebtedness under the present system. In addition, policy work is needed to assess how an all-age graduate tax might be combined with other initiatives such as expanding the links between apprenticeship training and HE study.

Second, political parties or other organisations interested in the proposal will need to press its main underlying argument concerning inter-generational equity in a convincing and determined way. It should not be assumed that graduates in older age groups will automatically resist paying such a tax. Many older graduates will take the future interests of their own

children and grandchildren into consideration when evaluating the merits of an all-age graduate tax, and others will recognise the social benefits of enhancing equity between different generations.

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