



# **Tuition Fees: A Fairer Formula**

**MICHAEL JOHNSON**

## **THE AUTHOR**

Michael Johnson is a Research Fellow of the Centre for Policy Studies and a highly regarded analyst on pensions and other issues. He originally trained with JP Morgan in New York and, after 21 years in investment banking, joined Towers Watson, the actuarial consultants. More recently he was Secretary to the Conservative Party's Economic Competitiveness Policy Group.

He is the author of more than 40 influential papers for the Centre for Policy Studies (all of which can be freely downloaded from [www.cps.org.uk](http://www.cps.org.uk)). He is occasionally consulted on public services and entitlements reform by serving Ministers and shadow Ministers, the DWP Select Committee and the House of Lords Select Committee on Public Service and Demographic Change.

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# CONTENTS

Summary	i
Introduction	1
Part I: Where Are We Now?	
1. The Current System	11
2. The Accounting	15
3. The Scale of the Debt Burden	21
Part II: What Happens Next?	
4. Tuition Fees: The Right Structure?	27
5. Tuition Fees: Alternative Models	34
Conclusion	51



## SUMMARY

- The university system in England has been transformed by the introduction of the fee-and-loan structure. It has successfully brought more money into the sector, and opened up the opportunity for all to participate in higher education.
- However, it has also become an emblem of generational injustice, with students emerging from university with a huge debt burden, even if it is not one they will have to repay until they reach a set salary threshold. In fact, graduates of English higher education institutions now emerge with the highest debts in the developed world.
- There is also a high cost to the Treasury. The transition from grant funding to fees-and-loans achieved an immediate cut in central expenditure, thanks to some accommodating accounting, but largely by deferring the bill for a generation. Already, the current expectation is that roughly one third of loans will have to be written off, representing a huge cost to the state.

- However, the modelling results are hugely influenced by earnings growth assumptions. This paper suggests that write-offs could exceed 60% with a more cautious earnings forecast.
- The Government recently announced that it will address concerns about the system's cost by raising the salary repayment threshold from £21,000 to £25,000, and freezing the fee cap.
- This represents a missed opportunity, not least since it is likely to actually significantly increase the proportion of loans being written-off, and thus the ultimate cost of the system.
- This paper models a variety of scenarios for the fee cap, the interest rate spread, the repayment threshold and its future growth rate, examining the likely repayment amounts and write-offs.
- It proposes that the current £21,000 salary threshold should be retained, but that the tuition fee cap should be cut to £5,000 (or perhaps £7,500). There should also be a dramatic cut in the interest rates charged on the loans, from a maximum of RPI + 3% to RPI flat (or better yet, CPI flat).
- Cutting the interest rate and the fee cap would lower students' headline debt burden, and cause expected write-offs to plummet. This would be greatly appreciated by prospective students, and would simplify the student loan framework.

- The lower fees would create a funding shortfall for universities, which the Treasury would have to plug. But while it would mean more expenditure today, it would mean less in future. The fiscal consequences could, however, be mitigated by separating the funding of tuition and research, with the latter accounted for as investment.

### **Author's note**

*Throughout this paper:*

- (i) "debt" includes capitalised interest. Consequently, all write-off percentages take capitalised interest into account; and*
- (ii) modelling results are expressed in terms of today's money. RPI is used as the inflation measure only because it is the interest rate base used for student loans.*





## INTRODUCTION

In 1997, Sir Ron Dearing was asked to consider how the purpose, shape, structure, size and funding of higher education should develop to meet the needs of the UK.<sup>1</sup> The terms of reference specified a 20-year timeframe – making this an appropriate time for reflection.

The Dearing Report spawned what has become today's tuition fee and loans arrangement. His proposal was for a £1,000 fee and the retention of means-tested grants. There were several rationales laid out in the report: equity between social groups, broadening participation, equity with part-time students in higher education and in further education, strengthening the student role in higher education, and identifying a new source of income that could be ring-fenced for higher education.

In September 1998, means-tested tuition fees were introduced across the UK, with students required to pay up to £1,000 a year.<sup>2</sup> In 1999-2000, maintenance grants for living expenses were

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<sup>1</sup> 'Higher Education in the learning society' (1997), produced by the National Committee of Inquiry into Higher Education, chaired by Sir Ron Dearing

<sup>2</sup> The Teaching and Higher Education Act 1998

replaced with loans, to be paid back at a rate of 9% of a graduate's income above £10,000.

Following devolution in 1999, different arrangements now exist with regard to the charging of tuition fees in each of the countries. In England, the tuition fee cap was increased to £3,000 a year in 2006-7, then to £3,225, then to £9,000 in September 2012 following the recommendations of the Browne Review.

From 2016-17, means-tested maintenance loans (for living costs) replace maintenance grants, and from 2017-18, the fee cap will rise with inflation, starting with an increase to £9,250 from autumn 2017 (a ceiling which applies equally to UK and EU students).

In Wales, tuition fees are as per England, with extra funding available through a combination of fee grants (up to £5,190) and loans (£3,810).

In Northern Ireland, the fee cap increased to £3,000 a year in 2006-07, and is currently capped at £3,805.

In Scotland, there are no fees for “young students” (under-25s). Otherwise fees are typically £1,200 to £1,800 for undergraduate courses, with postgraduate fees up to £3,400.

Jo Johnson, the minister for universities, extols the virtues of the UK's student funding system<sup>3</sup>, saying that tuition fees meet his three goals by:

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<sup>3</sup> Prospect, September 2017

- (i) Removing financial barriers. The last decade has seen a 75% increase in the number of 18-year-olds from “low participation” (i.e. poor) neighbourhoods entering English higher education, to 19.5% in 2016.<sup>4</sup>
- (ii) Ensuring that universities are funded efficiently and held to account for student outcomes. Universities have 25% more funding per student than in 2009-10 (the figure fell by 40% in the two decades before fees were introduced).<sup>5</sup>
- (iii) Sharing the cost of higher education fairly, between students and taxpayers. Johnson describes today’s system as “equitable”, with students meeting roughly 65% of the cost through fees, and taxpayers the rest. The minister points out that students should pay most of the cost of HE because they will have higher lifetime earnings than non-graduates: he quotes £170,000 extra for men and £250,000 for women.<sup>6</sup>

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<sup>4</sup> POLAR3 quintile 1. The participation of local areas (POLAR) classification groups areas across the UK based on the proportion of the young population that participates in higher education. The proportion of English pupils receiving free school meals who went on to university has similarly increased

<sup>5</sup> ‘Higher Education funding in England: past, present and options for the future’; IFS Briefing Note BN211, July 2017. The 2012 reform increased the total level of resources universities receive per student per degree by around 25% from £22,500 to £28,000 in 2017 prices

<sup>6</sup> These figures come from ‘The impact of university degrees on the lifecycle of earnings: some further analysis’; BIS research paper no. 112, August 2013

It is possible to qualify each of these three justifications. There are indications that the participation rate has now flattened off at 49%, both in absolute numbers and as a proportion of total acceptances.<sup>7</sup> Universities have not been held accountable, because almost all have simply charged the maximum fee available (this will hopefully be addressed by the new Office for Students, charged with implementing the Teaching Excellence Framework to hold universities to account)<sup>8</sup>.

And the salary figures are average figures: at 23 institutions for men and nine for women, the median graduate was earning less after 10 years than the median non-graduate.<sup>9</sup> People with degrees in the creative arts earned no more on average than non-graduates.<sup>10</sup>

But there are two wider problems. The first is that over the last 20 years, Generation Y has emerged to find itself on a financial rack.<sup>11</sup> The millennials could be the first generation to experience a quality of life below their parents'. They are faced with unaffordable housing<sup>12</sup>, fragmented careers, earnings and productivity stagnation, meagre pension provision, a rapidly retreating state pension age, and the prospect of having to support an ageing population. And many are also loaded with a mountain of student debt.

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<sup>7</sup> Chart 1, Participation Rates In Higher Education: Academic Years 2006/2007 to 2015/2016, (Provisional) SFR47/2017, 28th September 2017; DfE and ONS

<sup>8</sup> Introduced in the Higher Education and Research Act 2017

<sup>9</sup> 'How English domiciled graduate earnings vary with gender, institution attended, subject and socio-economic background'; IFS Working Paper (W16/06), 13 April 2016

<sup>10</sup> *Ibid.*

<sup>11</sup> Those born between c. 1980 and 2000, i.e. aged between 17 and 37 today

<sup>12</sup> In 1991, 65% of 25 to 34-year-olds in England owned their own home; by 2014 this was under 35%. In the 35-to-44 age group, the figure reduced from 78% to 58% over the same timeframe. Source: ONS

In fact, graduates of England's higher education (HE) institutions have, on average, the highest student debts in the developed world: for the 2017-18 cohort, roughly £50,000 each, courtesy of high tuition fees, maintenance loans and accumulated interest.<sup>13</sup>

The second problem is that while the fees-and-loans structure works in principle, its architecture ensures that many of the loans being issued will never be repaid, due in large part to the fact that the loans are capitalised, i.e. the interest accrued is added to the sum, on which further interest must then be paid. (Throughout this paper, the total figures for the debt given include this capitalised interest.) This might be a relief for the graduate concerned in 30 years' time, but it will represent a huge headache for the Treasury.

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<sup>13</sup> Figure 3.1, 'Higher Education funding in England: past, present and options for the future'; IFS Briefing Note BN211, July 2017

# PART I: WHERE ARE WE NOW?

## 1. THE CURRENT SYSTEM

### 1.1 Higher education

The UK's 164 higher education (HE) institutions (predominantly universities) are a £35 billion business (2015-16) employing 410,000 staff, of whom 49% are academic, teaching 2.28 million students.

*Table 1: Student numbers, by domicile, 2015-16<sup>14</sup>*

	UK	Other EU	Non-EU	Unknown	Total	
<b>Postgraduate</b>	332,755	45,335	154,385	490	532,965	23%
<b>First degree</b>	1,342,765	77,825	143,300	10	1,563,900	69%
<b>Other undergraduate</b>	166,795	4,275	12,885	-	183,955	8%
<b>Total</b>	1,842,315	127,435	310,570	500	<b>2,280,820</b>	
	81%	6%	13%	0%		

Total participation in HE has soared from 2% of potential graduates in 1945 to 10% in the mid-1960s to 20% by 1990 to almost 50% today. Perhaps surprisingly, since 2000 the total number of students has increased by less than 1% per year. The number of British students

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<sup>14</sup> Higher Education Statistics Agency (HESA), 2017

is almost unchanged over the period, whereas the foreign student headcount has nearly doubled.<sup>15</sup>

Before 1998, universities were almost entirely state-funded, i.e. paid for by all taxpayers. Since then, the UK has transitioned to an arrangement whereby, through tuition fees, students meet roughly 46% of the total cost of universities' operations.

*Table 2: Higher education: finances for 2015-16<sup>16</sup>*

<i>£ billion</i>	<b>Income</b>		<b>Expenditure</b>	
	Tuition: fees and grants	19.1 55%	Teaching and research	18.1 55%
	Research: UK government	5 14%	Maintaining campuses	4 12%
	Research: UK charities	1.2 3%	Libraries, IT and museums	3 9%
	Research: EU	0.9 3%	Running the university	2.3 7%
	Research: other	0.7 2%	Accommodation and conferences	1.7 5%
Residences, catering (incl. conferences)		2.1 6%	Other expenditure	1.6 5%
	Other income	2.1 6%	Financial support to students and outreach	1.3 4%
	Other services rendered	1.8 5%	Student and staff facilities	1 3%
	Education contracts	0.9 3%	<b>Total expenditure</b>	<b>33</b>
	Donations and endowment	0.6 2%	<b>Surplus for the year</b>	<b>1.7</b>
	Investment	0.3 1%	Surplus after joint ventures and tax impact	2.3
	<b>Total income</b>	<b>34.7</b>		

In 2015-16, tuition generated income of £19.1 billion, including £14.9 billion in tuition fees and £3.2 billion in UK government grants.

*Table 3: Sources of teaching income, 2015-16<sup>17</sup>*

<i>£ billion</i>	UK and EU undergraduate fees	9.4	49%
	Non-EU fees	4.4	23%
	UK government grants	3.2	17%
	UK and EU postgraduate fees	1.1	6%
	Other fees and grants	1.0	5%
	<b>Total tuition fees and grants</b>	<b>19.1</b>	

<sup>15</sup> In 1999-2000 there were a total of 2,060,630 enrolments: 1,835,970 UK students and 224,660 students domiciled in the EU or other overseas countries. 'Higher Education Statistics for the United Kingdom 1999/2000'; HESA, September 2001

<sup>16</sup> *Ibid.*

<sup>17</sup> Higher Education Statistics Agency (HESA), 2017

Unfortunately, tuition fee data does not separately identify UK and other EU students, but given that the £9,250 fee cap (from 2017-18) applies to all UK and EU students, and only 6% of students came from the rest of the EU, then we can reasonably estimate that last year UK-domiciled students paid roughly £9.9 billion in tuition fees. Consequently, non-UK students contributed roughly £5 billion to the UK's HE institutions, including some £0.6 billion from non-UK EU students.

Post-Brexit, it is unclear how foreign student numbers may change, but there are likely to be adverse financial consequences. The fee cap will probably be removed from EU students, but raising the price may diminish the number of applicants. The universities are likely to (again) lobby for a relaxation of immigration restrictions on non-EU students, which were tightened by Theresa May when she was Home Secretary.

## **1.2 Tuition fees and maintenance**

Almost all students are poor; they cannot afford tuition fees. Hence the emergence of student loans.

The interest rates on tuition fee and maintenance loans depend upon when students started university. Those who started before 1998 repay at the Retail Price Index rate of inflation (RPI). Those who started between 1998 and 2011 will repay at the lowest of either RPI or the Bank of England base rate (currently 0.25%), plus 1%.

This paper will focus on the majority of students living in England or Wales who took out loans after September 2012, and are on what is known as "Plan 2" loan terms.



- All students are eligible for a loan to cover the full cost of their tuition, which is currently capped (as discussed above) at £9,250 per year. They are also eligible for maintenance loans to support them during their studies.
- During their tuition period, interest is charged on this loan at a rate of RPI plus 3% (for a current total of 6.1%). These interest amounts are capitalised, i.e. added to the total figure for the loan. This means that for those graduating in 2018, after a three-year degree, their total debt will be roughly 10% higher than the sums received, and will include some interest on interest (which becomes more significant when rates are high).
- Following graduation, monthly repayments are determined by annual salary above the repayment threshold, currently £21,000, as:

$$\{9\% \times \text{pre-tax annual salary} - £21,000\} / 12$$

- The Plan 2 interest rate on tuition and maintenance loans is determined by salary. Those earning at the £21,000 p.a. threshold will pay RPI flat, rising on a sliding scale to RPI + 3% for those on £41,000 and above.
- These repayments combine capitalised interest and principal amounts. If interest rates were to rise without a change in salary, then the monthly repayment amount would remain fixed. However, the length of the loan would extend as a larger amount of interest would be subsequently capitalised each month.
- Those earning less than the repayment threshold make no repayments. However, their debt burden continues to grow as interest is capitalised.
- After 30 years, any outstanding debt is written off.

### 1.3 The loan book: rapid growth

At the end of March 2017 the total of outstanding student loans of English domiciled and EU students studying in England surpassed £89 billion (Table 4), up 122% in the last six years. The UK total is now over £100 billion.<sup>18</sup>

Tuition fee loans account for roughly 66% of the book, maintenance loans the remainder. Since 2013-14 the entire loan book has been income-contingent, the final tranche of mortgage style loans having been sold off in November 2013.

*Table 4: Student loan outlay and repayment, England<sup>19</sup>*

<i>£ billion</i>	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
<b>Total outstanding, start of year</b>	35.19	40.27	45.90*	54.35	64.73	76.25
<b>Lending during the year</b>	5.97	7.14	9.02	10.64	11.77	13.40
<b>Repayments</b>	1.31	1.41	1.46	1.61	1.79	2.02
<b>Interest added</b>	0.46	0.62	0.92	1.38	1.57	1.74
<b>Written off</b>	0.04	0.04	0.03	0.03	0.03	0.03
<b>Total outstanding, end of year</b>	<b>40.27</b>	<b>46.58</b>	<b>54.35</b>	<b>64.73</b>	<b>76.25</b>	<b>89.34</b>

\* Excludes the final tranche of mortgage style loans sold off in November 2013

This rapid loan growth is set to continue, with the aggregate size of new loans greatly exceeding the repayments being received (Table 5): a net cash outflow of £85 billion over the next five years.

This increase is driven in part by the expansion of loans in a number of different areas including postgraduates, healthcare students and more areas of maintenance support.

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<sup>18</sup> Northern Ireland (£3 billion), Scotland (£4.5 billion), Wales (£3.7 billion), March 2017

<sup>19</sup> Source: SLC statistical first release 1/2017, 'Student Loans in England by financial year 2016-17'

Table 5: Cash shortfall, the next five years, UK<sup>20</sup>

£ billion	2017-18	2018-19	2019-20	2020-21	2021-22
<b>New student loans</b>	16.9	18.6	20.2	21.4	22.3
<b>Repayments, including interest</b>	2.4	2.5	2.8	3.2	3.5
<b>Net cashflow</b>	<b>-14.5</b>	<b>-16.1</b>	<b>-17.4</b>	<b>-18.2</b>	<b>-18.8</b>
<b>Interest accrual*</b>	3.0	4.5	5.5	6.2	7.2

\* Capitalised interest in respect of loans to students (i.e. pre-graduation)

## 1.4 The backlash

Under this system, graduates of England's HE institutions have, on average, the highest student debts in the developed world: for the 2017-18 cohort, roughly £50,000 each, courtesy of high tuition fees, maintenance loans and accumulated interest.<sup>21</sup>

Lord Adonis, the former Number 10 Policy Unit staffer and education minister largely responsible for introducing tuition fees, recently said that the system had become a “Frankenstein's monster”.<sup>22</sup> He has argued it should either be scrapped or annual fees capped at between £1,000 and £3,000, as per the initial scheme.

Across the political divide, Nick Timothy, until recently joint chief of staff at Downing Street, described tuition fees as a “pointless Ponzi scheme which [is] blighting young people's futures”.<sup>23</sup>

One of the major complaints about the system is the interest rate at which repayments are set, which Lord Adonis has described as “indefensible”.

<sup>20</sup> Table 4.33, Economic and fiscal outlook, March 2017, OBR

<sup>21</sup> Figure 3.1, ‘Higher Education funding in England: past, present and options for the future’; IFS Briefing Note BN211, July 2017

<sup>22</sup> The Guardian, 7 July 2017

<sup>23</sup> Daily Telegraph, 17 August 2017

The interest rate paid by all students, pre-graduation, is RPI + 3%, set at 6.1% for this academic year (2017-18).<sup>24</sup> In the context of today's (post-QE) gilts yield curve, this feels hard to justify: the Government is taking a substantial spread (on behalf of taxpayers) between the rate at which it borrows to fund the loans, and the rate at which it lends.

It is far from clear what justification there is to price student debt using a measure of inflation, rather than the gilts yield curve. Even if inflation is the right measure, why use the Retail Price Index, a widely discredited measure, rather than the rival Consumer Price Index? The obvious answer is that RPI is a larger number than CPI, thereby widening the state's margin (typically by 0.7%). The structure of the loans also means that a student graduating in June will continue to pay interest at the (high) student rate until the following April, i.e. for an extra 10 months – a real case of adding insult to injury.

## **1.5 International comparisons**

German universities have phased out tuition fees, Denmark's are free, and the Dutch, French and Scandinavians charge much lower fees than England. Private US colleges charge up to £40,000 per year, but public (i.e. state) college fees are more typically £7,000. New York state is introducing free fees for students from families earning under about £100,000 per year, as well as offering assistance to the squeezed middle classes. And Scotland is fee-free.

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<sup>24</sup> The academic year rate is fixed the preceding March. RPI was 3.1% in March 2017

In other words, a university education in England or Wales is much more expensive than elsewhere. The interest rate on our student loans is higher than in other countries, as are the annual average loan amount and the proportion of students taking out loans.<sup>25</sup> In addition, the annual income repayment thresholds (where they exist) are generally lower elsewhere.

## **1.6 What would be a fair interest rate?**

Loan pricing is ordinarily related to credit risk and the probability of default. But here the concept of default is irrelevant because student loan repayments are income-contingent. Indeed, the Government could use this risk to justify its generous spread.

If we were to price loans according to the current borrowing cost to the Government, they should be far lower. Yet if we factor in the scale of the prospective write-offs (see section 3.3, below), then loan pricing ought to be far higher.

There is also a strange relationship with the earnings potential of the student. If it is considered to be low (for a future social worker, nurse, junior school teacher etc.) then borrowing as much as possible would be sensible, because in 30 years' time the loans will be written off. Indeed, the higher the repayment threshold, the more this logic applies.

The complete disconnect between the interest rate charged on student loans and the probability of a repayment shortfall reinforces the fact that the interest rate is nothing to do with risk. In fact, to understand the rationale behind student loans, you need to appreciate how the Government accounts for them.

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<sup>25</sup> 'Student loan statistics'; Briefing Paper number 1079; Paul Bolton, House of Commons Library, 21 June 2017

## 2. THE ACCOUNTING

### 2.1 Net borrowing

Student loans are treated as “financial transactions” in the national accounts, and are therefore not treated as expenditure for the purpose of determining public sector net borrowing (PSNB, commonly referred to as “the deficit”). Conversely, the old regime of Treasury-funded grants did count towards PSNB: replacing grants with loans very much appealed to the Treasury’s accountants.

### 2.2 Net debt and cashflow

#### *(a) Assets funded by gilts*

Student loans contribute to the public sector net cash requirement (PSNCR), so the Treasury issues gilts to finance them, adding to public sector net debt (PSND). The loans are expected to push net debt up by 11.1% of GDP in the late 2030s, before falling back to 9.3% of GDP by 2066-67: PSND was 87% in March 2017.<sup>26</sup>

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<sup>26</sup> ‘Fiscal sustainability report’; OBR, January 2017

However, this perspective is overly pessimistic, because PSND does not take into account the loan book, a Department for Education (DfE) asset. Future repayments will be available to repay gilts, reducing PSND. But significant repayments will only materialise from those with relatively high incomes; these will take place in mid-career for most people, perhaps 20 years after graduation.

In addition, because interest is always capitalised, there is no continuous cashflow stream of interest income on the loans.

*(b) Loan sales to boost cashflow?*

The logical next step is for the Government to monetise student loans (i.e. sell them to generate cash), thereby immediately reducing the PSNCR. This is indeed in train: it is forecast that some £5 billion will be raised in 2017-18, and then roughly £2.4 billion in each of the following three years.<sup>27</sup>

However, loan sales would crystallise provisions (and reveal any under-provisioning, discussed below), to become write-offs (i.e. expenditure). This would immediately increase the PSND, which could explain why the Government has delayed loan sales that it expected to make in 2015-16. In addition, the PSNCR would be higher in future years, the government having foregone the assets' future income stream.

There would likely be additional losses if the market charged an illiquidity premium (because the loan assets are not readily saleable). Furthermore, sale prices would be lower than otherwise

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<sup>27</sup> Chart 4.12: 'Proceeds from asset sales, Economic and fiscal outlook, March 2017'; OBR

if the market sensed that the Government was a distressed seller (i.e. keen to raise cash quickly).

In the meantime, the extent to which a rising PSND may alarm the gilts market (potentially pushing up the cost of issuance) is unclear.

## **2.3 Provisioning and write-offs**

### *(a) The RAB charge*

Even as the student loans are being issued, the Government recognises that many of them will not be fully repaid. Therefore, each year, the Treasury makes a resource allocation in DfE's Departmental Expenditure Limit (DEL) to enable DfE to establish a non-cash provision to cover anticipated losses in respect of loans made that year. This is the "resource and accounting budgeting charge", defined as:

$$\text{RAB charge} = 1 - \frac{\text{Net present value of graduate repayments}}{\text{Total student loans made that year}}$$

Note that "graduate repayments" refers only to that year's new loans. The "RAB charge" for 2016-17 was 29% (7% below the Treasury's target RAB charge of 36%), equivalent to £3.9 billion out of that year's new loans of £13.4 billion.

The DfE also makes an additional "stock charge" to acknowledge any expected increase in losses associated with the stock of prior years' loans; this requires additional resource from the Treasury.

Given the RAB charge's significant economic, political and cultural implications, it attracts much debate, fuelled by the panoply of



complex and subjective aspects to the process that determines it, including:<sup>28</sup>

- Long-term estimates for the loan take-up rate, and the scale and timing of repayments (requiring earnings growth assumptions)
- The relationship between the repayment and upper income thresholds, and earnings growth (influencing the amount of interest being capitalised and the repayment rate)
- Periodic changes to the accounting and budgeting rules governing student loans
- The relationship between the government's cost of borrowing and the RPI-based discount rate used to present value the expected repayments

Through the RAB charge, the Government is acknowledging that at the time loans are made, many will not be fully repaid. The Treasury's expectation of loss is reflected in its DEL resource allocation to fund DfE's provisions which, for the next three years, is £3.8 billion, £4.2 billion and £4.5 billion (2019-20).

The RAB charge is highly sensitive to the discount rate. The lower it is, the more that the loan assets are worth in present value terms. In 2015-16, for example, the value of student loan assets (England-only) increased by £5.5 billion after the discount rate was cut from RPI + 2.2% to RPI + 0.7%.<sup>29</sup>

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<sup>28</sup> See Andrew McGettigan's 'The accounting and budgeting of student loans'; HEPI Report 75, 2014, and his blogs at Critical Education

<sup>29</sup> 'Fiscal sustainability report'; OBR, January 2017

Consequently, the RAB charge has been unnervingly volatile, ranging in recent years between 23% and 45% (early 2014).

Such volatility reinforces the widespread concern as to the sustainability of the tuition fee/loans arrangement. It also provides a source of tension between DfE and the Treasury, because the DEL resource allocation is sometimes determined years in advance. It can subsequently prove to be insufficient: for example, 2016-17's £3.4 billion DEL allocation, made in the 2015 Spending Review, proved to be £500 million less than DfE's £3.9 billion RAB charge for that year's loans.<sup>30</sup>

The DfE can apply to the Treasury for additional resources to meet any increase in expected loan losses (in excess of the RAB charge).<sup>31</sup> These come in the form of supplementary estimates (in respect of the DEL-financed provisions) and an Annually Managed Expenditure (AME) facility to smooth short-term volatility over the lifetime of the relevant loans.

### *(b) Write-offs*

Inevitably, there is a variety of opinions as to the scale of future write-offs. The most recent assessment comes from the IFS, which estimates that, for the whole loan book (including capitalised interest), the discounted future repayments fall 31.1% short: i.e. by £27.8 billion, based upon March 2017's loan book of £89.3 billion.<sup>32</sup> (The IFS's previous estimate was 43.3%.)<sup>33</sup>

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<sup>30</sup> This was actually made to the Department for Business, Innovation and Skills (BIS), before the DfE took over the student loan book

<sup>31</sup> For detail, see Andrew McGettigan's 'The accounting and budgeting of student loans'; HEPI Report 75, 2014

<sup>32</sup> 'Higher Education funding in England: past, present and options for the future'; IFS Briefing Note BN211, July 2017

<sup>33</sup> 'Estimating the public cost of student loans'; IFS Report R94, April 2014

The OBR expects annual write-offs to be some 0.3% of GDP from the mid-2040s (few loans are due before then).<sup>34</sup> As a percentage of 2016-17's GDP, 0.3% is roughly £5.6 billion, equivalent to 42% of the new loans made that year.

Yes, 0.3% is accompanied by significant modelling risk, but it still commands attention when most developed economies struggle to achieve 2%-3% annual growth.

## **2.4 Overview**

The transition from funding HE through grants to a tuition fee and loan structure achieved, with some accommodating accounting, both an immediate cut and a generational shift in expenditure.

While benefitting today's PSNB, there will be additional expenditure 30+ years in the future, as write-offs materialise (albeit at least partly provisioned for today). And this system has also come at a price for the young, in the form of student debt, which some would say is an example of intergenerational injustice made manifest.

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<sup>34</sup> Fiscal sustainability report; OBR, January 2017.

## 3. THE SCALE OF THE DEBT BURDEN

### 3.1 Methodology

The Complete University Guide (CUG) website provides a calculator that determines a fresh graduate's likely loan repayment profile, based upon user inputs for course length, loan size and starting salary.<sup>35</sup> (See Appendix I for full details.)

Inevitably, the CUG model includes some assumptions over its 30-year horizon, notably for growth in earnings, the repayment threshold (currently £21,000) and the upper earnings threshold. The latter determines the point at which the interest rate charged reaches the top level of RPI + 3%, and is currently £41,000.

CUG assumes that the thresholds increase at a real rate of 2% per annum, reflecting the long-term average for national earnings growth.

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<sup>35</sup> See <https://www.thecompleteuniversityguide.co.uk/student-loan-repayment-calculator>

Not only would some consider this to be optimistic, but the 2015 Spending Review froze the thresholds in cash terms, for five years, until April 2021. This is equivalent to a 10% cut in the real value of the thresholds. It is also a blatant revenue-raising move, which has the effect of increasing the number of graduates making repayments, the size of their repayments, and the average interest rates being paid – a “loan drag” akin to “fiscal drag” within the tax system.

The author has replicated CUG’s model, and included an ability to change the assumptions used for the growth rates of earnings and the thresholds’ indexation. Like the CUG model, it assumes inflation (RPI) to be nil, so all outputs are expressed in terms of today’s money.

### **3.2 Debt repayment**

Following graduation, monthly repayments are set at 9% of annual salary above the repayment threshold, currently £21,000.

CUG provides three scenarios for future earnings growth across the whole graduate population (low, medium and high earnings, see Appendix I). Figure 1 illustrates how outstanding debt (including capitalised interest) develops over time for the three salary profiles, based upon £50,000 of initial debt. The first three years’ thresholds are frozen to reflect the current arrangement to 2020-21, and they then grow at 2% thereafter.

As the chart on the next page shows (Figure 1), low earners have no prospect of repaying their debt, and medium earners only just manage to achieve this, after about 28 years. Higher earners are debt-free after roughly 16 years. (See Table 6)

Figure 1: Outstanding debt over time (CUG's earnings growth scenarios)

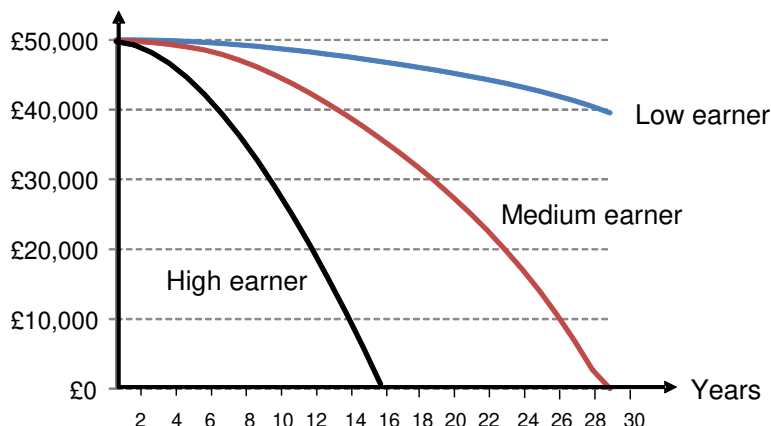


Table 6: Outstanding debt (based on initial total of £50,000)

CUG salary growth projection: all graduates	Starting salary	Total repayments	Capitalised interest *	Interest as % of repayments	Debt after 30 years **	Write-off %
Low (RPI + 3.69%)	£19,000	£26,426	£14,962	57%	£38,536	59%
Medium (RPI + 4.54%)	£25,000	£77,294	£27,294	35%	£0 at 28 years	0%
High (RPI + 4.69%)	£36,000	£66,019	£16,019	24%	£0 at 16 years	0%

Repayment threshold £21k to 2020-21, then indexed by 2% p.a.

\* After graduation \*\* Incl. cap. interest

Capitalised interest is comingled with principal repayments, so it cannot be specifically attributed to “repayments” or “write-offs”. However, it is clear that the lower the projected income growth, the more that capitalised interest features within the overall debt burden.

In addition, the absolute amount is related to how long debt is outstanding. Thus, medium earners’ total capitalised interest is more than that of high earners, because they are servicing debt for an extra 12 years, mostly at the maximum of 3% over RPI.

Low earners' capitalised interest is smaller in absolute terms because the maximum spread they ever pay is 1.6% over RPI. Their projected salary is always well below the upper threshold (which determines the point at which the interest rate reaches RPI + 3%).

### **3.3 CUG's earnings growth: too optimistic?**

The issue of overly-optimistic earnings growth being used in loan repayment models has attracted widespread concern, including within the National Audit Office.<sup>36</sup> And CUG's assumptions for earnings growth could prove to be very optimistic. CUG's low, medium and high growth scenarios across the whole graduate population produce 30-year final salaries of £54,300, £90,600 and £136,000, respectively, expressed in terms of today's money. This is equivalent to real (over RPI) compound annual growth rates of 3.7%, 4.5% and 4.7%, respectively.<sup>37</sup>

In addition, the CUG earnings growth scenarios assume 30 years of continuous employment: in practice, this is very unlikely. Furthermore, they are well ahead of the 2% real annual increase in the repayment threshold.

Under this forecast, the number of graduates earning above the threshold, and the size of their repayments, increases over time. This delivers more cash to the Treasury, reducing the overall rate of non-repayment of loans, and therefore the anticipated write-offs.

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<sup>36</sup> See, for example, Student loan repayments HC 818 session 2013-14; NAO 28 November 2013. Section 4.10: The assumptions used in the HERO model to forecast graduate earnings and earnings growth may be optimistic. (HERO was BIS's model to forecast repayments of income-contingent repayment loans.)

<sup>37</sup> Note that these are straight-line growth rates. CUG's salary growth paths are curved with higher increases in earnings at the start and at the end of the 30-year period, and lower increases in between

By contrast, the OBR uses CPI + 2.3% for its long-term earnings growth projections, roughly equivalent to RPI + 1.6%. Table 7 summarises the outcome using more realistic low, medium and high earnings growth scenarios across the whole graduate population: RPI + 1.5%, 2.25% and 3.5%, respectively (with CUG's starting salaries), leading to 30-year final salaries of £29,260, £47,662 and £97,628, expressed in terms of today's money.

As with Table 6, initial debt is set at £50,000, with the first three years' thresholds frozen to reflect the current arrangement to 2020-21, and growing at 2% thereafter.

*Table 7: Lower earnings growth projections (initial debt £50,000)*

Salary growth projection: all graduates	Starting salary	Total repayments	Capitalised interest *	Interest as % of repayments	Debt after 30 years **	Write-off %
Low (RPI + 1.5%)	£19,000	£0	£0	0%	£50,000	100%
Medium (RPI + 2.25%)	£25,000	£21,133	£12,495	59%	£41,363	66%
High (RPI + 3.5%)	£36,000	£78,822	£28,822	37%	£0 after 28 years	0%

*Repayment threshold frozen to 2020-21, then indexed by 2% p.a.      \* After graduation    \*\* Incl. cap. interest*

Table 7 shows that adopting a more realistic rate of earnings growth results in most graduates getting nowhere near fully repaying their debt. Given that the majority of incomes will be clustered around the medium earnings growth scenario (or below), that means we should expect to write off at least 60% of all debts (including capitalised interest) after 30 years.<sup>38</sup>

Even this figure could be generous, because Table 7's medium earnings growth scenario is roughly equivalent to CPI + 3% per annum, for 30 years.

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<sup>38</sup> The author's model uses straight-line compound earnings growth, whereas some graduates' earnings grow more quickly in their first working decade, before slowing down to a growth rate below the straight line. Consequently, the model underestimates the repayment rate in respect of "high flyers", but not enough to have a material impact on the results



Obviously, anyone with a salary starting at below the repayment threshold (£21,000) which then grows more slowly than the threshold, will never make any repayments, and their interest will always be capitalised at RPI flat. Consequently, low earners' capitalised interest appears as £0 because its results are expressed in today's money (i.e. RPI is assumed to be 0%).

Note that in nominal terms, the 30-year debt figures would be much bigger. If, for example, we were to add inflation at the Bank of England's target of 2% (for CPI), i.e. setting RPI at 2.7%, then low earners' non-deflated debt would be £111,195 after 30 years (i.e. the original £50,000 of debt plus £61,195 of capitalised interest).

## **PART II: WHAT HAPPENS NEXT?**

### **4. TUITION FEES – THE RIGHT STRUCTURE?**

#### **4.1 The context**

The real strength of today's tuition fee and loan structure is that it has opened up the opportunity to everyone to participate in higher education, partly because students do not require money up front. Participation has increased from 20% in 1990 to almost 50% today, with many more applications now coming from low-income families, notwithstanding the rapid rise in fees.

However, for most fresh graduates, higher education comes at an immediate price: income-contingent debt, accompanied by under-researched adverse side-effects, both psychological and practical. What, for example, is the consequence on a graduate's credit rating for mortgage application purposes?

At the recent election, some 58% of under-25s voted, up from 43% two years earlier. The Labour Party took 63% of the under-25 vote, three times the Conservatives' 21%. (The gap at the 2010 general election was just 1%.) Clearly, intergenerational injustice is now a key concern – and tuition fees are near the top of the list of Generation Y's grievances.

## 4.2 The alternatives

Various alternatives to the current fee/loan model have been suggested. These include:

- A graduate tax to replace fees: this would be difficult to implement in respect of foreign students who return home, and British graduates who move abroad.
- Re-examining the discarded options originally considered in the Dearing Report: various combinations of means-tested grants and income-contingent loans for both tuition and living costs.<sup>39</sup>
- Retaining today's structure, but reducing the 9% rate of repayment (benefiting students but increasing write-offs).
- The introduction of differential pricing: lower fees for subjects where there is an output shortage relative to demand, such as engineering, maths, medicine and the sciences.
- Incentivising more philanthropy towards universities (a major source of funding in the US).

Among the most prominent alternatives is Labour's 2017 manifesto proposal to abolish tuition fees and reintroduce maintenance grants, which it says would immediately increase expenditure by some £11.2 billion per year (England only).

The ultimate cost is debatable, but the scale of future loan written-offs should be taken into account. Using the Treasury's target RAB charge of 36%, the additional cost of abolition would fall to

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<sup>39</sup> See page 313 onwards in 'Higher Education in the learning society' (1997), produced by the National Committee of Inquiry into Higher Education, chaired by Sir Ron Dearing

around £7.2 billion. However, if the author's prediction of very high write-offs were to come to fruition, then the incremental cost of abolition would be smaller.

Yet the proposal is actually highly regressive: the "winners" would be future high earners who would otherwise be making substantial repayments. Future low earners would, after all, not be making repayments anyway.

The Prime Minister recently suggested that a review of tuition fees is now required, to consider more radical changes.<sup>40</sup> One justification offered was that it was not foreseen that the tuition fee cap would become the de facto fee, almost irrespective of university quality. (Lord Adonis has asked the Competition and Markets Authority to investigate what he describes as a fees cartel.)

At the Conservative Party conference, Mrs May announced that the fee cap in England will be frozen at £9,250 (it was scheduled to rise to £9,500 for 2018-19), and that the repayment threshold would rise to £25,000. The former change will save money for the Treasury (because it will have to write off less in the future), but university incomes will be lower than they anticipated for 2018-19. But the threshold increase will, most likely, eventually cost a lot: one report puts the long-term annual figure at £2.3 billion.<sup>41</sup>

Meanwhile, some Conservatives argue that the best long-term solution is to abolish the fee cap entirely, to create a genuine market in higher education in which each university, or course, can demand what the market will bear.

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<sup>40</sup> 30 September 2017, on the eve of the Conservative Party conference

<sup>41</sup> 'Higher Education finance reform: Raising the repayment threshold to £25,000 and freezing the fee cap at £9,250'; IFS Briefing note BN217, October 2017

The best universities would, most likely, increase their fees substantially, towards those charged by the Ivy League. But without a corresponding rise in the availability of loans, or the introduction of a lot of substantial bursaries, our best universities would revert to being bastions for the privileged. This would be quite wrong.

It is unclear how other universities would respond to total freedom. No evidence emerged of price differentiation following the rapid increase from £3,000 to today's £9,250 – but perhaps this is because loans are available up to the cap? HE demand could collapse if fees were raised but not matched by loan availability. Indeed, there is now a growing concern that maintenance loans are insufficient, and the cause of some students quitting.<sup>42</sup> The rapid rise in the number of 18- to 24-year-olds turning to credit to buy day-to-day essentials may not be a coincidence.<sup>43</sup>

We could of course increase loans to whatever fee level the universities decided to charge. But this is likely not only to make the problem of eventual write-offs worse, but would be very unpopular given the hostility to the existing loan levels.

So assuming we will retain the system of fees, caps and loans – which seems like the most likely and pragmatic solution – what is the most sensible architecture for the system?

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<sup>42</sup> Maintenance loans for full-time students living away from home are limited to £8,430 (outside London) or £11,002 (in London). Annual rent will often consume over £6,000.

<sup>43</sup> Unsecured debt as a percentage of income: age 18-24, 100%; 25-34, 51%; 35-44, 25%; 45-54, 16%; and 55+, 10%. *Source*; PWC.

### **4.3 The purpose of higher education**

The student population is too large to revert back to a purely grant-based funding model. However, the extent to which fresh graduates are burdened with so much debt, albeit income-contingent, feels wrong, particularly when we know that so much of it will be eventually written off.

An accommodation is required to achieve a fairer funding split between students and the state (acting as agent for society as a whole), partly to help address growing inter-generational inequality.

As for determining the scale of the state's contribution, we should first acknowledge that all citizens benefit from the contribution that HE makes to developing human capital ("capabilities"), essential for economic competitiveness, and also towards the nation's cultural development, including social capital. And while the measurable financial benefits from HE qualifications accrue largely to individuals, the costs of any shortfall in both the number of graduates and the range of their skills would fall upon everyone.

### **4.4 Who should pay for research?**

Before the introduction of fees, research was almost entirely funded by the state. Today, it is acknowledged that tuition fees, and the high interest rate on loans, are part of the mechanism through which students are subsidising research costs, but by just how much is unclear: it is difficult to establish how much is spent on research.<sup>44</sup> Research income totalled some £7.8 billion last year (mostly from the government), but the universities' expenditure

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<sup>44</sup> For example, Universities UK agreed with the author that its 'University funding explained', July 2016, sheds no light on research expenditure. HEFCE's 'Financial health of the higher education sector 2015-16' financial results makes no mention of expenditure on research.

data combines research with teaching, together £18.1 billion (see Tables 2 and 3).

Tuition fees were £15.9 billion, but how that was spent is unreported, so students have no way of assessing whether they are getting value for money. The Higher Education Funding Council for England (HEFCE) is aware that this opacity is a growing issue: it has an ongoing project to better understand the income cross-flows in the HE sector.<sup>45</sup>

It could be argued that universities are not only selling tuition, but also their brands, which in some cases are strongly related to the quality of their research – so perhaps students should pay for that too? A Harvard academic once told the author “we find the brightest students and attach our brand to them”. (Or did he mean “sell”?). But universities’ research output ultimately benefits all citizens.

#### **4.5 The accounting problem**

As we have seen, the Government’s accounting is very accommodating of the tuition fee/loan arrangement. Channelling the cash proceeds of gilts issuance through intermediaries (the students) as loans, rather than providing grants, avoids immediately impinging upon the deficit. And with loans, the taxpayers’ ongoing contribution is delivered through a combination of the drip feed of the annual DEL allocations to “fund” the DfE provisions, any use of the AME facility and, 30 years later, a likely bailout depending on the extent to which write-offs exceed DfE’s provisions.

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<sup>45</sup> Being conducted by HEFCE’S Financial Sustainability Strategy Group (FSSG), chaired by Prof. Lisa Roberts of Leeds University.

Consequently, all taxpayers will ultimately end up making a substantial contribution to the cost of HE, through one or a combination of higher taxes and reduced public spending – and that includes the recipients of student loans some 30+ years earlier.

The fee/loan arrangement, in other words, purchases time on behalf of the national accounts. Essentially, it takes advantage of a politically convenient accounting arbitrage, which facilitates headline statistics appearing more attractive than the underlying reality. Alternatively, it can be interpreted as a legitimate smoothing of expenditure that was incurred 30+ years earlier but which, from an accounting perspective, is only crystallised once write-offs are quantified, consuming provisions.

Yet if it is accepted that loan write-offs are likely to be (well) in excess of 50%, then surely it would be more appropriate to account for them as expenditure? They would then appear in PSNB (i.e. contributing to the deficit), just like grants. Ironically, all government loans used to be classified as expenditure, with repayments being treated as receipts (as with spending and taxation): “cash” accounting. But Dearing’s 1997 review recommended that, in respect of higher education, a switch to “resource” accounting should be made.

Given that most of the debt could well be written off, it would be more prudent to recognise this now, as expenditure. After all, why continue with tuition fees if substantial loan write-offs are deemed a certainty?



## **5. TUITION FEES – ALTERNATIVE MODELS**

Despite Labour's claims, the fees and loan system is still the best way to fund university. The challenge is how to retune the structure's parameters (the fee cap, thresholds and interest rates) to achieve a "fairer" funding split between students and the state. (Here the reference to "fairer" is both economic and presentational, because so much debt will be written off anyway.)

Summarised below are the results of the author's modelling of various alternatives for each of these variables – including the Government's new proposals – followed by a suggestion for a preferred alternative.

### **5.1 The Government's current proposals**

The long-term economic impact of raising the salary threshold at which repayments begin from £21,000 to £25,000 is hard to assess; so much depends upon its subsequent growth relative to earnings growth, both of which are unknown.

A higher threshold will certainly reverse the trend towards greater student contributions initiated by the Dearing Report. Universities will probably welcome it (since applications would probably rise, increasing their income), but they will be more sensitive about freezing the fee cap.

What is clear is that, at least in the short term, the Government will be shouldering more of the cost of HE through higher write-offs (perhaps 75% of total debt, including capitalised interest). However, in the long term the Treasury could reduce its contribution by engineering an earnings growth miracle – or more likely by under-indexing threshold growth relative to earnings growth (a form of financial repression).

Table 8 compares the impact of initial repayment thresholds of both £21,000 and £25,000, both with an upper threshold of £41,000, on the expected repayment amounts and write-offs. Two different real threshold growth rates are considered (0% and 2%), and the initial debt is assumed to be £50,000. The author's more realistic earnings growth scenarios are adopted. As with previous tables, results are expressed in terms of today's money (i.e. RPI is assumed to be 0%).

*Table 8: Repayment thresholds compared*

Salary growth: all graduates *		Threshold growth % pa	Starting salary	Total repayments	Capitalised interest **	Debt after 30 years	Interest as % of repayments	Write-off %
<b>£21,000</b>	Low	0%	£19,000	£8,199	£6,741	£48,542	82%	86%
	Medium	0%	£25,000	£38,239	£27,736	£39,497	73%	51%
	High	0%	£36,000	£76,042	£26,042	£0 after 24 years	34%	0%
	Low	2%	£19,000	£0	£0	£50,000	0%	100%
	Medium	2%	£25,000	£18,266	£10,437	£42,172	57%	70%
	High	2%	£36,000	£78,478	£28,478	£0 after 27 years	36%	0%
<b>£25,000</b>	Low	0%	£19,000	£2,169	£2,261	£50,092	104%	96%
	Medium	0%	£25,000	£27,439	£26,375	£48,935	96%	64%
	High	0%	£36,000	£80,076	£30,076	£0 after 26 years	38%	0%
	Low	2%	£19,000	£0	£0	£50,000	0%	100%
	Medium	2%	£25,000	£3,661	£2,537	£48,876	69%	93%
	High	2%	£36,000	£75,979	£34,813	£8,834	46%	10%

\* Low: RPI + 1.5%, Medium: RPI + 2.25%, High: RPI + 3.5%

\*\* Following graduation

*(i) Retaining 2% real threshold growth*

Assuming that thresholds rise by 2% per annum in real terms, raising the repayment threshold by £4,000 would make no difference to low earners – they would still write off 100% of their debt, as at present. Medium earners would save some £14,600 in total repayments over 30 years – yet most of their debt would still have to be written off.

High earners would experience a small saving (£2,500). But instead of fully repaying their debt, they would still leave £8,800 to be written off. The write-off exceeds the saving because additional capitalised interest would have been added over the final few years.

*(ii) Introducing 0% real threshold growth*

To compensate for raising the threshold, the Government may be inclined to be less generous in future, by only permitting the threshold for repayment, and for reaching the maximum repayment rate, to rise with RPI, i.e. no real growth.

This would lead to some interesting outcomes, notably that the Treasury would not benefit as much as might be expected. This is a consequence of a complex interplay between the rate at which interest is being capitalised and the rate of growth in repayments, as earnings rise.

If a £25,000 threshold were combined with 0% growth, low earners would find that they only started making repayments after 19 years, when their income finally caught up with the threshold. But thereafter capitalised interest would grow faster than repayments,

so the debt burden would actually increase!<sup>46</sup> This is a classic example of a debt trap, ultimately subsidised by the Treasury via write-offs.

Medium earners would end up repaying substantially more under 0% real threshold growth – at least £20,000. But the Treasury write-off would increase because the growth rate in repayments would be slower than that of the capitalised interest. After some 24 years the latter would peak in nominal terms, and then decline as repayments got the upper hand.<sup>47</sup> Full repayment could eventually be achieved – but only after 51 years.

As for high earners, the only scenario in which they would not fully repay their debt would be under a £25,000 threshold growing at 2% annually, in real terms.

## **5.2 Lowering the fee cap**

The Government's proposal to raise the salary threshold for repayment means that fewer students will ever have to pay back their loans – and that the state will therefore have to write off more of the lending in 30 years' time.

An alternative, and rather simpler, approach would be to reduce the total borrowing to the point where it becomes far more likely that students will actually be able to pay it off.

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<sup>46</sup> This partly arises because repayments are made as 9% of earnings over the repayment threshold, whereas interest is capitalised on the total debt outstanding

<sup>47</sup> The repayment threshold, fixed at £25,000, becomes less significant in the repayment calculation as earnings increase in nominal terms (i.e. the 9% takes an increasingly larger bite, tending towards a full 9% of total income)

Table 9 compares the debt burden for students completing a three-year degree this academic year (2017-18), under three different loan-funded tuition fee scenarios, and three different interest rates: the actual RPI + 3% interest rates that have applied over recent years<sup>48</sup>, flat RPI, and a flat 1.5%. (The latter was chosen as a rough substitute, if slightly high, for the gilts yield curve in recent years.)<sup>49</sup> Any annual maintenance loan is excluded: the objective is to compare the impact of different tuition fees on the debt burden.

*Table 9: 2018 debt burden after a three-year degree course (tuition fees only)*

Annual tuition fee	Actual RPI-based rates		Interest at RPI flat		Interest at 1.5% flat	
	Capitalised interest	Total debt *	Capitalised interest	Total debt *	Capitalised interest	Total debt *
£5,000 for 3 years	£1,619	£16,619	£677	£15,677	£455	£15,455
£7,500 for 3 years	£2,429	£24,929	£1,016	£23,516	£682	£23,182
Reality: £9k, £9k, £9.25k	£2,930	£30,180	£1,227	£28,477	£822	£28,072

*\* Including capitalised interest*

A student completing a three-year degree at the end of this academic year can typically expect to accumulate over £30,000 in tuition fee debt, including nearly £3,000 of capitalised interest. If a £6,000 annual maintenance loan were included (note that for many students, rent alone consumes more than this), then the total debt figure would rise by 60%, to over £50,100, including nearly £4,900 of capitalised interest. The debt burden after a four-year course would be roughly 33% larger.

Alternatively, if the fees were capped at £5,000, and a fairer interest rate charged (such as RPI flat or 1.5% flat), then the debt burden would be roughly half as much.

<sup>48</sup> 5.5% for 2014-15; 3.9% for 2015-16; 4.6% for 2016-17; and 6.1% for 2017-18

<sup>49</sup> Mid-September 2017 gilts yield curve: 2 years 0.38%; 5 year 0.72% 10 year 1.3%; 30 years 1.89%

Table 10 shows the broader debt outcome assuming annual loans of £11,000 (£5,000 to cover the tuition fee and £6,000 for maintenance): the initial debt after a three-year course would be roughly £36,320.<sup>50</sup> Table 10 assumes the author's earnings growth projections, and that today's arrangements are otherwise retained (including a £21,000 repayment threshold growing at a real 2% p.a.).

*Table 10: Outstanding debt: £5,000 fee loan, £6,000 maintenance loan*

Salary growth projection: all graduates	Starting salary	Total repayments	Capitalised interest *	Interest as % of repayments	Debt after 30 years	Write-off %
Low (RPI + 1.5%)	£19,000	£0	£0	0%	£36,320	100%
Medium (RPI + 2.25%)	£25,000	£21,133	£8,352	40%	£23,539	53%
High (RPI + 3.5%)	£36,000	£50,954	£14,634	29%	£0 after 20 years	0%

*Initial debt £36,320, initial thresholds: repayment £21,000, upper £41,000. 2% p.a. growth \* Following graduation*

Comparing Table 10 with Table 7 (£50,000 initial debt) shows that:

- Low earners would still make no repayments (their income never reaches the repayment threshold).
- Medium earners would repay the same amount as before. But write-offs would fall substantially because of the smaller initial debt (care of the lower fee cap), with less interest subsequently being capitalised. The typical write-off would fall from 66% to 53% of total debt (including capitalised interest).
- High earners would be the main beneficiaries of a lower fee cap, repaying £27,900 less than previously and becoming debt-free eight years earlier. This is because they would benefit from a virtuous circle created by the smaller initial debt burden: their repayments would be relatively larger (as a proportion of outstanding debt), which would speed the pace

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<sup>50</sup> Includes interest capitalised at the average rate charged to students over the last three years: 4.87% p.a.

of repayment, slowing the rate at which capitalised interest accumulates.

### **5.3 Lowering the interest rate**

The cosmetic (and psychological) appeal of cutting the tuition fee cap to £5,000 would likely to be significant. Yet it would actually make no material difference to most students – there are some high-earning “winners”, but they are very few in number. So what if we were to focus not just on the initial size of the debt, but the rate at which it is repaid?

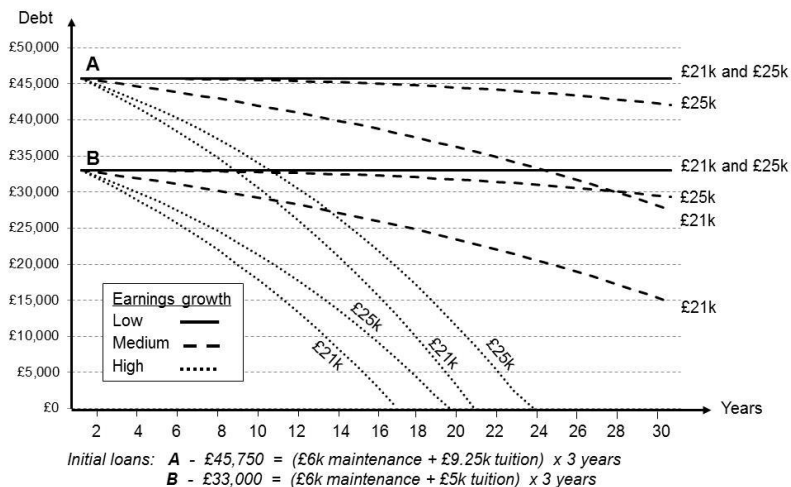
Figure 2 tracks four scenarios, from the time of the first loan to 30 years after graduation, under which we have declared that the repayment rate is simply RPI flat, and that the repayment thresholds are rising (as presently) at RPI + 2% from 2020-21. Scenario A uses the current tuition fee cap of £9,250, plus a £6,000 maintenance loan. Scenario B uses a £5,000 tuition fee cap instead. We then track, for the £21,000 and £25,000 repayment thresholds, what happens to students' total debt under the author's earnings projections.<sup>51</sup> RPI is assumed to be zero so that results are expressed in terms of today's money: consequently no capitalised interest is added to the debt burden.

It is apparent from Figure 2 on the next page that low earners would make no repayments under all four scenarios. High earners would repay in full, some 17 to 24 years after graduation. And medium earners would never repay in full. What is particularly striking is just how much more of the debt would have to be written off with a £25,000 repayment threshold.

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<sup>51</sup> Low, medium and high scenarios, growing at RPI + 1.5%, 2.25% and 3.5%, respectively

Figure 2: Interest at RPI flat, and £21k, £25k repayment thresholds indexed at RPI + 2%

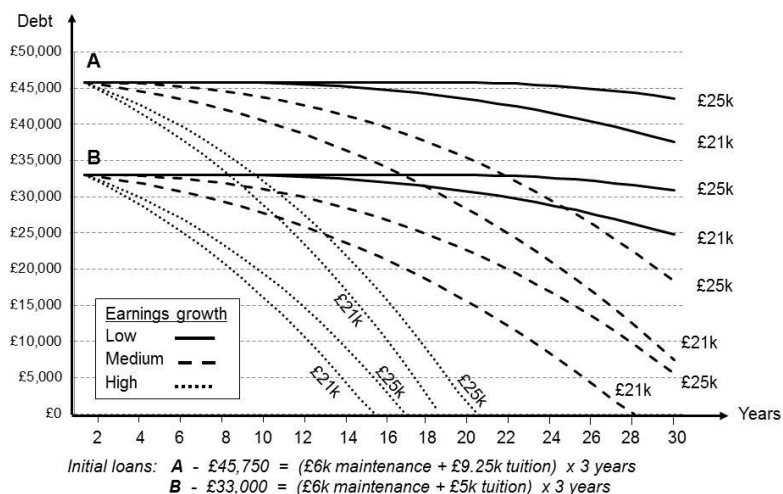


Finally, Figure 3 illustrates the same outcomes with the growth rate of the repayment threshold limited to RPI flat (as opposed to RPI + 2%). It is clear that this is a much more attractive scenario for the Treasury, producing significantly larger repayments, as projected incomes accelerate ahead of the repayment threshold (which is frozen in real terms).

In each of the four scenarios, low earners would make some repayments, but most of their loans would still be written off. High earners would repay in full, some 15 to 21 years after graduation. And medium earners would repay significantly more than had the repayment threshold been indexed at RPI + 2%.



Figure 3: Interest at RPI flat, and £21k, £25k repayment thresholds indexed at RPI flat



#### 5.4 The fee/loan structure: conclusions

There are several complex inter-relationships that influence the potential size of loan write-offs, particularly between future earnings (over which the Treasury has little control) and the repayment threshold.

Under the scenarios explored here, high earners will almost always repay their loans within 30 years; it is just a question of when. Low earners will always repay little, if anything.

Consequently, the expenditure outcome is largely determined by repayments and write-offs relating to medium earners.

Figures 4 and 5 show the range of outcomes for these medium earners under the £21,000 and £25,000 repayment thresholds, with Table 11 comparing the amount of capitalised interest and the write-offs.

Given the uncertainty concerning the underlying assumptions, notably for future earnings growth, the results should be treated with caution. However, they are all based on the same earnings growth projection (the author's RPI + 2.25% per annum, with a first salary of £25,000), so they are valid for the purpose of comparison. For simplicity, the thresholds are assumed to grow with RPI.

Figure 4: £21,000 earnings threshold

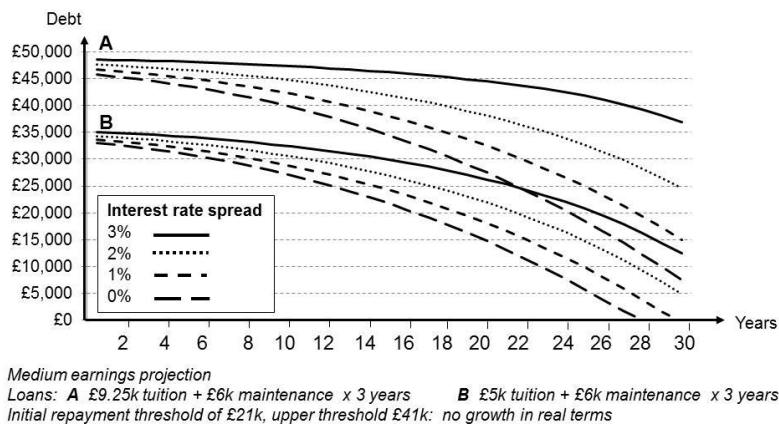


Figure 5: £25,000 earnings threshold

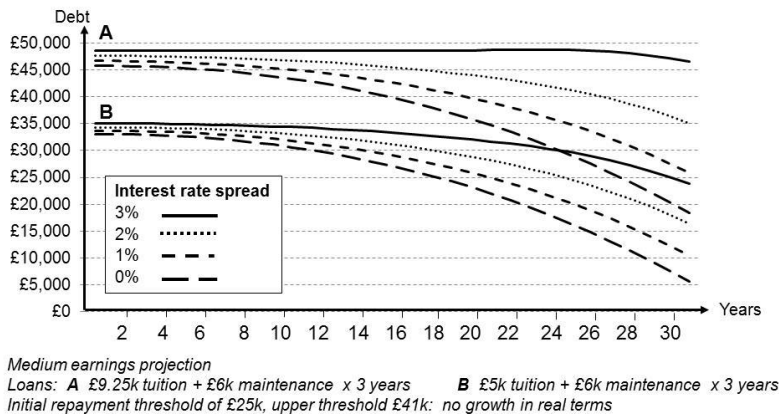


Table 11: Medium earners' outcomes; fee caps at £5,000 and £9,250

Repayment threshold	Max. spread over RPI	Debt at graduation		Total repayments *		Capitalised interest		Write-offs	
		£5,000	£9,250	£5,000	£9,250	£5,000	£9,250	£5,000	£9,250
£21,000	0%	£33,000	£45,750	£33,000	£38,239	£0	£0	£0 **	£7,511
	1%	£33,664	£46,671	£37,344	£38,239	£3,680	£6,558	£0 ***	£14,990
	2%	£34,338	£47,605	£38,239	£38,239	£8,787	£15,241	£4,886	£24,606
	3%	£35,020	£48,550	£38,239	£38,239	£15,630	£26,564	£12,410	£36,875
£25,000	0%	£33,000	£45,750	£27,439	£27,439	£0	£0	£5,561	£18,311
	1%	£33,664	£46,671	£27,439	£27,439	£4,141	£6,612	£10,365	£25,844
	2%	£34,338	£47,605	£27,439	£27,439	£9,461	£14,957	£16,360	£35,123
	3%	£35,020	£48,550	£27,439	£27,439	£16,210	£25,390	£23,791	£46,501

\* Including capitalised interest

\*\* Full repayment after 28 years

\*\*\* Full repayment after 29 years

Points to note from Figures 4 and 5, and Table 11 include:

- Today's fee cap of £9,250 produces write-offs that substantially exceed total capitalised interest in all four interest rate scenarios (and even more so in respect of low earners). Consequently, the variety of different write-offs simply reflects different amounts of capitalised interest.
- The lower the "peak" interest spread (currently 3%), the lower the debt burden and, ultimately, the smaller the write-off.
- In respect of medium-earning graduates who are not expected to repay in full (i.e. most of them under today's £21,000 repayment threshold, and all medium earners if this were raised to £25,000), the interest spread makes no difference to the total amount repaid. Repayments are solely determined by income, not the amount of debt outstanding.
- This, combined with the first point, introduces considerable scope to cut the interest spread (which feeds through to debt, via capitalised interest) without reducing the cashflow into the Treasury.
- Raising the repayment threshold to £25,000 would significantly reduce repayments, by about £11,000 per medium-earning graduate, and increase write-offs by a similar amount.

- Retaining the £21,000 repayment threshold, reducing the fee cap to £5,000 and cutting the peak interest spread to 0% would reduce repayments by £5,200 per medium-earner, i.e. by less than half of what would result if the £25,000 threshold were adopted. No write-offs would be expected: medium earners would just about fully repay their debt after 30 years. Contrast this with today's expected £37,000 write-off for medium earners (£46,500 if the repayment threshold were to be increased to £25,000, with the fee cap and interest spread unchanged). This change is mostly explained by the reduction in capitalised interest during the life of the loan.

In other words, cutting the peak interest spread from 3% to 0% – moving from RPI + 3% to RPI across the lifetime of the loan – would initiate a virtuous circle.

With less interest being capitalised, the debt burden would fall, so that subsequent interest accumulation would then be smaller. Even after just three years as a student, the debt at graduation would be almost £3,000 smaller if interest were RPI flat rather than RPI + 3% (and £2,000 smaller if the fee cap were at £5,000).

Cutting the spread to 0% would also provide a simplification of the loan structure: the upper earnings threshold would become redundant, and could therefore be scrapped. There would, however, be a cost impact delivered via the very few high earners who are expected to repay their debt in full, including all capitalised interest, since the 3% spread would no longer be collected from them.

## 5.5 The fee-loan structure: recommendations

Given that so much capitalised interest is likely to be written off, there is an opportunity to rebalance student funding without having to raise the repayment threshold. *Retaining the threshold at £21,000, cutting the interest rate to RPI flat (or even CPI flat), from loan inception until write-off (30 years after graduation), and reducing the tuition fee cap to £5,000* would appear to be a more attractive proposal.

***Proposal: The student loan repayment threshold should remain at £21,000, the interest rate should be reduced to RPI flat (or CPI flat), from loan inception until 30 years after graduation, and the tuition fee cap should be reduced to either £5,000 or £7,500.***

Financially, this proposal would make more sense to the Treasury and, most likely, it would be more appealing to prospective students; the much lower debt burden at graduation would be readily apparent. It is unclear to what extent raising the repayment threshold would really be appreciated. If there were any economic doubts over the proposal, then reducing the fee cap to £7,500 instead, say, should address them.

## 5.6 Implications for university funding

Reducing the tuition fee cap would cut university funding by roughly £4.6 billion per year (whereas reducing the interest rate spread would make no difference).<sup>52</sup> Thus universities would become more dependent upon central government funding, which would represent a partial reversion to the pre-Dearing era.

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<sup>52</sup> Reducing the cap from £9,250 to £5,000 would represent a 46% cut. UK-domiciled students (including post-graduates) paid roughly £9.9 billion in fees last year. This assumes that non-UK EU fees would, post-Brexit, no longer be fee capped

Universities are unlikely to welcome becoming more exposed to Budget cuts. But they are already relying on the state to absorb the loan write-offs, which represents government funding via an indirect route.

From the Treasury's perspective, a lower fee cap would have no impact on the public sector net cash requirement (PSNCR) and PSND, assuming it fully topped up the universities for their loss of tuition fees.<sup>53</sup> Any increase in central government funding of universities would likely translate directly into annual expenditure (and therefore PSNB).

However, the RAB charge would be substantially smaller, reflecting much lower loan write-offs in the future, so DfE's provisioning requirement should shrink, and with it the DEL resource allocation from the Treasury. This, combined with the Government's willingness to spend more anyway (hence the intention to raise the repayment threshold), would substantially diminish the burden on the public finances.

## **5.7 Accounting for research funding**

Under these proposals, it would seem as if higher immediate expenditure is being traded for lower future expenditure – and the Treasury is always wary of immediate expenditure.

But this would actually depend on how the additional funding were deployed. One accounting approach would be to formally separate the funding of teaching and research, and earmark any increase in central government funding as research-specific. Given that society as a whole benefits from research, it would be reasonable

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<sup>53</sup> The schedule for additional gilts issuance would remain the same, the rise in university funding replacing reduced student loan

for everyone to pay for it (the cross-subsidy from fees would have gone if a £5,000 fee cap were introduced).

In fact, there is an international accounting standard called SNA 2008 which encourages countries to recognise spending on research and development as an investment activity, i.e. capital formation, rather than as expenditure.<sup>54</sup> If the DfE embraced this approach, the Treasury's extra funding could be placed outside of PSNB, so would not have an impact on "the deficit".

As an aside, such a separation is already in train: some universities now appoint teaching fellows (at three levels; normal, senior and professorial) who have no research responsibilities, and exclude them from the Research Excellence Framework (REF) submissions, to improve both the teaching and the REF score.<sup>55</sup>

Ideally this accounting change could be accomplished with no need for a new settlement concerning research, nor a review of the whole process of grant applications.

## **5.8 Other potential changes to reduce fees/debt**

### *(a) Two-year degree courses*

There is a strong case for expanding the number of two-year degree courses, comprised of four terms per year, particularly for the social sciences (but not for architecture, engineering, medicine and the sciences). Many papers have discussed the theme, and Professor Paul Palmer of Cass Business School has proposed that

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<sup>54</sup> System of National Accounts, 2008, an international national accounting standard. See Capitalising research and development: towards the new System of National Accounts; ONS Economic & Labour Market Review, September 2009

<sup>55</sup> The REF is the successor to the Research Assessment Exercise. As an Impact Evaluation, it is used to assess the research of HE institutions (first used in 2014 to assess UK research during the period 2008 to 2013).

the Treasury pay the first year's tuition fee.<sup>56</sup> Given the scale of prospective write-offs within the current structure, this may not cost anything in the long-term. Students would pay the second year's fees, with loans available on a more traditional basis (i.e. not income-contingent).

The benefits for students would include a much smaller debt burden at graduation (including only two years of maintenance costs), and the prospect of earning earlier. Courses would be more intensive (shorter vacations), which would improve the efficiency with which teaching resources were used, but teaching contracts might have to be restructured (academics could automatically become entitled to one term off a year?). There would be adverse implications for university funding; accommodation and conference income would diminish.

*(b) A role for employers?*

In parallel, perhaps we should encourage employers to redirect their matching contributions away from employees' pensions, to repay student debt instead (attracting the same Income Tax and NICs reliefs). This would appeal to younger workers, not least because it would produce a high risk-free, post-tax rate of return (whereas defined contribution pension pots are not risk-free).

It would also increase the cashflow into the Treasury, becoming a policy "win-win".

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<sup>56</sup> For example, see 'How to defuse the student debt time bomb'; Richard Tice, CapX, 4 September 2017. Also 'Remaking tertiary education'; Prof. Alison Wolf (King's College London) and Peter Sellen and Gerard Domínguez-Reig (Education Policy Institute), 2016.



## CONCLUSION

The university funding landscape has been transformed since the Dearing Report, but there is a growing sense that too much onus is now being put on Generation Y to fund their own education.

Decisions concerning university funding have major cultural, economic and political dimensions: they should not be taken lightly. Yet the Government's announcement that the repayment threshold is to rise to £25,000 is an acknowledgement that a fairer funding split between students and the state is indeed required, partly to help address growing inter-generational inequality.

This is welcome. But the proposed solution would substantially increase expected write-offs, and signals that taxpayers will ultimately have to contribute more to higher education.

It would be better to reduce the debt burden on young graduates through lower fees and interest charges, and bite the bullet on the expense today by plugging the resulting funding shortfall from central government – perhaps characterised as research, and treated as investment under SNA 2008.

## **APPENDIX I**

### **The Complete Universities Guide: salary modelling**

The CUG's loan repayment calculator assumes continuous employment over 30 years.

The projected salaries used by the calculator are based on the careers of past graduates, and are derived from figures from a number of sources. The Association of Graduate Recruiters (AGR) provided the current starting salaries for the careers which CUG lists.

Current final salary figures were sourced from a variety of professional, industry-expert salary surveys and guides. These final salaries have then been adjusted to allow for an increase in the national average of earnings of 2% above inflation, over the subsequent 29 years. To do this, CUG have assumed that the salaries will remain unchanged in relation to each other and to the national average. CUG has therefore increased the final salaries by 2% for every year, which is a 78% increase over the whole period.

The growth in salary between the starting and final figures for each career follows the pattern of the salary predictions for all graduates in employment in the BIS's Ready Reckoner: higher increases in

earnings are expected at the start and at the end of the 30 year period, and lower increases in between.

In addition to expected earnings for particular careers, CUG give three further options for low, medium and high earnings across the whole graduate population.

<b>CUG salary projections: all graduates</b>		
<b>"Low"</b>	<b>"Medium"</b>	<b>"High"</b>
£19,000	£25,000	£36,000
£21,500	£29,600	£43,000
£23,700	£33,700	£49,300
£25,700	£37,400	£54,900
£27,400	£40,700	£59,800
£29,000	£43,500	£64,200
£30,400	£46,100	£68,100
£31,600	£48,300	£71,500
£32,600	£50,300	£74,500
£33,600	£52,000	£77,200
£34,400	£53,600	£79,500
£35,100	£54,900	£81,600
£35,800	£56,200	£83,500
£36,400	£57,300	£85,200
£37,000	£58,400	£86,800
£37,600	£59,400	£88,400
£38,100	£60,500	£90,000
£38,700	£61,600	£91,700
£39,300	£62,700	£93,500
£40,000	£64,000	£95,400
£40,800	£65,400	£97,600
£41,700	£67,000	£100,000
£42,600	£68,900	£103,000
£43,800	£70,900	£106,000
£45,000	£73,300	£110,000
£46,500	£76,000	£114,000
£48,100	£79,000	£118,000
£50,000	£82,400	£123,000
£52,000	£86,300	£129,000
£54,300	£90,600	£136,000



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