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Student preferences over fees, grants and loans[1]

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1 This work, and the student incentive payments for the majority of data collected for it, was funded by the University of Essex. Earlier waves of survey data collection were funded by the Economic and Social Research Council [ES/M008622/1]. No statements expressed here are the opinion or policy of the University of Essex or the Economic and Social Research Council

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Executive summary

Undergraduate students in England are charged tuition fees and receive support for living costs primarily through a complex system of income-contingent loans. The Department for Education is currently conducting a review of Post-18 education and funding, with a view to reforming this system for new undergraduates. It is however unclear what changes to the system students would favour and what type of trade-offs they would be willing to accept if the system were to change in a fiscal neutral way, as the current Government seems to suggest would be the outcome of the current review.

We sampled an entire cohort of undergraduate students at one UK Higher Education institution in order to test their knowledge and understanding of the current system and then elicit their preference over different scenarios presented in five hypothetical policy changes. These scenarios were first described without providing any information about the repayment implications of each, then students were shown graphics which spelt out the repayment implications for graduates in example professions.

Most students understand the principle of paying back a proportion of their income above a threshold and the 30-year maximum duration of repayments (70% of respondents correct in each case), as well as the level of the repayment threshold, which has recently changed (87% selected the current or very recent level). Knowledge is weakest with respect to the interest rate charged during (19% correct) and after (42% correct) study; and the repayment rate above the threshold, which 29% get correct but 56% either underestimate or don't know.

Considering students' answers to the five hypothetical policy changes we find that there is always a strong preference for the status quo. This shows that there are no 'magic bullet' marginal changes that can be made to the current system that would improve its popularity among students, save for raising the income repayment threshold from £21,000 to £25,000; which is a change that came into force in April 2018. Combining students' answers to all the questions to investigate their preferences more formally we find that:

- Students are collectively against different fees being charged for different subjects, especially where this would entail lower fees for STEM courses.
- Students are more averse to their debt continuing to grow after they have graduated than while they are studying. This suggest that the current system with a high ("punitive" according to recent reports) real interest rate during study but zero real interest rate for the lowest earners after study, actually aligns well with students' concerns.
- Students are supportive of the principle of those from lower-income households receiving larger maintenance loans than those from higher-income households, even when shown that this results in a higher debt for the latter group.
- Although students would in principle prefer to receive more support for living costs from the government through larger loans and/or reintroduced grants, this preference disappears when students are shown the implications for how this might be paid for (either through individually or collectively higher repayments).
- Students seem prepared to trade off higher debt at graduation in exchange for (i) a higher repayment threshold and (ii) less steep interest rates after graduation. This possibly reflects the fact that they expect to face substantial uncertainty about their earnings during the first few years after finishing their studies. At this stage of their studies they do not seem to anticipate a psychological burden to 'being in debt'.

In our conclusions we briefly describe a form of 'time-limited and income-linked graduate contribution' system that would respond to the main preferences expressed by students through this study.

1 Introduction

Undergraduate students in England are charged tuition fees and receive support for living costs primarily through a system of income-contingent loans. The UK government is currently conducting a Review of Post-18 Education and Funding, with a view to reforming this system for new undergraduates.

Its recommendations should uphold the principle that 'those who benefit from post 18 education contribute to its cost' and that repayments are 'progressive', and funding arrangements are 'transparent and do not act as barriers to choice or provision'. They should also support the Government's Industrial Strategy by encouraging development of key skills and be consistent with Government fiscal policy both to reduce the deficit and national debt. The review's terms of reference preclude proposing any changes to the tax system, thereby ruling out funding any reforms through general taxation, a hypothecated tax on the population, or a time-unlimited 'graduate tax' (Department for Education, 2018).

Higher education funding is an emotive issue, often beset with emotive language. The interest rate that students are charged on loans while they are studying, equal to the rate of inflation plus 3%, is widely held to be "punitive" (Belfield et al., 2017), and the 'lifetime of debt' that graduates have to face is perceived to be a heavy burden, despite payments being income-contingent and written-off after 30 years (see, for example, Fazackerlay, 2017; Wolff, 2017). It has been noted by the Treasury Select Committee that the language used in referring to debt and loans in the current system is "psychologically damaging and completely misleading", with a former Universities Minister acknowledging that it is better described as a "time-limited and income-linked graduate contribution" (House of Commons Treasury Committee, 2018, p.30).

With this in mind, this report was commissioned by the University of Essex to provide an empirical analysis of how students might perceive changes to the current system, under the assumption that these changes would be fiscally neutral and would therefore imply some form of trade-off. Our study asks two questions: Firstly, do student have a good understanding of the different features (level of fees, repayment period, interest rate charged during the course of the study, etc.) of the current system? Secondly, what features of a reformed system would current students prefer?

We answer these questions using responses to an online survey sent to an entire cohort of third-year undergraduate students at one UK Higher Education institution. This included a series of questions about expected future labour market outcomes, then a short quiz to test their knowledge and understanding of the current system, and ensure each respondent was informed of the correct answer. Finally, we elicited their order of preference over different scenarios presented in five hypothetical policy changes. These scenarios were first presented without providing any information about the repayment implications of each, then students were shown graphics which spelt out the repayment implications for graduates in example professions.

First we shall report on students' preferences over each hypothetical policy individually. We then analyse their combined responses to all the questions in a series of regression models. We do this first assuming that what matters are the headline features of each system (the fee charged, length of repayment period, etc), and then assuming that what matters are the practical implications of each scenario for each individual, having used their expected future earnings to impute the timing and amount of repayments they would expect to make.

2 Data

We sent an online survey to 1229 third-year 'Home' undergraduates (who enrolled in October 2015) at one UK university. We received 652 responses. The target population has therefore lived with the current system for almost three years. Those who graduate this year and have sufficiently high earnings will begin making repayments in April 2019.

The survey was sent to students' email address with the subject line "Tell us what you think about possible changes to tuition fees, maintenance loans and grants, and repayments". The introduction page explicitly mentioned that the results from the survey would be used to feed into the current Review of Post-18 education and funding. Together this means that although the specific scenarios they are shown are hypothetical the issue and questions raised are relevant and salient to this group, the response rates from which are shown in Table 1.

Moreover, the respondents are all part of a panel whose members have completed up to eleven surveys throughout their university studies already, all of which involve eliciting expectations about their future academic and/or labour market outcomes under different scenarios. This sample is therefore well prepared to engage with and answer the somewhat cognitively demanding task of choosing among the different options for funding reforms.

The survey overall took approximately 25 minutes, and students were compensated with £15 for their time. This was shorter but a higher compensation-per-minute than most previous surveys because it was conducted in May and June 2018, during most students' final exams. The survey consisted of five main blocks of questions:

- Students' situation with respect to the labour market or postgraduate study, including their expected earnings 12 months after graduation and at age 40 (or 15 years after graduation for mature students).
- A test of students' knowledge of the current funding system, in which they are shown the correct answer after each question.
- Five hypothetical policy changes, each presenting three alternative scenarios; students are asked to rank these scenarios in order of preference.
- The same five hypothetical policy changes, this time complemented with a graphic showing the implications of each scenarios for repayments to be made by graduates in three example professions.
- Questions on students' time use and expectations about their academic outcomes, all repeated from earlier waves of the survey.

Table 1 Responses and sample composition

	% eligible who respond	% of final sample
Mature	50.0	3.8
Young	52.3	96.2
White High SES	51.0	33.7
White Low SES	48.1	20.0
Black British	57.6	24.1
Asian British	52.4	12.3
Other	52.5	9.9
Female	59.2	57.5
Male	44.9	42.5
STEM	58.6	72.7
Non-STEM	50.5	27.3
N	**1,229**	**652**

As seen in Table 1, there were small differences in response rates by age, socio-economic background and ethnicity, but more responses from females and those on Science, Technology, Engineering and Maths (STEM) courses than from males or non-STEM courses. Nevertheless, due to the composition of the population at this university, those on non-STEM courses make up the majority of the respondents, and we take this into account in analysing the question where this is most salient, namely differential fees for STEM and non-STEM courses.

3 Understanding of the current system

We first tested students' knowledge of the current system using a series of multiple choice questions (maximum of four options) with 'don't know' always as an additional option. Table 2 shows the proportion of respondents correctly identifying each feature of the system, and Table 3 the distribution of their cumulated correct answers. We provided the students with the correct answers after each question to ensure all of them were aware of the current system.

Table 2 Responses and sample composition

Dimension	Correct answer % of respondents	Wrong answers % of respondents				Don't know % of respondents
Fee system	Maximum fee that universities can charge. Must charge same fee for all subjects 29.1%	Maximum fee that universities can charge, but can vary by subject 25.6%	Fixed fee across all universities and all subjects 24.9%	A different fixed fee for each subject, but the same across universities 4.6%		15.8%
Fee level	£9,250 per year 77.3%	£3,075 <1.5%	£6,150 <1.5%	£12,500 17.0%		3.5%
Maintenance	Grants available for low income students. Sliding scale of loans, the lower the household income the higher the loan* 51.4%	Grants available for low income students. Everybody entitled to same maintenance loans 27.6%	No maintenance grants. Everybody entitled to same maintenance loan 2.2%	No maintenance grants. Sliding scale of loans, the lower the household income, the higher the loan 14.3%		4.6%
Interest during study	RPI + 3% 18.9%	0% 23.5%	3% 29.1%	RPI 10.6%		18.6%
Interest after study	RPI + 0-3% by earnings 42.2%	3% 11.0%	RPI 8.6%	RPI+3% 18.7%		19.5%
Repayment system	Fixed proportion of income above a threshold 70.0%	Fixed amount every month 2.6%	Fixed proportion of income every month 23.7%	–		3.7%
Repayment threshold	£25,000 (expected to be £21,000) 30.7%	£10,000 1.5%	£15,000 4.6%	£21,000 55.5%	£30,000 2.2%	3.2%
Repayment rate	9% 29.0%	6% 45.7%	12% 10.0%	15% 4.8%		10.6%
Write off period	30 years 69.79%	15 years 5.1%	25 years 17.6%	Never 4.3%		3.2%
N = 652						
*Maintenance grants abolished for cohort after that answering the survey.						

Table 3 Number of correct answers about current system

Score	≥1/9	≥2/9	≥3/9	≥4/9	≥5/9	≥6/9	≥7/9	≥8/9	≥9/9
% of respondents	>98.0	94.2	81.1	58.3	34.2	19.3	6.8	<2.0	<2.0

Although very few students correctly identified all the features of the system, most understand the principle of paying back a proportion of their income above a threshold, and the 30-year maximum duration of repayments (70% of respondents in each case). There was also a good understanding about the level of the repayment threshold, which changed in April 2018 from £21,000 to £25,000 per year. 87% selected one of these options, though this comprised 56% choosing the old level and only 31% the current, suggesting that this change has been poorly communicated.

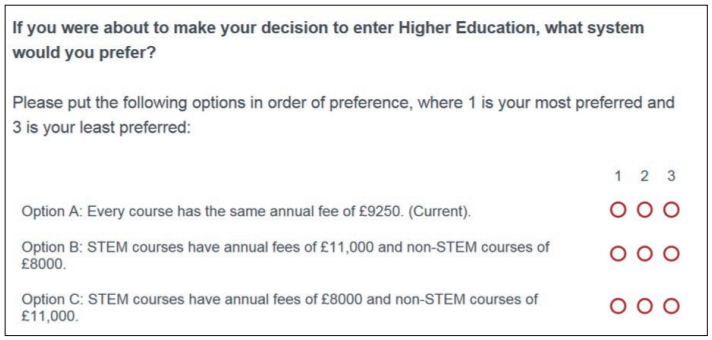
Students' knowledge of the interest rate charged during study is by contrast poor. Few students recognise any link with the rate of RPI inflation, and only 19% identify the correct answer, with interest of RPI+3%. Understanding of the interest rates after study is better, with 42% identifying the progressive system with a zero real interest rate (equal to RPI) for the lowest earners. For the repayment rate above the threshold, 29% get this answer correct but 56% either underestimate or don't know. Finally, a much larger proportion of students (46%) underestimate the effective additional marginal tax rate that they will pay on earnings above the threshold until their debt is repaid or written off, than either get the correct answer (29% do) or overestimate it (15% do). This means that conditional on knowing the repayment threshold, repayments will eat into their disposable income after graduation more than they would expect.

4 Eliciting students' preferences for funding reforms

Students were shown five hypothetical policy changes, each containing three alternative scenarios.

With one small adjustment, Option A corresponded to the current system, and B and C offered trade-offs along one or more dimensions of the system. For example, the first question appeared as follows:

Figure 1 Appearance of survey question



All five hypothetical policy changes are detailed in Table 4, with the text for each scenario as it appears in the question. These five questions address possible changes in all the features of the system with built-in trade-offs. For example, the Maintenance Loan question offers alternatives which equalise the debt that students from low and high income households would graduate with, and asks students to specify whether they would prefer this to be uniformly high (giving more money to live on while they study but greater expected repayments) or uniformly low (less money to live on while they study, but smaller expected repayments).

Table 4 Menus for alternative funding systems

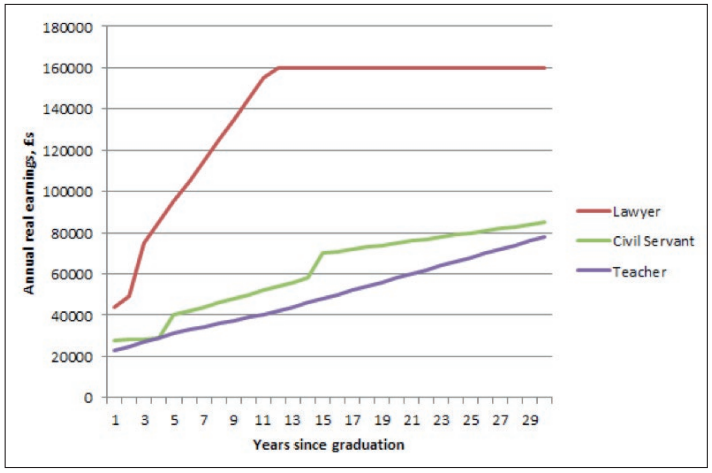
Dimension	Option A	Option B	Option C
Differential fees	Every course has the same annual fee of **£9,250**	STEM courses have annual fees of **£11,000** and non-STEM courses of **£8,000**	STEM courses have annual fees of **£8,000** and non-STEM courses of **£11,000**
Interest rates	During: RPI+3% After: RPI for low earners, RPI+3% for high earners	During: RPI After: RPI+3% for low earners, RPI+3% for high earners	During: RPI. After: RPI+1% for low earners, RPI+4% for high earners
Maintenance loans*	**£8,400** loan for low income, **£5,500** loan for high income	**£5,500** loan for low income, **£5,500** loan for high income	**£8,400** loan for low income, **£8,400** loan for high income
Repayment regime	Pay back 9% of earnings above £25,000 for 30 years or until debt is repaid	Pay back 5% of earnings above £21,000 for 30 years or until debt is repaid	Pay back 9% of earnings above £21,000 for 20 years or until debt is repaid
Paying for reintroducing grants	**Zero** grant for low income; **zero** grant for high income; **£9,250** annual fee; pay back **9%** of earnings above £25,000	**£8,000** grant for low income; **£1,000** grant for high income; **£12,250** annual fee; pay back **9%** of earnings above £25,000	**£8,000** grant for low income; **£1,000** grant for high income; **£9,250** annual fee; pay back **12%** of earnings above £25,000

*'High income' basic loan is currently £3,900 for students living away from home outside London. We offer £5,500 in this menu to avoid Option B being especially unattractive for low income students yet still test the principle of equalising debt levels

The first time these questions are shown, students are simply given a short introduction. Answers can be informative as the questions mimic how one might phrase a simple snap-shot vote over the available options. The second time round, students are shown a graphic detailing the debt on graduation and expected repayments for graduates in three example occupations: the Lawyer, Civil Servant, and Teacher. Answers to these questions capture what we call 'informed' preferences.

The examples we used mirror those in earlier reports on this topic for the House of Commons Treasury Committee (2018, p.16), and assume that they progress at a steady rate in their chosen careers and on standard published pay scales, resulting in real earnings following the profile shown in Figure 2, also shown to students. For the first question regarding different fees for different courses, the implications of higher or lower fees, with all other aspects of the system remaining the same and students taking a typical maintenance loan, are shown to students as in Figure 3.

Figure 2 Annual earnings of example graduates



We follow the methodology of Belfield et al (2017) in listing the sum of real repayments (assuming no inflation) that are not discounted (i.e. repayments made further in the future are not given a lower weight than repayments to be made sooner), thereby assuming that a pound today is worth the same as pound in the future.

From Figure 3 we can note that going from £8,000 to £11,000 annual fees would result in a high-earning lawyer paying £14,000 more in total, and a civil servant over £20,000 more in total. However, it would make no practical difference to the teacher, who will always pay the same amount in total over the full 30-year period (the difference between the options only being the nominal amount of debt that is written off). Note also that the lawyer pays almost always less in total under the current system than either the teacher or civil servant. This is because his/her earnings are so high, that (s)he pays off her debt very quickly and accrues comparatively little interest.

Figure 3 Example vignette for implications of different fee

	Student charged £8,000	**Student charged £9,250**	**Student charged £11,000**
Debt on graduation	£47,500	£51,600	£57,400
Occupation	**What they pay back**		
Lawyer 	**£1,710** in year 1 **£55,300** in total over **9 years**	**£1,710** in year 1 **£60,700** in total over **9 years**	**£1,710** in year 1 **£69,000** in total over **10 years**
Civil servant 	**£270** in year 1 **£67,400** in total over **24 years**	**£270** in year 1 **£72,300** in total over **25 years**	**£270** in year 1 **£87,700** in total over **28 years**
Teacher 	**£0** in year 1 **£67,300** in total over **30 years**	**£0** in year 1 **£67,300** in total over **30 years**	**£0** in year 1 **£67,300** in total over **30 years**

5 What changes would students prefer?

Here we focus on students' preferences the first time they are presented with a hypothetical policy change (e.g. different fees for different courses) and the associated three scenarios (e.g. (A) status quo, (B) higher fees for STEM courses and low fees for non-STEM courses, (C) lower fees for STEM courses and higher fees for non-STEM courses) without any information about the repayment implication of these different options.

Since we asked respondents to rank three choices, in each case we will show:

- The result based on first choice votes only, indicated by the **blue bars** in each graph. (A First-Past-the-Post approach).
- The result having redistributed the second preferences of those who voted for the least popular option, indicated by the **red bars**, and added these to the first choice votes for the more popular options. (This 'Alternative Vote' approach ensures one option does receive the support of an outright majority of respondent, and avoids any vote *against* some feature of the status quo being split by there being two alternatives).

Pre-empting our results, the 'winner' in every case is option A, corresponding to the status quo. To get a better impression of preferences between potential alternatives, we therefore also show:

- The proportion of respondents preferring each of the 'losing' options in a pairwise comparison, indicated by the **green bars**.

i Preferences over differential fees

Currently, universities must charge the same fee (of a maximum of £9,250) to Home and EU undergraduates regardless of the subject they are studying. In the first question, we tested students' attitudes to differential fees across subjects. Higher fees for STEM than non-STEM subjects, as in option B, could be justified by STEM courses tending to cost more to teach, and their graduates tending to have higher earnings. Lower fees for STEM than non-STEM subjects, as in option C, could be justified as incentivising participation in areas important for long run productivity and economic development. The scenarios described in full as in the survey are:

Option A	Option B	Option C
Every course has the same annual fee of **£9,250**	STEM courses have annual fees of **£11,000** and non-STEM courses of **£8,000**	STEM courses have annual fees of **£8,000** and non-STEM courses of **£11,000**

Students' votes (N = 652) over these scenarios are shown in Figure 4:

Figure 4 Voting over differential fees

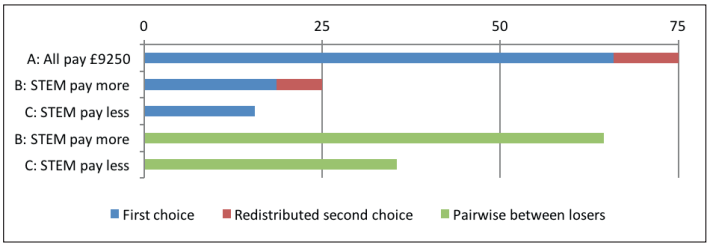


Figure 4 shows that students collectively expressed a strong two-third majority preference for students paying the same fees for different subjects. The proposal that STEM courses have lower fees to encourage student participation in those subjects was the least popular of all, both in terms of fewest first choices, and when compared with charging higher courses for STEM to reflect the cost of teaching them.[3]

This result was not driven by STEM students being in the minority among the student body. 66% of the 178 STEM students choose the status quo as their first choice, the same proportion as non-STEM, though 51% would prefer STEM to pay lower fees than non-STEM if the alternative was to pay higher fees than non-STEM. Non-STEM students are more partisan, with 70% preferring STEM to pay higher fees over STEM paying lower fees.

3 These students' preferences are consistent with those found in the recent HEPI report devoted to the issue of differential fees (Hillman, 2018, pp.45-49).

ii Preferences over interest rates

Currently students are charged interest of RPI+3% on their tuition fees and maintenance loans while they are studying. After graduation, they are charged interest equal to RPI when their earnings are less than £21,000 per year, then a sliding scale rising to RPI+3% for those earning more than £42,000 per year. We asked students' preferences over this system and two options involving charging interest only of RPI (a real interest rate of zero) during their studies. In option B this was traded off with removing the progressive element of post-graduation interest rates, setting it to RPI+3% for everyone. In option C this was traded off with a 1 percentage point rise in post-graduation interest rates for everyone, maintaining the progressive system but at a minimum of RPI+1% and maximum of RPI+4%. The scenarios described in full as in the survey are:

Option A	Option B	Option C
During: RPI+3% After: RPI for low earners, RPI+3% for high earners	During: RPI After: RPI+3% for low earners, RPI+3% for high earners	During: RPI. After: RPI+1% for low earners, RPI+4% for high earners

Students' votes (N = 652) over these scenarios are shown in Figure 5:

Figure 5 Voting over interest rates during and after study

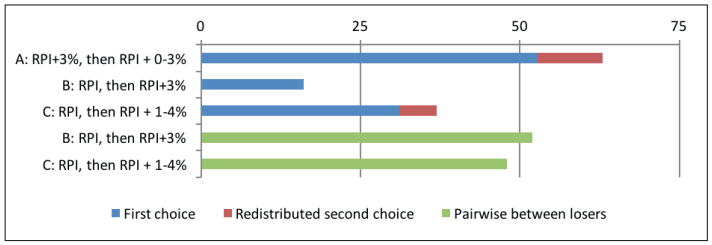


Figure 5 shows that a majority (53%) prefer the current system as their first choice, and 63% over either of the others. This shows that current students are relatively relaxed about their debt growing while they are still studying, but averse to it continuing to grow during the repayment period, probably as they are worried they will not be earning enough to start drawing this debt down.

Although more students put the high-interest progressive system (option C) as their first choice, a small majority actually prefer the flat rate (option B) when forced to choose between the two.

iii Preferences over equalising maintenance loans

Two charges levelled at the c urrent system of maintenance loans are that (i) students from low income households graduate with a higher debt than those from high income households; and (ii) this setup assumes that parental contributions make up any shortfall in living costs. With this question we offered students a version of the current system, and two alternative scenarios that would equalise the debt that students from high and low income households graduate with: Removing the additional entitlement from low income students so that everyone receives only £5,500 (option B), and making everyone entitled to the current maximum maintenance grant of £8,400 (option C). The scenarios described in full as in the survey are:

Option A	Option B	Option C
£8,400 loan for low income **£5,500** loan for high income	**£5,500** loan for low income **£5,500** loan for high income	**£8,400** loan for low income **£8,400** loan for high income.

Students' votes (N = 652) over these scenarios are shown in Figure 6:

Figure 6 Voting over equalising maintenance loans

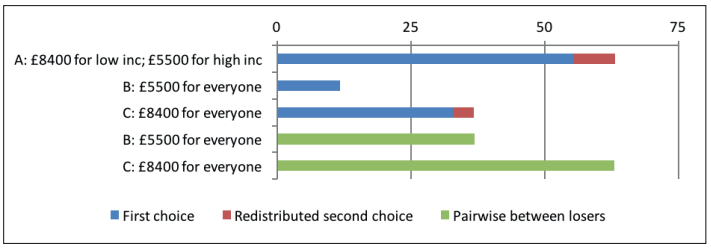


Figure 6 shows an absolute majority of approximately 55% preferred the current system as their first choice, and 63% over either of these alternatives. If loans must be equalised, 63% prefer this to happen at the higher level. This still means that for a substantial majority of respondents, income and/or credit constraints during their studies, or concern about that faced by others, represents a big enough problem to outweigh the additional repayment burden this will entail later.

iv Preferences over the repayment regime

In April 2018 the repayment threshold was raised from £21,000 to £25,000. This means that low-earning graduates will typically start repaying later, and those already making repayments will pay a smaller amount each period until the debt is repaid or written off. In this question we offered two alternatives reverting to the lower repayment threshold. In option B this is offset by a lower repayment rate, 5% rather than 9%, such that this represents a lower marginal tax rate on those who are making repayments. In option C this is offset by a shorter repayment period of just 20 years before the debt is written off. The scenarios described in full as in the survey are:

Option A	Option B	Option C
Pay back 9% of earnings above £25,000 for 30 years or until debt is repaid	Pay back 5% of earnings above £21,000 for 30 years or until debt is repaid	Pay back 9% of earnings above £21,000 for 20 years or until debt is repaid

Students' votes (N = 652) over these scenarios are shown in Figure 7:

Figure 7 Voting over the repayment regime

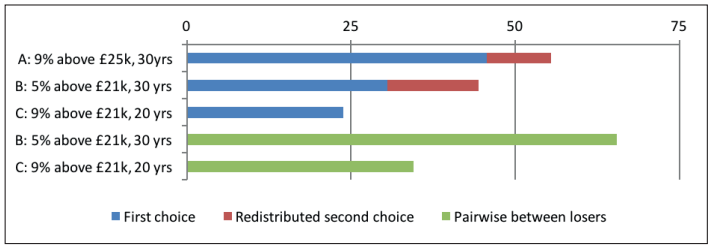


Figure 7 shows that 46% of respondents select the current system (A) as their first choice, ahead of 31% selecting the lower repayment threshold and rate (B), and 24% selecting the lower threshold and shorter repayment period (C). 55% prefer the current, higher threshold over *either* of the options with the lower threshold.

This result is consistent with students expecting low earnings for some time after graduation: Option A results in lower annual repayments than Option B only for earnings between £21,000 and £30,000 per year. It is also surprising, given the discourse about 'lifetimes' of debt, that cutting 10 years from the repayment period is not a more popular choice. It is possible that both 20 and 30 years are such long time horizons that students consider both 'a lifetime'. In either case, this result suggests students' main motivation is not to erode their disposable income when their earnings are low.

v Paying for reintroducing maintenance grants

For new undergraduate entrants to English universities, there are currently no non-repayable maintenance grants. All support for living costs comes through maintenance loans, with larger amounts made available to students from low income households. This system does not require cross-subsidies by students from high income backgrounds for those from low income backgrounds, though where loans are written off this does entail a larger transfer from taxpayers to students from low income households.

Reintroducing maintenance grants in a progressive way, and paying for these through any other change in the system, will explicitly generate a net transfer from students from high income to those from low income backgrounds. Here we offered students two ways for this to occur: an all-round increase in fees to £12,250, and an all-round increase in the repayment rate above the threshold to 12%. The scenarios described in full as in the survey are:

Option A	Option B	Option C
Zero grant for low income; **zero** grant for high income; **£9,250** annual fee; pay back **9%** of earnings above £25,000	**£8,000** grant for low income; **£1,000** grant for high income; **£12,250** annual fee; pay back **9%** of earnings above £25,000	**£8,000** grant for low income; **£1,000** grant for high income; **£9,250** annual fee; pay back **12%** of earnings above £25,000

Students' votes (N = 652) over these scenarios are shown in Figure 8:

Figure 8 Voting over paying for reintroducing maintenance grants

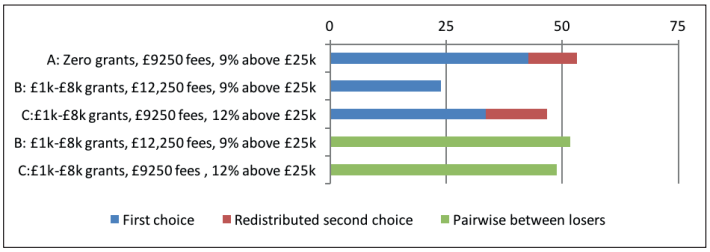


Figure 8 shows that the most popular first choice among respondents (at 43%) is for the current system with no maintenance grants. The majority against reintroducing them by either means is 54%. This is in line with the findings with respect to the maintenance loan options, supporting the idea that while students would like more money to live on during their studies, they are prepared to forego it if this requires greater debt repayments. Students are almost evenly divided on how any introduction in grants would better be paid for.

6 What matters most to students?

Taking each of the 'votes' in turn, the finding that the status quo is the most popular option suggests that there is unlikely to be a single policy change which could markedly improve the popularity of the system.

Our analysis can go further though, and we can now look at students' answers to all five questions together, and all fifteen comparisons between *pairs* of scenarios they are asked to rank. This allows us to evaluate the *relative* importance of different elements of the system in students' preferences. We do this by means of a linear regression model in which we account for the fact that the same individual provides many different data points overall and for the same hypothetical policy change. This means that each coefficient in our regression tables represents the effect of a one unit *increase* in a particular dimension (£1,000 increase in headline fees, for example) of scenario one compared with scenario two, on the probability that a student will prefer scenario one to two, holding all other elements of the system constant.

We show two sets of results. In the first, we assume that what matters to students are the headline features of the system in each scenario. In other words, preferences depend on how the system is described in the question, in terms of the fee to be charged, interest rates and timings, repayment thresholds, etc. Within this set of results, we show in separate columns the results obtained using students' stated preferences first without being shown implications of each scenario in terms of repayment ('No information'), and then with these implications shown in a graphic like that shown in Figure 3 ('With information').

In the second set of results, we assume that what matters to students are the individual-specific practical implications of each scenario in terms of their stock of debt on graduation, and timing and amount of repayments. These are partly a function of students' parental income and own future expected earnings, information about which is also collected in the survey. Again, within this set of results, we show in separate columns the results obtained using students' stated preferences with 'No information', and then 'With information'.

Choices based on headline features of system

No information

In column one of Table 5 we show the results of this regression based on the preference orderings elicited when students are presented only with the hypothetical policy changes and the different scenarios but no information about the implications of each scenarios in terms of repayment.

Overall students prefer lower fees (every £1,000 added to fees reduces the probability an option will be chosen by 6.5 percentage points), a higher income repayment threshold (£1,000 added this to this increases the probability an option would be chosen by 8.5 percentage points), and lower repayment rate above the threshold (each additional percentage point added to this rate reduces the probability an option would be chosen by 6.6 percentage points).

This also confirms the strong distaste for different fees being charged for different subjects, with the strongest objections to STEM courses being charged the lower fees. Respondents were 61 percentage points less likely to choose this option than the base category of all being charged the same. This occurs even holding constant the fees that the individual could expect to pay, were they doing the same course under the new regime, and the principle of differential fees is shown to be more unpopular than marginal fees rises (e.g. a general fee rise of £10,000 would be needed to be as unpopular as introducing a £3,000 non-STEM – STEM differential).

We also learn from this that students would prefer the higher interest rate during their studies, if this is traded off against lower interest rates afterwards. An interpretation of this is that students are more averse to their debt growing after graduation when they would like to be paying it down, than during their studies when they are still investing in their human capital and probably not yet thinking about repayments. This may also simply reflect an acceptance of the higher interest rate during their studies which last for only three years, rather than over the longer time horizon post-graduation.

On average, students also support those from lower income households receiving a larger maintenance loan, even understanding that the cost of this will be repaid personally or collectively, but are against those from high income households receiving a larger maintenance loan. Implicitly, this demonstrates an expectation among the student body that the parents of higher income students should support their living costs.

Finally, we note that, surprisingly, the maximum repayment period makes no significance difference to students' preferences. Perhaps 20 years (the bottom of the range students are asked about) is already a 'lifetime' in their eyes.

With information

In column two of Table 5 we show the results based on preferences elicited on the same page as they are shown the implications for repayment. There is one change in coefficients that is both statistically significant and makes an important difference to the interpretation, which is that students become 17.6 percentage points less likely to choose a scenario with progressive interest rates after graduation (from a starting point of just -0.2 percentage points). A further significant change is that students' preference in favour of a higher rate of interest rate during study and lower afterwards is strengthened, from being 30 to 43 percentage points more likely to choose this option. This suggests that students respond to information showing how different interest rates schedules change the repayment costs of moderate (Civil Servants) vs. high (Lawyer) earners.

There is also a small moderation in students' preference for higher maintenance loans for those from low income households when the implications for their repayments are revealed,

though this is still strongly significant and positive. The collective preference in favour of maintenance grants also loses statistical significance, although the coefficients obtained in the regressions with no information and with information are not statistically significantly different from each other.

Table 5 Fixed effect regressions – system labels

	1	2
	No information	With information
	b/se	b/se
Annual tuition fee for own course (GBP000s)	-0.065***	-0.060***
	(0.013)	(0.013)
STEM courses charged higher fees	-0.468***	-0.385***
	(0.030)	(0.030)
STEM courses charged lower fees	-0.610***	-0.645***
	(0.035)	(0.036)
High interest during study/low interest after	0.299***	0.429***
	(0.040)	(0.039)
Interest rate progressive in earnings after	-0.002	-0.178***
	(0.034)	(0.034)
Annual maintenance loan for low income households	0.178***	0.136***
	(0.011)	(0.011)
Annual maintenance loan for high income households	-0.090***	-0.115***
	(0.013)	(0.013)
Annual maintenance grant for low income households	0.014**	0.005
	(0.006)	(0.006)
Income repayment threshold (GBP000s)	0.085***	0.119***
	(0.018)	(0.019)
Repayment rate above threshold (percent)	-0.066***	-0.084***
	(0.016)	(0.017)
Maximum repayment period (years)	0.001	-0.010
	(0.007)	(0.007)
N	19,560	19,554
N groups	9,780	9,780
N individuals	652	652

*p<0.1 ; **p<0.05; ***<0.01

Choices based on implications of the systems for individual graduates

We now use students' parental income, their expected earnings after graduation, and the subject they study to perform a different type of analysis. For each different hypothetical policy change, we use this information to work out the individual-specific financial implication of each option. We can then use the students' order of preferences across all different options and scenarios to work out how important it is for them to have a higher or lower amount of maintenance loan, for example, or how much they dislike to face a higher or lower debt at graduation. Note that these individual-specific financial implications were never shown to students at the time of survey. However, it is plausible to assume that students were able to work them out when making their choices.

Specifically, we assume that anybody currently studying a STEM subject would also do so in the future (and be charged the corresponding fee), that each student would take all the up-front financial support available for someone with their parental income, and that after graduation the student works full time in every year until their debt is repaid or written off. We directly impute their reported expected earnings for the first year ("12 months after graduation") and either 19th year ("at age 40", for 'young' undergraduates) or 15th year (for mature students), and assume that their salary grows at a constant percentage rate each year between and beyond these dates. The results are presented in Table 6:

Table 6 Fixed effect regressions – implications for individuals

	1	2
	No information	With information
	b/se	b/se
Annual money from government to live on during study (GBP000s)	0.019***	0.000
	(0.006)	(0.006)
Stock of debt on graduation (GBP000s)	0.000	-0.002
	(0.002)	(0.002)
Years until first payment is made	0.019**	0.023**
	(0.008)	(0.009)
Years until full repayment or write-off	0.032***	0.032***
	(0.004)	(0.004)
Total repayment made (GBP000s)	-0.004***	-0.004***
	(0.002)	(0.002)
N	17,950	17,944
N groups	8,996	8,993
N individuals	614	614

*p<0.1 ; **p<0.05; ***<0.01

Again, some results are line with expectations. Students prefer to pay back less in total, but not by a huge margin: For every £10,000 to be paid back in today's pounds, a given option becomes only 4 percentage points less likely to be chosen.[4]

An important new contribution from these results is the change in students' initially significant but small preference for having more money from the government to live on during their studies (for each additional £1000 they were 1.9 percentage points more likely to choose an option), to having no preference in this regard once they are shown the implications for how this additional money might be repaid. In other words, once we spell out the repayment implications of different scenarios, students do not have any longer a preference for more generous loans or reintroducing a grant system.

Holding constant the expected repayments, the nominal amount of debt students would accrue on graduation has no effect on students' choices, with or without the information. Furthermore, holding constant the total amount of money to be repaid, students would prefer to repay it over a longer period, i.e. by paying less each year.

Consistent with this, students prefer systems in which they go for a longer period before making their first repayment. An additional year before making repayments increases the probability that an option will be preferred by 2 percentage points, other things equal. These results all reject the idea that students are debt averse, or will bear a cost now to avoid a 'debt burden'. Instead, students appear averse to eroding their disposable income early in their careers. This interpretation remains when we discount future repayments to account for a general preference for consumption now over consumption in the future (see Table A7, Appendix).

4 This calculation assumes that a student weights a pound to be paid years into the future equally with a pound to be paid today. Table A7 in the appendix, shows the results obtained when future repayments are discounted at either 0.7% p.a. (which is the discount rate used for future payments in government finances, reflecting the government's long term cost of borrowing – HM Treasury, 2015, paragraph 2.76) or 2.5% p.a. The magnitude of this coefficient becomes larger but the other parameters of the model are unaffected, showing that the decision not to discount does not affect the overall interpretation.

7 Conclusion and policy implications

In a survey of third year UK undergraduate students, we have shown that although overall knowledge of the details of the student loan system is not perfect, most students understand the key principles of the time-limited and income-contingent system in place. The biggest misperceptions concern students underestimating both the interest rate applied on student debt during study, and the proportion of earnings above the threshold that must be repaid each year until the debt is cleared.

We presented students with a series of hypothetical changes to the system, in terms of differential fees, interest rates, maintenance loans, the repayment regime, and the reintroduction of maintenance grants. Each time, we asked respondents to rate three possible scenarios in order of preference.

Treating each of these questions as a vote on possible reforms, in every case either an absolute majority or a plurality by a substantial margin, put the current system as their first choice. This shows that none of the fiscal-neutral changes to the system considered here are likely to be very popular. One change that our results suggest would be popular, a rise in the income repayment threshold, has already been implemented. Combining students' preferences in all five of these dimensions confirms that students dislike the idea of charging different fees for different courses, either to reflect the cost of running them or (more strongly) strategic priorities.

It is unclear whether students work out the financial implications of the policy changes when voting/expressing their preferences. We find that provision of information about the financial implications of different systems, for example graduates' repayments or total debt accumulated at graduation, has one important effect: students no longer prefer receiving more money from the government to live on during their studies. This indicates that, once students are made to think about the lifetime cost of easing this income constraint, they no longer find this worth it. Finally, we find no evidence to support students' choices being driven by a perceived psychological debt burden.

With respect to the terms of reference for the current Review of Post-18 Education and Funding, our results suggest any move towards a system with different fees for different courses would be unpopular. Students would favour instead a simplified system in which everyone would pay in proportion their income above a threshold for a limited (albeit long) time after they have graduated.

Such a move would enable some changes to the language associated with Higher Education funding. Overall, such a system could be well described as a 'time-limited income-linked graduate contribution'. The terms 'debt' and 'loan' would cease to play a role, and all maintenance support could be reframed as 'grants' or 'allowances', with students' future obligations at the time of graduation depending only on their future earnings and not their parental background. 'Fees' would also cease to represent a price charged to the student, instead it could simply indicate transfers (or advances) from the government to universities. This would preclude the use of differential fees as an incentive to students to take STEM courses, which according to this study would in any case be an unpopular move.

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Appendix

Table A7 shows the results obtained when future repayments are discounted.

Table A7 Fixed effect regressions - implications for individuals, under different assumptions about discounting the future

	1	2	3	4
	Discount at 2.5%		**Discount at 0.7%**	
	No information	With information	No information	With information
	b/se	b/se	b/se	b/se
Annual money from government to live on during study (GBP000s)	0.020***	0.000	0.019***	-0.000
	(0.006)	(0.006)	(0.006)	(0.006)
Stock of debt on graduation (GBP000s)	0.000	-0.002	0.000	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Years until first payment is made	0.020**	0.023**	0.019**	0.023**
	(0.008)	(0.009)	(0.008)	(0.009)
Years until full repayment or write-off	0.030***	0.030***	0.031***	0.031***
	(0.004)	(0.004)	(0.004)	(0.004)
Total repayment made	-0.008***	-0.008***	-0.005***	-0.005***
	(0.003)	(0.003)	(0.002)	(0.002)
N	17,950	17,944	17,950	17,944
N groups	8,996	8,993	8,996	8,993
N individuals	614	614	614	614

*p<0.1 ; **p<0.05; ***<0.01

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