

Deferred fees for universities

Neil Shephard¹

Summary: Each English university should be allowed to introduce its own “deferred fees” on top of the existing national funding structure. Each graduate would only have to pay these fees to its university if their income rises beyond the point of paying off their maintenance and state tuition loans. I show these new fees are fiscally neutral, highly progressive and have no impact on the state or the financial position of the universities which do not introduce such fees. They have the potential to provide a long-run solution to the repeated underfunding of undergraduate education at a number of English universities and reduce the fiscal pressure the state is under.

Key words: deferred fees; education; fiscal challenges; subsidy; university funding

1. Introduction

There is a growing consensus on changing some of the ways undergraduate students are helped to study at English universities. These changes will make the system cheaper for the state, economically sounder and fairer. I will describe these adjustments. However, I think we should go further. A problem with the current system is it does not deliver variable fees which reflect the variable private benefits received by graduates. This constraint hinders competitive forces which can encourage the development of higher quality education.

I think the Government should allow universities to charge their graduating students university-specific “deferred fees”² on top of today’s national tuition fees. Deferred fees are additional teaching fees due to the university. They can be paid to the student’s university either

- i. Optionally upfront by the parents of the student (or the students themselves);
- ii. By the graduate once his/her income rises above a defined threshold and once their national maintenance and tuition loans are repaid.

If the graduate’s income is not sufficient to make the repayments during their career the fee is forgiven. Note the university is not given extra upfront cash above the national tuition fees by the state (one might call these fees “unfunded”). This means that such fees are neutral on the fiscal position of the state and the financial position of the universities which do not introduce such fees.

The structure of my note is as follows. I discuss the current financial model used to fund undergraduate teaching in England. I discuss how this system can be tidied up economically. I then

¹ Professor Neil Shephard FBA is Professor of Economics at the University of Oxford, Professorial Fellow of Nuffield College, Oxford and Director of the Oxford-Man Institute. I thank Philip Booth and a referee for their comments on the first draft of this note.

² Throughout I will discuss per student numbers. The Higher Education Statistics Agency reported in 2007/08 that there were almost exactly one million full time and half a million part time students in English higher education. Of these just under 91,000 are from outside the EU and about 54,000 from the non-UK EU.

argue that once this is done it is possible to introduce university-specific deferred fees. I then draw some conclusions.

2. The current setup

The UK system³ is designed to allow UK students access to full-time undergraduate education in the UK irrespective of ability to pay, subject to getting a place at a university⁴.

Two groups make payments to universities to cover the costs of educating UK and EU based undergraduates at UK universities: the UK Government and, indirectly, graduates and/or their parents. It is important to understand the nature and rationale of each contribution.

The economic rationale for providing students with support from the state is that their education helps not just each individual but also generates *public benefits* more generally (i.e. educating an individual generates positive externalities). If there was no subsidy then collectively the student body may invest insufficiently in their education, damaging each one of them and society. At the moment a student subsidy is paid to UK universities through the HEFCE block grant on a per UK+EU undergraduate student basis: the money follows the student. The level of the grant varies over four price subject groups developed by HEFCE to reflect average costs at English universities.

The economic rationale for charging tuition fees is that graduates receive a *private benefit* from being educated at a high level. This varies, perhaps dramatically, according to the subject being studied and the form of education. Currently there is a “tuition fee” per year paid by the matriculated student, whatever they study. Universities can choose to charge a smaller tuition fee but they do not. Universities are not allowed to charge more than this in effect “national tuition fee”.

Unfortunately the private benefit an individual will receive from higher education is extremely unpredictable in financial terms. This uncertainty could induce many individuals not to invest in education. The UK system reduces this risk by financially *insuring* each student using an “income contingent” device -- graduates will not pay for their education if their incomes turn out to be low. This makes the UK system different from the unsecured US model. Economically it works in the following way:

There is a tuition fee for UK/EU students. The fees are paid to the university upfront in two ways

Schedule

- i. Optionally upfront by the parents of the student or the students themselves⁵;
- ii. By the state through the Student Loan company (SLC). To fund this service graduates who go this route pay the state each year. The payments stop either:

³ The Scottish funding system is different. I will ignore that here for ease of exposition.

⁴ Barr (2004) incisively discusses the literature on this topic.

⁵ I do not have reliable data on the percentage of parents/students who pay upfront. Shephard (2010) discusses the available data and indicates around 15-20% of English students pay up front, while around 60% of EU students do.

- a. after 25 years or at the death of the graduate, at which points it is forgiven by the state, or
- b. once the costs to the state of providing the maintenance and tuition support to the student have been recouped.

Currently the payment rate to the state is 9% of income above £15k⁶ and the interest rate charged is the rate of growth in the Retail Price Index⁷.

Notice Schedule ii depends upon the income of the graduate through their lifetime, not at all on parental income. Instead the payments by graduates are more like a limited income tax for graduates⁸, which cannot be avoided by leaving the UK.

Tuition fees are pretty simple. Maintenance is not. It has: parental contributions, grants, means testing, income contingent support and bursaries. I will focus solely on income contingent maintenance support. Students who take up income contingent maintenance support receive some upfront cash from the state and once they become graduates they pay through time if and when they become prosperous. Maintenance support is paid for by graduates on the same basis as tuition, through Schedule ii. The economic rationale for this maintenance support is the same as for tuition fees.

At this point it is helpful to introduce some quantification. In 2008/2009 national tuition fees for the cheapest subjects were £3.2k per year while the corresponding maintenance support is up to £4.9k per year (outside London). Taken together this is £8.1k a year. Barr and Johnston (2009) report that a typical figure for graduates is currently slightly less than this in practice: they cite a cost of £6.7k per year. I will use the last number in some of the calculations below.

The state provides support for funding the gross private cost through:

- i. Insurance. The state takes on the graduate's financial risk of paying the gross private cost through income contingency. This is an excellent feature of the scheme.
- ii. Rate Subsidy. The state charges interest below base rate, the price the state can borrow at.

This means that in the long-run the state funds part of the gross private cost. The scale of this support can be seen from the net present value of the Insurance and Rate Subsidy. This has to be estimated from empirical data. Barr and Johnston (2009) show how to do this and I follow them. More details are given in Shephard (2010).

Table 1 provides a summary. It shows a 35% loss on each pound loaned, with the majority given to quite prosperous graduates. This is due to the Interest Rate subsidy. The poorest graduates benefit from the Insurance and they pay back little of the costs of their education – which is how it should

⁶ Throughout I assume this number inflates through time with average real wages.

⁷ During 1949-2008 the average base rate (basically the Government's cost of borrowing) was 6.97% and RPI inflation was 5.76%. The spread is 1.2% for the post-war period, while for 1976-2008 the spread was 2.86%. Real weekly wages grew yearly at 2.3% on average from 1949-2004, although average real hourly wages only grew at 1.8%. These figures are derived from Castle and Hendry (2009).

⁸ Graduate taxes are the special case where the level of tuition fees payable by the graduate are infinitely large, no reductions is made for scholarships, early repayments or grants and the only people liable to pay them work in the UK. None of these additional features is a good idea, the latter four for obvious reasons. The former is problematic as it provides a disincentive for financially confident students to study in the UK, for their education here could turn out to be extraordinarily expensive.

be. As around 20% of students pay upfront, the cost of the loaning facility is around 28% of all student tuition fee and maintenance costs. Hence, with a gross private cost of £6.7k per year we estimate the average loss on the loan is £1.9k per year per student.

	<u>Losses to the state per student using Schedule ii</u> Borrowers: ranked by life term earnings, 0-20 being the highest 20% of earners						Loss: Including upfront	PSBR	RAB
	0-20	20-40	40-60	60-80	80-100	Mean			
							Overall		
Now	£1.3k	£1.6k	£1.6k	£2k	£5k	35%	28%	£2.7k	£1.9k
Barr's proposal	0	0	0	0	£5k	15%	13%	£2.7k	£0.8k
Barr + removing HEFCE grant	0	0	0	£1.6k	£8k	21%	17%	0	£1.6k

Table 1. Subsidies by quintiles of graduate's lifetime earnings. "Overall" includes the impact of upfront payment.

In the public accounts these estimated losses are immediately added to the Resource Accounting Budget (RAB), which is the state's committed non-cash educational spending. Then roughly 1/25th of this RAB is drawn down each year and appears as cash spending in the accounts in the year of the draw down. Hence reducing the Rate Subsidy only marginally improves the current PSBR, but it does very significantly improve the public finances over the long-run as under current policy the RAB will cumulate up to a large number. This is discussed at some length in the Appendix to Barr and Johnston (2009). Thus the first row of Table 1 indicates an RAB loss of around £1.9k a year together with the HEFCE grant of £2.7k. Hence the state pays on average £4.6k per student per year. Most of this ends up supporting prosperous graduates.

3. A nearly consensual change

A near consensus has developed that the funding of HE would improve if the Rate subsidy was removed. The leading advocates of this include Barr (2004), Barr and Johnston (2009) and Laidlaw (2009). The usual way of doing this is to move the interest rate up to base rate. The affect of this is given in the second row of Table 1, under the heading "Barr's proposal". The PSBR does not change but the RAB falls considerably, which helps the HE budget in the long-run. In terms of distributional impact, it protects entirely poor graduates, but other graduates pay considerably more as they become prosperous and age. They do this by paying the same each month but for longer. Hence this change does not affect young graduates or poorer graduates.

In order to reduce the current PSBR the only available option is to reduce the HEFCE grant. Clearly this is much more controversial. To stabilise universities after this move tuition fees would have to rise. An extreme version of this is given in Table 1 under the heading "Barr + removing HEFCE grant" where the HEFCE grant is set to zero (I assume HEFCE's subject premiums would continue, to help

fund the additional costs of subjects like physics⁹) and national tuition fees rise to £6k a year. The state still subsidises HE but now solely through picking up the Insurance costs. The PSBR falls to zero and the RAB down to £1.6k. A virtue of this approach is that it reduces the need for the state to ration the number of university places, for increasing student numbers will have no PSBR and little RAB implications. Further, income contingent support may be extended to part-time and post-graduate students.

Shephard (2010) suggested a somewhat more attractive route. He suggested charging base rate plus 0.5% and then reducing the payment rate down to 7%. This combination would considerably reduce the RAB compared to now, as well as allowing young graduates and poorer older graduates to pay less per month. The sole losers would be older prosperous graduates who would pay less each month but for longer.

4. A new proposal: deferred fees

In addition to these reforms, I believe universities should be given the right to charge a university-specific “deferred fees.” The fees can be paid to the university in two ways

- i. Optionally upfront by the parents of the student (or the students themselves);
- ii. By the graduate once his/her income rises above a defined threshold and once their national maintenance and national tuition loans are repaid.

The majority of students will go through route ii. They pay nothing up front but as the graduates become prosperous they pay their fees and this is collected by the SLC¹⁰ who pass it on to the university. I will discuss how the level of these additional fees might be set in a moment.

As fees would vary across the university sector, it would make sense for the income streams each university receives to correspond to the repayments its graduates make. This is very important. An alternative is to pool these fees nationally and fund the universities in proportion to the face value of the fees as the country’s graduates start to pay them during their careers. This encourages universities to boost their fees (and so have very substantial face values of tranches of debt), simply to produce a higher percentage of the pool, even if none of its graduates make any repayments. This is a classic free rider problem. This national share scheme is a recipe for high fees and should be avoided.

As a person working at a university I find the university owning the future fee income attractive. The university would be investing (i.e., teaching without demanding upfront payment) in the future

⁹ There is a good argument to remove some of the premiums for professional education in Dentistry and Medicine and move that over to being charged as a subject specific state tuition fee with income contingent financial support.

¹⁰ In this paper I assume the SLC is the university’s agent to collect these realised deferred fees through time. This has the virtue that this would be inexpensive to run. Deferred fees would also work if the university ran their own collection service or outsourced it. This would have three advantages: (i) it would be clearer that the state is not involved at all with deferred fees, (ii) it would encourage the university to keep in contact with its alumni, (iii) if the service is poor then the service provider could be changed. The disadvantage is that it might be costly for the university to run this service.

prosperity of its graduates, while looking after those that do not have high future incomes. This reduces the risk of graduates who have invested in high quality education. The summary might be: "A university should teach now, its graduates should pay it if and when they can afford it".

5. Deferred fees, incentives and the fee cap

Universities currently determine the level of tuition fees up to a maximum of £3.2k, yielding a total income per student of around £6k per student per year. In practice all universities selected the maximum fee. This clustering is interesting: why does it happen?

It could be that this is because all universities run their teaching at significant losses. But there does not appear to be any significant evidence that this is true. It could be that each university feels that the demand for its places is rather inelastic as a function of tuition fees. This could be because the average graduate only pays half the long-run cost of the fees or that some students regard the level of fees as a signal of the quality of the course. Of course whatever the fee, up to the level of the cap, the university will get their declared fee in cash up front from the state, even if its students cannot afford to repay the state's loan during their career. So the university will gain from high fees and the university's students will not lose much due to the state's subsidy. Hence universities have a strong positive incentive to have higher fees and students have a very weak incentive to select another university to try to lower their fees.

This suggests that if the state were to increase the current fee cap of £3.2k nearly all universities would set their fees at the fee cap, unless the cap is increased very significantly.

If on the other hand we had deferred fees, then the university will only get additional income if their students become prosperous in the future (i.e. above average graduate earnings). If fees become unaffordable the university will not get any income anyway, so having high fees is pointless and off-putting for some potential students. Instead there will be more variety, more reflecting the actual costs faced by each individual university to educate its students in the manner it and its students think best. Further, the state's subsidies to graduates will not go to the universities with the highest fees, a rather strange feature of the current scheme. Instead each English graduate will receive the same national subsidy: a tuition grant and state income contingent loan for maintenance and national tuition. This seems fairer to students.

6. Who pays deferred fees

Table 2 shows who would end up paying deferred fees and how much universities would then receive on average. With deferred fees of £3.3k a year then on average universities would receive £2.1k per student, while with £6.6k the gain would be £3.6k per student. The groups that would pay are exclusively in the upper half of the lifetime graduate earners. Poorer graduates pay nothing. This is a highly progressive addition to the current scheme (and is even more progressive if the HEFCE grant was removed and national tuition fees were increased to compensate for this).

Base rate+0.5% Payment rate 7% National gross private cost=£20k	Upfront Payers (20%)	How much would each group pay their university.						Univ specific gain: Including upfront	Univ specific revenue
		Ranked by life term earnings, 0-20 being the highest 20% of earners							
University-specific deferred fee		0-20	20-40	40-60	60-80	80-100	Mean	Overall	
£3.3k	£3.3k	£3.6k	£4k	£1.6k	0	0	56%	64%	£2.1k
£6.6k	£6.6k	£7.3k	£5.3k	£1.6k	0	0	43%	54%	£3.6k

Table 2. Additional income to the average university of different levels of university specific deferred fees. Assumes a payment rate of 7% and an interest rate of base rate plus 0.5%.

Of course the universities which gain most are those with graduates with high lifetime earners. But that is how it should be: they are the universities which produce graduates most able to pay.

As deferred fees sit on top of the national system, they are the most junior claim on any revenue from the graduate. Hence, except for upfront payments by parents/students, universities would have to wait significant time to receive these payments. This may be disappointing to the university sector, for they are only receiving around 50% of the face value of their deferred tuition fees and half of that is at a significant delay. But this is because many of their graduates cannot afford to pay. Of course the profile for universities with high numbers of financially successful students will be much better than this and that is why they – but not all universities – would have an incentive to charge these fees.

The state could help universities move some of the later payments forward without it costing the state anything in the long run, by rearranging the maturity of its own loan book in the short run. What I do not know how to do is to increase the total amount going to universities in the near term without either the state paying more (which looks unlikely at the moment) or the graduate payment rate increasing well beyond 7% which I think is not affordable by the graduates.

7. Other issues

Managing the income flow. The income stream from deferred fees is uncertain, much as income from an endowment is. I would hope universities treat it like an endowment, spending the income as it comes in. However, it is possible to capitalise the income immediately by selling the uncertain stream to a bank or the state. An alternative is to sell a bond whose coupons match the estimated income stream and then for the university to take the risk that it under estimated the income stream. This latter approach, if carried out at an extremely aggressive level, may threaten the solvency of a university. To discourage this the state should say it will not bail out universities who in effect speculate or regulate the degree to which this income stream can be used for this purpose.

What benefit now? A number of colleagues have commented that fee rises are usually thought to help current students by giving them better teaching, while deferred fees will aid students in the

future. Surely it is unfair to current students to ask for more when they will not benefit? Under deferred fees, students would partially benefit as some will pay upfront. But more generally, this point of criticism is only true if the university is breaking even on undergraduate education. If it is significantly losing, then not allowing deferred fees will potentially damage the ability of universities to provide high quality education in the future.

Sterilising the incentive to admit the wealthy. With deferred fees universities financially benefit from students who pay up front. But the ability to pay up front is not something the university has created. This note has been about rewarding universities for creating private benefit amongst its students. Further, this setup may, on the margin, encourage universities to offer places to the children of the wealthy, which would be a bad outcome. What to do? Leading US universities also have this incentive problem and they apply a needs blind system of making offers which seems to me to be the first best approach. An alternative is to sterilise the financial gain in the following way. Suppose nationally on average 20% pay up front, but at my university 40% do, while after 25 years in all 80% of my students have managed to pay the deferred fees. Then of the 60% who did not pay upfront, 66% did pay the fees. Perhaps the university should keep only $20\% + 0.8 \times 66\% = 73\%$ of the face value of the fees, rather than 80%. I will leave unanswered what to do with the extra 7% the university did not really earn. It is striking how small this number is.

8. Conclusion and policy recommendations

The financial position of the UK Government suggests that our university sector may have its funding squeezed. One way of helping is to swap HEFCE grant for tuition fees which are charged at a sensible interest rate. Unfortunately this does not allow universities to be rewarded for producing high private benefits as there is no variation in fees.

I propose that universities that wish to significantly increase their fees be allowed to do this in the form of a deferred fee. This would mean that increasing fees would have no impact at all on the state, universities which do not raise fees, on the young or on poor graduates. This would deliver a new income stream for universities, directly related to the future financial success of their own students.

References

- Barr, N. (2004) "Higher education funding," Oxford Review of Economic Policy, 20, 264-283
- Barr, N. and A. Johnston (2009) "Interest subsidies on student loans: a better class of drain," Unpublished paper, Department of Economics, London School of Economics.
- Castle, J. L. and D. F. Hendry (2009) "The long-run determinants of UK wages, 1860-2004", Journal of Macroeconomics, 31, 5-28.
- Friedman, M. (1955) "The role of Government in education," in A Solo (ed), Economics and Public Interest, New Brunswick, NJ, Rutgers University Press, 123-44.

Friedman, M. (1957) "Capitalism and Freedom," University of Chicago Press.

Krueger, A. and W.G. Bowen (1993) "Policy watch: income-contingent College loans," Journal of Economic Perspectives, 7, 193-201.

Laidlaw, S. (2009) "Stronger Together: business and universities in turbulent times," report of the Confederation of Business and Industry's Task Force on Higher Education.

Shephard, N. (2010) Submission to the review on "Higher education funding and student finance," www.oxford-man.ox.ac.uk/~nshephard/submissionto140110.pdf .