



**Mastering
postgraduate
funding**

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About the author

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■ Executive summary

Postgraduate education is largely ignored in British policy making circles. Ministers give few speeches about it. Think tanks and journalists neglect it. The NUS barely mentions it. There are relatively few grants, and no system of income contingent undergraduate style loans in place to allow people to take these courses. The number of British students undertaking a master's degree is around 80,000 a year – a number that is rising only very slowly.

Britain should want to see more people study at postgraduate level. We want everyone to be able to succeed to their fullest extent. We know it makes sense to better educate our population in a world in which skills are ever more important for our national prosperity. Master's degrees have a higher rate of return for individuals and government than any other type of degree.

The current system is not working. While foreign students are flocking to join our graduate courses, our own students are not joining them in sufficient numbers. In particular, those without independent means struggle to pay their course fees and to cover their living expenses while studying. That is bad both for national income and for social mobility, as those who are unable to pay are excluded.

There are also broader repercussions. A less skilled workforce means a less successful economy. That in turn means lower tax revenues and worse public services.

Both the previous and current government have thought a lot about how to ensure access to undergraduate education even when government budgets are constrained. This has led

them to create and expand a system of income-contingent loans for university students studying for undergraduate degrees. No-one has to pay anything upfront, and repayments are reduced and eventually forgiven if their earnings after graduation are low.

This paper proposes creating a new system for financing one year taught postgraduate degrees. This would run alongside the current Research Council scholarships, which are aimed primarily at people starting courses that lead to doctoral study.

The system proposed here is based on that used for undergraduate loans. The government would loan prospective students £10,000 up front, and reclaim it later as income contingent payments via the tax system. To ensure that the government received virtually all the money it had advanced, repayments would begin when the former student was earning £15,000, rather than £21,000. This means that those taking out this loan would repay £540 a year if their income was £21,000 or more, and should therefore be able to repay the £10,000 comfortably over the following 30 years.

Simulation modelling shows that the majority of students would pay back the entire loan after they had graduated. Some students, of course, will not. Some will die or become disabled; others will work part time or care for others. But the simulation exercise – using the government’s own loan repayment “ready reckoner” shows that the losses per student that the government will make are likely to be measured in the hundreds rather than the thousands. Furthermore, any such losses are likely to be outweighed by the higher tax revenues from students who would not otherwise have undertaken post-graduate level work.

It is therefore possible to create a system that hugely increases access to graduate programmes for those who are capable of benefitting from them, without incurring any significant amount of government expenditure over the medium term. There is, therefore, no reason why the British government should not step in to correct failures in credit markets by

offering loans to would-be graduate students. By doing so they will increase the trend rate of growth in the economy, and increase social mobility. This paper sets out how to do this in more detail.

■ Introduction

Much has been written about how we finance undergraduate study in the United Kingdom, and particularly in England. The new fee regime has seen grants from government to universities fall, and fees rise. Government provides income contingent loans to prevent – or at least try to prevent – any adverse effects of higher fees on access to university.

In contrast, virtually nothing has been written about postgraduate study.¹ It simply does not capture the public's imagination. The number of column inches devoted to it in general newspapers is small. The number of speeches given by ministers on the topic is minute. Questions are not asked in the House. People do not protest on the streets about the lack of support for postgraduate education. It is seen as a non-issue. Even the Browne report, whose terms of reference explicitly required them to look at funding and student finance for postgraduate students, essentially declined to do so. Only one page of Browne's 60 page report is devoted to postgraduate study.² It is likely that the current Employment and Skills Review will concentrate on lower level skills, when it should also include skills of all types, including master's education.

The Department for Business, Innovation and Skills demonstrates relatively little interest in Postgraduate education. The 2011 Higher Education White Paper contains

1 In March 2010 the government published an independent report on postgraduate education "One Step Beyond: Making the most of postgraduate education". It was not widely noticed, although the Times Higher Education was scathing. www.timeshighereducation.co.uk/story.asp?storycode=411144. An honourable exception is Nick Barr, whose evidence to the Browne Review is consistent in including references to postgraduates, and in arguing for their inclusion in a loan scheme.

2 The Browne report: Securing a Sustainable future for higher education

230 paragraphs, of which 11 mention postgraduate degrees. It notes that “Professor Sir Adrian Smith’s Postgraduate Review Group reconvened in spring 2011 to advise on this issue”, but it is understood that this group met only once, and that there are no plans for it to meet again. Its advice was that “Currently, there is very little data available about who undertakes postgraduate study” and that government should “ask HEFCE to consider as part of their review what additional data should be collected about postgraduates.”³ Yet it should be an issue, because it matters tremendously for Britain’s future. A Master’s qualification adds 9% to lifetime earnings, compared with having a first degree.⁴ As a result, around the world, more and more people are staying on to study for a postgraduate degree, particularly for one year taught master’s courses. In Britain, around a quarter of all undergraduates already stay on for postgraduate study, although the number is increasing only slowly.⁵ 77,681 UK domiciled students started a taught master’s degree in 2007, the latest figure for which data are available.⁶

Britain is highly successful in offering graduate courses, with very large numbers of foreign students coming to Britain to study at graduate level. Foreigners know that our courses are worthwhile, and flock here in large numbers.

Although the government funds a proportion of science courses via grants to universities, all postgraduate degrees have course fees that must be paid upfront by students. Fewer than 1 in 20 UK master’s students are awarded a government grant to cover fees and maintenance.⁷ There are no income contingent loans available to cover the fees, and the subsidised loans that are available are, as we shall see, very expensive and have onerous repayment conditions. If we are concerned that the existence of tuition fees will

3 Students at the heart of the system, paras 1.32-1.33

4 The Returns to Higher Education Qualifications, p. 15.

5 Zimdars, “Testing the Spill-Over Hypothesis” p. 1, from HESA statistics.

6 HEPI and British Library, Postgraduate Education in the United Kingdom, Table 3, page 10, based on HESA data. An additional 4,336 students commenced research master’s degrees.

7 Communications from Research Councils, see below. The government pays teaching grants directly to universities for a very limited number of programmes.

reduce access to university at undergraduate level, then we should be very worried indeed about the current state of postgraduate education and funding.

This paper sets out a proposal that would increase access to taught postgraduate study. It builds on the existing income contingent loan system that already exists for undergraduate study. It does so in such a way that the government would recover the vast majority of the funding that it advances to students. Using the government's own calculation methods, we estimate that the losses would be at most 13% of initial expenditure, and probably half that. This is on a "net present value" basis, and takes into account the initial financing costs that government pays when it lends money upfront and recovers it years later. These losses would be more than covered by additional tax receipts on the higher incomes that will be earned. The short term costs would be well within the ability of government to borrow without raising the cost of borrowing or spooking the markets. The system is also progressive, with the poorest students paying least in absolute terms, although the vast majority would simply pay back what they had borrowed.

University funding is a devolved responsibility in the United Kingdom. For that reason this paper sets out the position for England. We would urge the other constituent nations of the United Kingdom to consider equivalent schemes. We note that their ability to borrow is more constrained than that of the United Kingdom as a whole, and that, therefore, schemes brought forward for the other constituent nations would need to be negotiated with the Treasury.

Taught postgraduate degrees in England

Taught postgraduate degrees refer to "Master's degrees", generally termed "MSc" or "MA". These typically take either 9 or 12 months, usually beginning at the start of the academic year. In addition, there are a limited number of 2 year taught masters programmes, such as Oxford's range of MPhil degrees. Master's degrees may or may not include formal research training suitable for those who plan to study for a

PhD. Taught master's programmes are much more popular than postgraduate research degrees, such as PhDs.⁸

Why do people undertake a master's degree?

Master's degrees come in all shapes and sizes, and students undertake them for a variety of reasons. In some cases students simply love the discipline that they have studied at undergraduate level, and wish to study it further. Very often this takes the form of wanting to specialise in a particular aspect of their undergraduate course – an engineering student taking a master's degree in biomedical engineering, for example.

In other cases we see students who decide to broaden their skill set. We see students of English taking courses in international relations, historians taking courses in development studies, and mathematicians studying economics. Sometimes the change reflects their intellectual development – the course that they choose to study aged 21 is simply not the course that they chose at 18. In other cases they are aiming to study something that they think will serve them better in the job market, with a set of skills that employers appreciate.

Some graduates undertake further study in order to gain a degree from a more prestigious university. At eighteen, students' selection of universities, and universities' selection of students is far from perfect. People end up in places that prove not to be in their best long term interests. For example, some discover that a good degree from a less prestigious university is not as valuable as the good degree from a top university that they are in fact capable of obtaining. Undertaking a master's degree can be a way to prove that they can cut it at a more elite educational level.

Finally, some students undertake a master's course having performed less well at undergraduate level than they could have done. Their degree transcript does not reflect their ability. This can be because they had a "bad week" – particularly if they attended a university that puts a large

8 Sastry, Postgraduate Education in the United Kingdom, 2004, p. 6

amount of weight on final exams. Equally, if they attended a university that gives significant weight to work undertaken in all three years, marks in their early years can drag their final grade down. This is particularly true for students who did not work hard initially, believing, erroneously that they could have fun and make up for it later. They “grew up” while at university, but need a master’s degree to prove that they are mature enough to work hard and get the results they are capable of obtaining.

Undertaking a master’s degree can therefore serve a wide range of purposes. In some cases students will aim to deepen their existing stock of human capital. In other cases they will be aiming to widen their human capital, in related or unrelated ways. In other cases these things will be subservient to issues of certification: they simply want a piece of paper. But whatever the aims, their human capital will be enhanced as they study.

The vast majority of academics will tell you that teaching graduate students is different. This is true even in elite universities where the overwhelming bulk of undergraduate students are capable of graduate level study. Graduate students have more experience of learning how to learn at university level, simply because they have been at university for longer. Since they are more able to learn, they learn more per week of study. They are also more focused – undertaking a master’s degree is a conscious decision, rather than something undertaken almost automatically. A one year degree programme also concentrates the mind. Students are older, and to some extent they have “been there and done that” when it comes to the classic student experience. They are also paying fees upfront. A sprinkling of mature students, with a few years’ experience in the labour force, is helpful here. There are far fewer missed essays, and feeble excuses. Graduate students usually have some experience of the labour market as well – even if it is only the experience of being unsuccessful in applying for graduate level jobs to spur them on to better things. Finally, there is an equilibrium effect. Learning is a cooperative process, in which the amount

learned is related to the students' ability and willingness to learn, the ability and willingness to learn of others on the programme, as well as the ability of the faculty and the facilities available. This means that students learn more when they are bright and hardworking, and are surrounded by others who are bright and hardworking. This is what happens at graduate level, which is why it is reasonable to believe that taught master's courses are extremely effective at developing human capital.

The material taught at graduate level is not, in the main, directly vocational. Clearly there are vocational courses, but the courses offered are generally related to the subjects offered at undergraduate level. As with so much of education, that which is being taught is not "training" for something specific, but is instead training people to stretch their minds in ways that are useful in a range of activities that they will undertake later in their lives. Students are learning how to think more quickly, more imaginatively, more appropriately.

Insofar as market signals are an appropriate way to judge the effectiveness of a graduate education, the evidence is that graduate level education is successful in enhancing people's human capital. Using the Labour Force Survey data as a basis, LSE researchers have estimated that a master's degree adds 15% to lifetime earnings, compared to people whose highest qualification is a first degree.⁹ The Government's estimate of graduate earnings – taking into account unemployment, part-time work, premature death and disability – suggests that the average graduate will earn £1.375m over the first 35 years of their working life alone. It follows, therefore, that a 15% premium represents a rise in the person's income of at least £200,000, provided that the person undertakes the master's degree early in their career.¹⁰ There is, in reality, no reason to believe that the premium will cease after 35 years, as career paths continue beyond that date. Incomes levels are likely to be higher even after retirement, as those who

9 Machin and Murphy, *The social composition and future earnings of postgraduates*, Sutton Trust, 2010

10 BIS Student Loan Repayment Ready Reckoner, worksheet "repayment calculation", average of values in column B.

are affluent when of working age usually have better pension provision.

The government has recently published estimates of the rate of return to higher education. Researchers at London Economics, using data taken from the labour force survey, find that a postgraduate degree generates a net post-graduate premium of £59,000 for men and £42,000 for women.¹¹ This figure is net in four senses. First, it takes into account the year of “lost” earnings, while the individual is not earning. Second, it takes into account the fees that are paid. Third, it is net of taxes. Fourth, it is “net” in the “net present value” sense, that is, a graduate degree is equivalent to being given the sums listed here on the day of graduation.

In addition to the benefit to the individual, the London Economics researchers also estimate the benefits in higher income tax and national insurance revenues received by government. The figures are again given as a net benefit, and amount to £67,000 and £44,000 for men and women respectively.¹² The total is therefore £126,000 and £86,000 respectively, again on a net present value basis. Given that they use a 3.5% discount rate, these results imply a gross benefit of around £200,000, in line with the results found by the LSE researchers.

There is also evidence that the premium from a graduate education may be increasing. Data for recent graduates, looking at earnings six months after graduation, show that people with a first degree typically earn £19,000, whereas those with master’s degrees typically earn £23,500.¹³ Thus we find that those with master’s degrees earn almost a quarter more. This gap is broadly preserved after three and a half years in the labour market.¹⁴ The chance of someone with a master’s degree being unemployed six months after graduation is about half the figure for someone with a first degree.¹⁵ It is plausible, therefore, that the 15% premium,

11 Returns p. 62

12 *Ibid.*, p. 71

13 One step beyond, p. 94

14 *Ibid.*, p. 30

15 *Ibid.*, p. 29, table 7.

based on experience of past graduate students, will underestimate the premium of future graduate students as their careers progress.

These findings are in line with the international evidence. We have particularly good evidence for the United States, where the US Census includes asking people both about their educational qualifications and their earnings. The US Government Bureau of the Census reports with a considerable degree of accuracy that a master's degree is associated with annual earnings that are 21% higher.¹⁶ The premium is slightly greater for women than for men. It has been risen steadily over time, having been 19% a decade before, and having risen dramatically in the 1980s.¹⁷

These results, and the direction of change, are plausible. We know that modern developed country economies are characterised by "skill biased technological change", which means that the most highly skilled are most likely to benefit from new technology. The issue here is not one of inventing the technology, but being able to use it effectively. In particular, highly skilled people are more likely to be able to think through the implications of new technology for individual sectors of the economy. An example would be the application of new information and communication technology to stock control, online ordering and booking, and so on.

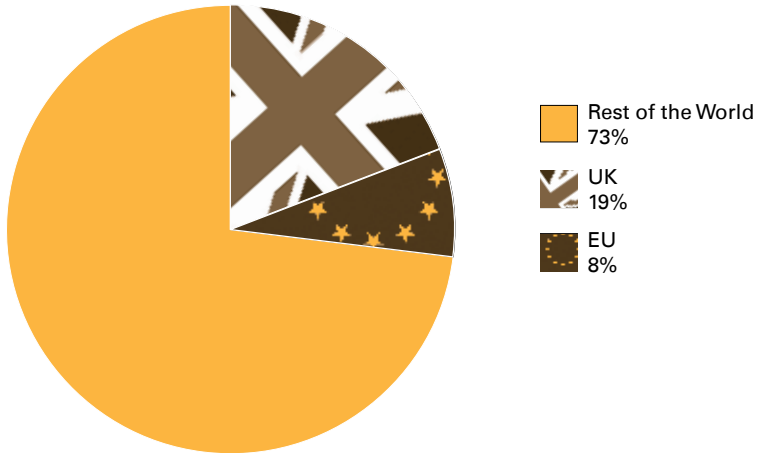
Skilled people are also better placed to change their role as the economy changes. We can also see how this works in the recent recession. The evidence shows that cities with a high proportion of well-educated people have been hit much less severely than cities whose population contain a lower proportion of such people.¹⁸ People with high levels of qualifications are not only likely to have higher incomes in

16 U.S. Census Bureau, Statistical Abstract of the United States: table 228. Excludes professional degrees, such as MBAs. This figure cannot be directly compared with the 15% figure for the UK as that figure is for lifetime earnings and takes into account the year away from the labour market. We would need to reduce the annual figure by 1-2% to take account of this.

17 US Census Bureau, The Big Payoff figure 1, p. 2 and figure 2, p. 3. Again, these figures exclude MBAs and other professional degrees.

18 Overman, "How did London get away with it?" March 2011

Figure 1: Where have the extra postgraduate students come from?



Source: One Step Beyond, pp. 27-8, figures from table 7.

the short run, but be more likely to maintain high incomes in the light of future technological and economic changes.

What is happening to the number and type of people taking master's degrees?

We have seen that master's degrees are hugely valuable to those who undertake them. We should therefore find that the number of students undertaking master's degrees has increased over time, perhaps dramatically. Yet the number of UK students undertaking postgraduate education has risen only fractionally in recent years. Between 2002-3 and 2007-8, for example, the number of people starting a postgraduate degree at United Kingdom Higher Education Institutes rose by 29,155.¹⁹ Of this increase, just 5,599 were UK students. This means that more than 4 in 5 of the additional master's students were not from the UK, and that the number of UK students increase by just 1,125 per year, a trivial proportion of the number of UK graduates who could potentially stay on and undertake graduate study.

¹⁹ One step beyond, p. 27, table 7.

The terms of reference for the Browne Review of Higher Education included investigating postgraduate funding and finance. As we have noted, their report devoted just one page to the issue. The Browne Review concluded that “there is no evidence that changes to funding or student finance are needed to support student demand or access”.²⁰ Even in the light of the inadequate evidence base, this conclusion represents breath-taking complacency. This is particularly true given that the current system violates four of the Browne Review’s six core principles – that more investment should be made available, that everyone who has the potential should be able to access relevant courses, that no-one should have to pay until they start work, and that payments should be affordable. Rather than seeing postgraduate education as being an unalloyed success, we view the very limited rise in the number of students as cause for real concern. At very least Browne should have commissioned research in this area.

There is very little research undertaken that seeks to understand why undergraduates with good first degrees do, or do not, stay on to undertake graduate study. The recent review of postgraduate education noted that “there is little in the way of robust evidence on whether the cost of postgraduate study and the lack of student support prevents those who would otherwise have pursued postgraduate education from doing so”.²¹ It did however note that “a substantial amount of anecdotal feedback to this review – from both students and HEIs – argued that the cost of postgraduate study and lack of postgraduate student support does restrict access, and that this is the case at master’s level in particular.”²²

This is reinforced by the 2006 report by the National Postgraduate Committee, in conjunction with the Prospects website. They surveyed prospective and current postgraduates and found that financial concerns were the single most important reason why people did not want to stay on for further study.²³

20 Browne Review Report, p. 54

21 One step beyond, p. 48

22 Ibid, p. 48

23 Ibid, p. 48

If it is the case that financial concerns are the reason that many people do not undertake a graduate degree, then we should find that the postgraduate student body is highly skewed by social class, with people from poorer backgrounds disproportionately excluded. We do not have good sector-wide evidence on the socio-economic make-up of those studying for postgraduate degrees.²⁴ The lack of evidence is hugely problematic for understanding the extent to which social mobility is curtailed by financial constraints on postgraduate study. The only evidence we have is a 2007 study of postgraduates starting courses at Oxford. This found that just 3.3% of such students came from working class backgrounds. This partly reflects the fact that people from working class backgrounds will have fallen behind earlier in their educational careers.

Nevertheless, the researchers found that those from professional backgrounds are more over-represented at postgraduate level than at undergraduate level, suggesting that access to private sources of finance was useful in allowing people to stay on. Wakeling and Kyriacou have found that mature students from poorer backgrounds are particularly likely to be “missing” from postgraduate study, compared with those from more affluent backgrounds.²⁵ This is reinforced by data presented in the Browne Review, which show that privately educated undergraduate students are a quarter more likely to stay on for further study than are state school educated undergraduates.²⁶

There is, therefore, some indirect evidence that a lack of financial resources prevents people from staying on to undertake graduate study, and that people from poorer backgrounds are less likely to be able to undertake a graduate degree. Access – and lack of access – to graduate study is likely to widen inequality and magnify the inter-generational transmission of wealth and opportunity.²⁷

24 See *ibid.*, pp. 49-51 for a discussion of the (weak) evidence base. Sastry Postgraduate Education also commented on the lack of a strong evidence base.

25 Wakeling and Kyriacou, *Widening participation from undergraduate to postgraduate research degrees: a research synthesis*

26 Browne Review Report, p. 54,

27 Zimdars, *Testing the Spill-Over Hypothesis*, p. 14

Although the evidence base is weak, that evidence that is available, along with common sense, tells us that cost plays a part in explaining why the total number of graduate students has not increased, and why the social backgrounds of those undertaking graduate study are overwhelming characterised by affluence.

How postgraduate degrees are financed

To understand why the cost of a graduate degree might be off-putting to people whose long term income trajectories are very positive, we need to understand how graduate education is financed. Master's degrees in Britain are – in theory, and occasionally in practice – jointly funded by the government and by individual students. The reductions in the government's general teaching grant to universities means that government funding is falling rather than rising. The government's method of funding master's education is to give a block grant to universities, in broad proportion to the number of graduate students. Universities then have considerable discretion as to how to spend it. The government calculates the size of the block grant by estimating the amount that it believes a graduate degree should cost, and then subtracting its estimate of the fees that will be paid by students on the course. It then gives universities the difference, multiplied by the number of students. In the case of master's degrees that do not involve laboratory or field work, the Higher Education Funding Council for England calculates that the degree should cost a university £3,951 to provide. It estimates that universities will typically receive fees from students of £3,951.²⁸ It therefore pays the university the difference – which is nothing at all – in grant. In the case of laboratory based subjects (science, engineering, technology and pre-clinical medicine and dentistry) the grant is still relatively small at £2,766, with an intermediate grant of £1,185 payable for courses with some laboratory elements.²⁹ Only for clinical medical, dentistry and veterinary courses is government support meaningfully large, at £11,853 per student.

28 HEFCE Guide to funding, p. 33, table 3

29 Ibid, p. 23, Para 74a

In addition, the government pays fees and maintenance for some students to undertake a master's degree. These are intended primarily for students undertaking a master's degree as a preliminary step towards undertaking a PhD. The grants are administered by the research councils, and are highly competitive. Only around 4,000 master's degree students across the country receive such grants.³⁰ This amounts to fewer than 5% of students on master's degrees, and will be awarded primarily to students on research master's degrees, rather than taught master's programmes.³¹

The government also sponsors the creation of "Professional and Career Development Loans".³² These are offered by the private sector, but are subsidised by the government. They have an interest rate of 9.9% a year, but the government pays the interest on the loan for the duration of the course, and for one month afterwards. A maximum of £10,000 can be borrowed, but only 80% of any course fees may be covered by the loan. The loan can also be used for living expenses. Repayments are spread over one to five years. Even if the loan is spread over the maximum five years, the repayments on a £10,000 loan come to over £200 per month, starting one month after graduation. Repayments are not income contingent, and must be made whether or not the graduate is in employment. This makes them much harsher than student debt. The loans are available to anyone undertaking any form of "work related learning", and are not intended primarily for people taking master's degrees. Indeed, the guidance to would-be applicants discourages young graduates wanting to undertake a master's degree from applying for a PCDL,

30 AHRC 1336, BBSRC 635, ESRC 600, MRC 145, NERC 285, STFC 220, EPSRC were not able to provide figures as they provide block grants to institutions rather than fund a specific number of students. The total excluding EPSRC is 3221. An unknown proportion of these grants are awarded to non-UK European nationals. Sources: AHRC, BBSRC, email correspondence, ESRC: www.esrc.ac.uk/funding-and-guidance/guidance/postgraduates/doctoral-training-centres.aspx MRC: www.mrc.ac.uk/Fundingopportunities/Applicanthandbook/Successrates/Applicationsuccessrates/index.htm, NERC: www.nerc.ac.uk/funding/available/postgrad/awards/masters/2009.asp, STFC: <http://www.stfc.ac.uk/webstatistics/stfcStatistics.aspx?m=Studentships> and Grants page, EPSRC: phone correspondence.

31 One step beyond, p. 21, compare also the number of grants recorded here with the number of UK students given above.

32 www.direct.gov.uk/en/EducationAndLearning/AdultLearning/FinancialHelpForAdultLearners/CareerDevelopmentLoans/index.htm

noting that “they should be considered as a last resort”. It particularly discourages those “with outstanding debts” from applying.³³ It is perhaps unsurprising to find that fewer than 2% of those undertaking a graduate degree receive these loans. The scheme has not been properly evaluated, but the government’s review of postgraduate education noted that there were “concerns about the rate of interest and payment terms.”³⁴

As well as government funding, some students receive a scholarship or bursary from their university. That said, fewer than 4% of students on taught master’s programmes receive sufficient funding to cover their fees in full.³⁵ Other students receive partial funding, which should not be seen as sufficient in its own right or enough to allow someone without other sources of finance to undertake a graduate degree.

The result is that approximately 6 in 10 taught postgraduate students receive no financial support whatsoever for their studies. They have to fund all of their degree, including living costs. They may do so from gifts or loans from family, or from commercial borrowing. Part time students, of course, can also fund their studies from their earnings, and mature students from savings that come in turn from their previous earnings.

In this context it is likely that cost represents a barrier to undertaking a degree for many people. Prospective students are often young, and at the start of their careers. Many potential graduate students will not have significant savings, or families able to support them. This is particularly true if they would have to live away from the family home to study, increasing living costs. In addition to the student loan, they may well have debts as a result of their undergraduate studies that need to be repaid. The absence of a way to fund graduate study is likely, therefore, to represent a barrier that prevents people from undertaking a degree that is in their long term interests and the interests of the country.

33 Young people’s learning agency, Professional and Career Development Loans: Frequently Asked Questions, pp. 5-6.

34 One step beyond, p. 47

35 Ibid, pp. 21, 47

Why the government needs to be involved

We have already seen that a master's degree offers huge private benefits to the person concerned. In addition, there are typically huge public benefits to society as a whole when an individual undertakes graduate study. These come primarily through the tax system. Put simply, if someone earns more, they pay more in tax. If someone earns £200,000 more over their lifetimes, they are likely to pay at least £80,000 more in tax.³⁶ Buoyant tax revenues are a necessary prerequisite for well-funded, high quality public services.

It is also plausible that those who earn most are the most likely to create and sustain jobs. This is true directly in that they are more likely to be successful at work, and so increase employment levels in the firms they work for. In addition, more affluent people spend more money, and therefore create employment indirectly by buying more goods and services than they would otherwise do. There are, therefore, positive knock effects in the economy, even if these are impossible to quantify.

More generally, in a world in which the incomes of people living in developed countries are determined by human capital as much as anything, the creation of more human capital is likely to prove a good investment for governments. This fits with the general historical narrative, in Britain and elsewhere, in which each generation receives more education than the one that precedes it, to good economic effect. The government therefore has good reasons, in terms of promoting high and sustained levels of national income and buoyant tax revenues, to want to see a rise in the number of people undertaking master's degrees.

The government cannot trust the market to get it right on this occasion, for two reasons. We have set out how, in addition to graduates doing very well for themselves out of undertaking further study, there is a large positive externality, in the form of significantly higher tax revenues for government. The

36 The overall ratio of tax to GDP in Britain is around 40% in the long run. Insofar as the tax system is progressive, the gain to the exchequer will be larger.

standard result in economics is that because people weigh up only the private costs and benefits when making decisions, the presence of positive externalities means that too few people will undertake the activity in question. As such, the existence of positive externalities, as in this case, creates a prima facie case for government intervention.

In addition, we know that there are likely to be market failures in the market for credit to young people. Many recent graduates, thinking of undertaking graduate study, have no collateral, and no track record of paying debts. In addition, they may already have borrowed heavily from the bank, to fund their living expenses as undergraduates. In such circumstances lenders will find it hard to assess who represents a good risk, and will be reluctant to lend across the board. Furthermore, at the sort of interest rates that typically prevail for unsecured loans, the interest can mount up rapidly unless the loan is repaid promptly. We have already noted that Professional and Career Development Loans charge an interest rate of 9.9%, necessitating relatively rapid repayments if the total interest paid is not to escalate rapidly.³⁷ Once more, the existence of credit market imperfections creates a classic rationale for government intervention.

There is a second reason for the government to be concerned about the number of people undertaking postgraduate degrees: social mobility. The coalition government has committed itself, unambiguously, to increasing the level of social mobility in Britain: "Improving social mobility is the principal goal of the Government's social policy".³⁸ Nick Clegg, in the foreword to the social mobility strategy document, writes that "The true test of fairness is the distribution of opportunities." His aim is to create "A society in which everyone is free to flourish and rise. Where birth is never destiny."³⁹

We know that postgraduates increasingly get the best jobs. As such, access to postgraduate degrees matters to the

37 Halving the monthly repayments would increase the duration of the loan from 5 years to almost 15 years, and would more than triple the total interest paid.

38 Cabinet Office, *Opening Doors, Breaking Barriers: A Strategy for Social Mobility*,
39 Ibid, p. 3.

government's social mobility and social justice agenda. The aim that "No one should be prevented from fulfilling their potential by the circumstances of their birth" cannot be fulfilled if only the affluent can undertake graduate study.⁴⁰ Instead, and as the social mobility strategy makes clear, "What ought to count is how hard you work and the skills and talents you possess".⁴¹ This is not a party political issue, and commands support across the spectrum. The previous government also recognised the effect of limited access to postgraduate degrees on social mobility, for example in the July 2009 Cabinet Office report, authored by the Panel on Fair Access to the Profession, headed by Alan Milburn.⁴² This report first discussed some of the issues in ensuring access to the professions. It then went on to note that the debate "will also need to include the issue of postgraduate degrees. These have increasingly become an important route into many professional careers – in the law, creative industries, the Civil Service, management professions and others. But these courses are substantially more expensive than undergraduate degrees – often costing up to £12,000 per year – and there is no student support framework equivalent to the framework for undergraduates. If fair access is to be possible, this issue will need to be addressed."⁴³ It noted that 'Professional and Career Development Loans' with low rates of interest represented "only a drop in the ocean" and argued that "New proposals need to be formulated to establish a clear, transparent and fair system of student financial support for postgraduate learners."⁴⁴

We have now set out the reasons why a graduate degree is good for the individual concerned and good for the government and taxpayer more generally. We have seen how access to graduate education is likely to be hugely restricted by the need to fund the course fees up front, and to cover

40 Ibid, p. 5.

41 Ibid, p. 5.

42 Cabinet Office, *Unleashing Aspiration: The Final Report of the Panel on Fair Access to the Professions*.

43 Ibid, p. 95.

44 Ibid, p. 95. The issue was acknowledged in *One step beyond*, for example p. 7 and pp. 45-51.

living costs. The effect of such a requirement is to reduce the total number of people studying for a degree, to levels that are below those optimal for society as a whole. Not only are the overall numbers too low, but access is particularly restricted for those who do not come from affluent backgrounds.

There is, in short, a strong case for government intervention – provided that a suitable intervention can be found. Reforming the system for funding postgraduate degrees can achieve two goals. It can increase the aggregate number of people able to study for these degrees. It can also increase access to graduate study for those who are currently shut out.

■ A new system of financing postgraduate degrees

The basis of the proposal: the undergraduate loans system

Britain now has a well-established system of income-contingent loans for undergraduate study. The recent changes to the system of finance for undergraduate degrees have not altered the way in which these loans operate. Students borrow money from the government to undertake an undergraduate (bachelors) degree. Loans are available to cover fees and maintenance. Former students will repay the money as and when their income exceeds £21,000, at a rate of 9% on income above that level. The interest rate will be set at the rate of inflation if their income is below £21,000, at inflation plus 3% if their income exceeds £41,000 and pro-rata if their income is between £21,000 and £41,000. Any remaining debts will be forgiven after thirty years. Additional voluntary repayments are permitted at any time: the government is currently consulting on whether some of these voluntary repayments should be subject to an early repayment charge.⁴⁵

Adapting the undergraduate loan system to cover postgraduate degrees

The system of income contingent loans can be adapted to include postgraduate study. The proposal is simple: students with relevant qualifications, staying on to undertake a recognised taught graduate degree would be eligible for one further advance, of £10,000. They would repay this as

⁴⁵ This issue is discussed in Leunig and Wyness, Early repayment of student loans.

9% of their income between £15,000 and £21,000 a year, under the same terms as the new system of undergraduate loan repayments. £15,000 has been chosen because it is the starting point at which repayments become due under the outgoing system for undergraduate loans. We know that repayment from this level works in practice. Those in receipt of a research council grant for fees and maintenance would not be eligible for this loan.

This additional loan would be for maintenance, although of course students would be able, but not compelled, to use it to cover their fees. This means that students are paying the cost of tuition themselves, and have an incentive to shop around. That in turn gives universities an incentive to offer good value. That is how the current system works, and it is one aspect that should not be changed. At present students pay their own fees, and universities can expand or contract provision as much as they wish. The result is that customers are keen to secure good value, and institutions know that they have to offer it if they are to attract good students. The result is that universities generally offer good value courses. Recent research finds that universities typically charge £4,266 for places on master's degrees, albeit with considerable heterogeneity.⁴⁶ This contrasts with the £8,136 that UK universities are charging for undergraduate degrees, where the loan available increases if the fee charged increases, reducing the incentive to shop around.⁴⁷

Creating a loan in this way makes it much less likely that we will see fee inflation on the part of universities. Of course demand for places will increase as a result of the creation of this new system of loans. But preserving students' incentive to shop around, but allowing full competition between universities, means that the increased demand will manifest itself as increased places not increased fees.

Given the level of typical postgraduate fees, it would be possible for a student to pay the fees and have something

46 Typical fee data from Leunig, *Universities Challenged*.

47 OFFA, Access agreement data tables for 2012-13, simple average across institutions of fees after waivers.

to live on, particularly if the student worked in the summer between completing their undergraduate degree and starting their postgraduate degree.

Notice too that because the proposal creates a maintenance loan, eligibility is limited to UK domiciled students only. This reduces the upfront cost to government, by reducing the number of students who are eligible to receive it. It also eliminates the difficulties of trying to ensure repayment by foreign students who return home after studying here. The British PAYE tax system is reasonably good at recovering student loans from people in Britain, but it has no ability to recover them from foreigners who are not domiciled here, and do not pay tax here.

If the proposed additional loan for graduate study was simply added to the existing loans for undergraduate study and maintenance then the losses to government would be very large. In a conventional loan, repayments increase with the amount owed. If you take out a second mortgage, your monthly repayments will increase. This is not how the income contingent tuition fee loan system works. Monthly repayments are not related to the amount you owe, but are related instead to income. There are good reasons for this, but it has the effect that if you borrow more money, you do not pay any more each month, but rather pay off the debt for longer.

The reason that this system is costly to government is that all outstanding loans are forgiven after 30 years. So if students borrow more money, they are more likely to need to have some of their loans forgiven at that point. In addition, under the incoming scheme for undergraduate loans, many students will be having part of their loans repaid in any case. For those people additional borrowing would be written off in its entirety. That is why simply allowing students to add another loan on the same terms would be extremely costly to the government.

We can get a sense of how costly this would be from the Department for Business, Innovation and Skills Student Loan Repayment Ready Reckoner, which is available online.

This estimates repayment schedules, based on the income trajectories of all graduates, which are derived from the Labour Force Survey and British Household Panel Survey. It is possible to model an additional graduate loan using this spread sheet, and then compare the repayment rates with and without the additional graduate loan.⁴⁸ Under the baseline scenario, in which loans are taken out to cover undergraduate loans only, the government has to write off 28% of the £35,658 advanced, a loss of just over £10,000. Once the additional £10,000 graduate study loan is included, the write off increases to 37% of £45,658, a total loss of almost £17,000. In total the government would expect to lose £6,793 of the additional £10,000 loan.

This figure will overstate the actual losses to the government, because the ready reckoner includes all graduates, including those who have weak first degrees and are not suited to undertaking a master's degree. Nevertheless, the figure is so high that it is clear that the actual costs will be far too high to be contemplated.

We therefore propose to overcome this issue by reducing the income level at which the graduate element of the loan would begin to be repaid to £15,000. In essence, the "slice" of income from £15,000 to £21,000 would be used to repay the graduate loan, with income above £21,000 being used to repay the undergraduate loan, as under the present system.⁴⁹ This means that anyone who earns £21,000 or more per year will repay £540 of their graduate loan. We set out the losses to government in some detail below, when we cost the proposal. For now, it suffices it to say that repaying a £10,000 loan at £540 a year for 30 years does not create large losses for government.

48 For this modelling exercise we use a baseline of fees of £8,136, plus maintenance of £3750 per year, in line with current expectations. The ready reckoner is designed for three year degrees. We include a fourth degree by increasing the annual fee for the other three years so that the total borrowed rises by £10,000, plus the accrued interest on the undergraduate loan, whose repayment will be deferred by one year.

49 The phrase "slicing" was first used by Neil Shepherd, who advocated it as a way to make the undergraduate system more progressive, University funding, slicing earnings

: Advantages of the proposal

For students

The attraction of the system for prospective students is very obvious. At present 6 in 10 master's students receive no funding at all, and a further proportion receive only partial funding. Furthermore, there are other would-be master's students who are unable to study because they have no access to finance.

This system creates a new funding stream and we can expect it to be attractive to those students who currently have no other funding options, or whose existing funding options are less attractive. Note that this scheme, like the undergraduate loan scheme, is voluntary. Any student who does not like the scheme can ignore it. Some will have access to savings, or the "bank of mum and dad". Some will be sponsored by employers. But for many, this scheme will be better value than anything currently available. We have already noted that the Professional and Career Development Loans, for example, typically charge interest at 9.9% (albeit with no interest accruing for the duration of study). Repayments are not income contingent, making them much harsher than student debt. If you don't get a job, then you are in trouble. Commercial loans are likely to be charged at higher rates still. It is hard to see any student preferring either a Professional and Career Development Loan, or a commercial loan, to this new system of graduate loans. Some younger would-be students who have not amassed significant savings may also prefer this system to borrowing from the parents, as they may wish to demonstrate that they are not dependent on

their parents. For these reasons, the scheme is likely to be popular with would-be students, and we would expect high levels of participation.

For government and society

We have already noted the evidence that master's degrees are associated with higher incomes. Higher incomes are, in turn, associated with higher tax revenues, particularly as the tax system is progressive, taken as a whole. Governments therefore have a financial interest in seeing more people undertake master's degrees. We have already seen how the number of UK students studying for a postgraduate degree has increased only slightly in recent years, at little more than 1,000 additional students per year. Increasing the number of people who can study for a master's degree is therefore likely to increase the total size of the economy, and total tax revenues. It should be considered a pro-growth measure, and one that holds open the prospect of increasing the trend rate of growth in the economy.

We note that the estimates of the (first degree) graduate wage premium have not fallen as the number of graduates has increased. This is now a well-established result.⁵⁰ At first sight this is a surprising result. We might expect that as graduates have become more plentiful, the additional cost of hiring graduates would fall. It turns out that the economy does not work like that. The increasing number of graduates in the UK economy makes it a more desirable place for graduate intensive employers to locate graduate intensive work. As such, increasing the supply of graduates leads to an increase in the demand for graduates, so that the graduate wage premium is maintained.

It is likely that the same will apply for postgraduate degrees. We have already seen that in the United States, where the evidence base is strongest, the data show that the postgraduate wage premium has risen in recent years, at the same time as the number of people with master's degrees has

50 Indeed, the Browne Review notes that the premium is relatively high in Britain, Browne Review Report, p. 15.

increased. There is no evidence that returns to being highly skilled fall as the number of highly skilled people increased.

We do not expect therefore that the postgraduate degree wage premium will fall as the number of people with postgraduate qualifications increases. We noted earlier that Machin and Murphy estimate a master's wage premium of around £5,900 per year, over and above the wages earned by someone with a first degree as their highest qualification. Increasing the number of people with a master's degree in the economy by just 10,000 would therefore increase national income by around £60m per year. Notice that this is recurrent, so that if the number of people being awarded this level of qualification rises by 10,000 and that new level is maintained, then the rise in national income grows from £60m per year initially to £2.4bn per year after 40 years. 10,000 is a very small increase in the number of people undertaking graduate study, given the number of people completing undergraduate degrees. If instead the number of people undertaking a taught master's degree doubled from its current level of 77,681 students, and then remained at that level thereafter, the rise in national income would be £460m initially, rising steadily to over £18bn per year in forty years' time.

There is no evidence base on which to judge the likely increase in the number of students undertaking master's degrees. That said, it is clear that in the medium term the policy is likely to have an effect on GDP that will be measured in the billions rather than millions. It is not enough to transform the economy, but it is likely to be enough to make a meaningful difference to the growth rate of the UK economy. For that reason this scheme, and the role of master's education more generally, should constitute an important part of the current government's growth review.

This proposal would increase access to postgraduate degrees for those who are currently excluded because of costs at a time when it is desperately needed. As such, it will also, indirectly, increase access to the professions. Creating an income contingent postgraduate loan scheme will promote

social mobility as well as raising the aggregate level of national income. Both are excellent goals for a government.

The final reason why a government should support this scheme is that it would be popular. Governments have to win elections, and creating a scheme that is optional, likely to be used by significant numbers of people, and which is likely to have no net long term costs to government is therefore a sensible political strategy. One of the purposes of government is to overcome obstacles that get in the way of people living their lives to the full. This is a good example of where the government – and only the government – can do just that.

: Implementation and costs

Implementation

This scheme is designed to be compatible with the incoming fee and loan regime that will apply to undergraduate students starting their degrees in 2012 and after. This means that the first students able to undertake a postgraduate degree under this proposal would begin their master's degree in the autumn of 2015. There is, therefore, plenty of time to get the detail right. We return to the issue of earlier cohorts later.

In the first instance, at least, the proposal is to limit access to these graduate loans to those with a first or upper second class undergraduate degree.⁵¹ There is a case for opening it up more widely, particularly where students have received a weaker degree owing to a mistaken choice of subject for the undergraduate degree. Nevertheless, in the first instance we propose that the scheme be limited to those with a first or upper second.

Costs

The cost of the scheme depends on two factors: the number of students who take advantage of the scheme, and the cost per student. We look at each of these issues in turn.

We cannot be sure how many students will choose to take advantage of this scheme. That said, we know that last

51 The costings presented here assume that people have undertaken undergraduate study under the new undergraduate fee system, that is, with repayments starting at £21,000. Those who are currently graduating would have a lower initial repayment level. In this case the £10,000 would simply be added to their existing loan. Since their existing loans are lower, and the point at which repayments begins is also lower, the likely losses from increasing debt levels are also lower.

year 34,000 UK domiciled students were awarded a first class degree, and a further 117,000 an upper second.⁵² The maximum number of eligible students is therefore around 150,000 per year. Realistically, however, it will never be the case that all of these students will want to stay on for further study. We therefore set an upper bound on the number of students likely to participate at 100,000.

We also know that 81,017 UK domiciled students undertake a master's degree of one form or another each year.⁵³ Of these, around 4,000 received government grants, issued by the Research Councils. These students would not be eligible for a graduate loan under this proposal. In addition, some students will be sponsored by their employer, and others will be in a position to finance their studies themselves – just as some students do not take out undergraduate loans. In addition, some of the students beginning a master's degree will not be eligible for a graduate loan, because they will not have a first or upper-second class degree. Neither the government nor the Higher Education Sector collects statistics on the entry grades of students undertaking master's degrees, and we are not, therefore, able to estimate the likely numbers of students who are ineligible for this reason. That said, with 6 in 10 students receiving no funding at all, and significant number receiving only small bursaries or scholarships, it seems plausible that at least 50,000 people will want to take out a loan under the terms outlined here.

We therefore work on the assumption that the government will advance between 50,000 and 100,000 loans per year.

The cost per student takes two forms: the upfront cost, and the long term cost. The long term cost is the upfront cost, minus repayments made, taking into account the interest costs that have to be borne by the government in the interim. The long term costs are clearly much lower than the initial upfront costs.

52 HESA, Students in Higher Education Institutions, 2009-10, table 17.

53 HEPI and British Library, Postgraduate Education in the United Kingdom, Table 3, page 10, based on HESA data. An additional 4,336 students commenced research master's degrees.

The maximum upfront cost per student is straightforward to calculate: £10,000 – although of course students who wanted to borrow a lower amount would be able to do so. On the assumption of between 50,000 and 100,000 loans per year this implies an upfront cost to the government of £0.5-£1bn per year. It would be reasonable for the government to borrow this money, since it would be investing it in human capital. Investing in people is every bit as important as investing in, say, infrastructure. In this case, the government's position is strengthened by the fact that it is making loans, and can reasonably expect to receive a stream of income in the future. Borrowing an additional £0.5bn-£1bn is not the sort of sum that will spook the markets, nor is it large enough to affect the interest rate at which the government is able to borrow.

Modelling the long-term cost is not straightforward, because we do not have good longitudinal income data for graduates with master's degrees. That said, we can use the Department for Business, Innovation and Skills' graduate loan "ready reckoner" to model the likely losses to government from non-repayment. We used this earlier to show that simply adding graduate loans to undergraduate loans would not result in high levels of repayment, given the nature of the repayment system. As we noted earlier, the ready reckoner will overstate the losses to government, as the average income of all graduates, who are included in the ready reckoner, is lower than the average income for people with a first or upper second and a master's degree.

We can adapt the ready reckoner to apply to a one year degree, with a £10,000 loan, and repayments made only on incomes between £15,000 and £21,000, at a rate of 9% of the income between these two thresholds. This means that a graduate would repay nothing if their income was £15,000 or below, rising steadily to £540 per year if their income was £21,000 or more. In short, a graduate degree will cost at most about £10 per week after graduating.

The ready reckoner takes into account that the graduate may not earn any income because of economic inactivity, unemployment, further study, death, permanent disability or

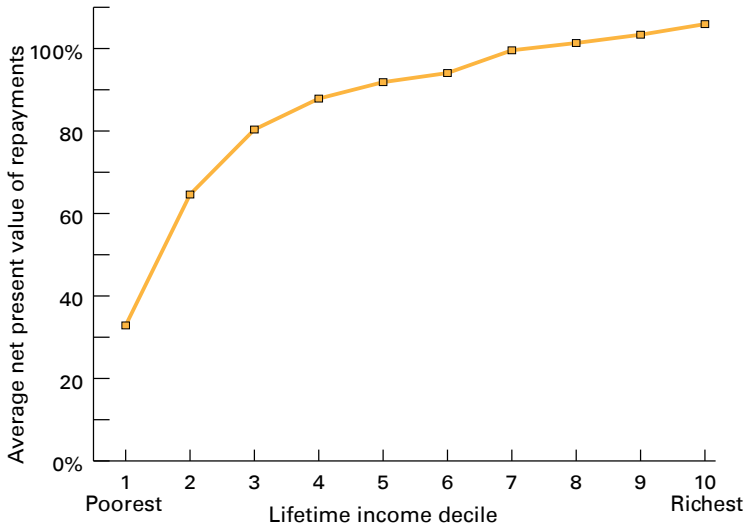
retirement. Since it is based on labour force survey data, it takes into account both full time and part time work, although the self-employed are not included. There is no reason to think that the income trajectory of the self-employed will be materially different.

The Ready Reckoner has to make assumptions about inflation, nominal earnings growth, and the discount factor which is applied to translate money that will be received in the future into its equivalent value today. We have made no changes to any of these values, although we accept that relatively small changes here can significantly affect the results, in both directions. There will always be a significant degree of uncertainty when predicting what will happen in 30 years' time.

When we apply the ready reckoner to the proposal outlined here, we find that 86.2% of the loans would be repaid, on a net present value basis, taking into account the cost of government borrowing between the initial loan and the repayment. The government would therefore lose £1,382 per student. This comes about because some graduates die young; others are injured or become ill in a way that reduces their income dramatically. Others have periods of unemployment, take time out to care for others, or work part time at incomes too low to repay their loans in full. The 14% loss rate is approximately half the loss rate estimated for the undergraduate loan scheme.

As we have noted, the ready reckoner will overstate the loss to government because it includes in its estimation of lifetimes incomes both graduates with weak first degrees, and graduates with no master's degrees. Were we to have access to data that was restricted to graduates with good first degrees and master's degrees we would find lower losses. There is no way to assess the magnitude of the extent to which this is an overstatement. That said, we note that the ready reckoner records that graduates in the top half of the graduate earnings distribution repay their loans in full. Insofar as this group of graduates are more likely to be representative of those with good first degrees and a graduate degree, the losses from this scheme really will be trivially small.

Figure 2 – The relationship between lifetime income and graduate loan repayment rates



Taken as a whole it seems at least plausible that the true figure is half the ready reckoner's headline estimate. It is therefore reasonable to imagine that the loss to government would be around £700 per student, and it is overwhelmingly likely that the figure will be measured in the £100s, rather than £1000s for each student.

The losses also indicate that the scheme is broadly progressive, in that those who have high incomes pay back more than those who do not. This is what we would expect from an income contingent system. According to the ready reckoner, those who are in the poorest 10% of graduates by lifetime income will repay just one third of their graduate loans, those in the next poorest 10% will repay 60%, rising steadily to 100% two thirds of the way up the distribution. The most successful three deciles of the graduate earnings distribution will pay back a little more than the cost of their education, reflecting the fact that the 3% real interest charge slightly exceeds the government's cost of capital. The full details are given in figure 2.

In addition to the direct loan repayments, the government also gains financially from additional tax revenues if students earn more money as a result of a master's degree that they would not otherwise undertake. We can get a sense of whether this additional income stream is likely to be sufficient to outweigh the direct losses from the loan scheme.

Let us assume that the gross loss per student is the full £1,342 estimated by the ready reckoner, an estimate we know to be an overstatement. Let us also imagine that three quarters of the students who take out a loan would have undertaken a master's degree in any case. Since these students are not undertaking additional education, their earnings and taxes will not change as a result of the scheme. The government's losses on these students – estimated for the moment as £1,342 – are genuine.

Against that, we are assuming that one quarter of students undertake a master's degree that they would not otherwise have been able to undertake. The government will also lose money on them via the loans system – again at £1,342 per student. However in this case, the government will gain additional tax revenues from their higher earnings. For the scheme to break even for the government, each "additional" student has to cover their own loss, and that of three other students who would have undertaken the master's degree even without the scheme. Each "additional" student must, therefore, earn enough to pay back £5,368, in net present value terms. We know from the recent work by London Economics that the Exchequer gains £67,000 and £44,000 in additional tax revenue from men and women, respectively – far above the necessary £5,358 to break even.⁵⁴

An alternative way to express this result is to note that, given the estimates of the return to a postgraduate education, the government will break even so long as at least 1 in 10 people taking out the graduate degree loan would not otherwise have undertaken a graduate degree.⁵⁵

54 Returns, p. 71

55 $(£67,152 + £44,323)/2 > 10 \times £5,368$

This figure is, in fact, an underestimate, since it does not include additional tax revenues from VAT, fuel and other excise duties, stamp duty, capital gains, and so on. In addition, there are multiplier effects, in two senses. First, if some people are richer they will spend their money, and others become better off as a result, which in turn raises tax revenues. Second, if some people are more successful it is likely that they are more effective at, for example, running companies, which in turn means it is more likely that those companies will employ more people, who will pay more taxes, as well as paying more in corporation tax.

In short, we can therefore be confident that the scheme will not only be self-financing, but represents a highly profitable investment for government in the medium term.

Implementation for earlier cohorts

This system is designed in the context of the new loans system for undergraduate students, whereby graduates repay their undergraduate loans on incomes above £21,000. This leaves the income slice from £15,000 to £21,000 “unused” and available for repaying graduate loans.

The outgoing system involves students repaying their (relatively small) loans using income above £15,000. The best approach would be to treat people under the old system equally, that is, to offer additional graduate loans to those who had undergraduate loans under the outgoing on the same terms as they are offered to those on the new system. Everyone with a graduate loan would repay 9 per cent on income from £15,000 to £21,000, as well as 9 per cent on income above £15,000 for their undergraduate loan. This means that people would be paying 18 per cent of the income between £15,000 and £21,000 in loan repayments. This is a high marginal rate, but insofar as the scheme is voluntary and insofar as the overall conditions of the loan are better than anything else available it is likely that many people will find the scheme attractive.

The second issue relates to mature students. The cost numbers given here include mature students as well as young adults,

with the mix reflecting the Business Department's perception of the mix in the undergraduate population. Postgraduates are clearly older on average, but the proportion of postgraduates with fewer than 30 "earning years" ahead of them is low. Although government should monitor the age range of applicants, it is unlikely that it needs to restrict graduate loan access for this reason. There is already a maximum age of 60 for undergraduate maintenance loans, which would also apply for graduate loans.

■ Conclusion

There are good reasons to want to increase the number of students who study for taught master's degrees. The evidence, both in Britain and elsewhere, is that these degrees have considerable value in the labour market. Furthermore, the history of the last two centuries, and particularly of the past twenty five years, is that those countries with the highest levels of human capital have been most successful.

Government support for people undertaking taught master's degrees today is small. There are also obvious credit market constraints. For this reason most people have to fund themselves. This means that large numbers of people cannot imagine undertaking a master's degree, particularly if they are from relatively poor backgrounds.

This paper sets out how to increase both the overall number of graduate students, and in particular the number of students from poorer backgrounds. We can do so by adapting the undergraduate loan system to offer support for graduate students.

Those with a 2:1 or first at undergraduate level would be eligible for a graduate loan of £10,000. They could use this to pay for fees (which are typically in the £4,000 to £5,000 range), or for maintenance, or for some combination of the two. They would repay this loan at a rate of 9% of their income between £15,000 and £21,000, over the following 30 years.

Although some people would see their loans written off because of death, disability or sustained periods of low earnings, the vast majority of graduates would pay off their

loans in full. The direct losses to the government are likely to be in the hundreds, rather than thousands, per student. These will be covered many times over by the rise in tax revenues from people who would not otherwise have studied for a graduate degree, and whose incomes have risen as a result.

The government has the opportunity to increase the number and range of people able to study at the highest level, at no medium term cost to itself. This proposal should be seen as both a contribution to the government's commitment to raising the rate of growth, and to its commitment to ensure that "No one should be prevented from fulfilling their potential by the circumstances of their birth". As the government has stated, "What ought to count is how hard you work and the skills and talents you possess".⁵⁶ This proposal helps to make that statement a reality.

56 Opening Doors, p. 5.

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