

# Financing higher education: Comparing the options

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## Executive summary

1. This paper analyses three options for financing higher education:
  - Tax funding, as proposed by the Liberal Democrats and, more recently, the Tories.
  - Tax funding plus upfront charges, as at present.
  - Tax funding plus deferred charges, as proposed in the White Paper on higher education (Department of Education and Skills, 2003).
2. The central argument is that a mixture of tax funding and deferred charges is the most effective way of improving national economic performance and promoting access. This is genuinely a policy that improves efficiency and equity simultaneously.
3. Section 1 argues that higher education, along with other important objectives, including the pursuit of knowledge for its own sake, has a central economic role:
  - To support growth, the higher education sector needs to be large enough, of high quality, and responsive to a rapidly-changing external environment.
  - To support distributional objectives and social inclusion, access to higher education needs to be broad. Access also supports the growth objective, since no country can afford to waste talent.
4. Sections 2, 3 and 4 discuss tax funding, upfront charges, and deferred charges, respectively. Key elements in the discussion include:
  - The results of a model which compares the White Paper proposals, which extend tuition charges but make them all deferred, with a recent Tory proposal to abolish all tuition fees. The key results are set out in paras 22-35, with detailed explanation in the Appendix. The main conclusion is that the Tory proposal runs a deficit of £1.6 billion over the first five years.
  - An explanation (see particularly paras 45-51) of why income-contingent loans transform the funding landscape in ways that are insufficiently understood.
  - A line of argument whose conclusion is that tax funding in general, and the Tory proposals in particular, are highly regressive; in contrast, the White Paper proposals are deeply progressive.
5. The paper's conclusions are set out in section 5 (paras 61-70), which are written to be free-standing. Readers in a hurry should proceed directly there.

# Financing higher education: Comparing the options<sup>1</sup>

Nicholas Barr<sup>2</sup>

1. This paper, a companion to my evidence to the Education and Skills Select Committee (Barr 2003), explores three options for financing higher education:

- *Tax funding* (section 2), as in the UK until 1998, and as advocated by the Liberal Democrats and, more recently, the Tories.
- *Tax funding plus upfront charges* (section 3), as in the USA, and currently in the UK.
- *Tax funding plus deferred charges* (section 4), as proposed in the recent White Paper (Department for Education and Skills 2003).

Section 1 establishes the case for the growth in quantity and improvement in quality of higher education. Section 5 pulls the conclusions together, and can be read on its own by readers in a hurry.

2. The central argument is that a combination of tax funding and deferred charges is the most effective way of improving national economic performance and promoting access. This is genuinely a policy that improves efficiency and equity simultaneously. Though the paper discusses UK higher education, the argument applies more broadly – to tertiary education, and to all advanced countries.

## 1 Objectives and their implications

3. The government is committed to a range of objectives, including economic growth, distributional goals, social inclusion, liberty and security. Higher education is directly relevant to all; and it has other important purposes, including the pursuit of knowledge for its own sake. This paper, however, deliberately concentrates on the growth and distributional goals. For higher education these imply that:

- To support growth, the sector needs to be large enough, of high quality, and responsive to a rapidly-changing external environment.
- To support distributional objectives and social inclusion, the sector needs to promote access. Access also supports the growth objective, since no country can afford to waste talent.<sup>3</sup>

Most of these objectives are non-controversial. One, however – the need for a large university system – requires further discussion.

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<sup>1</sup> I am grateful to Alissa Goodman and Greg Kaplan at the Institute for Fiscal Studies for very helpful discussion and comment based on their earlier work, and to officials of the Department for Education and Skills and the Student Loans Company for assistance on factual matters. As always, conversations with Iain Crawford are reflected throughout.

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<sup>3</sup> ‘There is no denying that the failure in Britain to recruit more students from non-privileged backgrounds is acute, and that a huge amount of potential is being wasted’ (Sutton Trust 2003, pp. 2-3).

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*Past, present and proposed UK funding arrangements*

*Until 1998* there were no tuition fees for UK students; their living expenses were covered by a mixture of a tax-funded grant, a loan with mortgage-type repayments, and parental contributions.

*Since 1998* there has been an upfront fee (£1,125 in 2003-4), irrespective of subject or university; there is no loan to cover the fee; living expenses are met by a mixture of parental contributions and income-contingent loan, i.e. a loan with repayments calculated as  $x$  per cent of the borrower's subsequent earnings, collected alongside income tax. Income-contingent loans protect access because the loan has built-in insurance against inability to repay, and thus have a profound effect that is insufficiently understood by politicians and the public. The topic is discussed in more detail in paras. 45-51, below.

*The Government's proposals.* A White Paper published last January (Department of Education and Skills 2003) proposes that:

- from 2006 universities will be free to set fees between 0-£3,000;
- the system of income-contingent loans will continue in its current form to cover living costs but will be extended to cover all fees, i.e. a system of deferred charges;
- grants for poor students will be restored; and,
- student numbers will rise, increasing participation from 43 per cent to 50 per cent;

The White Paper also provides an additional £194 million to promote access.

*A recent Tory proposal* is to:

- abolish all tuition charges;
- keep participation broadly at the current 43 per cent level; and,
- save the £194 million spending on access measures proposed in the White Paper.

The claim is that the savings from the latter two elements cover the lost income from tuition fee.

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4. Why is mass higher education necessary? The UK participation rate, currently 43 per cent, is currently in the middle of the OECD range. However, other countries have plans for expansion, and the UK is a long way behind participation rates in the USA (63 per cent overall, and 43 per cent for students from the bottom quartile of the income distribution). There are also worries about quality. The average cost of teaching at a UK university is currently about £4,800 per student, compared with a US average at state universities of around £7,500 and at private universities of around £11,000. It is therefore not surprising that Peter Lampl at a recent seminar in Downing Street referred to UK universities as 'seriously underfunded' which, coming from a business background was worrying in terms of national economic performance.

5. Why does this matter? In the past, higher education existed to pursue knowledge for its own sake and was mainly a consumption good for a middle-class intellectual elite. It was important neither for earning opportunities for the individual nor for national economic performance. Those days hold a siren allure for many. But those days have gone. Higher education continues to have those purposes but not *only* those purposes, being central both to a person's life chances and to the performance of the UK economy. There are three lines of argument that connect education to national economic performance.

6. HUMAN CAPITAL: ALWAYS IMPORTANT, ARGUABLY MORE IMPORTANT THAN EVER. The argument that human capital is important is an old one. A new twist (Thurow 1996) argues that it is more important today than in the past. The simplest way to make the point starts from a conventional production function:

$$Q = f(K, L, M) \tag{1}$$

where output,  $Q$ , is related to inputs of capital,  $K$ , labour,  $L$ , and raw materials,  $M$ , via the production function  $f$ . Considering each of these in turn:

- In the nineteenth century, access to raw materials was critical. Almost all the largest US firms were involved with raw materials in one way or another. Today, value added comes from other sources: the material component of computers is a trivial part of their cost; the steel used in a modern car costs less than the electronics.
- Historically, countries with a larger capital stock were richer and so, through higher savings, could invest more than poorer countries, thus further increasing their capital stock. Again, the USA is a case in point. With today's worldwide capital markets, domestic investment is less constrained by domestic savings: investment by an entrepreneur in Thailand is not constrained by Thai domestic savings, since he can borrow elsewhere.
- Technology (i.e. the function,  $f$ ) remains a critical determinant of relative economic performance. Historically, technology tended to be tied to specific countries. Today, not least because information flows are instant, technological advance moves across countries much more quickly.

7. Thus  $f$ ,  $K$ , and  $M$  are less important explanations of differential economic performance today than in the past. The remaining variable,  $L$ , thus assumes increasing importance. In short, a combination of technological advance and international competitive pressures makes education a more important source of economic performance than ever.

8. THE NATURE OF TECHNOLOGICAL ADVANCE. A connected set of arguments for the greater importance of education and training concerns technological change. First, though it can reduce the need for skills—for example, computers have become more user-friendly—most of the impact is to increase the demand for skilled workers; and the overall decline in the demand for unskilled labour has been sharp. Secondly, change is increasingly rapid; knowledge has a shorter half life, so that people need flexible skills that can adapt to changing technology and that need updating. These changes explain the 'information age', meaning a need for education and training that is (a) larger than previously, (b) more diverse, and (c) repeated, in the sense that people will require periodic retraining. They also explain the close links between low educational achievement and social exclusion.

9. DEMOGRAPHIC CHANGE. The rising proportion of older people in many countries foreshadows high spending on pensions, medical care and long-term care. The solution (Barr 2002b) is to increase output sufficiently to meet the combined expectations of workers and pensioners. If the problem is that workers are becoming relatively more scarce, the efficient response is to increase labour productivity. Demographic change is thus an argument for additional spending on investment both in technology and in human capital.

10. **EMPIRICAL EVIDENCE.** Wolf's (2002) analysis rightly cautions against complacently taking it for granted that higher education spending necessarily translates into faster growth, the most blatant example being the latter days of communism. Clearly the quality and relevance of education is central: the level of spending is relevant, but so is the responsiveness of the system to the needs of students, employers and other stakeholders. Notwithstanding acute measurement problems facing all studies of growth, recent OECD analysis uses panel data for the advanced industrial countries to assess the influence on growth rates of a series of variables, and concludes that 'The improvement in human capital has been one of the key factors behind the growth process of the past decades in all OECD countries ...' (Bassanini and Scarpetta 2001, p. 39). At a minimum, such findings suggest that underinvesting is a highly risky strategy.

11. Thus the case for increasing the quantity and quality of investment in education and training is strong. The argument applies to all levels of education; what is relatively new is the extent to which it applies to higher education. The question, then, is how to pay for mass, high-quality higher education.

## **2 Tax funding**

### **2.1 General arguments**

12. Elsewhere (Barr 2003), I have argued that tax funding, whatever its past merits, hinders the growth in size and quality of higher education and stands in the way of access.

13. **TAX FUNDING LEADS TO A SHORTAGE OF RESOURCES.** When higher education was an elite system with participation rates in single figures, maintaining a high-quality system out of taxation was not a problem. The expansion to a mass system has been a major advance. But the expansion has implications. Real funding per student started to fall under Labour governments in the 1970s and continued to fall under successive Conservative governments, falling by over 40 per cent between 1980 and 1997. Australia, facing a funding crisis, introduced fees in 1989 to arrest quality decline, and has just announced a regime very similar to that proposed in the White Paper, i.e. variable fees, but fully covered by an income-contingent loan. It is no accident that American universities, with their mixture of private and public funding, are the best-off materially in the world – much better off than their publicly-funded Canadian counterparts or universities in equally rich countries like Sweden.

14. Such outcomes are no accident. In economic terms they arise because mass, high-quality higher education is incompatible with fiscal constraints caused by longer-term factors like international competitive pressures and population ageing. In political terms, they arise because higher education will always lose out to competing and politically more popular claims such as the NHS (more on this below).

15. **TAX FUNDING HARMS ACCESS.** The previous paragraphs argued that adequate funding entirely from taxation will not happen. Nor should it happen. First, tax funding fails the poor. The argument that 'free' higher education promotes access does not stand empirical test. In 2002, 81 per cent of children from professional backgrounds went into higher education; the comparable figure for children from unskilled backgrounds was 15 per cent (Education and Skills Select Committee, 2002, p. 19).

16. At first sight it is paradoxical that tax funding harms access. The reason is that with a mass system funding is constrained and so (a) the substantial resources needed to promote access are crowded out by other elements in the higher education budget, and (b) if places are scarce, middle-class students will tend to crowd out those from poorer backgrounds. The root of the problem is that people can choose whether or not to apply to university, and there is a steep socioeconomic gradient in the pattern of applications. The problem is less acute with school education, which is compulsory (though there is still a problem of who goes to the best schools), and with the NHS, where the treatment that people get depends less on their personal choices and more on decisions by doctors, based on clinical need.

17. TAX FUNDING IS REGRESSIVE. As well as harming access, tax funding also redistributes towards the better off. Higher education confers a benefit on society as a whole and to that extent should continue to be subsidised by the taxpayer. Beyond that, however, tax funding is deeply regressive. If the money comes from general taxation, the taxes of the hospital porter pay for the degree of the old Etonian. If it is unfair for graduates to pay more of the cost, as the proponents of tax funding argue, it is even more unfair to ask non-graduate taxpayers to do so.

18. The counter-argument is to make direct tax more progressive. In 2003-4, an extra penny in the pound on the higher rate of income tax yields about £1.1 billion. Suppose government raised an extra £5 billion that way. The question that proponents of tax funding must then answer is: why should that money be spent on the best and the brightest who will disproportionately go on to become the richest, rather than on nursery education, vocational education, action to improve the staying on rate post-16 (where Britain has the poorest record in Europe), and more generous grants?

19. Once more, such outcomes are no accident. Some people argue that higher education should be treated as a tax-funded social good which a civilised country should offer. This is a beguiling vision, which, as discussed earlier, was possible with a small elite system. But those times have gone. There are three steps in the argument:

- Technological advance means that mass higher education is essential for national economic performance.
- We live in a free society, so that people can choose how hard to work and can emigrate. Both facts impose limits on taxation, and those limits are reinforced by international capital mobility.
- Mass higher education, which is expensive, plus limited taxation leads to rationing of places and funding. The sharp elbows of the middle class come into play, leading to disproportionate middle-class use. Thus – systematically and predictably – excessive reliance on tax funding is regressive.

20. The analytical arguments against reliance *only* on tax funding are therefore strong. For reasons discussed exhaustively in Barr (1998, 2001) analogous arguments do not apply to the national health service or school education, for which the arguments for continued reliance on public funding are compelling. Not the least of the consequences are to aggravate the fiscal constraints facing higher education.

## 2.2 Liberal Democrat and Tory proposals

21. The Liberal Democrats have a series of well-developed proposals for tertiary education broadly, with particular emphasis on the links between further and higher education. And in Scotland, as part of the governing coalition, they have been associated with the introduction of deferred charges well ahead of such developments in England. The party in England, however, has a different policy on funding, having long argued (a) that in government they would give higher education sufficient priority to ensure it was properly funded, and (b) that doing so would promote access. On the first, the evidence – both from history and from other countries – is against them. On the second, the discussion above suggests that tax funding does not promote access; and the Liberal Democrats have not given a good answer to para. 18. Separately, as discussed in section 4, a combination of deferred charges used, *inter alia*, to finance generous grants would be significantly more progressive.

22. Recently, the Tories announced a proposal to abolish *all* tuition fees. The proposal claims that the policy can be implemented on a revenue-neutral basis by keeping the system at broadly its current size of 43 per cent of the age group, rather than pursuing the government's target of 50 per cent participation by 2010. The proposals raise two sets of questions: do the numbers stand up; and is this the right policy direction?

23. DO THE NUMBERS STAND UP? The Appendix explains the model underlying the figures in Table 1, which suggest – even when showing the proposal in its best light – that it runs a significant cumulative deficit. The table is based on 2003-4 data on student numbers in England (the White Paper refers only to students in England), on average teaching costs per student, on the public expenditure costs of student loans, and on money earmarked in the White Paper to promote access. The table estimates that the government's plans to expand participation from 43 per cent to 50 per cent will bring in about 182,000 additional students by 2010. It also estimates costs per student (teaching and student support, including the costs of larger loans to cover fees), and fee income under the White Paper proposals.

24. The Appendix discusses the underlying assumptions. The the central ones are that:

- 50 per cent of lending to students counts as public spending.
- 35 per cent of students will face no additional charges under the White Paper proposals, 35 per cent will face half the maximum additional charge, and 30 per cent the full charge, all such charges being covered by an income-contingent loan.
- The Tory proposal will exempt only new students from charges, thus phasing in the costs of the scheme.

The results, discussed below, include sensitivity analysis of these three key assumptions.

25. The model also makes some smaller assumptions, specifically that:

- average real teaching costs remain unchanged over the period.
- the take-up of new loans (to cover fees) is the same as for loans currently.
- the growth in student numbers by 182,000 takes place on a linear trend.

26. Under the stated assumptions, the Tory proposals run a cumulative deficit (ignoring interest charges on increased government debt) over the 5-year period of £1.6 billion. For a given education budget, this means either or both of:

- A reduction in university income over the period of £1.6 billion, with consequent effects on quality;
- A reduction in university places such that over the 5 years 79,000 people would not get a place at university, about 150 for each of the 529 Parliamentary constituencies in England. The sensitivity analysis in the Appendix suggests that these conclusions are robust. Specifically, over quite wide variations in the key assumptions, the Tory proposals run a cumulative deficit of between £1 and £2 billion.

27. However, if the Tories were really to ‘abolish fees’ by exempting all students immediately (rather than phasing in the exemption by applying it only to new students), the deficit nearly doubles to £3.1 billion, at a cost of up to 153,000 university places.

28. INTERPRETING THE NUMBERS. Discussion so far has taken the numbers at face value. But it is necessary also to ask what is intended for the 182,000 students who do not go to university under the Tory proposals. Statements have been made about directing these people into vocational education. But that, too, costs money. If these costs are included in the analysis (as they should), the deficit is correspondingly larger.

29. Discussion thus far has also assumed that demographics are stable. In reality, the number of people of university age is set to rise. There are currently 2.432 million people aged 17-20 in England; by 2010-11 the figure will be 2.677 million. Just to keep participation constant, it is therefore necessary to increase student numbers in parallel, by about 112,500, i.e. by about 10 per cent. In sharpest contrast, if student numbers decline by a total of 79,000, the participation rate in 2010-11 will fall from its current rate of 43 per cent to between 36 and 38 per cent.<sup>4</sup>

30. THE RIGHT POLICY DIRECTION? The proposals thus face a series of problems.

31. *Declining student numbers.* Without significant increases in public spending, the proposals will not hold student numbers static but will require an absolute decline. As argued in section 1 this policy is exactly the wrong direction, in terms of national economic performance, and even more so given demographic trends.

32. *Continued erosion of quality.* There is general agreement that the quality of higher education has suffered as a result of many years of underfunding. The Tory proposals, at best, keep real funding per student constant, but produce no additional resources to improve quality. This creates two strategic problems in comparison with the White Paper.

- Resource constraints. The evidence is overwhelming that quality cannot improve in a system that is largely funded from taxation. The system was in crisis in 1996 with fewer students than now (the origin of the Dearing Committee, which unanimously recommended the introduction of deferred charges); the reforms in Australia had the same genesis.

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<sup>4</sup> The participation rate in the White Paper, currently 43 per cent (para. 5.7), is an Initial Entry Rate (IER), which is the sum of age-specific participation rates between the ages of 17 and 30. The figures in para. 29 are a simple age-participation index (API) normalised on the 43 per cent figure in the White Paper. Though there are differences between the API and IER, for present purposes the simpler statistic suffices. For more detailed discussion of the IER, see Alan Thompson, ‘GCSEs are the route to HE expansion’, *Times Higher Education Supplement*, 22 February 2002.

- Lack of incentives to respond to student and employer demands. As discussed earlier, the quality of higher education is not only a matter of resources but also of the responsiveness of the system. The Tory proposals continue central planning; in contrast, the White Paper makes a start on introducing competition (for fuller discussion, see Barr, 2003, paras. 63-68).

33. *Adverse effects on access* arise in several ways:

- Smaller university systems tend to have a more concentrated socioeconomic profile, not least because middle-class parents are better placed to help their children get good A levels.
- One result is to dampen the aspirations of people from poorer backgrounds – a shortage of places could adversely affect the staying-on rate post-16.
- The proposals explicitly withdraw resources to promote access. A serious pro-access strategy (see paras 55-58, below) needs significant resources. Given the fiscal pressures outlined in Table 1, these would not be forthcoming.

34. *Distributional impacts.*

- The proposals exempt better-off people from charges and simultaneously withdraw £194 million in targeted transfers to promote access.
- No resources are released to restore grants for poorer students.

For both reasons, the proposals are strongly regressive compared with the White Paper (see also Chote, Goodman and Kaplan, forthcoming)

35. In short, the proposal stands up neither in terms of its numbers nor in its wider policy implications of reduced university places, declining quality, effects on access and distributional implications.

### **3 Upfront charges**

36. Discussion can be brief because the arguments are so clear. There are two arguments against upfront charges.

37. **EFFICIENCY PROBLEMS.** The ability to redistribute to oneself over the life cycle (what economists call ‘consumption smoothing’) increases a person’s welfare. Clearly, it is hard on a young couple if their only option for buying a house is to save for many years and then pay cash. It is much better in terms of their quality of life if they have the option to take out a 25-year mortgage. This is not an argument for making a 100 per cent mortgage compulsory: well-off people can buy for cash; and younger people can save to put down a larger deposit and hence have a smaller mortgage. The argument is that giving people a *choice* improves their welfare.

38. It is entirely appropriate to apply the argument to higher education. It is efficient if people can choose how to pay; equally, it is inefficient if people are forced to pay a significant part of the cost upfront. This is particularly true of tuition fees (other than minor charges), which tend to be (a) large and (b) ‘lumpy’, since the student normally has to pay a term’s fees in a single chunk at the start of term.

39. EQUITY PROBLEMS. Upfront charges are also inequitable. Better-off families can pay charges directly; and even a cash-strapped middle-class parent can borrow on good terms using the family home as security. Thus the options for borrowing are best for those who need them least.

40. Upfront charges for higher education create particular inequities, because of imperfect information and because of uncertainty, neither of which apply to anything like the same extent to buying a house.

- People for whom access is most fragile tend to be those who are the least well-informed about higher education – about whether they are good enough to do well, and about the benefits of getting a degree.
- In addition, there is a significant element of uncertainty about the returns to a degree.<sup>5</sup> As with other uncertainties, these have the greatest effect on people who do not have the financial resources to self-insure.

41. In sum, there is a very strong case in both efficiency and equity terms against a system in which paying upfront is the *only* way of paying. What is needed is a system in which people have a choice between paying at the time or making deferred repayment. The present system of upfront fees of £1,125 was always one of the great weaknesses of the post-Dearing settlement.<sup>6</sup> Reform should give people a mechanism for deferring the charges.

## 4 Deferred charges

### 4.1 General arguments

42. FREE AT THE POINT OF USE. The obvious problems of upfront charges underpin arguments that ‘higher education is a basic right and should therefore be free’, a sentiment that underpins much of the opposition to tuition fees. The argument that access to higher education is a basic right is a value judgement, though one (I assume) that we all share. However, the fact that something is a basic right does not mean that it must be provided free, the most obvious example being food. If we agree that something is a basic right, the proper moral issue is not charging but access. It is immoral if someone cannot afford a healthy and pleasant diet; and it is immoral if someone with the aptitude and desire is denied access to higher education because he/she cannot afford it. Morality should focus on outcomes, not process.

43. In arguing for free higher education, however, people are reaching towards an important truth: though it is not true that higher education should be free, there is a strong case for making it *free at the point of use*.

44. Thus, there are not two options, upfront fees or no fees, but three: no fees, upfront fees, or deferred fees. If fees are to be deferred, what is needed is a system in which all students have an entitlement to a loan large enough to cover all fees and all living costs.

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<sup>5</sup> The mean rate of return is high, but the variance is also high.

<sup>6</sup> This weakness was both predictable and predicted – see Barr and Crawford, 1997.

45. WHAT TYPE OF LOAN? Conventional loans like a mortgage or bank overdraft have fixed monthly repayments of £X. With income-contingent loans, in contrast, repayments take the form of x% of earnings collected alongside income tax. The case for the latter type of loans, thankfully, is now widely accepted.<sup>7</sup> Conventional loans and student loans operate in very different circumstances. Home loans are normally made to people *after* they know their income and assets. Student loans, in contrast, are generally made *before* people know their income and assets; indeed, one of their major purposes is to increase them. Of necessity the latter situation is more uncertain than the former, hence the case for income-contingent arrangements.

46. Collecting repayments as a payroll deduction alongside income tax means that they match ability to pay. Repayments automatically and instantly track changes in earnings. Borrowers with low current earnings make low (or no) repayments; borrowers who do well repay in full, those with low lifetime earnings do not. Thus the loan has built-in insurance against inability to repay. The efficiency advantage is to reduce the uncertainty facing students.

47. There are also equity advantages: since repayments are automatically tailored to ability to pay, income-contingent loans make it easier for borrowers from poor backgrounds to participate. If loans cover all living costs and all tuition charges, studying is free at the point of use; and loan repayments, being instantly and exactly related to the person's subsequent income, are, from his point of view, little different from paying tax.

48. OTHER WAYS OF THINKING ABOUT INCOME-CONTINGENT LOANS. Many people are worried about high-fees and high-debt. Much of that worry is because of the government's lamentable record in explaining income-contingent loans. The following are completely honest descriptions of the deferred charges proposed in the White Paper.

49. *Restoring universal grants.* As discussed above, if loans cover all costs, higher education is free at the point of use. The Student Loans Company squirts money into the student's bank account to cover her living costs, and into the university's bank account to cover her tuition fees. No-one is forced to pay any fees at the time he or she goes to university. The taxpayer continues – quite rightly – to pay part of the cost. But some of the costs, again rightly, are met by the income-contingent repayments of graduates. These repayments differ from tax in only two ways: they do not go on for ever; and they are paid only by people who have been to university and benefited financially from their degree. Thus income-contingent loans are logically equivalent to a grant financed by an income-related graduate contribution.

50. *A capped graduate tax.* A graduate tax and income-contingent loan repayments are both payments levied on top of income tax. From the viewpoint of the individual graduate, the only difference is that with a graduate tax repayment duration is fixed (e.g. for life, or until retirement, or for 25 years) and with an income-contingent loan variable. Thus loan repayments can be thought of as a capped graduate tax, i.e. a tax that is switched off once the graduate has paid a set contribution towards the cost of his or her degree.<sup>8</sup> Colloquially, graduates pay extra tax until each has paid his or her 'fair share'.

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<sup>7</sup> For details of why mortgage loans are the wrong model for higher education and why income-contingent loans are essential, see Barr (2001, Chs 11 and 12).

<sup>8</sup> See Alasdair Smith 'A fair and flexible tax on graduates', *Financial Times*, 6 December 2002.

51. *Social insurance.* Yet another perspective is to think of student loans as a modern example of the Beveridge principle. With pensions, we pay national insurance contributions now in order to get our pension later. Pensions are thus another example of consumption smoothing, allowing people to redistribute from their younger to their older selves. Student loans are exactly that – students receive a 'pension' now to pay for their university education, repaid by their own contributions later in life.

## 4.2 The White Paper

52. My support for the White Paper strategy is set out in detail in Barr (2003).

53. THE FEES REGIME. The White Paper makes the quality and of higher education and its contribution to national economic performance central.

- Tuition fees bring in additional resources to improve quality.
- Variable fees give universities an independent source of income.
- Variable fees also strengthen competition, shifting the balance of power from the central planner and producers to the consumers – the students and employers. The resulting competition benefits students, the university system, and the economy.

54. LOANS.

- Since 1998 loans have had income-contingent repayments, the great advance of the post-Dearing arrangements
- By extending loans to cover fees, the White Paper moves from upfront charges to deferred charges. Again, this is a fundamental change in the right direction, since students get their higher education free at the time they go to university.<sup>9</sup>

55. MEASURES TO PROMOTE ACCESS. The White Paper makes access its second central plank. There are two causes of exclusion: financial poverty and information poverty. Thus any strategy for access needs both to provide resources and to increase information and raise aspirations. The latter is inadequately understood: as discussed earlier, students from poorer backgrounds may systematically be less well-informed, not the least of the resulting problems being debt aversion. Any strategy to encourage people to enter university therefore needs both to provide financial support and to increase information and raise aspirations.

56. *Financial measures.*

- The White Paper restores grants, though the size of the grant should be increased significantly.
- The White Paper also introduces (though, again, only on a small scale) additional resources to provide intellectual support at university for access students to make sure that, once they arrive, they get the support necessary to make the transition.

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<sup>9</sup> The Tory proposals, by omitting this central point, misrepresent the government's proposals. Damian Green, writing in the *Times Higher Education Supplement* (16 May 2003, p. 14), asserted that 'With fees of up to £3,000 per year, a family with two children ... will be £18,000 worse off'. The reality is that under the White Paper proposals, the family is *better* off, since upfront charges disappear. Higher education is free for both children, who subsequently make income-contingent contributions towards part of the cost of their degrees.

57. *Information measures.*

- Action to inform school children and raise their aspirations is equally critical. The saddest impediment to access is someone who has never even thought of going to university. Action needs to start early, for example at age 12.
- Finally, problems of access to higher education cannot be solved entirely within the higher education sector. More resources are needed earlier in the system.<sup>10</sup>

58. *Helping low earners after they leave university.* A separate element is to help low earners after they leave university. Income-contingent loans are a major method of doing so. Other measures introduced in or foreshadowed by the White Paper include writing off a fraction of a person's loan for each year of service in the NHS or school system.<sup>11</sup>

59. The three elements of the strategy – tuition fees, income-contingent loans, and measures to promote access – hang together as a strategy.<sup>12</sup> The objectives are quality, largely for reasons of national economic performance, and access. A high-quality mass system cannot be wholly financed by taxation, as argued in section 2. Thus tax funding continues, but has to be supplemented by private finance. Tuition fees bring in private funding (via graduates' repayments), creating resources to improve quality and promote access. Income-contingent loans ensure that the charges are deferred; thus, at least so far as fees are concerned, higher education is free at the point of use. The measures to promote access, are intended to address exclusion directly, and are part of a wider strategy going back to early childhood.

### 4.3 Implications for funding

60. The Appendix assesses the costs of the White Paper proposals. The fiscal problem with the Tory proposal is that the costs come early and the savings later. In the case of the White Paper, the situation is the reverse: there is an immediate injection of resources from the fees paid on behalf of the current cohort of students, with the costs of expansion rising over time. Over the 5-year period as a whole, the White Paper proposals bring in about £1.6 billion to improve quality and promote access. These conclusions are robust across fairly wide variation of the assumptions underlying Table 1.

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<sup>10</sup> There is growing evidence that the roots of exclusion lie in infancy; see Polly Toynbee, 'Help toddlers, and then let students pay their own way', *Guardian*, 22 January 2003.

<sup>11</sup> For more detailed discussion, see Barr, 2003, paras. 113-6.

<sup>12</sup> See Barr (2002c).

## 5 Conclusions

61. THE PRESENT SYSTEM. By 1996 a collision between fiscal constraints and a tax-funded system of higher education had created a major funding problem. Tax funding was clearly not working for a mass system, a problem the Dearing Committee was set up to address.

62. The government's response to Dearing did not address the fundamental issue.<sup>13</sup> If tuition fees are set by government, rising fee income can be offset by falling taxpayer contributions. Thus government controls the total volume of resources going into higher education – funding is closed-ended. Australia is a graphic example: government introduced centrally-set fees in 1989 to address a funding crisis; the system is now back in crisis and, for precisely that reason, the Australian government has just announced reforms very similar to those in the White Paper – flexible fees, fully covered by an income-contingent loan.

63. The present system is clearly not working. Which of the two proposed ways forward is the better option?

64. TAX FUNDING. Section 2 explains why tax funding for a mass system of higher education faces intractable problems.

- A shortage of resources arises, in economic terms because mass, high-quality higher education is incompatible with fiscal constraints caused by longer-term factors like international competitive pressures and population ageing. In political terms, tax funding leads to under-resourcing because higher education will always lose out to competing and politically more popular claims such as the NHS.
- Tax funding has failed on access. Only 15 per cent of children from the poorest families go to university; other countries (including the USA) do much better.
- Tax funding redistributes towards the better-off. It is true that the tax system could be made more progressive; but it would be even more progressive (a) to increase taxation on the best off and (b) to spend the money on nursery education, raising the staying-on rate post-16 and improving vocational education, rather than spending it on people who tend to come from better-off backgrounds and who disproportionately go on to become higher earners.

65. These arguments apply to the Liberal Democrat proposals.

66. The Tory proposals require additional comment.

- They bring in no extra resources, hence cannot improve quality.
- The proposals run a deficit of between £1 billion and £2 billion over the first five years (the figure in the benchmark case being £1.6 billion), putting downward pressure on quality, on student numbers, or both. University funding per student could be held constant only by cutting student numbers by a total of 79,000 over the 5-year period and, if fees are phased out rapidly, by up to 153,000 places.
- The proposals do not discuss what happens to the 7 per cent of the age group who do not go to university under their proposals. There is mention of vocational training. But good vocational training has significant costs, which the proposals ignore.

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<sup>13</sup> See Barr and Crawford (1997) or, for a more recent critique, Barr (2002a).

- Nor do the proposals take account of the rising number of young people. If student numbers decline by a total of 79,000 the participation rate will fall from 43 per cent currently to between 36 and 38 per cent.
- The proposals exempt better off people from a charge, and pays for the exemption in part by reducing transfers to poorer people. Not everyone will be comfortable with the distributional implications.

67. One of the main arguments in this paper is that the absence of private resources leads to quality problems and to access problems. The Tory proposals (referred to by Martin Wolf as Tory socialism<sup>14</sup>) illustrate the point entirely. The numbers in their proposal do not stand up. And the policy implications – fortress middle-England – hark back to an earlier era. In today's terms they put economic performance at risk and are also deeply regressive.

68. DEFERRED CHARGES. The principle underlying the White Paper is that those who can afford to pay more do so, releasing resources to improve quality and promote access. Economic theory is particularly useful to explain what is going on. The White Paper proposes two sets of actions (see Figure 1):

- A price increase, raising the average tuition fee from  $p_0$  to  $p_1$ . This leads to a movement *along* the demand curve from  $a$  to  $b$ . Taken alone, this action obviously reduces demand and harms access. However (a) the fees are deferred for everyone, and (b), there are also:
- Targeted transfers to groups for whom access is fragile. This moves their demand curve *outward*, increasing their demand to  $c$ .

Thus the strategy is deeply progressive. It shifts resources from today's best-off (who lose some of their fee subsidies) to today's worst-off (who receive a grant) and tomorrow's worst-off (who, with income-contingent repayments, do not repay their loan in full).

69. The danger is that people will see deferred charges as equivalent to credit card debt (high interest rate, short repayment period, no protection against low income) rather than as a future payroll deduction. To counteract the danger a major effort is needed to explain to people how the system works. This is already clear to those graduates who have started to repay, but they are few in number since income-contingent loans started only in 1998, so that the first full cohort of repayments under the system did not begin until last year.<sup>15</sup>

70. What, then, are the key messages to get across to worried students and their parents?

- It is a payroll deduction, not debt. A picture of a payslip showing loan repayments alongside income tax and national insurance contributions would be helpful.
- Students get their higher education free – it is graduates who make repayments.
- If it is unfair to ask graduates to pay more of the cost (as the proponents of tax funding argue), it is even more unfair to ask non-graduate taxpayers to do so.

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<sup>14</sup> Wolf, Martin, 'A morally bankrupt education policy', *Financial Times*, 26 May 2003.

<sup>15</sup> Income-contingent loans applied to students beginning their degrees in October 1998. The bulk of them graduated in summer 2001 and hence were not assessed for repayment until the tax year starting on 6 April 2002.

## Appendix: The arithmetic of the Tory proposals and the White Paper

71. The White Paper proposes to:

- introduce flexible fees, up to a cap of £3,000;
- extend the system of income-contingent loans to cover all fees, i.e. a system of deferred charges;
- increase student numbers to increase participation from 43 per cent to 50 per cent;
- provide an additional £194 million to promote access.

72. The Tory proposal is to

- abolish all tuition charges;
- keep participation broadly at the current 43 per cent level;
- save the £194 million spending on access measures.

The claim is that the savings from the latter two elements cover the lost income from tuition fees. Table 1, which is based on 2003-4 data, analyses this claim and compares the two sets of proposals.

73. The table is organised so that the assumptions all appear in column (1) and the data and conclusions in the subsequent columns. The top part of the table contains basic data on:

- Student numbers in England (since the White Paper proposals apply only to England).
- Average teaching costs per student.
- The average cost of student loans.

74. THE COST OF STUDENT LOANS. If graduates paid an interest rate equal to the government's cost of borrowing and if all graduates repaid in full, the public spending costs of student loans would be zero. In reality there are two sources of loss: loans attract an interest subsidy;<sup>16</sup> and, with income-contingent repayments, graduates with low lifetime earnings do not repay in full. Thus only a fraction of loans is repaid. Expected non-repayment appears as current spending in the education budget, with expected repayments appearing as a financial asset in the capital account. In earlier sales of student debt, buyers paid about 50 per cent of the face value of the debt, the bulk of the non-repayment being the cost of the interest subsidy. At present, with lower interest rates, about 40 per cent of loan outgoings appear as public spending in the education budget. Table 1 reverts to the 50 per cent figure, not least because the White Paper raises the threshold at which loan repayments will start, thus adding to the cost of the subsidy. The greater are the public-expenditure costs of loans, the larger the savings from not increasing student numbers. Thus the assumption of 50 per cent non-repayment is kinder to the Tory proposal than the 40 per cent figure in the current education budget. The model is constructed so that the assumption can be varied.

75. A second element in the cost of student loans is the fact that the White Paper extends loans to cover fees, i.e. loans will be larger. The model includes the public-expenditure cost of those additional loans, increasing savings under the Tory proposals, and correspondingly increasing the cost of the White Paper proposals.

76. FORGONE FEE INCOME. A central question is how much fee income the Tory proposals forgo. Thus it is necessary to estimate the total income from fees under the White

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<sup>16</sup> Students pay a zero real rate of interest on the loan. For discussion of the resulting fiscal costs, and other ill-effects of the interest subsidy, see Barr (2002*a*; 2003).

Paper proposals. Table 1 assumes that 35 per cent of students will face no charges above the current level of £1,125, 35 per cent will face half of the additional fee, and 30 per cent the entire additional fee. The model is constructed so that the assumption can be varied.

77. When calculating income from fees, the model also makes the cautious assumption that the average fee payment of the extra students (i.e. the 182,000 additional students who bring the participation rate up to 50 per cent) will be 30 per cent of the current tuition fee of £1,125 – again an assumption that can be varied.

78. The Tory proposal talks of ‘abolishing fees.’ This could mean (a) immediately abolishing fees for new *and* continuing students, or (b) abolishing fees only for new students. For reasons discussed below, the cost of (a) is enormous, so the table assumes (b) – specifically that only one-third of students (the new first-year students) are exempt in year 1, and two-thirds in year 2, with exemption for all students only from year 3 onwards. This shows the Tory proposals in their best light; again, the assumption can be varied.

79. THE COSTS OF EXPANSION. The costs per student are average teaching costs (£4,800) plus the public expenditure element of student loans for maintenance (£1,639) and tuition fees (£346), plus the cost of grants (£280). The total cost of expanding student numbers by 182,000 is £1.29 billion. Including £194 million to promote access brings the total costs of expansion to £1.48 billion.

80. SMALLER ASSUMPTIONS.

- Average real teaching costs per student remain unchanged over the period.
- The take up of loans to cover fees is the same as for maintenance loans currently.
- Expansion of student numbers takes place along a straight line trend.

### *The Tory proposals*

81. The gross costs are the fees no longer charged. If the exemption applies with immediate effect to the entire student population there is an immediate cost of £1,518 million; if the exemption applies only to new students (assumed one-third of the total), the costs in year 1 are £505 million, in year 2, £1,012 million, and the full cost only from year 3 onward. The gross savings derive from not having to pay for expanded student numbers, specifically, (a) teaching costs, (b) the public expenditure costs of student loans, including (as mentioned above) the cost of expanding loans to cover fees, (c) the cost of grants, and (d) the access money in the White Paper, which the proposals drop. In year 1 these savings are relatively small, since the proposed expansion of student numbers in year 1 is small.

82. If fees are phased out, the deficit in year 1 is £209 million. In year 2 the gross cost increases (because the exemption from fees now applies to first- and second-year students); the savings are also larger, since a second tranche of expansion in student numbers has been avoided; the deficit in year 2 is £420 million. The annual deficit peaks at £630 million in year 3, by which time all students are exempt but not all the savings have yet been realised. In year 5, when the full savings are being realised, the scheme runs a small annual deficit, £38 million, a deficit which, if nothing changes, would continue.

83. Under the stated assumptions, the cumulative deficit (ignoring interest charges on increased government borrowing to finance the transition) is around £1.6 billion. This deficit could be financed in either of two ways, or a combination:

- A reduction in university income of £1.6 billion, creating further declines in quality.
- A reduction of 253,000 students years over the 5-year period. If 75 per cent of students do 3-years degrees and the rest 4-year degrees, this means an cumulative decline in student numbers of 79,000.

84. If charges are abolished for all students immediately, the cumulative deficit rises sharply to £3.1 billion, at a cost of 153,000 university places.

### *The White Paper*

85. The last part of the table shows the projected impact of the White Paper. The table is constructed to make a head-to-head comparison with the Tory proposals. If the Tories phase out fees at the same speed as the White Paper proposes to phase in additional charges the two proposals are mirror images of each other, as the table shows. If, however, the Tories were to phase out fees faster than the White Paper proposes to phase them in, the Tory deficit will be higher than the White Paper surplus.

86. The White Paper story is thus the reverse of the Tory proposal: the injection of fees arises faster than the costs of expanded student numbers. The White Paper states explicitly that the new charges will apply only to new students, thus fee income grows sharply between years 1 and 3. Over the 5-year period as a whole the White Paper proposals bring in £1.6 billion to improve quality and promote access.

### *Sensitivity analysis*

87. How robust are these conclusions?

88. CHANGED ASSUMPTIONS ABOUT THE FRACTION OF STUDENT LOANS THAT COUNT AS PUBLIC SPENDING. If 40 per cent of loans count as public spending, rather than 50 per cent, loans are cheaper, reducing the savings from holding students numbers constant. The cumulative deficit rises from £1.6 billion in the benchmark case to £1.85 billion. Conversely, if 60 per cent of loans count as public spending, the deficit falls to £1.4 billion.

89. CHANGED ASSUMPTIONS ABOUT THE INCOME FROM TUITION CHARGES. The benchmark case assumes that 30 per cent of students face no additional charges, 35 per cent half of the maximum additional charge, and 30 per cent the full additional charge. If smaller fractions face additional charges, fee income is lower and the costs of the Tory proposals in terms of forgone fee income correspondingly smaller. Thus if 45 per cent of students face no additional charge, with 30 per cent facing half the maximum additional charge and 25 per cent the full charge, the Tory deficit falls from £1.6 billion in the benchmark case to £1 billion. Conversely, if the three groups of students split 30/35/35, the deficit rises to £2. billion, translating into a loss of nearly 100,000 students. Conversely, the White Paper brings in an extra £2 billion.

90. The conclusion is that over wide variations in key assumptions the Tory proposals invariably run at a cumulative deficit of between £1 and £2 billion; the White Paper proposals make a similar surplus. In contrast, as indicated earlier, the results are extremely sensitive to the speed with which the Tory proposal eliminates charges. If the policy really 'abolishes fees', i.e. eliminates charges for all students immediately, the deficit almost doubles from £1.6 million to £3.1 billion.

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**Table 1: The White Paper and Tory proposals compared**

**Basic data**

Number of FTE students in HE (England), 2003-4 (000) [1]	1,115
Extra students to reach 50% APR (England) (000)	182
Average cost of teaching per student, £ [2]	4,800
Other spending on student support, £m [3]	194

**The cost of student loans**

Average income-contingent loan per student, £ [4]	3,278
Fraction of student loans that count as public spending	0.50
Public expenditure cost of loan per student, £	1,639
Take up on new loans [a] [5]	0.81

**Income from fees**

Current net income from fees, £m	450
Extra income from White Paper proposals	
Fees: no additional charge, % of students	35
Fees: half of maximum additional charge, % of students	35
Fees: maximum additional charge, % of students	30
Fees: average fraction of flat fee paid by additional students	0.30
Extra fee income from baseline student numbers, £m	1,006
Extra fee income from additional students, £m	61
Total income from fees	1,518

**Cost of expanding to 50% participation rate**

Cost per student [b]	
Teaching costs, £	4,800
Public spending element of maintenance loan, £	1,639
Public spending element of additional loan to cover fees, £ [a]	366
Grant: fraction of additional students receiving a grant	0.40
Grant: average fraction of maximum grant paid to additional students	0.70
Cost of grants, £ [c]	280
Total cost per student, £	7,084
Aggregate cost, £m	1,286
Other spending to promote access, £m	194
Total cost of expanding to 50% participation, £m	1,480

**Tory proposals**

*Year 1 Year 2 Year 3 Year 4 Year 5*

*Costs*

Fraction of students exempt from charges in year 1	0.333				
Fraction of students exempt from charges in year 2	0.667				
Forgone fee income, £m [d]		505	1,012	1,518	1,518 1,518

*Savings*

Teaching costs, loans, grants connected with increased numbers, £m [b]	1,286				
Other spending to promote access, £m	194				
Gross savings [e]		296	592	888	1,184 1,480

<i>Deficit, £m</i>	209	420	630	334	38
<i>Cumulative deficit, £m</i>					<b>1,630</b>
<i>Lost student years (000)</i>					<b>253</b>

### **White Paper proposals**

*Year 1 Year 2 Year 3 Year 4 Year 5*

#### *Costs*

Extra students to meet 50% target (000) [e]	36	73	109	145	182
Cost of expanding to 50% participation rate, £m	296	592	888	1,184	1,480

#### *Contributions*

Estimated income from fees, £m [f]	506	1,012	1,518	1,518	1,518
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#### *Net income, £m*

	210	420	630	334	38
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<i>Cumulative total to promote quality and access, £m</i>					<b>1,630</b>
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#### *Notes*

[a] Assumes that take-up of new loans is the same as of current loans.

[b] Assumes average teaching cost per student remains unchanged.

[c] Assumes that 40% of additional students receive a grant, and that in such cases the average grant is £700.

[d] Assumes fees are abolished only for new students.

[e] Assumes linear expansion from 43% to 50% participation.

[f] Assumes additional charges are imposed only on new students.

#### *Sources*

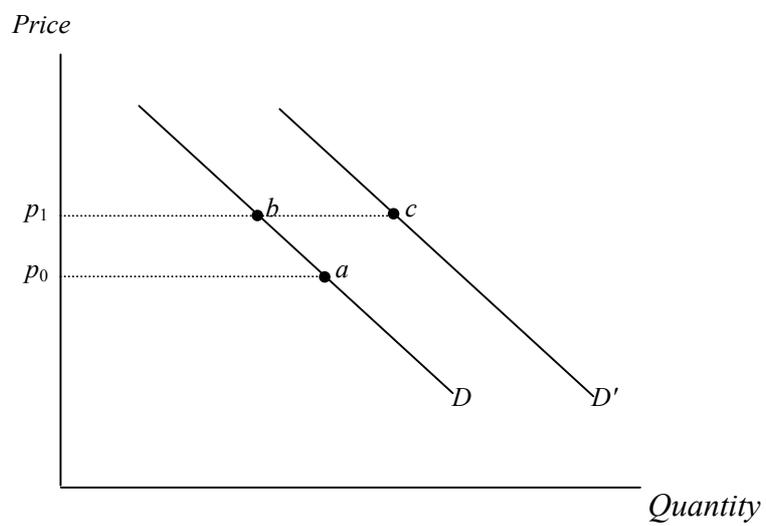
[1] Annex to HEFCE grant letter.

[2] Total recurrent teaching costs in 2003-4 are £4,024 million (White Paper: Department for Education and Skills, 2003, p. 56); FTE student numbers for 2003-4 are 1.115 million (Annex to HEFCE grant letter); the tuition fee in 2003-4 is £1,125. Total costs per student are thus £4,734. The figure of £4800 includes an element of capital spending.

[3] Tory press release.

[4] Student Loans Company Annual Report 2002, Table 2; the figure for 2001-2 is inflated by the rate of inflation.

[5] *Ibid.*



*Figure 1: The White Paper's twofold strategy to promote access*