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Nicholas Barr

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Nicholas Barr[1]
London School of Economics

Abstract

The finance of higher education faces a clash between technological advance, driving up the demand for skills, and fiscal constraints, given competing imperatives for public spending. Paying for universities is also immensely politically sensitive. This paper sets out core lessons for financing higher education deriving from economic theory, including the desirability of loans with income-contingent repayments. Subsequent discussion includes a general strategy for OECD countries derived from the theoretical analysis, and reforms in England in 2006 which illustrate the strategy. The paper concludes with discussion of the appropriate role of government in higher education.

This paper discusses how to pay for teaching at universities. It does not talk about research.

After initial discussion setting the broader context, subsequent sections discuss lessons from economic theory, a general strategy for OECD countries that derives from that theory, a major reform in England in 2006 which exemplifies the strategy, and remaining tasks in England (and the UK more broadly). The paper concludes with discussion of the appropriate role of government in higher education.

1 The backdrop

The world has changed. It is still the case – and I hope always will be – that higher education matters because knowledge for its own sake is important. But, in sharp contrast with 50 years ago, higher education now matters also for national economic performance and for individual life chances. Technological advance has driven up the demand for skills. To compete internationally, countries need mass high-quality higher education.

That immediately raises the question of how to pay for it and how to assist quality. Countries typically pursue three goals in higher education: larger quantity, higher quality, and constant or falling public spending. It is possible to achieve two but only at expense of the third. Systems can be

- Large and tax-financed, but with worries about quality (France, Germany, Italy);
- High-quality and tax-financed, but small (the UK till 1989);
- Large and good-quality, but fiscally expensive (Scandinavia).

There is nothing illogical about the last option, but it is already unsustainable in most countries, where the only realistic way of achieving all three objectives is to supplement public finance with private finance.

In reflecting on these issues, two further points are noteworthy:

- Competitive systems of higher education appear to produce higher quality, at least as measured by world rankings;
- In South Korea the participation rate in tertiary education is 82 per cent; total spending on tertiary education is 2.6 per cent of GDP, double the average for the EU19 of 1.3 per cent; and *private* spending on tertiary education in South Korea is

significantly higher than *total* (public plus private) spending in any OECD country except the USA and Canada (OECD 2006, Table B2.1b, all figures for 2003).

There is widespread agreement about two core objectives of higher education policy.

- Strengthening quality and diversity, both for their own sake and for reasons of national economic performance
- Improving access, again for both efficiency and equity reasons.

2 Lessons from economic theory

Good policy needs to be compatible with economic theory. This section therefore seeks briefly to make three central propositions that should underpin reform in advanced countries.[2]

2.1 Competition is beneficial

In most countries, higher education has, in essence, been centrally planned. The case against this approach is not ideological, but rooted in the economics of information. The core of the argument is that students (in sharp contrast with school children or people with complex medical problems) are well-informed, or potentially well-informed, consumers, and hence better able than planners to make choices which conform with their interests and those of the economy. Though that proposition is robust for many students, there is an important exception: people from poorer backgrounds might not be fully-informed, with major implications for access, discussed below.

On the supply side, central planning, whether or not it was ever desirable, is no longer feasible. Technological change has led to more universities, more students, and much greater diversity of subject matter. The myth that all universities are the same and should be funded equally is no longer credible. In principle, differential funding could be implemented by an all-knowing central planner, but the problem is too complex for complete reliance on that mechanism: mass higher education needs a funding method in which institutions can charge differential prices to reflect their different costs and objectives.

In contrast with central planning, a competitive environment creates incentives for universities to be more responsive to demand from student and employers. Such competition needs to be supported by an effective system of quality control.

2.2 Graduates should contribute to the cost of their degree

A second set of lessons concerns cost sharing. Higher education creates benefits beyond those to the individual – benefits in terms of growth, the transmission of values, and the development of knowledge for its own sake. All these justify continuing taxpayer subsidies. However, graduates also receive significant private benefits – in terms of higher earnings, more satisfying jobs and/or greater enjoyment of leisure – making it efficient and equitable that they bear some of the costs. However, they should bear those costs when they can afford them – as graduates – not when they are students. This leads to the third set of lessons.

2.3 Well-designed student loans have core characteristics

Loans should have income-contingent repayments, that is, repayments calculated as *x* per cent of the borrower's subsequent earnings, collected alongside income tax.[3] The efficiency argument for this form of repayment is that borrowing to finance investment in human capital

(in contrast with a home loan) offers no physical collateral. For that reason and others borrowers face considerable uncertainty and, in consequence, would borrow an inefficiently small amount if the only loan on offer had conventional (fixed, monthly) repayments. Income-contingent repayments, by building in insurance against inability to repay, increase efficiency by protecting borrowers from excessive risk. For the same reason, income-contingent repayments also protect access. And because repayments are collected alongside income tax, such loans also protect the lender from much of the risk of making an unsecured loan. Note that what is being discussed is not a tax, which goes on forever, but a genuine loan, where repayments stop once principal plus interest have been repaid. Income-contingent repayments have a profound effect that is insufficiently understood.

A second feature of well-designed loans, is that the loan should be large enough to cover fees, and ideally also living costs, resolving student poverty and promoting access by making higher education free at the point of use.

Thirdly, loans should attract an interest rate broadly equal to the government's cost of borrowing. Many countries, including the United Kingdom, offer loans at a zero real interest rate, that is, there is a blanket interest subsidy. The high cost and frequent bad targeting of interest subsidies is shown internationally by Shen and Ziderman (2008). In a system that has (a) income-contingent repayments and (b) forgiveness of any loan that has not been repaid after (say) 25 years, interest subsidies are particularly pernicious.

- The subsidy is enormously expensive. In the UK, close to one-third of all lending to students never comes back simply because of the interest subsidy.
- Because of the resulting fiscal pressures, loans are too small, harming access.
- The subsidies also crowd out university income, putting quality at risk.

- Finally, the subsidies are deeply regressive. They do not help students (graduates make repayments, not students). They help low-earning graduates only slightly: graduates with low monthly earnings are protected by income-contingent repayments, and those with low lifetime earnings by forgiveness after 25 years. They do not help high-earning graduates early in their careers: with income-contingent loans, monthly repayments depend only on earnings; interest rates only affect the duration of the loan. Thus the major beneficiaries are successful professionals in mid career, whose loan repayments are switched off earlier because of the subsidy than would otherwise be the case. A move to a somewhat higher interest rate would be progressive.[4]

2.4 Why not tax finance?

It is widely argued that a system of fees and loans will harm access, and hence that higher education should financed from taxation. Despite its intuitive plausibility, this argument is mistaken. Specifically, tax finance does not achieve the objectives at the start of the paper.[5]

Taxpayer finance puts quality at risk. It was possible to rely on taxation to finance a high-quality system when the system was small. But there are limits to taxation, so that with a mass system, higher education will lose in the political battle to more urgent and politically salient public spending priorities, including nursery and school education, health care, and spending on pensions in the face of population ageing. It is no accident that real funding per student declined sharply over the years in many countries as student numbers increased. Even if taxpayer finance on a sufficient scale were desirable, it is infeasible.

Nor does taxpayer finance widen participation. To any social scientist who is serious about the evidence, one message about participation stands out starkly – *it's attainment, stupid*. In the UK in 2002 (before variable fees), 81 per cent of children from professional

backgrounds went to university; the comparable figure for children from manual backgrounds was 15 per cent[6] – a shameful record. Yet restricting the sample to young people with good high-school leaving grades, the figure was roughly 90 per cent for both groups (UK Office for National Statistics (2004, Figure 2.15). Thus the major driver of participation is not whether or not higher education is 'free', but a person's attainment in school.

Finally, taxpayer finance is regressive. University students are disproportionately from middle-class backgrounds. If higher education is paid largely or wholly from taxation, the taxes of poorer people pay for the degrees of people whose parents tend to be better off, and who will themselves go on to be among the better off.

3 A general strategy

These lessons from economic theory suggest a general strategy potentially applicable to all OECD countries: variable fees, well-designed loans, and active measures to promote access.[7]

3.1 Variable fees

Starting with efficiency arguments, universities are financed from a mix of taxation and tuition fees. Each institution sets its fees, which for each student are covered by entitlement to a loan. Fees give institutions more resources to improve quality and, through competition, help to improve the efficiency with which those resources are used.

The argument for competition is rooted in the idea that students in higher education are broadly well-informed and that their information can be further improved. But the argument is not for law-of-the jungle competition but for regulated markets, including a maximum level of fees. There is good reason for a fees cap. It needs to be high enough to

bring in extra resources and to strengthen competition, but low enough to maintain long-term political support for the funding strategy and to allow institutions less used to competition time to develop the necessary management capacity. In addition, though universities compete in terms of teaching, some universities are also selling access to the student's network of peers and, in this latter respect, have an element of monopoly power, creating a separate argument for some form of fees cap.

Counterintuitively, variable fees are also fairer than other approaches; why should fees at a local institution be the same as one at an internationally renowned university?

The obvious argument against fees is that they deter students from poor backgrounds. That is true of upfront fees, i.e. fees that have to be paid at the start of each semester, but not where students go to university free and make a contribution only after they have graduated. This brings us to the second part of the strategy.

3 2 A well-designed loan scheme

Student support is through loans with income-contingent repayments. The loan entitlement should be large enough to cover fees and living costs, and as discussed earlier, should carry an interest rate broadly equal to the government's cost of borrowing.

If loans are large enough to cover fees, the package resembles 'free' higher education financed through taxation. Students pay nothing at the time they go to university. Part of the cost is paid through taxation and part through their subsequent income-contingent repayments. The viewpoint from the Ministry of Finance is somewhat different. Though loans bring in private resources in the longer-term, a loan system, by definition, has up-front

costs because it lends the money first and receives repayments later. Thus, depending on a country's fiscal situation, there can be advantages if students can borrow from private sources. However, private lenders will typically charge a substantial risk premium unless there is a government guarantee; and if there is a government guarantee, the loans will be classified as public spending. Potential solutions exist in this highly technical area, but require considerable care in design.[8]

3.3 Action to promote access

Assume that all students are well-informed and with a good school education. In that case, a good income-contingent loan is all that is needed.

However, in most countries not all students are well-informed. In particular, the group for whom we want to promote access is not well-informed. More is needed. Most people argue that what is needed is 'free' higher education, and that tuition fees will harm access. As noted, however, the evidence points in a different direction – the main determinant of participation is attainment in school.

What does this imply for policy that *really* starts to improve participation? Exclusion, it can be argued, has four roots: lack of education, lack of information about university, lack of aspirations, and lack of money. A well-designed strategy should address all four.

Raising attainment: access fails when someone leaves school at 16, usually for reasons that started much earlier. More resources are needed earlier in the system, not least because of the growing evidence (Feinstein 2003) that the roots of exclusion lie in early

childhood. A central element in widening participation is to strengthen pre-university education, from nursery school onwards.

Increasing information and raising aspirations: this is a woefully neglected area. A series of policies address both. Action to inform school children and raise their aspirations is critical. Relevant activities include mentoring of schoolchildren by university students, visit days, Saturday schools, summer schools, winter schools, and the like.

More money: policies include financial support to encourage teenagers to complete high school and grants and scholarships to cover some or all costs at university. Both policies could be supported by financial incentives to universities to widen participation, and by extra resources to provide additional intellectual support at tertiary institutions for students from disadvantaged backgrounds. In designing such policies, however, it is important to be clear that these are only palliative actions. Scholarships, though important, are the tail; it is attainment that is the dog.

4 Reform in England

England has seen a wave of reform over the past ten years.

4.1 The 1998 reforms

Reform in 1998 introduced income-contingent loans – the good news. However, that apart, the system perpetuated all the faults of the previous system (for a detailed critique, see Barr and Crawford 1998; Barr 2002):

- Continued central planning in terms of price (i.e. fixed tuition fees set by government), quantity (i.e. central determination of student numbers), and quality (intrusive quality assurance).
- Complexity: the system of finance was so complicated few people understood it. Complexity adds to administrative cost, and is also an impediment to access.
- Inadequate student loans: loans were too small to cover living costs, and there was no loan to cover tuition fees.
- Loans charged a zero real interest rate, i.e. incorporated a blanket interest subsidy, with all the problems mentioned earlier.

4.2 The 2006 reforms

The failings of the old system manifested themselves in a funding crisis that was both predictable and predicted.

> 'On the lack of resources, the logic is distressingly compelling. Public spending on higher education will not go up (the budget said so); parental contributions (i.e. private spending) will not go up (the Secretary of State said so); and loans to students (the other potential source of private spending) count in their entirety as public spending. If public spending is unchanged and there is no extra private spending, there is nothing extra for higher education.... [A]s things stand, [the 1998 reforms] do not produce a brass farthing in the short run' (Barr and Crawford, 1998, p. 78).

The 2004 Higher Education Act was designed to address the inadequacies of the 1998 reforms. Part of the package was variable fees. But variable fees were politically contentious to the point that in the crucial Parliamentary vote in January 2004, the government's majority

was reduced from 160 to five! The Act, which took effect in 2006, had the following central elements, which broadly match the general strategy set out in the previous section.

Element 1: financing universities: the previous fixed fee of £1,000 per year, irrespective of university or subject was replaced by a variable fee, set by the university, with a maximum of £3,000 per year. Thus universities are financed by a mix of taxpayer support and variable fees capped at £3,000. As argued above, variable fees improve efficiency by bringing in more resources and, by strengthening competition, improve the effectiveness with which those extra resources are used.

Variable fees are also fairer, not least because most students are from better off backgrounds (if I argued for subsidies for champagne to make it more affordable for poorer people I would rightly be shouted down as looking after my own interests under the pretence of widening access). In addition, as noted, it is wrong to require a student at small local institution to pay the same fee as one at Oxford.

Element 2: supporting students: students are entitled to a loan with income-contingent repayments. The loans were enlarged both to cover tuition charges (a missing element in the previous system) and to provide a more realistic amount to cover living costs. As a political necessity, however, the blanket interest subsidy was retained.

Element 3: action to widen participation restored tax-financed scholarships for students from poor backgrounds (which had been abolished in the 1998 reforms) and established an access regulator to scrutinise each university's plans to widen participation. In addition, other policies, separate from the 2004 legislation, offer support earlier in the system.

- AimHigher encourages young people to think about the benefits of higher education, especially young people from families with no tradition of higher education.

- Education Maintenance Allowances offer income-tested financial support from 16-19 to encourage people to stay in school.

Many politicians and many commentators fail to realise how progressive the strategy is. Variable fees introduce higher charges for those who can afford them (note that with income-contingent loans, 'can afford' refers to a person's earnings as a graduate, not to family circumstances while a student); and redistributive policies help poor people to pay those charges. To an economist, these elements are staggeringly familiar: the first, a price increase, represents a movement *along* the demand curve. Taken alone, this element would harm access. However (*a*) the fees are deferred, and (*b*), there are targeted transfers to groups for whom access is fragile. This moves their demand curve *outward*. 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 benefit from AimHigher and Education Maintenance Allowances) and tomorrow's worst-off (who, with income-contingent repayments, do not repay their loan in full).

4.3 Unfinished business

A review of these arrangements, required by the 2004 Higher Education Act, is expected to begin in 2009. The review should address three areas, relating to each of the three elements above: the fees cap, the interest subsidy, and policies to widen participation.

The fees cap: the reasons for a fees cap were set out above, and suggest that a fees cap has a continuing role. However, the current level of £3,000 (a political compromise) is too low. Almost all English universities charge the full £3,000, which thus approximates a flat fee. A higher cap would bring in additional resources, would strengthen competition, and

would reduce the subsidy to the best off. How high is a matter of balance. Access warriors should not unduly perpetuate a mainly middle-class subsidy; market warriors should remember what happens when policy overshoots (the very high level of fees in the USA), or loses political support (New Zealand).

The interest subsidy: the aim of the current blanket interest subsidy, widening participation, is commendable; and with conventional loans repayments the policy can make sense – an interest subsidy for first-time house buyers would help them by reducing monthly repayments. In contrast, as discussed earlier, where a system has income-contingent repayments and forgiveness after (say) 25 years, interest subsidies do not improve access or promote any other desirable objective.

A zero real interest rate is the wrong one; it is too low. A commercial rate – the rate of interest on an unsecured individual loan, such as credit cards – is too high. The interest rate that is efficient and equitable is broadly equal to the government's cost of borrowing, for example, the rate of interest on government bonds. That is the appropriate interest rate for graduates with a solid earnings record. However, there should be targeted interest subsidies, notably for people with low earnings. In addition, there is a strong case for phased forgiveness of loans for some public service workers, for instance teachers in the state school system (there have been moves in this direction in England for some subjects) and for nurses and perhaps also doctors in the national health service. Similarly there could be a phased write-off for each year of caring activity.

Policies to widen participation: economists, it is said, are obsessed by prices, while other social sciences argue that behaviour has more complex and wide-ranging causes. Thus

I am sometimes bemused that it is these latter groups who become obsessed by fees (i.e. price), while an economist like me argues that the real causes of non-participation are more complex than fees and generally happen much earlier. As already discussed, policies to widen participation should focus on ages 0-18 much more than on 18 onwards. Thus AimHigher and Education Maintenance Allowances are very much steps in the right direction. What is needed is more of the same.

5 Conclusion: What role for government?

It is important to be clear that the arguments in this paper are not for free markets but for regulated markets. Nor is anything I have said intended to be an attack on public funding of higher education, which should remain a permanent part of the landscape.

The proposal is that universities set fees, but subject to a maximum established by government. There is continued taxpayer support for teaching, probably in the form of block grants to universities; the balance between fees and block grants determines the extent of competition. Students apply to the institutions and courses of their choice.

A well-designed system has a continuing important role for government:

- To provide taxpayer support for higher education;
- To regulate the system, both through a maximum level of fees and by ensuring that there is effective quality assurance (note that the role of government is to make sure that quality assurance happens, not necessarily to deliver the service itself);
- To set incentives, e.g. larger subsidies for certain subjects;
- To ensure that there is a good loan scheme; and
- To adopt and encourage policies to widen participation.

The idea, in sum, is that public funding is supplemented by private funding, but in such a way that higher education is free to the student – it is the *graduate* who makes repayments, but only in a way that is consistent with his or her future earnings.

Endnotes

[1] Professor of Public Economics, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK: Tel: +44-20-7955-7482; Fax: +44-20-7955-7546; Email: N.Barr@lse.ac.uk; http://econ.lse.ac.uk/staff/nb.

[2] For fuller discussion, see Barr (2004*a*; 2004*b*, Ch. 14)

[3] The original argument was set out by Friedman 1955.

[4] The argument in the text is one of simple logic; for the numbers, see Dearden, Fitzsimons, Goodman and Kaplan (2008).

[5] For further discussion of moral arguments about charging tuition fees, see Barr 2004*a*, pp. 266-7.

[6] UK Education and Skills Select Committee 2002, p. 19

[7] On international experience, see Barr 2004*a*, pp. 275-79. On Australia, see Chapman and Ryan 2003.

[8] For fuller discussion, see Barr (2001, Ch. 14).

References

Barr, Nicholas (2001), *The Welfare State as Piggy Bank: Information, risk, uncertainty and the role of the State*, Oxford and New York: Oxford University Press, downloadable from http://www.oxfordscholarship.com/oso/public/content/economicsfinance/0199246599/toc.html

Barr, Nicholas (2002). 'Funding Higher Education: Policies for Access and Quality', House of Commons, Education and Skills Committee, *Post-16 Student Support*, Sixth Report of Session 2001-2002, HC445, (TSO, 2002), pp. Ev 19-35.

Barr, Nicholas (2004*a*), 'Higher education funding', *Oxford Review of Economic Policy*, Vol. 20, No. 2, Summer, pp. 264-283.

Barr, Nicholas (2004*b*), *The Economics of the Welfare State*, 4th edition, (Oxford University Press and Stanford University Press, 2004) (also in Korean).

Barr, Nicholas and Crawford, Iain (1998), 'The Dearing Report and the Government's Response: A Critique', *The Political Quarterly*, Vol. 69, No. 1, January - March 1998, pp. 72-84.

Chapman, Bruce and Ryan, Chris (2003), 'The access implications of income contingent charges for higher education: Lessons from Australia', Australian National University, Centre for Economic Policy Research, Discussion paper no. 463, April.

Dearden, Lorraine, Fitzsimons, Emla, Goodman, Alissa, and Kaplan, Greg (2008), 'Higher Education Funding Reforms in England: The Distributional Effects and the Shifting Balance of Costs', *Economic Journal*, Vol. 118, No. 526, February, pp. F100-F125.

Feinstein, Leon (2003), 'Inequality in the Early Cognitive Development of British Children in the 1970 Cohort', *Economica*, 70/277, 73-98.

Friedman, Milton (1955), 'The Role of Government in Education', in Solo, Robert A. (ed.), *Economics and the Public Interest*, New Brunswick, New Jersey: Rutgers University Press, pp. 123-44.

OECD (2006), *Education at a Glance: OECD Indicators 2006*, Paris: OECD.

Shen, Hua and Adrian Ziderman (2009), 'Student Loans Repayment and Recovery: International Comparisons', *Higher Education*, No. 3, 2009, pp. 315-33.

UK Education and Skills Select Committee (2002), *Post-16 Student Support*, Sixth Report of Session 2001-2002, HC445, London: TSO

UK Office for National Statistics (2004), *Focus on Social Inequalities, 2004 edition*, London: TSO.