

School of Economics Policy Report

# Funding Universities to Meet National and International Challenges

David Greenaway  
Michelle Haynes  
University of Nottingham

David Greenaway is Professor of Economics and Pro-Vice-Chancellor and Michelle Haynes a Research Fellow, at the University of Nottingham. This Report was commissioned by the Russell Group of Universities as a discussion document to promote public debate on the future funding of Universities in the UK. The analysis and conclusions are those of the authors alone and should not be attributed to the Russell Group or any of its members.

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# FUNDING UNIVERSITIES TO MEET NATIONAL AND INTERNATIONAL CHALLENGES

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## **Acknowledgements**

The authors are grateful to a number of people for their assistance in the preparation of this Report. Dr Nicholas Barr (LSE), Professor David Blanchflower (Dartmouth College, New Hampshire) and Professor Andrew Oswald (University of Warwick) comprised a peer Review Group and commented extensively on a first draft. We are grateful to the many helpful and constructive suggestions which they made. Any remaining errors and omissions are the responsibility of the authors alone.

During the research phase of the work Michelle Haynes undertook a fact finding tour of a number of US Universities to observe at first hand admission and scholarship arrangements and access policies. We would like to thank a significant number of members of staff in Boston, Harvard, Massachusetts, Brandeis, Fordham, Princeton and Barnard College for their hospitality and openness.

We are grateful to the Vice-Chancellors who initiated this work to contribute to the public debate on options for drawing additional resource into higher education to enhance quality of provision and improve access. Their comments on a first draft of the Report are also gratefully acknowledged.

Finally, Vincenzo Raimo provided excellent administrative and secretarial support for which our thanks are due.

## **Glossary of Acronyms and Abbreviations**

|        |  |
|--------|--|
| AUT    | Association of University Teachers                               |
| CGE    | Central Government Expenditure                                   |
| CVCP   | Committee of Vice Chancellors and Principals                     |
| DfEE   | Department for Education and Employment                          |
| EU     | European Union   |
| GDP    | Gross Domestic Product   |
| GHS    | General Household Survey   |
| HECS   | Higher Education Contribution Scheme                             |
| HEFCE  | Higher Education Funding Council for England                     |
| HEFCW  | Higher Education Funding Council for Wales                       |
| HESA   | Higher Education Statistics Agency                               |
| ICL    | Income Contingent Loan   |
| JIF    | Joint Infrastructure Fund  |
| JREI   | Joint Research Equipment Initiative                              |
| LFS    | Labour Force Survey  |
| NACUBO | National Association of College and University Business Officers |
| NCDS   | National Child Development Survey                                |
| NCIHE  | National Committee of Inquiry into Higher Education              |
| NES    | New Earnings Survey  |
| NHS    | National Health Service  |
| NIC    | National Insurance Contribution                                  |
| OECD   | Organisation for Economic Co-operation and Development           |
| ONS    | Office of National Statistics                                    |
| OST    | Office of Science and Technology                                 |
| PCFC   | Polytechnics and Colleges Funding Council                        |
| QAA    | Quality Assurance Agency   |
| QAAHE  | Quality Assurance Agency for Higher Education                    |
| RAE    | Research Assessment Exercise                                     |
| RPI    | Retail Price Index   |
| SHEFC  | Scottish Higher Education Funding Council                        |
| SLC    | Student Loans Company  |
| SSRs   | Staff/Student Ratios   |
| UCAS   | Universities and Colleges Admissions Service                     |
| UFC    | Universities Funding Council                                     |

## **1 INTRODUCTION AND OUTLINE**

In May 2000 University admissions processes hit the front pages of most national newspapers. The reason for this highly unusual event was that an obviously very able young woman named Laura Spence had applied for entry to Oxford University but had been unsuccessful. Her application to Harvard University had been doubly successful: she was offered a place and the offer came with a scholarship worth £65,000. Public interest was stirred not only by Laura's relative success at these two fine Universities but by the Chancellor of the Exchequer using a speech at a TUC Congress to condemn the lack of an offer from Oxford as "..... absolutely scandalous.....", going on to lambaste the social mix of British Universities and threatening funding penalties if they did not do something to change that mix.

Picking over the bones of this tells us a lot about the funding and management of higher education in the UK and US. Take first of all Laura's application to Oxford. Given the excellence of its reputation, Oxford has many more applications from students who meet their entry standards than places to offer. Its admission tutors invest considerable time allocating those places so that they go to the candidates regarded as having most potential. More are disappointed than elated. So why not offer more places? Oxford is not allowed unilaterally to increase the number of places it offers. Under current Government arrangements, the maximum number of places each university can offer is determined by the Chancellor's funding allocations and set by the Funding Councils: fines are levied if numbers are exceeded beyond a very small margin.

The fact that Laura was from a comprehensive school in the North East added a second dimension: access. The social mix in our Universities does not reflect the social make-up

of society more generally. This is as true now as twenty years ago, despite increased participation, despite multiple initiatives to improve access. According to the Chancellor, this is a failure of the elite Universities.

Harvard is an elite University. Many would regard it as one of the finest Universities in the world, let alone the US. It selects and admits the highest quality students and gives them an education much prized in the labour market. Harvard is also a private University. Its governing body decides how many students to admit and to what courses. It also decides on the fees to be charged and these run at around £17,000 (\$25,000) per student, per year. Yet Harvard is socially inclusive. It deploys its very considerable financial resources to seek out the best qualified applicants from the widest range of social backgrounds possible. Those whose family circumstances allow them to do so pay full fees; those from less fortunate backgrounds receive scholarships. Oxford does not have that kind of financial flexibility. No British University does.

This incident and the stark contrast between Oxford and Harvard illustrates graphically the three key challenges facing British Universities: funding, access and regulation. Over the last twenty years or so, funding per student has fallen dramatically in real terms; despite a significant increase in participation, the social mix of our Universities has barely changed; more and more of our Universities' activities are over-regulated by costly bureaucratic processes. Government, which decides how many students there should be and controls the core teaching and research funds, has decreed that further expansion must take place but with continued year on year "efficiency gains". Under present funding arrangements our Universities are finding it more and more difficult to provide the highly educated workforce which the UK needs to compete effectively as a knowledge based economy and for which

the Prime Minister has rightly asked. Moreover, given the record of present funding arrangements regarding access, one can have little confidence in seeing a rapid change in social mix. This would be true even if the Chancellor's threat to withhold funding were implemented. Effective access policies require more resource rather than less, as experience in the US demonstrates. They also, however, require changes in social policy, investment in school improvement and changes in income distribution, which were all rather conveniently forgotten by the Chancellor.

This Report has as its focus the funding of Universities and access to them, which are related. To serve the needs of the economy in an increasingly competitive, fast moving, knowledge based environment, the UK requires a vibrant, diverse and flexible higher education sector. Thus the Report is not focused on the needs of a particular group of Universities but on the needs of *all* Universities. It is also focused on the needs of *all* potential students, especially those who, because of family background, face the greatest barriers to entry to higher education. The Report is retrospective and prospective. It begins by reflecting on how the funding and make-up of our Universities has changed over the last twenty years and how we compare with our major competitors internationally. It goes on to examine the benefits of higher education, both to the individual and to society more generally. Both give pointers to future funding.

We examine a range of options and conclude that greater fee differentiation should be an ingredient of higher education funding in the future. Having beneficiaries make a greater contribution to costs is the only effective and fair means of bringing additional funding into our Universities. To ensure that differential fees do something positive about access, they must be accompanied by more generous scholarships and more extensive income

contingent loans. Both remove financial pressures whilst students are actually at University and permit beneficiaries to draw upon part of the fruits of investment in themselves now, repaying only when they can afford to and over an extended period.

The twenty-first century knowledge based economy needs more and more young (and not so young) students from all groups in society benefiting from higher education. Successive governments have recognised this and are working to create a truly mass system. They do not admit publicly however that taxpayers cannot afford to fund in full a mass system. This Report sets out the justification and mechanisms whereby beneficiaries, in partnership with the taxpayer, can ensure that mass production also means high quality production.

## **2 LOOKING BACKWARDS: HIGHER EDUCATION IN THE UK**

### **2.1 Introduction**

The higher education marketplace in the UK has changed profoundly over the last 15 years in every dimension: participation, funding, regulation, product mix and the range of services provided by higher education institutions in general and Universities in particular<sup>1</sup>. In less than a generation we have progressed from an elite to a mass system, public funding per student has been drastically reduced and regulation has increased and intensified. The resulting pressures have stimulated productivity improvement as well as diversification in most Universities and the UK's graduation rates are now among the highest in the world. However, the contraction of public funding alongside constraints on Universities' capacity to relieve financial pressures and generate investible resources from the beneficiaries of higher education is having an impact and has potentially serious consequences for the future vitality and performance of the sector.

### **2.2 Changing Participation in Higher Education**

Figure 1 shows the number of full-time UK students in higher education from the 1960s to the present. The trend is unmistakably upward, though not characterised by a constant growth rate. Rather the picture is of gradual expansion, punctuated by periods of accelerated growth: for example in the late 1960s with the creation of a clutch of new Universities and the early 1990s, with the drive to increase participation. We are now

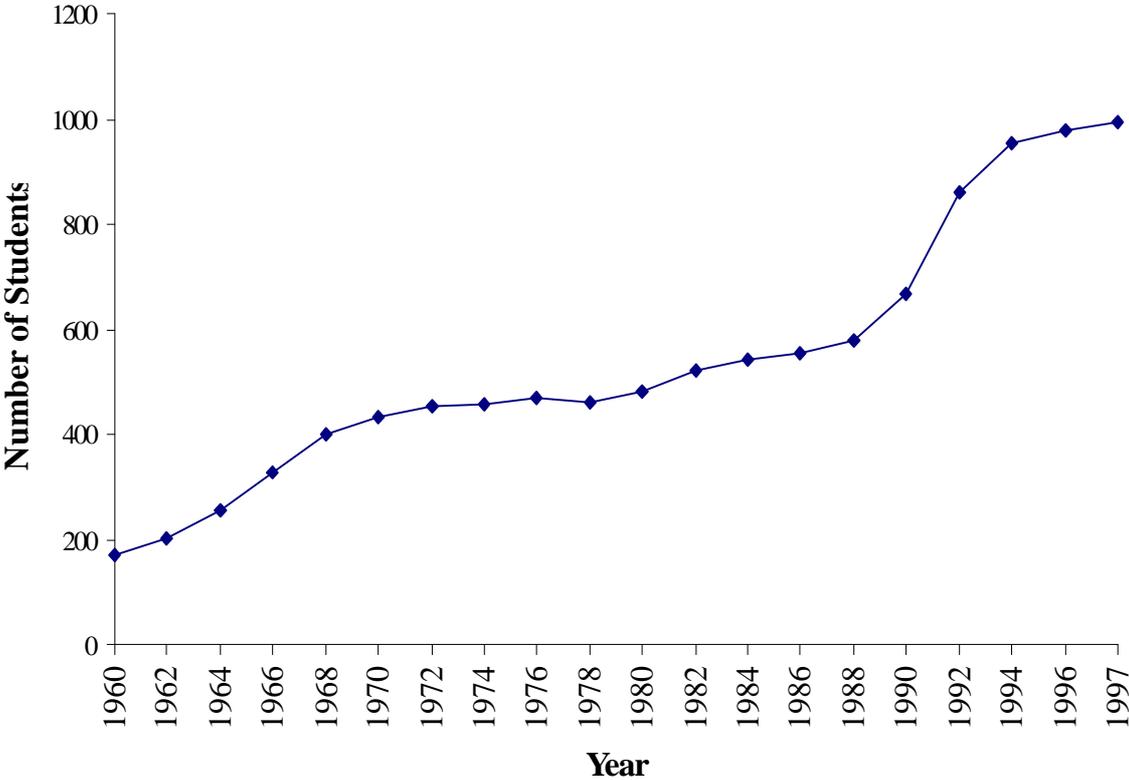
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<sup>1</sup>

the case of many non-University higher education institutions, the link between higher education and further ; partly because most of the comparative data to which we refer applies only

entering a further period of expansion with, on this occasion, access being the trigger. These expansions have been supply led in that changes in government policy have in each case been the focus, with some additional tranche of public funds facilitating the change. They have nevertheless transformed British higher education from an elite system in the 1960s to a mass system in the late 1990s, which has over 1.1 million full-time and approaching 1 million part-time students.

**Figure 1.** Full-time UK Students in Higher Education in the UK (000s)



*Notes:* numbers exclude Open University students who are regarded as part-time. For the years 1960 to 1997 inclusive, an estimate of students from overseas has been removed from the published figures to arrive at the figure for home students.

*Source:* DfEE

*Gender Balance:* Table 1 shows the expanded participation for all ages by type of course and gender. In 1980, 87 per cent of the student population were undergraduates and 64 per

cent male. By the end of the period the former proportion had fallen to 75 per cent and the latter to 48 per cent. For all undergraduate courses, in 1996/97 there were around 45 per cent more enrolments by men than in 1980/81. For women the change is even more dramatic with a three-fold increase in 1996/97 compared with 1980/81. Indeed, in 1996/97, 93,000 more women than men enrolled on undergraduate courses. The increase in women on postgraduate courses has been even sharper with over 5 times more enrolments in 1996/97 than in 1980/81, albeit from a smaller base. Finally, over the period covered, the number of students enrolled in part-time higher education increased by a factor of three with a much higher increase for women.

**Table 1.** Students in Higher Education: by Type of Course and Gender, 1970-1997<sup>1</sup>

|                            |                | 1980/81    | 1990/91     | 1996/97 <sup>2</sup> |
|----------------------------|----------------|------------|-------------|----------------------|
| Undergraduate:             |                |            |             |                      |
| Full time <sup>3</sup>     | Males          | 277        | 345         | 491                  |
|                            | Females        | 196        | 319         | 528                  |
| Part time <sup>3</sup>     | Males          | 176        | 193         | 168                  |
|                            | Females        | 71         | 148         | 224                  |
| Postgraduate:              |                |            |             |                      |
| Full time <sup>3</sup>     | Males          | 41         | 50          | 75                   |
|                            | Females        | 21         | 34          | 63                   |
| Part time <sup>3</sup>     | Males          | 32         | 50          | 113                  |
|                            | Females        | 13         | 36          | 102                  |
| <b>Total<sup>3,4</sup></b> | <b>Males</b>   | <b>526</b> | <b>638</b>  | <b>912</b>           |
|                            | <b>Females</b> | <b>301</b> | <b>537</b>  | <b>980</b>           |
| <b>Total<sup>3,4</sup></b> | <b>M+W</b>     | <b>827</b> | <b>1175</b> | <b>1892</b>          |

Notes: Figures are in thousands.

<sup>1</sup> Home and overseas students

<sup>2</sup> In 1996/97 figures are not directly comparable with other years since those refer to enrolments rather than headcounts. Includes 1994/95 further education data for Wales.

<sup>3</sup> Includes Open University

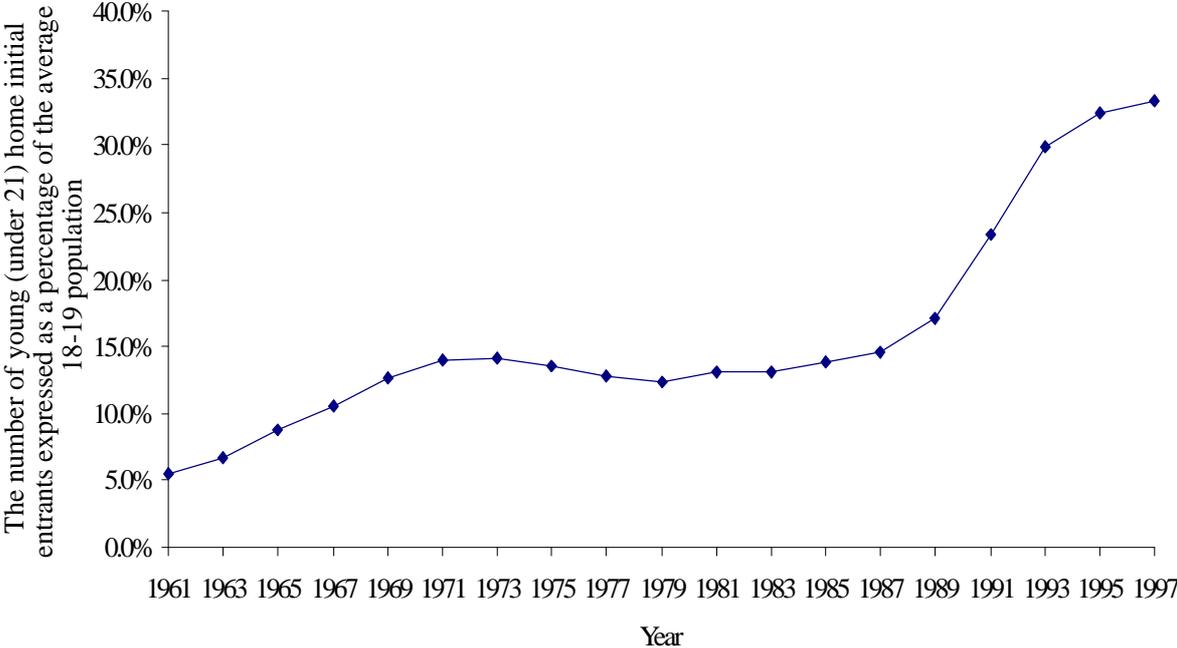
<sup>4</sup> Data for 1996/97 include students whose level of study is unknown.

Source: Social Trends

*Participation and Age Mix:* In the early 1960s, only 5 per cent of 19 and 20 year olds were in full-time higher education. By 1987 this had risen to 15 per cent with just over 12 per

cent in Universities and polytechnics and by 1997 over 30 per cent, with 25 per cent in Universities. Participation therefore increased sixfold over this period. It continues to increase and now stands at 36 per cent (see Figure 2).

**Figure 2.** Age Participation Index (API), 1961-1997



*Notes:* Initial entrants are those entering a course of full-time higher education for the first time. 1961 figure estimated using Robbins Report App.2A, Table 3. Due to minor change in definition, the years 1961 to 1970 inclusive are not strictly comparable with later years. Figures from 1994 onwards are provisional.  
*Source:* DfEE

Participation of mature students (undergraduates over 21, postgraduates over 25) has also grown. In the early 1960s they accounted for 41 per cent of full-time undergraduates. However, by 1995/96, 58 per cent of entrants were mature, with the bulk being on part-time and postgraduate programmes.

*Social Mix:* As higher education has expanded so too has participation of entrants from low income groups (see Table 2). Between the early 1990s and 1997/98 the proportion of families in the unskilled category which sent children to University rose from 6 per cent to 14 per cent. Over the same period, the proportion from the professional family cohort increased from 55 to 80 per cent. Thus, the participation rate for those in the professional group in 1997/98 was still 66 percentage points higher than the unskilled group and this difference has widened since 1991/92. As Table 3 shows, in 1999, 64 per cent of University entrants were from socio-economic groups I, II and III<sup>N</sup> and 24 per cent from groups III<sup>M</sup>, IV and V<sup>2</sup>. If one narrows the focus further to groups IV and V (Partly Skilled and Unskilled), the figures are even more striking. These account for 9 per cent of University entrants. While four out of five 18 year olds from senior managerial and professional backgrounds enter higher education, barely one in ten from unskilled and partly skilled backgrounds do so (Robertson and Hillman, 1997). Despite mass and, until recently, free education at the point of consumption, the social make-up of Universities has changed little. This is illustrated starkly by Figure 3, which charts the shares of socio-economic groups in Universities all the way back to 1979. That for Group V (Unskilled) is practically flat at around 1 per cent; that for Group IV shows a slight but only slight, upward trend from 5 to around 7 per cent. This clearly represents a massive waste of talent and must be regarded as a serious failing of the British system. Moreover, since £3 billion of public funds are now invested in teaching each year, this results in a significant redistribution of income away from low income taxpayers to high income taxpayers, an outcome difficult to justify in terms of social justice.

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<sup>2</sup> The percentages do not sum to 100 because 12 per cent were classified by UCAS as “unknown”.

**Table 2.** Participation Rates in Higher Education: by Social Class, 1991/2 to 1997/98<sup>1</sup>

|                         | 1991/92 | 1992/93 | 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 |
|-------------------------|---------|---------|---------|---------|---------|---------|---------|
| I Professional          | 55      | 71      | 73      | 78      | 79      | 82      | 80      |
| II Intermediate         | 36      | 39      | 42      | 45      | 45      | 47      | 49      |
| IIIN Skilled non-manual | 22      | 27      | 29      | 31      | 31      | 31      | 32      |
| IIIM Skilled manual     | 11      | 15      | 17      | 18      | 18      | 18      | 19      |
| IV Partly skilled       | 12      | 14      | 16      | 17      | 17      | 17      | 18      |
| V Unskilled             | 6       | 9       | 11      | 11      | 12      | 13      | 14      |
| All social classes      | 23      | 28      | 30      | 32      | 32      | 33      | 34      |

*Notes:* Figures are in percentages.

<sup>1</sup> The number of home domiciled initial entrants aged under 21 to full-time and sandwich undergraduate courses of higher education in further education and higher education institutions expressed as a proportion of the average 18 to 19 year old population. The 1991 Census provided the population distribution by social class for all years.

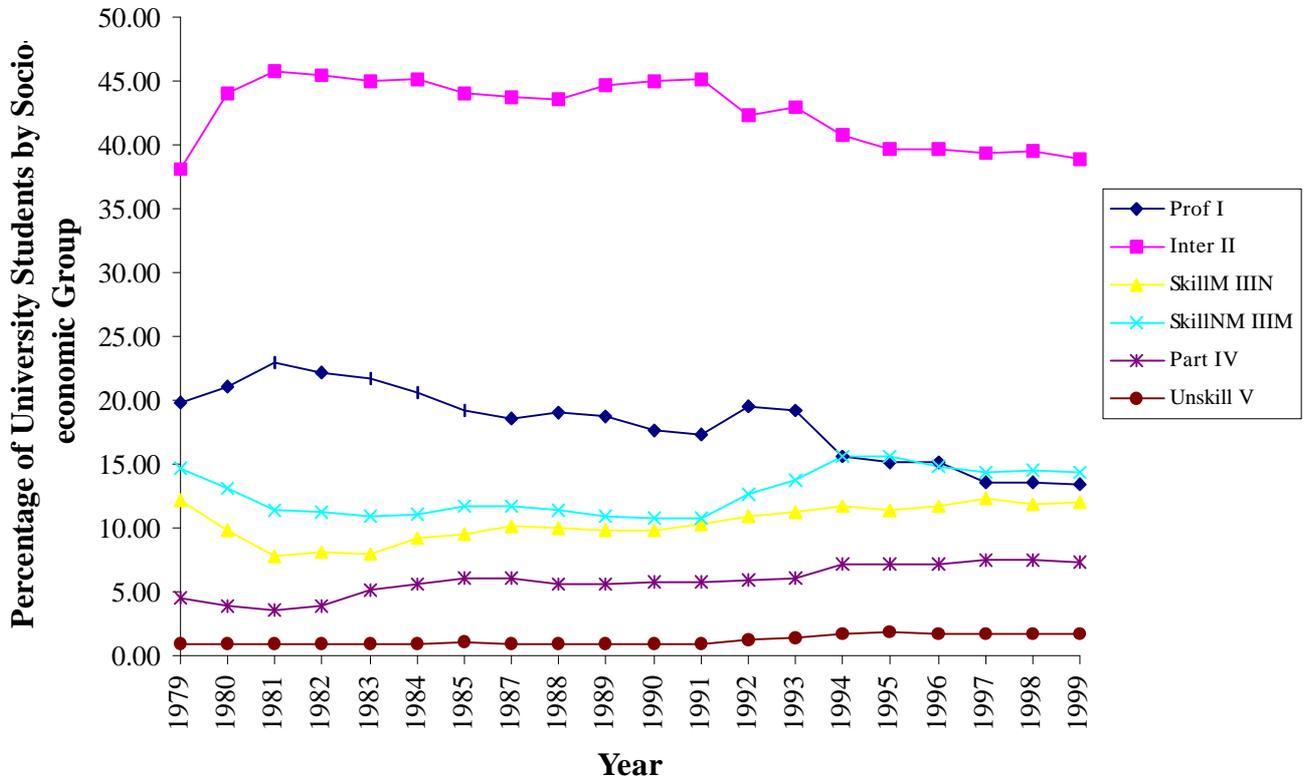
*Source:* Social Trends

**Table 3.** Social Class of University Entrants, Percentage Shares

|      |                    | <b>1999</b> |
|------|--------------------|-------------|
| I    | Professional       | 13.4        |
| II   | Intermediate       | 39.0        |
| IIIN | Skilled Non-Manual | 12.0        |
| IIIM | Skilled Manual     | 14.4        |
| IV   | Partly Skilled     | 7.4         |
| V    | Unskilled          | 1.7         |
|      | Unknown            | 12.1        |

*Source:* UCAS

**Figure 3. Socio-Economic Participation: Universities 1979-1999**



Source: UCCA Statistical Supplement; UCAS

### 2.3 Public Funding of Higher Education

In 1997/98 total public expenditure on tertiary education was £8 billion out of a total education budget of £36 billion. Table 4 sets this in context alongside other major areas of public expenditure. Total government expenditure in real terms rose each year from 1988 to peak in 1995 at £338 billion. The share of education expenditure has remained fairly constant at around 10 per cent.

**Table 4.** Expenditure of General Government in Real Terms: by function, 1987 to 1997<sup>1,2</sup>

|   | 1987       | 1991       | 1995       | 1996       | 1997       |
|---|------------|------------|------------|------------|------------|
| Social protection   | 96         | 109        | 133        | 132        | 131        |
| Health  | 33         | 37         | 43         | 44         | 44         |
| Education:  | 31         | 33         | 36         | 36         | 36         |
| <b>of which Tertiary</b>                                    | <b>6.2</b> | <b>7.1</b> | <b>8.4</b> | <b>7.9</b> | <b>8.0</b> |
| Defence   | 30         | 30         | 24         | 24         | 23         |
| Public order and safety                                     | 12         | 15         | 17         | 16         | 16         |
| General public services                                     | 9          | 13         | 16         | 16         | 15         |
| Housing and community amenities                             | 11         | 11         | 9          | 7          | 6          |
| Recreation, culture and religion                            | 4          | 5          | 5          | 4          | 4          |
| Other economic affairs and environ. protection <sup>3</sup> | 24         | 26         | 28         | 28         | 24         |
| Gross debt interest   | 30         | 22         | 28         | 29         | 30         |
| <b>All expenditure</b>                                      | <b>280</b> | <b>301</b> | <b>338</b> | <b>335</b> | <b>331</b> |

*Notes:* Figures are in £ billion at 1997 prices

<sup>1</sup> General government expenditure (GGE), is the sum of current and capital expenditure including transfer payments, plus two financial transactions; net lending and transactions in company securities.

<sup>2</sup> Adjusted to 1997 prices using the GDP market prices deflator.

<sup>3</sup> Includes expenditure on transport and communication, agriculture, forestry and fishing, mining, manufacture, construction, fuel and energy and services.

*Source:* Social Trends

Table 5 shows public expenditure on education by type over the period 1980 to 1997. Total expenditure increased by over 32 per cent in real terms. Despite participation more than doubling the share of higher, further and continuing education expenditure remained fairly constant at around 30 per cent.

**Table 5.** Government Expenditure on Education in Real Terms: by type, 1980-1997<sup>1</sup>

|   | 1980-81      | 1990-91      | 1995-96      | 1996-97 <sup>2</sup> |
|---|--------------|--------------|--------------|----------------------|
| Schools: Nursery and primary                          | 6771         | 8253         | 10210        | 10191                |
| Schools: Secondary                                    | 8751         | 9225         | 9878         | 9841                 |
| Schools: Special                                      | 1035         | 1402         | 1592         | 1619                 |
| Higher, further and continuing education <sup>3</sup> | 7015         | 8281         | 10052        | 9820                 |
| <b>of which higher education</b>                      | <b>6098</b>  | <b>6392</b>  | <b>8167</b>  | <b>7697</b>          |
| Other education expenditure                           | 1159         | 1653         | 1140         | 1169                 |
| <b>Total</b>  | <b>24732</b> | <b>28814</b> | <b>32871</b> | <b>32640</b>         |

*Notes:* Figures are in £ million at 1996-97 prices

<sup>1</sup> Adjusted to 1996-97 prices using the GDP market prices deflator

<sup>2</sup> Includes 1995-96 data for Wales

<sup>3</sup> Includes Universities. In April 1989 fees for polytechnics and colleges transferred to the former Polytechnics and Colleges Funding Council.

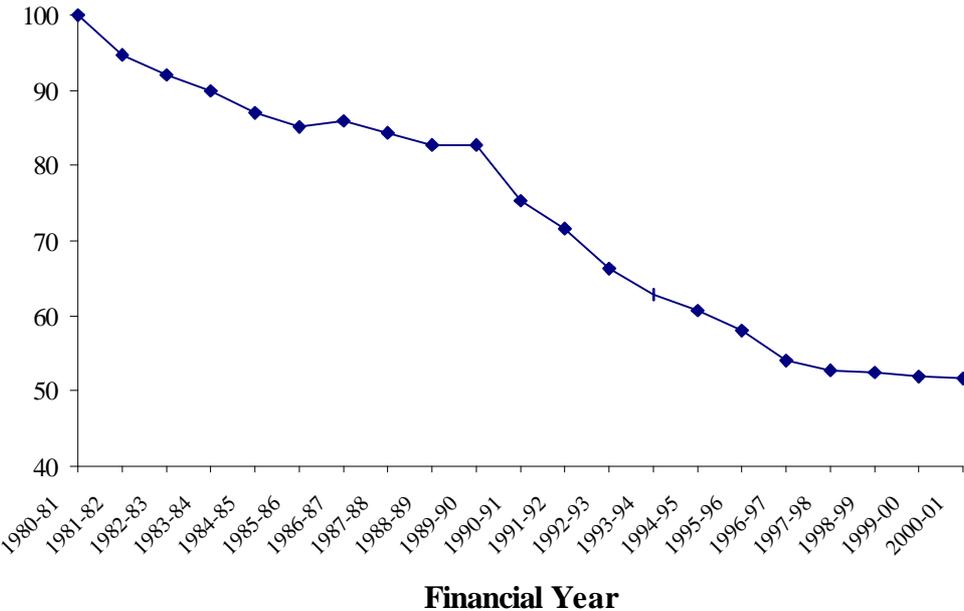
*Source:* Social Trends

Thus, whilst the growth in student numbers has been accompanied by an increase in higher education expenditure in real terms, the level of public funding per student has fallen dramatically. As Figure 4 shows expenditure per student has decreased by nearly 50 per cent in real terms over the period 1980 to the present.

In 1985, average teaching expenditure per student was almost £8,500 in the then Universities and £4,250 in the Polytechnics. In 1997 average teaching expenditure across (old and new) Universities had declined to just over £4,790. Universities have responded by becoming more cost effective and making more efficient use of their resources. For example, Travers *et al* (1996) estimate that labour productivity has grown by 6 per cent per annum in the 1990s compared with just 2 per cent for the service sector overall. However, with increasing participation and current expenditure levels, reductions in funding per

student is expected to continue. Indeed, year on year ‘efficiency gains’ of 1 per cent per annum are explicitly built into future funding assumptions.

**Figure 4.** Index of Public Funding for Higher Education 1980/81 to 2000/01



Source: DfEE

Higher education institutions also receive funding from private sources. In 1997/98 they contributed 37 per cent of total funding. However, as Table 6 shows most of this was associated with research and other activities, rather than teaching.

**Table 6. Source of Income of Higher Education Institutions  
by Activity Type, 1997/98**

|                               | Source of Income (£ thousands) |                     |                       |                |                      | Total           |
|-------------------------------|--------------------------------|---------------------|-----------------------|----------------|----------------------|-----------------|
|                               | Public<br>Funds                | Individuals         | Industry/<br>Commerce | Charities      | Other <sup>1</sup>   |                 |
| Teaching                      | 4447309                        | 531197 <sup>2</sup> | - <sup>3</sup>        | - <sup>4</sup> | 955956 <sup>5</sup>  | 5934462         |
| % of total                    | 74.9                           | 9.0                 | -                     | -              | 16.1                 | 100.0           |
| Research                      | 1892795                        | -                   | 207033                | 399216         | 117563               | 2616607         |
| % of total                    | 72.3                           | -                   | 7.9                   | 15.3           | 4.5                  | 100.0           |
| Other Activities <sup>6</sup> | 984086 <sup>7</sup>            | 820828 <sup>8</sup> | 148058                | -              | 1112668 <sup>9</sup> | 3065640         |
| % of total                    | 32.1                           | 26.8                | 4.8                   | -              | 36.3                 | 100.0           |
| <b>Total</b>                  | <b>7324190</b>                 | <b>1352025</b>      | <b>355091</b>         | <b>399216</b>  | <b>2186187</b>       | <b>11616709</b> |
| <b>% of total</b>             | <b>63.0</b>                    | <b>11.6</b>         | <b>3.1</b>            | <b>3.4</b>     | <b>18.8</b>          | <b>100.0</b>    |

Notes: Figures in £ thousands at 1997-98 prices.

<sup>1</sup> Other includes 'other general income' and 'other income for services rendered'

<sup>2</sup> A proportion of this will be met by employers

<sup>3</sup> There will be some contribution from employers included in the 'individuals' total, including fees for company based training

<sup>4</sup> There will be some scholarship income from charities probably included in the 'other' column

<sup>5</sup> Includes overseas student fees and contract services for core activities other than research

<sup>6</sup> Includes some activities which support teaching and research

<sup>7</sup> Includes income from health and hospital authorities for nurse training

<sup>8</sup> Income from residence and catering operations

<sup>9</sup> Includes endowment income (£29,7786 thousand)

Source: HESA

## 2.4 Consequences of Declining Funding

Declining public funding, alongside constraints on the capacity of Universities to generate additional income has impacted on teaching and research in a number of ways.

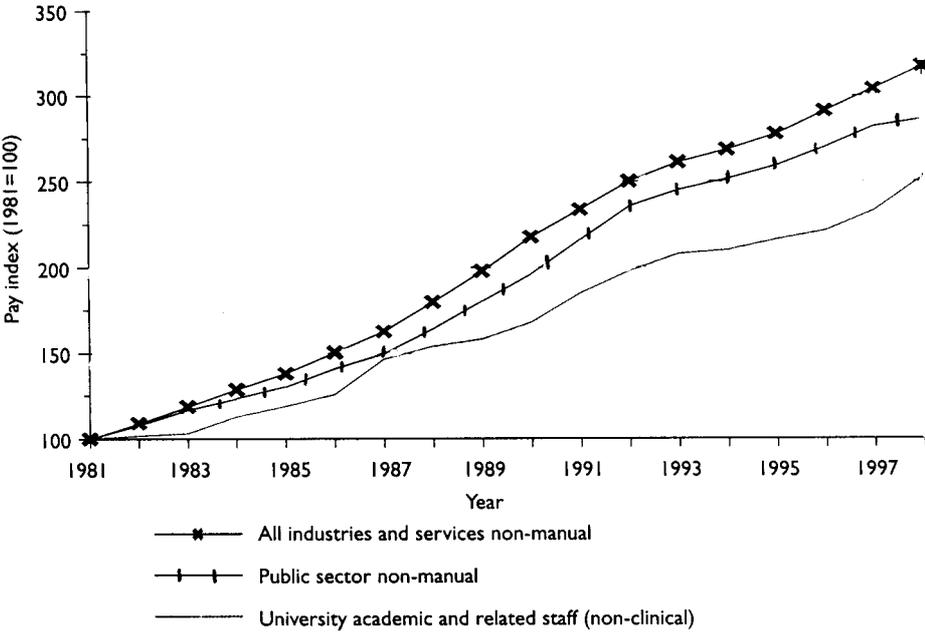
*Student: Staff Ratios:* The decline in funding per student has inevitably resulted in increased class sizes. The average student: staff ratio across the sector in 1980 was 9:1; by 1990 this had increased to 13:1 and by 1998 to 17:1. This is a summary statistic that one has to interpret with care. But it is as legitimate a currency as pupil: staff ratios/average class sizes which Ministers routinely report as evidence that school improvement policies

are working/not working. In effect, average class sizes in Universities have doubled in the last 20 years. Not only has this led to ever larger lecture classes but also to the disappearance of small group tutorials in many Universities. Taken together with recruitment and retention problems, deteriorating SSRs clearly degrade the learning experience and threaten the quality of education.

*Remuneration, Recruitment and Retention:* High quality teaching and high quality research require high quality staff. Recruitment is clearly fashioned by remuneration. According to AUT estimates, there has been virtually no increase in the real earnings of University Lecturers over the last 20 years, despite a significant increase in productivity. But of course it is relative remuneration that matters from the standpoint of recruitment and retention. Figure 5 shows the trend in average earnings of pre-1992 university academics relative to non-manual averages. Average earnings for academic staff have increased since 1981 by only 70 per cent of the average for non-manual employees throughout the economy. If the comparator group is taken as other public sector non-manual staff the increase is still only 82 per cent of that group. As part of its work, the Independent Review of Higher Education Pay and Conditions (IRHEPC, 1999) commissioned work by Hay Management Consultants to compare current pay levels for the full range of higher education staff with those for jobs of equivalent size in other sectors of the economy. Their conclusion was that higher education salaries do not compete favourably with other sectors and, for most grades in most staff groups, salaries are below wider market medians. As we shall see in Chapter 3, salaries in UK Universities also do not compete internationally, especially with those in the US. Evidence submitted to the IRHEPC highlighted the concern about poorer quality candidates for available posts and the long term implications for the competitiveness of leading UK Universities. Salaries significantly below market rates means that recruitment

and retention are a particular problem in certain locations and certain subject areas – information technology, a number of branches of engineering, a range of clinical specialities, economics and law, to name but a few (see CVCP 2000a, Machin and Oswald 2000).

**Figure 5.** Trends in Earnings of pre-1992 University Academics Relative to Non-Manual Averages



Source: New Earnings Survey

*Research Capacity:* As we shall see in Chapter 5, research and development have an important impact on economic growth and international competitiveness. A number of recent studies indicate clearly that both the quality and quantity of University research has improved greatly since the mid-1980s, and in virtually all areas the UK is ranked either second (to the US) or first<sup>3</sup>. Sustaining this research capacity is as important for the UK as

<sup>3</sup> See for example, Adams (1998)

is the provision of first class teaching for students. Much of the excellence stems from recruiting and retaining outstanding staff. It also requires appropriate infrastructure.

The Dearing Report recognised that the quality of the environment had deteriorated. One follow up to Dearing was the Joint Infrastructure Fund (JIF) which, together with the Joint Research Equipment Initiative (JREI) has made a difference. However, a clutch of recent reports continue to point to deficiencies. Pearson (2000) expresses concern at the decline in the R&D funding base and its consequences for future innovation. Two other recent reports highlight<sup>4</sup> risks to UK innovation. The Science Policy Research Unit (SPRU), examines evidence on research funding and concludes that investment levels are lagging internationally. Over the past decade private investment has weakened and government funding has been insufficient to bridge the gap between the UK and its international competitors. They calculate that R&D investment would need to increase by 67 per cent (i.e. £1.3 billion) to match per capita levels in the US<sup>5</sup>. Another report by Policy Research in Engineering, Science and Technology (PREST) and the Centre for Applied Social Research (CASR) suggests that at least £600 million is needed to bring essential research facilities up to date. They also point out that some £800 million of top-rated research applications to the Joint Infrastructure Fund remain unfunded.

## **2.5 Conclusions**

Judged in terms of changes in overall participation the higher education sector has done remarkably well over the past twenty years. Participation rates are high relative to the past and as we shall see in the next Chapter, relative to competing OECD economies. Moreover,

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<sup>4</sup> SPRU (2000); PREST/CASR (2000)

as recent evidence has demonstrated, the system is efficient in transforming a very high proportion of entrants into successful graduates, diplomates and certificate holders in a short space of time. In fact the UK is very near the top of the OECD league on that score. Where broadening participation is concerned, the story is less encouraging however. The lower socio-economic groups are still massively under-represented. Doing something about this is a major priority for the future.

Public funding has lagged behind expansion and as a consequence, funding per student has declined by nearly 50 per cent in real terms over the past twenty years. This has stimulated increased productivity as well as efforts to diversify funding away from the Exchequer. But continued funding cuts have resulted in a significant increase in student: staff ratios, a serious decline in the relative rewards of academic staff relative to all other private and public sector comparators and a decline in the research and teaching infrastructure. Meanwhile, the quality of teaching and research in Universities is being met by increasing and increasingly intrusive regulation. The combination of more time devoted to complying with regulatory requirements rather than teaching and research and declining rewards relative to academic positions overseas and non-academic positions in the UK is leading to serious recruitment and retention problems in our Universities. Without outstanding staff, there is a serious danger that the entire enterprise will degrade rapidly.

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<sup>5</sup> The European Parliament stated that all EU states should aim to spend at least 3 per cent of their GDP on research. The UK currently spends 1.87 per cent.

## **3      LOOKING OUTWARDS: HIGHER EDUCATION IN THE OECD**

### **3.1 Introduction**

Since delivery mechanisms, funding levels, participation and so on vary internationally, it is important to evaluate how the UK fares relative to other OECD countries<sup>6</sup>. The value of international comparisons is twofold. First, where the OECD economies are concerned, it provides us with a benchmark in just the same way as cross-national comparisons of living standards and productivity. Second, as acknowledged at the outset, the higher education market is a very competitive one internationally and most of the competition for international students to study at British Universities is in other OECD countries. In this Chapter we present comparative evidence on participation and on funding. We also evaluate the UK position in the global market for international students and academic staff.

### **3.2 International Comparisons of Students in Higher Education**

If current entry rates across the OECD extend into the future, one in three of today's young people will enter higher education at some time in their life. Table 7 compares entry rates across the OECD. At university-level, the US is highest at over 50 per cent. Finland, Poland and the UK all exceed 40 per cent: above the overall average (34 per cent). Switzerland and Greece have noticeably lower participation rates at 16 and 18 per cent respectively. For some, such as Norway and Switzerland, wide access to non-university education counterbalances low entry rates to Universities. However, for other countries, most

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<sup>6</sup> The 29 members of the OECD are Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, The Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, UK and US. Most of our comparisons focus only on North America, Western Europe, Australasia and Japan.

noticeably the US, UK and Finland, entry rates at university and non-university level are among the highest in the OECD.

**Table 7.** Net Entry Rates for Tertiary-level Education<sup>1</sup>, 1996

|             | Other<br>Tertiary | University |
|-------------|-------------------|------------|
| Austria     | -                 | 29         |
| Denmark     | 10                | 35         |
| Finland     | 22                | 45         |
| Germany     | -                 | 27         |
| Greece      | 13                | 18         |
| Hungary     | -                 | 35         |
| Ireland     | 24                | 29         |
| Netherlands | -                 | 34         |
| New Zealand | 20                | 39         |
| Norway      | 29                | 26         |
| Poland      | 17                | 48         |
| Switzerland | 30                | 16         |
| <b>UK</b>   | <b>25</b>         | <b>41</b>  |
| US          | 47                | 52         |
| <b>OECD</b> | <b>19</b>         | <b>34</b>  |

*Notes:* <sup>1</sup> Sum of net entry rates for single ages where net entry refers to rate of first-time tertiary entry at all ages. First time entry rates for each level of education cannot be added together to obtain tertiary-level entrance rates because of the possible double counting of entrants (persons who enter non-university tertiary programmes may also enter university-level programmes later in their lives).

*Source:* OECD (1998)<sup>7</sup>

As Table 8 shows participation increased significantly in the early 1990s. The total number of students enrolled in tertiary education increased by over 20 per cent between 1990 and 1996 in all but five countries: Canada, Germany, the Netherlands, Switzerland and the US. The UK, together with Hungary, Ireland and Turkey experienced increases of over 50 per cent and in Poland and Portugal, the number of tertiary students enrolled more than doubled. It is clear from Table 8 that the changes in enrolment are mainly attributable to

<sup>7</sup> OECD (2000) updates the data to 1997 but a change in definition at the tertiary makes comparisons more difficult.

higher participation rather than an increase in population at the relevant ages, the exception being the Czech Republic.

**Table 8.** Index of Change in Enrolment in Tertiary Education (1990=100)

|                | Change in Enrolment                                    |            |   |                                 |
|----------------|--|------------|---|---------------------------------|
|                | Total Enrolment<br>(1990=100) in<br>Tertiary Education |            | Attributable to:                            |                                 |
|                | 1985   | 1996       | Change in<br>the size of<br>youth<br>cohort | Change in<br>enrolment<br>rates |
| Australia      | -  | 129        | 100   | 130                             |
| Austria        | 80   | 120        | 97  | 126                             |
| Belgium        | 89   | 148        | -   | -                               |
| Canada         | 90   | 118        | -   | -                               |
| Czech Republic | -  | 149        | 115   | 130                             |
| Denmark        | 87   | 121        | 100   | 123                             |
| Finland        | 77   | 130        | 91  | 142                             |
| France         | 84   | 132        | -   | -                               |
| Germany        | 90   | 107        | -   | -                               |
| Hungary        | -  | 185        | -   | -                               |
| Iceland        | -  | 126        | -   | -                               |
| Ireland        | 79   | 151        | 107   | 142                             |
| Italy          | 86   | 127        | -   | -                               |
| Japan          | -  | 121        | -   | -                               |
| Mexico         | -  | 122        | 113   | 108                             |
| Netherlands    | 93   | 110        | 91  | 123                             |
| New Zealand    | 86   | 141        | 97  | 145                             |
| Norway         | 71   | 139        | -   | -                               |
| Poland         | -  | 223        | -   | -                               |
| Portugal       | -  | 244        | 105   | 234                             |
| Spain          | 73   | 137        | 101   | 137                             |
| Sweden         | 97   | 141        | 99  | 143                             |
| Switzerland    | 80   | 112        | 98  | 116                             |
| Turkey         | -  | 171        | -   | -                               |
| <b>UK</b>      | <b>85</b>  | <b>181</b> | <b>93</b>                                   | <b>192</b>                      |
| US             | 91   | 106        | 95  | 111                             |

Source: OECD (1998)

*Gender Balance:* As Table 9 shows, entry rates for women are higher than men for a number of countries - the US, UK, Denmark, Finland and New Zealand all exceed 40 per cent against an OECD average of 37 per cent. As in the UK, an important element in the growth in higher education has been increased female participation.

**Table 9.** Net Entry Rates for Tertiary-level Education by Gender<sup>1</sup>, 1996

|             | Other Tertiary |           | University |           |
|-------------|----------------|-----------|------------|-----------|
|             | Men            | Women     | Men        | Women     |
| Austria     | -              | -         | 26         | 31        |
| Denmark     | 11             | 9         | 26         | 43        |
| Finland     | 16             | 27        | 44         | 47        |
| Germany     | -              | -         | 28         | 27        |
| Hungary     | -              | -         | 32         | 38        |
| Ireland     | 23             | 24        | 28         | 30        |
| Netherlands | -              | -         | 32         | 36        |
| New Zealand | 18             | 21        | 33         | 44        |
| Norway      | 24             | 34        | 20         | 33        |
| Switzerland | 40             | 21        | 17         | 14        |
| <b>UK</b>   | <b>24</b>      | <b>27</b> | <b>39</b>  | <b>43</b> |
| US          | 41             | 52        | 46         | 58        |
| <b>OECD</b> | <b>20</b>      | <b>22</b> | <b>31</b>  | <b>37</b> |

Notes: <sup>1</sup> See note to Table 7.

*Mode of Enrolment:* On average, 12 per cent of university and 22 per cent of non-university students are part-time (Table 10). There is wide variation across countries, with the highest levels (over 30 per cent) for Australia, Canada, Hungary and New Zealand. For countries with data available the importance of part-time study is even more important at the non-university level. In the US and UK more than 60 per cent of students at this level are part-time.

**Table 10.** Distribution of Students by Mode of Enrolment, 1996

|                | Mode of enrolment |             |             |             |
|----------------|-------------------|-------------|-------------|-------------|
|                | Non-university    |             | University  |             |
|                | Full-time         | Part-time   | Full-time   | Part-time   |
| Australia      | 20.2              | 79.8        | 60.1        | 39.9        |
| Austria        | 90.6              | 9.4         | 100.0       | -           |
| Belgium        | 81.8              | 18.2        | 99.1        | 0.9         |
| Canada         | 62.0              | 38.0        | 69.0        | 31.0        |
| Czech Republic | 100.0             | -           | 91.8        | 8.7         |
| Germany        | 83.1              | 16.9        | 100.0       | -           |
| Greece         | 100.0             | -           | 100.0       | -           |
| Hungary        | -                 | -           | 68.3        | 31.7        |
| Ireland        | 66.2              | 33.8        | 89.7        | 10.3        |
| Italy          | 100.0             | -           | 100.0       | -           |
| Japan          | 96.4              | 3.6         | 91.5        | 9.0         |
| Netherlands    | -                 | -           | 80.9        | 19.1        |
| New Zealand    | 47.6              | 52.4        | 66.0        | 34.0        |
| Norway         | 72.5              | 27.5        | 82.3        | 17.7        |
| Sweden         | -                 | -           | 72.7        | 27.3        |
| Switzerland    | 45.7              | 54.3        | 100.0       | -           |
| <b>UK</b>      | <b>39.0</b>       | <b>61.0</b> | <b>73.5</b> | <b>26.5</b> |
| US             | 36.0              | 64.0        | 70.4        | 29.9        |
| <b>OECD</b>    | <b>73.4</b>       | <b>21.8</b> | <b>87.6</b> | <b>12.4</b> |

Source: OECD (1998)

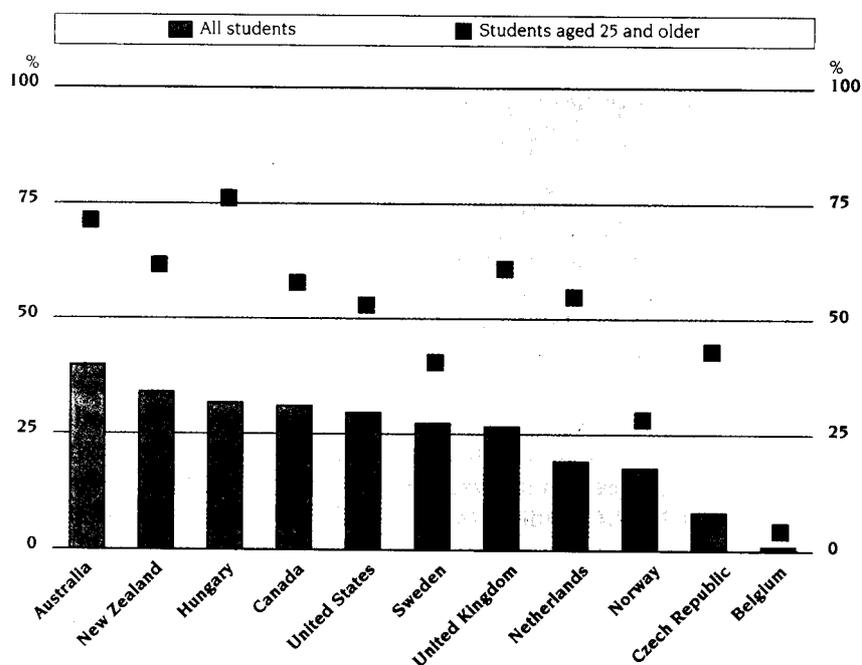
*Age Mix:* Traditionally, entry into University has occurred immediately after completion of upper secondary education. In some countries this is still the case (see Table 11). For example, in Greece and Ireland more than 80 per cent of all first-time entrants are 20 years or younger. In others, the transition to University is often delayed. In Denmark and Norway, for example, more than 50 per cent of students enter for the first time after 22 and less than 20 per cent are younger than 20. In the UK, 50 per cent of new entrants are below 20 and 80 per cent below 24. Of those countries with students enrolled in part-time higher education, the proportion of enrolments is higher among mature students, sometimes twice as high (see Figure 6).

**Table 11.** Age Distribution of University-Level New Entrants, 1996

|             | Age at:                      |                              |                              |
|-------------|------------------------------|------------------------------|------------------------------|
|             | 20th percentile <sup>1</sup> | 50th percentile <sup>1</sup> | 80th percentile <sup>1</sup> |
| Austria     | 19.1                         | 20.4                         | 23.4                         |
| Denmark     | 21.4                         | 23.6                         | 29.4                         |
| Finland     | 19.8                         | 21.4                         | 26.5                         |
| Germany     | 20.1                         | 21.6                         | 25.0                         |
| Greece      | 18.5                         | 19.4                         | 20.5                         |
| Hungary     | 18.9                         | 20.3                         | 25.3                         |
| Ireland     | 18.0                         | 18.6                         | 19.4                         |
| Netherlands | 18.7                         | 20.2                         | 24.0                         |
| New Zealand | 18.4                         | 19.2                         | 25.6                         |
| Norway      | 20.2                         | 22.7                         | >29                          |
| Poland      | 19.5                         | 20.6                         | 23.2                         |
| Switzerland | 20.2                         | 21.3                         | 23.4                         |
| <b>UK</b>   | <b>18.5</b>                  | <b>19.5</b>                  | <b>24.3</b>                  |
| US          | 18.3                         | 19.0                         | 24.2                         |

Notes: 1 20/50/80 per cent of new entrants are below this age  
 Source: OECD (1998)

**Figure 6.** Percentage of University-Level Students Enrolled Part Time, 1996



Source: OECD (1998)

*Completion Rates:* Table 12 shows completion rates. The proportion of entrants who successfully complete a first degree varies widely across OECD countries, ranging from over 80 per cent in Japan, Hungary and the UK to 55 per cent or less in France, Turkey, Austria and Portugal, down to 35 per cent in Italy. Across the OECD, about a third of all entrants leave university education without graduating. On this score UK Universities perform very well.

**Table 12.** Completion Rates at the University-level Education

|             |           |
|-------------|-----------|
| Japan       | 90        |
| <b>UK</b>   | <b>81</b> |
| Hungary     | 81        |
| Czech Rep.  | 79        |
| Ireland     | 77        |
| New Zealand | 76        |
| Finland     | 75        |
| Switzerland | 74        |
| Germany     | 72        |
| Netherlands | 70        |
| Mexico      | 68        |
| Denmark     | 67        |
| Australia   | 65        |
| Belgium     | 63        |
| US          | 63        |
| France      | 55        |
| Turkey      | 55        |
| Austria     | 53        |
| Portugal    | 49        |
| Italy       | 35        |
| <b>OECD</b> | <b>67</b> |

*Source:* OECD (1998)

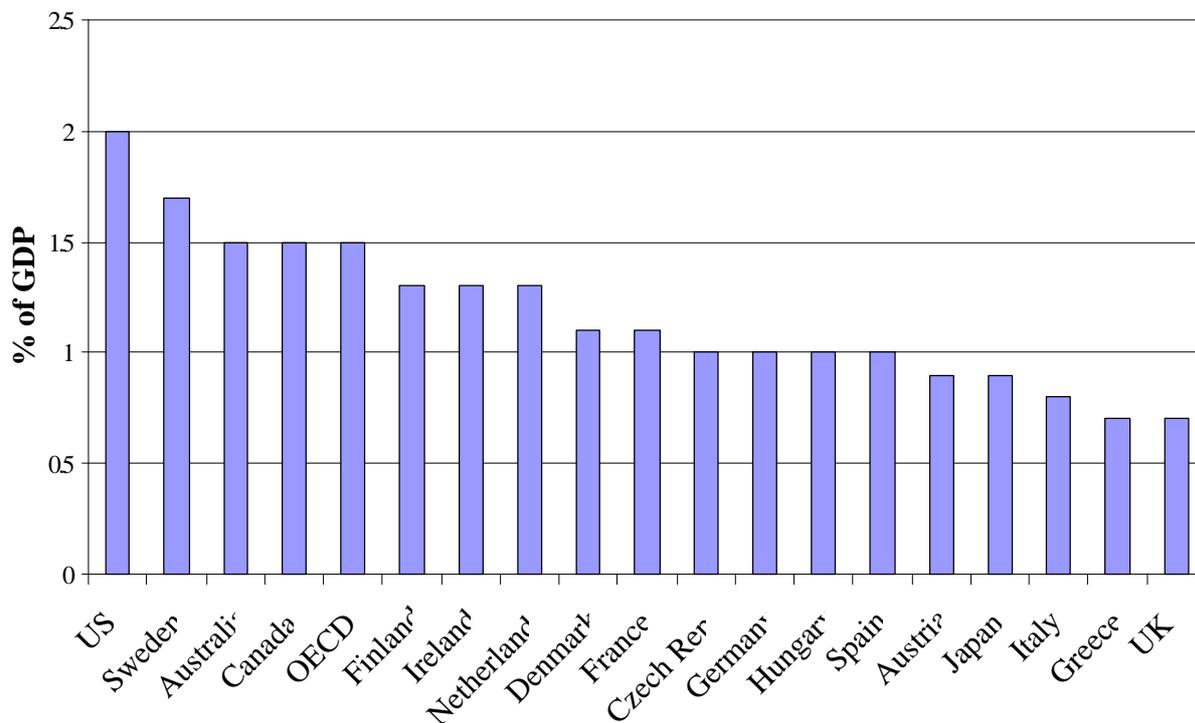
### **3.3 International Comparisons of Funding**

Figure 7 shows higher education expenditure relative to GDP in 1995. Expenditure on Universities in the UK amounted to 0.7 per cent of GDP: less than half the average for the OECD overall (1.5 per cent) and below the average for the EU (1.1 per cent). No major

industrialised country invests a smaller share of GDP in its Universities. Nor does any member of the EU. By comparison, the US invests almost three times as much (2.0 per cent). To reach the equivalent share of GDP as the EU average would require expenditure in the UK to grow by 4.6 per cent per annum in real terms for the next 10 years. The equivalent growth rate required to reach the OECD average would be 7.9 per cent per annum. To get to US levels would need a massive 11.1 per cent each year. To put this in perspective we should note that over the last 10 years, expenditure on higher education has grown at just 2.4 per cent per annum in real terms. The past is often our most reliable guide to the future; the UK is set to fall further behind the other industrialised countries, not close the gap, unless funding levels change.

A comparison of expenditure per student is equally revealing, as shown in Table 13 (which adjusts for purchasing power parities). Average expenditure per student in UK Universities was \$7,225 in 1995, just 60 per cent of the average for the OECD of \$12,018, and below the average for the EU. Not surprisingly, the highest expenditure per student was in the US at \$19,965, whilst the lowest spenders were Greece, Hungary, Italy and Spain (all less than \$5,000).

**Figure 7.** Educational Expenditure as a Percentage of GDP in the OECD, 1995



*Notes:* Figures include expenditure on research. Thus international difference in spending on tertiary education as a percentage of GDP partly reflects differences between countries in the research roles of institutions of higher education.

*Source:* OECD (1998)

The distribution of public and private funding is reported in Table 14. The share of public funding in the UK is close to the average for the OECD (75 per cent). The highest proportions are in Scandinavia (e.g. Denmark at 99 per cent) and the lowest in Japan (43 per cent). Although the US has the highest expenditure per student, its level of public funding is relatively small, in fact the second lowest at 48 per cent. Considering Table 14 alongside Figure 7 shows that some of the countries with the highest total spending relative to GDP, such as Australia and the US, must use these resources with substantial help from private sources. Conversely in countries with relatively low overall spending such as Austria and Italy, private individuals tend to contribute relatively little.

**Table 13.** Expenditure per Student, 1995

|             | University    |
|-------------|---------------|
| Australia   | 11,572        |
| Austria     | 7,687         |
| Belgium     | 6,043         |
| Canada      | 12,217        |
| Czech Rep.  | 7,656         |
| Denmark     | 8,157         |
| Finland     | 7,412         |
| France      | 6,569         |
| Germany     | 9,001         |
| Greece      | 3,169         |
| Hungary     | 4,792         |
| Ireland     | 7,249         |
| Italy       | 4,932         |
| Japan       | 9,337         |
| Netherlands | 9,026         |
| New Zealand | 8,380         |
| Spain       | 4,966         |
| Sweden      | 13,168        |
| Switzerland | 18,365        |
| <b>UK</b>   | <b>7,225</b>  |
| US          | 19,965        |
| <b>OECD</b> | <b>12 018</b> |

*Notes:* Converted to US dollars using purchasing power parities. Based on full-time equivalents. Figures include expenditure on research. Thus, international differences in expenditure per student partly reflects differences between countries in the research roles of institutions of higher education.  
*Source:* OECD (1998)

**Table 14.** Public and Private Funding of Tertiary Education in the OECD, 1995

|             | Tertiary  |           |
|-------------|-----------|-----------|
|             | Public    | Private   |
| Australia   | 65        | 35        |
| Austria     | 98        | 2         |
| Canada      | 61        | 39        |
| Czech Rep.  | 70        | 30        |
| Denmark     | 99        | 1         |
| France      | 84        | 16        |
| Germany     | 92        | 8         |
| Hungary     | 80        | 20        |
| Ireland     | 70        | 30        |
| Italy       | 84        | 16        |
| Japan       | 43        | 57        |
| Netherlands | 88        | 12        |
| Spain       | 76        | 24        |
| Sweden      | 94        | 6         |
| <b>UK</b>   | <b>72</b> | <b>28</b> |
| US          | 48        | 52        |
| <b>OECD</b> | <b>75</b> | <b>25</b> |

*Source:* OECD (1998)

### 3.4 Competition for International Students

In 1998/9 there were 213,119 full- and part-time international students in UK higher education institutions. Of these, 46 per cent came from the European Union and 54 per cent from over 100 other countries. The number has increased dramatically from 46,500 in 1983 and their share in the total student population has increased from 8 per cent in the early 1980s to almost 12 per cent now. There are substantial social and economic benefits from international students. They generate significant fee income for British Universities and in the process contribute both to exports and GDP. Updating the estimates of Greenaway and Tuck (1995) suggests they contribute almost £2 billion to British exports each year and

provide a boost to GDP of 0.26 per cent. There is much endeavour to increase the number further and in 1999 the Government launched a drive to attract more international students. The Prime Minister has set a target of increasing the UK's share of the global market from 17 per cent to 25 per cent by 2005. This means an increase of around 100,000 in five years. New Government initiatives include a £5m investment in marketing to support overseas promotion activities of UK institutions, a change in visa and work requirements, and an increase in the number of British Chevening scholarships. These are all welcome. However, above all else, success in achieving this target requires a thoroughly excellent University system, competitive with the best, not one in financial decline.

The growth in numbers of international students is one manifestation of the globalisation of the higher education marketplace. The market is a very competitive one. Table 15 details the number of international students registered on full-time courses in the UK and its principal competitors, the US, Australia and Canada. In 1998/99, 804,017 international students were registered; of these the largest proportion (41.6%) were from the East Asia-Pacific region; around a sixth each from the EU and the Americas; with the remaining regions providing under 10 per cent. If one takes Asia as a whole, almost 50 per cent of all international students registered in the 'big four' were from that continent.

**Table 15. Students from Overseas Regions**  
Registered in Australia, Canada, US and UK, 1998/99

| Region               | Total          |              | Australia  | Canada     | US          | UK          |
|----------------------|----------------|--------------|------------|------------|-------------|-------------|
|                      | Number         | %            | %          | %          | %           | %           |
| EU                   | 150,463        | 18.7         | 1.1        | 3.3        | 30.4        | 65.2        |
| Europe - Non-EU      | 41,554         | 5.2          | 2.3        | 4.4        | 67.4        | 26.0        |
| Middle East          | 48,928         | 6.1          | 0.6        | 3.1        | 67.1        | 29.2        |
| Africa               | 46,247         | 5.8          | 2.5        | 8.7        | 56.7        | 32.1        |
| South Asia           | 65,248         | 8.1          | 6.3        | 1.6        | 80.6        | 11.4        |
| East Asia & Pacific  | 334,766        | 41.6         | 17.8       | 2.3        | 66.5        | 13.5        |
| Americas             | 105,413        | 13.1         | 2.5        | 4.2        | 74.7        | 18.6        |
| Other (inc. Oceania) | 11,398         | 1.4          | 27.0       | 11.2       | 37.3        | 24.5        |
| <b>TOTAL</b>         | <b>804,017</b> | <b>100.0</b> | <b>9.1</b> | <b>3.3</b> | <b>61.1</b> | <b>26.5</b> |

*Source:* British Council Education Service

The US has by far the largest share with 61.1 per cent of total registrations. With the exception of the 'EU' category, it is also the dominant supplier for all parts of the world. The UK has 26.5 per cent of the total and a market share exceeding that of Australia and Canada combined. Importantly and reflecting the reputation and dynamism of British Universities, the UK has experienced the largest increase in 'big four' market share from 17.3 per cent to 26.5 per cent between 1992 and 1998, Australia's share has also increased, the US's and Canada's have fallen.

Table 16 shows the number and proportion of international students by origin in the 'big four' countries. This is important in terms of market exposure and a country's vulnerability to country-specific/region-specific shocks. Australia is the most exposed with over 80 per cent coming from East Asia and the Pacific. The US and the UK are more diversified but even here almost half are from East-Asia and Pacific for the US and from the EU for the UK. The share of the UK's international students from the EU has increased substantially from almost 36 to 46 per cent since 1992/93. By contrast, Canada is the most diversified.

**Table 16.** Number of International Students by Origin in Australia, Canada, US and UK, 1998/99

| Region               | AUSTRALIA     |              | CANADA        |              | US             |              | UK             |              |
|----------------------|---------------|--------------|---------------|--------------|----------------|--------------|----------------|--------------|
|                      | Number        | %            | Number        | %            | Number         | %            | Number         | %            |
| EU                   | 1,607         | 2.2          | 4,912         | 18.5         | 45,814         | 9.3          | 98,130         | 46.0         |
| Europe – Non-EU      | 935           | 1.3          | 1,840         | 6.9          | 27,995         | 5.7          | 10,784         | 5.1          |
| Middle East          | 294           | 0.4          | 1,507         | 5.7          | 32,836         | 6.7          | 14,291         | 6.7          |
| Africa               | 1,170         | 1.6          | 4,004         | 15.1         | 26,222         | 5.3          | 14,851         | 7.0          |
| South Asia           | 4,142         | 5.6          | 1,074         | 4.0          | 52,602         | 10.7         | 7,430          | 3.5          |
| East Asia & Pacific  | 59,512        | 81.1         | 7,542         | 28.4         | 222,474        | 45.3         | 45,238         | 21.2         |
| Americas             | 2,643         | 3.6          | 4,427         | 16.7         | 78,738         | 16.0         | 19,605         | 9.2          |
| Other (inc. Oceania) | 3,080         | 4.2          | 1,272         | 4.8          | 4,256          | 0.9          | 2,790          | 1.3          |
| <b>TOTAL</b>         | <b>73,383</b> | <b>100.0</b> | <b>26,578</b> | <b>100.0</b> | <b>490,937</b> | <b>100.0</b> | <b>213,119</b> | <b>100.0</b> |

Source: British Council Education Service

### 3.5 International Competition for Academic Staff – the Knowledge Producers

As we saw in Chapter 2, salaries in UK Universities are low and getting lower relative to competing occupations. UK salaries also fail to compete within the same sector internationally, especially with those in the US, the market leader in educational provision, the quality of its science base, its share of international students and the world's technological leader. Table 17 reports the average salary, across all disciplines, received by Assistant Professors in a group of 11 leading Universities in the US. This is the equivalent of the Lecturer grade in the UK. Typically in the US Assistant Professors spend no more than seven years in this grade. An appropriate 'average' for comparison is therefore point 4 on the Lecturer scale. The relevant salary at that point, adjusted for purchasing power parity, is also reported in Table 17. As we can see, the difference in remuneration at this key entry level grade is substantial and has grown through time. Equally substantial differentials persist through to the level of full Professor (see Machin and Oswald 2000).

**Table 17.** Average Salaries Received by US Assistant Professors and UK Lecturers (\$000s)

|          | 1992-93 | 1993-94 | 1994-95 | 1995-6 | 1996-97 | 1997-98 |
|----------|---------|---------|---------|--------|---------|---------|
| US       | 44.8    | 45.9    | 47.5    | 49.3   | 51.5    | 53.9    |
| UK       | 25.3    | 24.8    | 26.4    | 26.8   | 28.0    | 28.4    |
| US/UK(%) | 177     | 185     | 180     | 184    | 184     | 190     |

*Notes:* Converted to US dollars using purchasing power parities. Medical school faculty are excluded from all calculations.

*Source:* Bulletin of the American Association of University Professors

Table 18 shows the share of higher education expenditure on academic staff across the OECD more generally. The UK spends 30 per cent compared to an OECD average of 44 per cent. Its level of expenditure on academic staff is one of the lowest – only Austria (34%), Australia (29%) and the Czech Republic (23%) are lower. To bring expenditure up to the OECD average would require institutions to spend an additional £900 million per year.

**Table 18.** Percentage of Current Educational Expenditure Spent on Remuneration of Academic Staff (1995)

|                |           |
|----------------|-----------|
| Australia      | 29        |
| Austria        | 34        |
| Belgium        | 73        |
| Canada         | 39        |
| Czech Republic | 23        |
| Denmark        | 54        |
| Finland        | 37        |
| Ireland        | 55        |
| Italy          | 46        |
| Luxembourg     | 62        |
| Switzerland    | 52        |
| <b>UK</b>      | <b>30</b> |
| United States  | 41        |
| <b>OECD</b>    | <b>44</b> |

*Source:* OECD (1998)

### **3.6 Conclusions**

It is illuminating to make international comparisons of participation and funding and the obvious benchmark for the UK is other OECD countries. As we have seen, recent expansion in the UK has resulted in participation and graduation rates which compare favourably with elsewhere in the OECD. In funding terms however, the UK compares very unfavourably, both with the OECD and with its EU partners. The extent of the funding gap is so great that it would take year on year increases in funding on such a scale and for such a long period to catch up as to be hard to imagine for Government. Given recent trends in the public funding of higher education, there is little prospect that the taxpayer will provide the additional resource necessary to bring higher education funding up to comparable levels with other industrialised countries. In the absence of other means of investing in higher education, that does not bode well for British Universities' ability to compete effectively in the market for international students or for staff. Nor does it bode well for the development of the UK economy as a leading, dynamic knowledge-based economy. An answer to this central issue of international competitiveness must be found.

## **4 COUNTING THE BENEFITS TO INDIVIDUALS**

### **4.1 Introduction**

Any appraisal of the benefits to higher education must address wider social benefits which underpin the case for public support. This we do in the next Chapter. First we need to clarify the benefits to the individual and set these against the costs of obtaining a degree (or degrees). Some important benefits clearly take the form of non-pecuniary, quality of life dimensions, which are impossible to quantify. Others however are measurable in that time spent in a higher education institution translates directly into higher lifetime earnings.

We begin by briefly discussing qualitative benefits – even if we cannot measure them, we can document them. Our principal focus is on the income enhancing properties of higher education. We report evidence on age-earnings profiles, primarily for the UK, over a significant period and recent work translating this information, alongside information on costs, into rates of return to alternative qualifications. Given the massive expansion documented earlier, it is clearly important to review how these have evolved over time. Finally, since high rates of return may be influenced by factors other than University entry, we examine how much of the earnings premium can be attributed to higher education.

### **4.2 Qualitative Benefits to Graduates**

It is important to recognise at the outset that higher education is not only an investment decision: individuals undertake it for the sake of learning and in anticipation of greater job satisfaction and a superior ‘quality of life’. Such qualitative benefits are important and real

but extremely difficult to quantify. Manifestly there are benefits associated with three years at University. Quite how one measures the short run experiential dimensions is another matter. The importance of these ingredients to students is clearly flagged by one widely used league table rating ‘social scene’ and Union facilities alongside teaching and employability.<sup>8</sup> Of course some benefits may persist in one way or another. Blanchflower and Oswald (1999) for instance investigate “happiness” or perceived well-being from survey data and conclude that education does have an impact (though not as strong an effect as some factors). Bynner and Egerton’s work on the National Child Development Study (NCDS) data set reports on higher levels of psychological and physical well-being among graduates compared with non-graduates, as well as a more enlightened attitude to gender and race discrimination (Bynner and Egerton, 2000). They go on to report powerful evidence relating to various dimensions of citizenship and social cohesion which impact on the broader social benefits of higher education.

### **4.3 Graduation, Earnings and Employment**

The most straightforward measure of the private benefits to University education are higher salaries graduates receive compared with non-graduates<sup>9</sup>. A well established empirical observation is that earnings increase with age/experience but at a diminishing rate (Mincer, 1974). These profiles are typically higher the higher the level of education and reflect the value firms place on the skills and aptitudes graduates bring. Moreover, there is remarkable persistence in wage premia of graduates through time despite the substantial increase in numbers over recent decades (see for example Dutta, Sefton and Weale, 1999; Blundell, Dearden, Goodman and Reed, 2000). If we compare earnings profiles of graduates and non-

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<sup>8</sup> For details of the Virgin ‘Alternative University Guide’, see [www.virgin-books.com](http://www.virgin-books.com)

<sup>9</sup> Although not all of the differences in pay between graduates and non-graduates may be caused by differences in education. This will be discussed later.

graduates in the late 1950s and 1990s, the wage premium has altered comparatively little despite massive expansion.

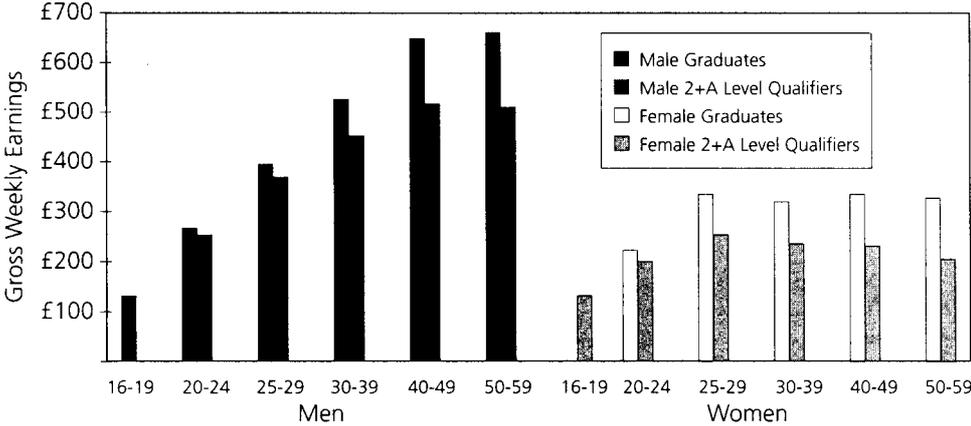
Aggregate figures provide an indicator of general earnings trends but the graduate labour market comprises several distinct sectors. At a more disaggregated level a number of patterns are clear. Figure 8 plots average weekly pay for graduates and non-graduates (but individuals with 2 or more A levels) by gender and age. The earnings of males grow more rapidly than non-graduates but their earnings premium is relatively small in their 20s compared to later. Similarly, the earnings of female graduates show a steady pattern of growth until age 30 after which it levels off, reflecting greater likelihood of part-time work and time spent out of the labour force. Overall, earnings differentials are more significant for men than women. However, the difference between male and female earnings of non-graduates is larger than that between male and female graduates implying that the wage premium for graduate women is larger than for men. In addition, graduate earnings differ according to subject studied. For example, Science graduates (especially Maths, Engineering and Computing graduates) earn more on average than Arts graduates<sup>10</sup>. It is possible to estimate the additional income earned by a graduate over a non-graduate with two 'A' levels, over a working life. Using the age-earnings profiles in Dutta, Sefton and Weale (1999) yields an average of £410,000. Using Careers Services Unit data and a different methodology, Skidelsky (2000) arrives at a very similar estimate of £400,000. As

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<sup>10</sup> The private benefits from higher education may also be unequally distributed according to the socio-economic background of the beneficiaries. The pattern of participation in higher education does not currently reflect the socio-economic composition of the population. Traditionally, participation rates are lower for those from the partly skilled and unskilled socio-economic groups than for other groups (see Table 2, Chapter 2). There is some evidence to suggest that graduate earnings are lower for students from the lower socio-economic groups (Robertson and Hillman, 1997) but research by the Institute of Fiscal Studies (IFS) suggests that the benefits to higher education do not differ much according to background.

he pointed out in the recent House of Lords debate, to realise a comparable return one would have to invest £100,000 in government bonds.

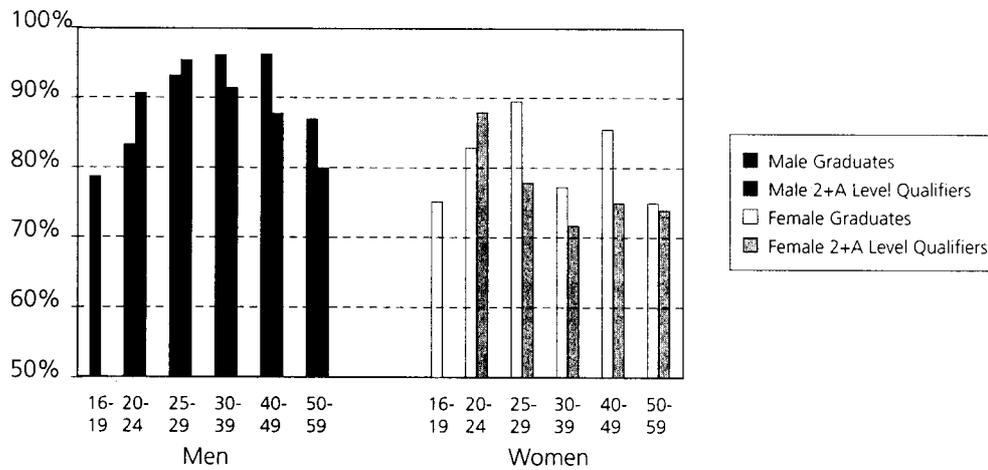
**Figure 8.** Usual Gross Weekly Earnings by Age and Level of Qualification



Source: Steel and Sausman (1997)

In addition to higher pay, graduates benefit from higher labour force participation and lower unemployment rates than those less qualified and are less likely to be in the long-term unemployed stock. A number of interesting points emerge when we compare employment rates by gender and age (see Figure 9). First, female graduates and non-graduates are less likely to be in employment than their male counterparts, especially after their 20s. Second, employment rates for women differ considerably between graduates and non-graduates in their 20s. This gap subsequently narrows reflecting greater likelihood of part-time work and time spent out of the labour force. In contrast, employment rates between male graduates and non-graduates do not differ substantially until beyond their mid-30s when unemployment rates of male graduates are much lower.

**Figure 9. Proportion Employed by Age and Qualification**



Source: Steel and Sausman (1997)

Tables 19 and 20 compare the private benefits of higher education for male and female graduates for a selection of OECD countries. The earnings and income differentials for both compared to non-graduates are substantial<sup>11</sup>. As with the UK, participation rates are consistently higher and unemployment rates consistently lower. The existence of private benefits of such orders clearly indicates that investment in University education is worthwhile.

<sup>11</sup> The income differential is calculated from published earnings differentials adjusted for the different participation and relative unemployment rates of graduates to those with a secondary education.

**Table 19.** The Benefits of a University Education for Males

|             | Labour Force Participation (%) |           | Unemployment Rates (%) |          | Earnings Differential (%) | Income Differential (%) |
|-------------|--------------------------------|-----------|------------------------|----------|---------------------------|-------------------------|
|             | (S)                            | (U)       | (S)                    | (U)      | (U)                       | (U)                     |
| Australia   | 90                             | 93        | 6                      | 4        | 61                        | 70                      |
| Canada      | 89                             | 92        | 9                      | 5        | 52                        | 65                      |
| Czech Rep.  | 89                             | 96        | 2                      | 1        | 55                        | 69                      |
| Denmark     | 89                             | 94        | 6                      | 4        | 38                        | 50                      |
| Finland     | 87                             | 93        | 15                     | 6        | 87                        | 126                     |
| France      | 90                             | 92        | 8                      | 6        | 85                        | 94                      |
| Germany     | 85                             | 93        | 8                      | 5        | 52                        | 73                      |
| Hungary     | 85                             | 87        | 8                      | 2        | 89                        | 108                     |
| Ireland     | 92                             | 94        | 6                      | 3        | 71                        | 80                      |
| Italy       | 80                             | 92        | 6                      | 5        | 73                        | 103                     |
| Netherlands | 87                             | 90        | 3                      | 3        | 35                        | 40                      |
| New Zealand | 93                             | 93        | 3                      | 2        | 71                        | 73                      |
| Norway      | 90                             | 95        | 4                      | 3        | 43                        | 53                      |
| Portugal    | 88                             | 93        | 5                      | 3        | 82                        | 97                      |
| Spain       | 91                             | 91        | 12                     | 9        | 45                        | 50                      |
| Sweden      | 90                             | 94        | 10                     | 4        | 58                        | 78                      |
| Switzerland | 94                             | 95        | 3                      | 5        | 46                        | 44                      |
| Turkey      | 90                             | 89        | 4                      | 3        | 51                        | 51                      |
| <b>UK</b>   | <b>89</b>                      | <b>94</b> | <b>8</b>               | <b>4</b> | <b>61</b>                 | <b>78</b>               |
| US          | 88                             | 93        | 6                      | 2        | 83                        | 103                     |
| <b>OECD</b> | <b>89</b>                      | <b>93</b> | <b>7</b>               | <b>4</b> | <b>62</b>                 | <b>75</b>               |

*Notes:* Converted to US dollars using purchasing power parities. All figures are for men aged 25-64 in 1996. Based on full-time equivalents. (S) refers to those with secondary education only. (U) refers to those with university education.

*Source:* OECD (1998)

**Table 20.** The Benefits of a University Education for Females

|             | Labour Force Participation (%) |           | Unemployment Rates (%) |          | Earnings Differential (%) | Income Differential (%) |
|-------------|--------------------------------|-----------|------------------------|----------|---------------------------|-------------------------|
|             | (S)                            | (U)       | (S)                    | (U)      | (U)                       | (U)                     |
| Australia   | 66                             | 82        | 7                      | 3        | 39                        | 86                      |
| Canada      | 72                             | 85        | 9                      | 6        | 72                        | 115                     |
| Czech Rep.  | 79                             | 90        | 3                      | 1        | 49                        | 74                      |
| Denmark     | 83                             | 91        | 8                      | 3        | 32                        | 55                      |
| Finland     | 81                             | 90        | 15                     | 6        | 73                        | 120                     |
| France      | 76                             | 83        | 12                     | 9        | 67                        | 93                      |
| Germany     | 69                             | 83        | 10                     | 5        | 51                        | 99                      |
| Hungary     | 68                             | 79        | 7                      | 2        | 50                        | 89                      |
| Ireland     | 59                             | 82        | 8                      | 4        | 87                        | 186                     |
| Italy       | 61                             | 81        | 11                     | 10       | 29                        | 83                      |
| Netherlands | 67                             | 81        | 6                      | 4        | 43                        | 80                      |
| New Zealand | 75                             | 84        | 4                      | 3        | 48                        | 68                      |
| Norway      | 80                             | 90        | 4                      | 2        | 46                        | 69                      |
| Portugal    | 80                             | 93        | 7                      | 3        | 75                        | 115                     |
| Spain       | 68                             | 84        | 25                     | 17       | 47                        | 129                     |
| Sweden      | 85                             | 92        | 9                      | 4        | 44                        | 66                      |
| Switzerland | 72                             | 79        | 4                      | 3        | 61                        | 79                      |
| Turkey      | 36                             | 73        | 13                     | 5        | 53                        | 352                     |
| <b>UK</b>   | <b>74</b>                      | <b>86</b> | <b>6</b>               | <b>3</b> | <b>90</b>                 | <b>131</b>              |
| US          | 72                             | 82        | 4                      | 2        | 75                        | 105                     |
| <b>OECD</b> | <b>71</b>                      | <b>85</b> | <b>9</b>               | <b>5</b> | <b>57</b>                 | <b>110</b>              |

*Notes:* Converted to US dollars using purchasing power parities. All figures are for women aged 25-64 in 1996. Based on full-time equivalents. (S) refers to those with secondary education only. (U) refers to those with university education.

*Source:* OECD (1998)

#### 4.4 Private Rates of Return to Higher Education

Another way of calculating the benefits to a University degree is by examining the higher income streams relative to costs incurred. Expending resources on higher education is a form of investment in human capital. The essence of any investment is that present income is foregone to yield higher income in the future. So too with higher education: income is foregone during three years at University, in anticipation of higher income streams in the years beyond graduation. This raises two substantive issues – one common to all

investment, one peculiar to higher education. The first is to ensure that costs and benefits which occur at different points in time are compared in the same metric; the second is to adjust for the possibility that not all of the accretion of additional income is attributable to higher education.

Any investment appraisal must address the issue of time – income which accrues in the future is worth less than if it was available now. Put differently, £1,000 delivered in five years' time is worth less than £1,000 now because if one had it now it could be invested at, say, 5 per cent per annum, and be worth £1,276 in five years. It is simple to deal with this, by discounting future income at an appropriate rate to calculate its *present value*. One widely used decision rule is “invest if the net present value of the project is positive” i.e. if the stream of benefits exceeds the stream of costs, in common prices, the investment is worthwhile. An analytically equivalent rule is to find the discount rate which ensures that the stream of benefits and costs is equal. This particular rate is the *internal rate of return* of the investment. The more lucrative it is, the higher will its rate of return be. If the rate of return exceeds the cost of borrowing funds, the investment makes sense.

The mechanics of calculating a private rate of return to higher education are no different. We compare costs, measured as earnings foregone, plus any education related expenses the student has to pay, minus any grants, with private benefits. These are the increase in the expected income of a graduate over and above a non-graduate over the individual's working life. The private rate of return is the discount rate that equates these two streams.

## *Private Rates of Return to Higher Education in the UK<sup>12</sup>*

There is a significant literature both on the technical aspects of calculation and rate of return estimates themselves. We will not focus on the former beyond discussing how much of the return can reliably be ascribed to higher education. Instead we focus on the estimates themselves and here our attention will be directed at recent work, which is most relevant for future policy<sup>13</sup>. We pay particular attention to Steel and Sausman (1997), Dutta, Sefton and Weale (1999) and Blundell, Deardon, Goodman and Reed (2000).

As part of its review of evidence, the Dearing Committee commissioned work on rates of return by Steel and Sausman (1997). Their calculations suggest that, averaged across all graduates, irrespective of gender, degree subject and age at entry, the rate of return to a first degree was 17 per cent. This is based on data from the late 1980s. It is lower than estimates reported by earlier DfEE work on data for the early 1980s<sup>14</sup>, but nonetheless high. As with evidence from other sources, the returns are higher for women than men: a common finding since the comparators are women non-graduates and men non-graduates. They also report higher rates of return for 'traditional' compared with mature entrants; again not surprising given the greater length of time the former spend in employment. Finally, with respect to subject group, they report relatively low returns to Arts subjects, higher returns to Science and Engineering graduates and highest returns to Social Science graduates. The last group is especially high because labour market outcomes are, on average, attractive but (private and social) costs are relatively low.

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<sup>12</sup> Calculating rates of return to education is not new, see Blaug (1970) for example.

<sup>13</sup> A comprehensive review of rate of return estimates for both developed and developing countries can be found in Psacharopoulos (1994) and the Chapters in Asplund and Pereira (1999).

<sup>14</sup> See for example the 1988 White Paper on 'Top-Up Loans'

Dutta, Sefton and Weale (1999) calculate rates of return benchmarked to the 1995 New Earnings Survey. Their starting point is the earnings profiles for average male graduates compared with the profiles of A level non-graduates. The former are assumed to start work at 18, the latter at 21. The authors make appropriate assumptions regarding loans taken out whilst a student (both from the Student Loans Company and the private sector), fees paid, maintenance expenses and any income earned whilst a student. Finally, they make a number of technical adjustments to allow for various uncertainty factors. Their analysis pertains to three categories of graduates, with rates of return of up to 17 per cent estimated.

A third approach is followed by Blundell, Dearden, Goodman and Reed (2000) who take advantage of the rich information in the National Child Development Survey (NCDS) on a cohort of individuals born in 1958. The NCDS provides a wealth of information on family background, education and labour market outcomes. They compare men and women in the sample with higher education qualifications with others in the same cohort with at least one A level, who did not go on to higher education. Their sample amounts to just over 2,500 individuals, about one quarter of whom did not embark on any higher education course, a further quarter undertook a non-degree higher education qualification and the remaining half completed at least a first degree. The authors combine this with data from the Labour Force Survey (LFS) to estimate a range of wage equations.

The Blundell *et al.* calculations point to returns to men above those with at least one A level of around 15 per cent for a non-degree higher education qualification, 21 per cent for a first degree and 15 per cent for a higher degree. Where women are concerned, the returns seem even higher, 26 per cent for non-degree qualifications and 39 per cent and 43 per cent for first and higher degrees respectively. As noted above, differentials between returns by

gender are a common finding. This particular study also reports estimates by subject category, although given the relatively small samples, caution is expressed regarding robustness of the estimates. Having said that, the results are consistent with those reported by other work. Thus for men the highest returns are for Accountancy, Economics, Law and Maths/Physics and the lowest for Biology, Chemistry, Environmental Sciences and Geography. For women the highest returns are in Education, Economics, Accountancy and Law and 'other Social Sciences' and the lowest in Chemistry and Biology.

### *How Much is Due to Higher Education?*

An intrinsic difficulty of all work on returns to higher education is separating out its contribution from other factors such as innate ability, family background and so on. At its most extreme, this argument attributes a screening role to higher education, a filter for identifying the most able who would have the highest earnings premia anyway. Given what we know of the 'production process' in higher education it is implausible to argue that there is no value added attributable to time at University. However, it is equally implausible to argue that family background and innate ability have no impact. Steel and Sausman (1997) applied an ad hoc adjustment for other factors of 20 per cent and 40 per cent. In other words, their estimate of the potential impact of non-higher education factors ranged from a minimum of one-fifth to a maximum of two-fifths. Even after applying the higher of these, the average rate of return still turned out to be 11 per cent, i.e. almost twice the return The Treasury requires of public sector investments. Differentials again persisted for men and women, with the former being 9 per cent and the latter 14 per cent. If a 20 per cent 'alpha factor' is applied, the average rate of return is 14 per cent and the respective rates for men and women 11 per cent and 17 per cent.

Blundell *et al.* (2000) address the issue in a more sophisticated fashion. The NCDS database allows them to include good indicators of individual attributes and circumstances. For example, family background is represented by father and mother's education, father's social class, mother's employment and number of siblings; demographic variables include house ownership status and proportion of households in the area with an unemployed head; innate ability is represented by performance in maths and reading tests at age 7. The authors also adjust for potential bias arising from performance related characteristics at the point where the decision to enter higher education is taken – ability test results, A level scores and school type at age 16.

When controls for ability tests at age 7, region, school type, family background and demography are included, the return to a first degree for men declines from 21 per cent to 17 per cent and that for women from 39 per cent to 37 per cent. The only control variables that make a significant difference for men are ability tests at age 16 and A level scores. Their inclusion reduces the return from 17 per cent to 12 per cent, though for women the decline is only from 37 per cent to 33 per cent. It would seem therefore that background factors have had a limited impact, at least for this sample. But, even if one takes out A level performance, the returns to the individual remain extremely high (on average) relative to non-graduates.

#### *Private Rate of Return Evidence Through Time*

Harkness and Machin (1999) analyse graduate earnings in the UK over the period 1974-95 using the General Household Survey (GHS) data set. They compare the earnings of degree

and higher vocational qualification holders with those less qualified and those with no qualifications. They find that graduate earnings premia fell in the 1970s but returns to graduates have increased markedly during the 1980s and 1990s, particularly compared with people with few or no qualifications. Despite increased numbers, they report little to suggest the wage premia of recent graduates is falling<sup>15</sup>.

The increase in the number with degrees and higher vocational qualifications, together with increased earnings, implies that increasing demand from employers for highly qualified labour has outstripped even the increased supply. This demand shift in favour of the more highly qualified at the expense of the less skilled has been attributed to skill-biased technological change (see for example Haskel and Slaughter, 1999). Harkness and Machin find that employers are willing to pay more for recent graduates, despite a larger pool to choose from and link this to the accumulation of skills that are more applicable in the modern workplace. With the development of the knowledge based economy, this trend will continue.

#### **4.5 Conclusions**

Unlike going to school, individuals who enrol at University have a choice – they do not have to go if they do not wish to. The fact that numbers are growing strongly suggests that there are benefits from doing so. Some are qualitative – an enjoyable three years at University, greater job satisfaction and a more enlightened outlook than might otherwise be the case. The key motivation is however likely to be economic: income deferred now by not entering the workforce at 18, in anticipation of higher lifetime earnings. Repeated studies

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<sup>15</sup> An increase in wage differentials and hence rates of return over time is documented elsewhere; see for example, Schmitt, 1995; Machin, 1998; NCIHE, 1997.

point to a wage premium to graduates, one that is persistent through time and in evidence across countries. Average rates of return are high, both in absolute terms and relative to other investments. Moreover, relatively high rates of return persist through time. This persistence against the backdrop of dramatically increased participation rates suggests that the demand for highly skilled labour is keeping pace with the increased supply. This merely reinforces the need to continue to generate the quantity and quality of human capital necessary to nurture the growth of the knowledge based economy. The maintenance of high private rates of return at the expense of the general taxpayer clearly signals that the contribution which the beneficiaries of higher education make to the costs of their education should be greater.

## **5 COUNTING THE BENEFITS TO SOCIETY**

### **5.1 Introduction**

Persistently high returns to individuals undertaking higher education suggest that beneficiaries could be asked to make a greater contribution to costs. But how much of a contribution? Or, to put it another way, should the taxpayer make any contribution at all (leaving aside for the moment the issue of what form taxpayer support should take)?

Economists use well developed guidelines for answering this question. Thus, the state should invest taxpayers resources if it is believed that left to themselves individuals would underinvest. This could occur if there were benefits to society over and above the benefits to the individual. For example, graduates could raise the productivity of non-graduates such that aggregate productivity is higher, or could promote social cohesion. Clearly these are desirable outcomes from society's perspective; equally clearly, there is no reason to suppose that they will figure prominently in an individual's calculations. For these reasons it is important to focus on the broader social dimensions and where possible calculate social rates of return.

### **5.2 Social and Cultural Benefits**

There is a strong presumption that higher education gives rise to indirect effects in the form of externalities or spillovers i.e. unintentional and uncompensated benefits. Spillovers may be pecuniary or non-pecuniary. Non-pecuniary benefits take many forms. For example graduates should be more active agents of national and international tolerance and social inclusion; may be more active citizens in participating in voluntary organisations; may give

more to the democratic process. As the Secretary of State for Education recently stated “..... *higher education bestows the cultural capital, values and knowledge that are increasingly important to active civic and democratic participation in the ethical and political debates that shape our lives.*”<sup>16</sup> Bynner and Egerton (2000) use the National Child Development Study (NCDS) to investigate such potential benefits. Their findings point to a clear link between higher education and participation in community affairs, democratic processes, egalitarian attitudes, parenting and voluntary work. Moreover, they report that these links hold even after one adjusts for other potential causal factors such as family background.

Such social and cultural benefits of higher education are fundamentally important and no doubt promote social cohesion. As the proportion of the adult population with degrees increases steadily, so society will gain immeasurably from these cultural factors. Insofar as they do, they will have knock-on effects to direct economic benefits, for example reduced public expenditure on criminal justice and social security. It is impossible however to attach reliable data to them and they are therefore missing from the social rate of return calculations which we report on next.

### **5.3 Social Rates of Return**

Social rates of return are calculated in a similar way to private rates. Whilst the latter just include costs borne by the student (or family) and benefits that flow to the graduate, social rates also include costs and benefits borne by the rest of society (particularly the taxpayer). The social rate of return is the discount rate that equates social costs (measured as the value

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<sup>16</sup> Speech given by Mr David Blunkett to the AUT Summer Council, 10/5/2000

of output foregone, plus teaching costs) to social benefits (measured as higher earnings and higher tax revenues after graduation). Most calculations exclude external effects or spillovers to human and physical capital which are undoubtedly positive but difficult to measure. Typically social returns are less than private returns because in most countries taxpayers bear some of the costs. In the UK, the taxpayer still bears most of the costs of tuition and through subsidised loans some of the costs of maintenance.

### *Social Rates of Return to Higher Education in the UK*

As with private returns we focus on the estimates themselves and not the technical aspects, beyond discussing the issue of how much of the return we can reliably ascribe to higher education. We again direct our attention to the recent work of Steel and Sausman (1997) and Dutta, Sefton and Weale (1999).

Calculations by Steel and Sausman (1997) point to a social rate of return to a first degree of 11 per cent, averaged across all graduates, irrespective of gender, degree subject and age of entry (based on data over the period 1989-1995). These are lower than estimates reported by DfEE on data for the early 1980s but nonetheless high – twice The Treasury's test rate of discount. As with private rates, they report higher returns for females than males and lower returns for individuals who re-enter education later in life. This is not surprising since they will generally have higher foregone earnings and fewer years post graduation. However, since most 'mature' students are still relatively young, the overall effect of adjusting for older entrants is small. Finally, with respect to subject group, they report highest returns to Social Sciences graduates, lower returns for Science and Engineering and

the lowest for Arts subjects<sup>17</sup>. Dutta, Sefton and Weale (1999) calculate social rates benchmarked to the 1995 New Earnings Survey by comparing the earnings profiles gross of tax for average male graduates and A-level non-graduates. They estimate the social rate of return for three categories of degree estimated social rate of return for graduates from zero to over 11 per cent. The social rates of return are lower than their private rate of return estimates (see Section 4.4) but are still relatively high for most types of degree.

### *How Much is Due to Higher Education?*

As with private rates of return, Steel and Sausman (1997) applied ad hoc adjustments for non-higher education factors of 20 per cent and 40 per cent. Even applying the higher of these, still yielded an average social rate of return of 7 per cent. Differentials again persist for men and women, with the former being 6 per cent and the latter 8 per cent. If a 20 per cent 'alpha factor' is applied, the average rate of return is 9 per cent and the respective rates for men and women are 8 per cent and 10 per cent. It is important to note that this makes no allowance for wider benefits to the economy. Thus even for very demanding assumptions regarding the role of other factors such as spillovers or non-economic benefits, social rates of return exceed the rates required by The Treasury in considering whether or not to support public sector investment. Since they exclude spillover benefits of higher education and its positive contribution to economic growth they are almost certainly an underestimate of the real returns to society, which we will return to later. Evidence in OECD (1998) suggests that social rates of return in the OECD countries are around 10 per cent. In countries where students make a contribution to costs (such as Australia, Canada and the US), the rates exceed this.

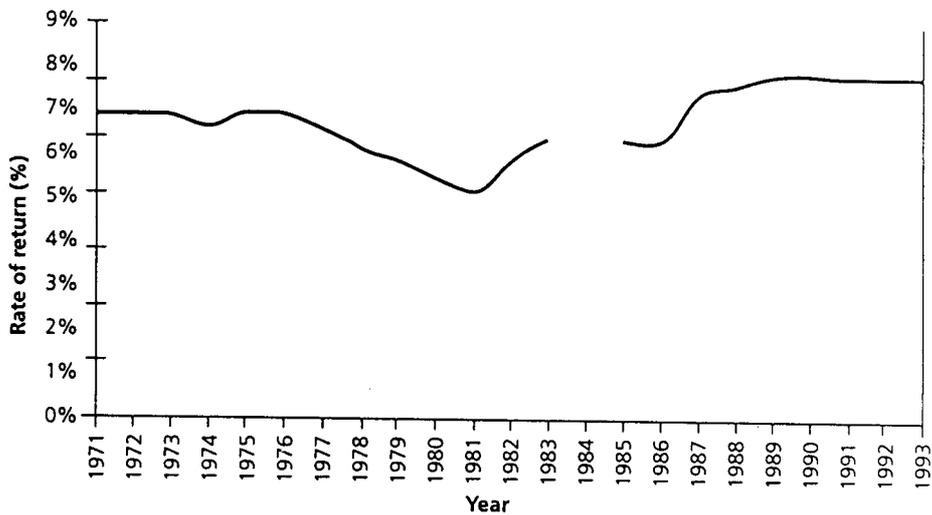
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<sup>17</sup> These are based on Universities' costs and graduates' earnings in the period 1986-89.

*Evidence Through Time*

Steel and Sausman (1997) also estimated social returns over time. They found that the long run return for men with a first degree was around 7-9 per cent for the period since Robbins (see Figure 10). In the late 1970s, rates fell below this following expansion but increased again in the mid-1980s. Given the second rapid expansion in the 1990s, they argue that there may be another drop followed by a reversal and a return to the long run rate in the future. It is, however, likely that evidence being prepared by DfEE based on most recent data will show a further increase given that some proportion of costs has been shifted from the taxpayer to the student.

**Figure 10.** Social Rate of return for Young Men, First Degrees



Source: Steel and Sausman (1997)

## 5.4 Human Capital and Economic Growth

There has been considerable research on the wider role of (higher) education in economic growth. Growth is vital to wealth creation and dealing with poverty and social exclusion. Income redistribution helps but does not have as powerful an impact as growth.<sup>18</sup> Typically output growth is fuelled by growth in labour and capital inputs and improvements to their quality due to technological progress and education. In recent years, there has been increased attention to human capital as a primary driver of economic growth. Since education is a key instrument for investing in human capital, it has a direct link to growth.<sup>19</sup>

For many years growth models included only homogenous labour, capital and knowledge (or the ‘effectiveness of labour’) as factor inputs into the production process<sup>20</sup>. However, how this knowledge accumulation occurs was left unspecified. So-called ‘new growth theories’ have introduced measures of human capital and some have also allowed for education-related externalities. The focus has typically been on education in general rather than higher education in particular, but there have been studies looking explicitly at the latter. In these models, human capital is included directly as an input into the growth model or as explaining the process of knowledge accumulation by relating it directly to productivity growth<sup>21</sup>.

There is an overwhelming amount of cross-country evidence internationally which points to a positive association between investment in education and growth (see for example, Barro

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<sup>18</sup> For the most recent evidence, see Dollar and Kraay (2000).

<sup>19</sup> Temple (1999) provides a comprehensive review of the empirical literature on the determinants of growth.

<sup>20</sup> The standard approach is traditionally grounded in so-called neo-classical growth models founded on the work of Solow (1956).

<sup>21</sup> Education can also act indirectly through the production of new knowledge via research and development which is in turn important for productivity. This will be examined in next section.

and Sala-i-Martin, 1995; Barro, 1998<sup>22</sup>). Moreover, higher education seems to be the most relevant education variable in more developed countries. Key findings are: first, countries with higher average years of education tend on average to grow faster; second, OECD countries which expanded their higher education sector more rapidly from the 1960s experienced faster growth; third, education is more important via its effects on productivity than directly as a factor input; fourth, there is some evidence that education positively affects physical investment in the economy which in turn further increases growth rates.

Conservative estimates suggest that the wider effects of education on economic growth could add at least 2 per cent to the typical social rates of return presented in the previous section. However, the estimates from the literature are subject to wide margins of uncertainty (Gemmell, 1997).

## **5.5 New Technology and Economic Growth**

Another way higher education affects growth is indirectly via research and development. Higher education is vital to the research sector in various ways. For example, it trains scientists and engineers which are key to the generation of new knowledge and innovations. This production of new knowledge is in turn important for productivity growth. The impact of scientists and engineers on productivity has been extensively tested and results point to a consistently positive association (see for example, Wolff, 1994). Other evidence confirms the importance of this link. The rate of GDP growth attributable to technological change has been calculated to be in the order of one half to one percent per year for the US and other developed countries i.e. 20 per cent to 40 per cent of total national growth. These results suggest that higher education is vitally important for the development of innovative

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<sup>22</sup> A comprehensive review of the literature on education and growth can be found in Gemmell, 1997)

research and the ability to acquire and adapt to it. There is emerging evidence that countries which are first to develop new R&D capabilities gain a long-term advantage over competitors. Although it is difficult to separate out the exact contribution of higher education, many of the major industries created over the post-war period can be traced to scientific breakthroughs in Universities, as Table 21 illustrates.

**Table 21.** From University Inventions to Mass Markets

| <b>Period</b> | <b>Technology developed</b> | <b>Primary University</b> | <b>Industry created</b> |
|---------------|-----------------------------|---------------------------|-------------------------|
| 1940s         | Electronic calculator       | Pennsylvania              | Computers               |
| 1960s         | Fibre Optics                | MIT                       | Telecommunications      |
| 1970s         | DNA Cloning                 | Stanford                  | Biotechnology           |
| 1980s         | Supercomputing              | Illinois                  | Internet                |
| 1990s         | DNA Sequencing              | Cal Tech<br>Cambridge     | Biotechnology           |

*Source:* Siegel (2000)

**5.6 Sustaining the Knowledge Based Economy**

Dramatic changes are underway in the structure of Western economies away from extractive and basic industries and manufactures towards activities which rely heavily on human capital (NCIHE, 1997; DTI, 1998). Moreover, globalisation has transformed the economic and social conditions in which we live. The essential tools for international competitiveness in the new global economy are innovation, ideas, skills and knowledge, all are characterised by the intensive use of human capital. The UK can grow and sustain its knowledge base only if its workforce is extremely highly educated and well trained. Evidence suggests that flexible organisations thrive in the international marketplace and the key to their flexibility is the extent to which they employ skilled workers (NUTEK, 1996).

This critical role places a responsibility on higher education institutions to build upon existing links to industry both in terms of the supply of graduates and knowledge transfer. It is important that higher education institutions are well-informed about local and regional employers' requirements. These forces will find their response in choices made by individuals and in employment demand for lifelong learning opportunities on behalf of their employers. With these changes, the value of graduate skills will multiply both at the individual and economy-wide level.

## **5.6 Conclusions**

This Chapter has surveyed recent evidence relating to social rates of return and the wider benefits of higher education. Comprehensive measurement of social costs and benefits is essential for this type of analysis to be useful. Social benefits are more difficult to evaluate and interpret than private returns and the estimates more fragile. However, after heavily discounting the social rate of return to adjust for other possible influences, recent evidence suggests that higher education yields social returns in the UK which are lower than private returns but still in excess of The Treasury's test rate of discount. The existence of externalities or spillovers means that benefits to society are underestimated by rate of return analysis and an upward adjustment should be made to the reported figures, although current evidence does not give robust guidance on how much to add.

The fact that social returns are relatively high and externalities present, provides a robust case for continued taxpayer investment in higher education. The importance of this investment is reinforced by the imperative of developing the knowledge based economy. However, the excess of private over social returns confirms that most benefits from higher education continue to be captured by individuals. This further justifies a shift towards a

more equitable financial partnership with a greater financial commitment coming from beneficiaries.

## **6. ALTERNATIVE FUNDING OPTIONS**

### **6.1 Introduction**

The basic economics of the higher education market in the UK is straightforward. Over the last twenty years, participation has more than doubled. It is now 36 per cent and still rising. It is a stated policy of Government to see participation of 18-30 year olds reach 50 per cent by 2009. The increase has been supply driven in that it has been underpinned by increased funded numbers allocated through the Funding Councils. However, attached to the increased numbers has been sharply declining funding per student. Given the obvious potential for this to undermine quality of provision, various bureaucratic assessment procedures and complicated funding rules have been introduced. Universities have been encouraged to diversify their funding and to meet the competition internationally and with vigour. The main outcome of all of this is that although many Universities are now more efficient, more enterprising and more competitive, they continue to operate in an environment which Hare (2000) likens to the command and control regime of the former Soviet Union and its satellites, with many of the perverse incentive structures and outcomes which ultimately contributed to the collapse of that system.

As successive Competitiveness White Papers have recognised, if the UK economy is to compete effectively in an increasingly ‘joined up’ and ‘wired up’ international economy, it can only do so by sustaining and developing its comparative advantage in knowledge intensive activities. Higher education is central to this, not only as a supplier of human capital but also a ‘laboratory’ for new ideas, new technology, new products, new organisational and managerial practices. Under present funding arrangements, it is simply not possible for Government to deliver a sector which is both socially inclusive and

internationally competitive. Funding arrangements have to change, therefore, if the UK is to compete as a global player over the next generation and if we are to do something serious about social inclusion.

## **6.2 Objectives of Reform**

Universities have many purposes; some high minded, some more utilitarian. Moreover, in fulfilling their functions they have demonstrated remarkable powers of survival, from pre-reformation to industrial to post-industrial environments; from early medieval subsistence-based societies to modern information-based economies. They have survived (and grown) for many reasons, but first and foremost because they are knowledge factories. New knowledge is created and disseminated in both embodied and disembodied forms: new ideas, new graduates, new inventions, new processes. In the modern information age, the role of the knowledge factory is more important than ever. Reforms in the funding regime must be geared to promoting greater efficiency and effectiveness of the UK's knowledge factories relative to its international competitors. More specifically, reform should aim to:

- *Reduce social exclusion:* despite (until recently) universally free access and the shift towards mass participation, higher education in the UK remains too socially exclusive. The social and economic waste associated with this needs to change.
- *Enhance the resource base for higher education:* improved productivity has helped Universities adapt to the more challenging funding environment. Nevertheless, as we saw earlier, financial constraints are steadily degrading the learning experience, steadily undermining our research capacity and leading to a response of excessively bureaucratic quality control.

- *Minimise impact on public expenditure:* the social benefits provide an unequivocal case for public investment in higher education. Equally, competition for funds makes it unlikely that additional funding will come largely from the taxpayer.
- *Promote greater diversity among higher education providers:* the higher education market is increasingly diversified, which is desirable from the standpoint of consumer choice and efficiency of provision. It is important that any new arrangements promote not frustrate diversification.
- *Allow higher education institutions to be more responsive to market signals:* rapid changes in global market conditions, increased speed of communication, rising consumer expectations all mean that Universities must react quickly in curriculum development and delivery, research priorities and changing the types of degrees on offer.
- *Minimise resource costs of operating the system:* the proportion of any new resource generated which is absorbed by administration costs must be minimised, to maximise the return to new investment.
- *Reduce wasteful regulation:* higher education is too highly regulated given the evidence for its excellence in teaching and research, and Universities face unnecessarily high compliance costs. With greater market sensitivity comes sharper market scrutiny and less need for costly bureaucratic regulation.

Over many years there has been a robust debate about funding higher education. We will not review the full range of options which have been discussed but focus on four possibilities all of which are consistent with evolution of the present system: enhanced grant allocations; introduction of a graduate tax; vouchers and deregulation of fees. If the

last of these were progressed they would need to be accompanied by an efficient income contingent loan system. This is discussed in Chapter 8.

### **6.3 Enhanced Grant Allocations?**

Public support towards the cost of tuition comes from two sources: block grants from Funding Councils and fees from LEAs for students not eligible to pay themselves. Historically, the allocation has been indexed to the GDP deflator and a percentage reduction applied to reflect assumed “efficiency gains”. For a long period this was 3 per cent per annum; post Dearing it applies at 1 per cent per annum. These are, of course, year on year cuts in real terms and in the absence of an ability to increase numbers of home undergraduates, is a major cause of financial difficulties facing universities. As noted elsewhere, whilst expanded numbers has been accompanied by a real increase in overall government funding, there has been a sharp decline in funding per student by around 50% over the last 20 years. With current expenditure plans and projected increases in student numbers, the secular decline in unit funding is set to continue.

One clear option for the future is to increase the government teaching grant per student allocated via the Funding Councils and tuition fees paid through local education authorities. In 1985/86 teaching expenditure per student in the ‘old’ Universities was £8,470; in 1990/91 this had fallen to £7,680. In 1996/97, expenditure per student was £4,790 (all in 1998 prices). How much additional funding is required? Clearly that depends on the target benchmark.

- To return the unit resource to the equivalent 1985/86 level would require grant allocations to increase by 77 per cent (i.e. by £3.6 billion)<sup>23</sup>.
- To restore recurrent teaching expenditure per head to the 1990/91 level at current participation levels would require recurrent grant allocations to increase by 60 per cent (i.e. by £2.9 billion).
- To restore expenditure per student to five years ago (when expansion flattened) would require a further £600 million per annum.
- To increase expenditure per student to the OECD average would require an increase of £3.1 billion annually (based on 1995 figures).

But of course Government also wants to see participation increase and has set a target of 50% participation of 18 year olds, before they reach 30, by 2009. Assume that this means 45 per cent participation at the 'normal' entry age of 18. Then to maintain expenditure per head at *current* levels would require a boost in grants to Universities of £1.9 billion per annum. To return to the 1990/91 level of per student expenditure and reach the government target of increased participation would require an increase of £5.9 billion in recurrent funding, or 3p in the pound on income tax for all taxpayers.

These calculations show what is needed if funding levels are restored to what they were 5, 10 or 15 years ago. There are two key points thrown up. First, given the record on public funding of higher education over the last two decades, it is unlikely that additional resources on such a massive scale will be provided (let alone that further expansion will be properly funded) or that the Universities will be better funded for existing numbers of students. Second, even if there were a remote chance that it *could* happen, arguably it

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<sup>23</sup> Calculated using 1996/97 figures.

*should not* happen because it redistributes from low income to high income taxpayers and is actually a regressive mechanism for funding higher education and it has failed in terms of social inclusion.

#### **6.4 Introduction of a Graduate Tax?**

A potential route for enhancing the resource base whilst maintaining current funding mechanisms is via the introduction of a graduate tax. By definition, rather than being a levy on all taxpayers this would be a supplement which applies only to graduates. It is therefore a deferred payment scheme. By subsidising higher education, the taxpayer is essentially taking an equity share in the human capital created, the dividend being the additional tax levied on graduates' earnings. In principle the collection mechanism is straightforward, an additional piece of coding flagging up that the individual concerned is a graduate. Thus costs of administration would be very low, which is an obvious attraction.

With participation at current levels the revenue raising potential of a graduate tax is substantial. Extrapolating from the modelling in CVCP (1993), every 1 per cent graduate tax with a participation rate of 40 per cent would in steady state yield £3.7 billion per annum in current prices. Relative to the current higher education resource base, this is clearly attractive. For example, a graduate tax of 1 per cent yields more than is currently allocated for teaching across the system. Moreover the yield is probably high relative to many alternatives.

Although it would be relatively straightforward to introduce a graduate tax there are a reasons for doubting whether it can meet all the objectives of reform set out above.

- First it takes time to deliver substantial resources. In the modelling exercise mentioned above, it takes over 14 years for the tax to deliver one third of its yield and 43 years for the steady state yield of £3.7 billion to be achieved. That is a long time to wait to make a difference!
- A second problem is that there is no tradition of hypothecated taxes in the UK and so it would require a radical change in fiscal practice for this to occur. If it is not hypothecated, higher education is no further forward in that revenue from a graduate tax becomes part of general revenues and any expansion in resources again becomes subject to the political process.
- This leads on to a third disadvantage: the system would be no more market sensitive than at present nor any less constrained by costly regulation.
- Fourth, graduates pay throughout their working life, rather than paying back what it cost to graduate. In other words, they pay back more than the cost of the degree and the amount paid back is invariant to differences in costs between degrees. Thus the philosophy graduate could pay the same amount over the same lifecycle as the medical graduate.
- A final problem is the tax exemption effectively given to students from the EU. Under current regulations, EU nationals pay the same (heavily subsidised) fee as British students. If they return home upon graduation, they are outwith the jurisdiction of the Inland Revenue. In 1998/99 there were 98,130 EU students in British Universities, revenue foregone would be substantial.

Introducing a graduate tax is therefore a less attractive solution than at first sight: it is unlikely to deliver significant additional resource rapidly; it is not conducive to a more

flexible and competitive system and in itself is unlikely to do anything about social exclusion. It is not surprising that there is no fully fledged graduate tax in operation in the OECD<sup>24</sup>.

## **6.5 Funding via Vouchers?**

The potential for using vouchers in the education market place has been debated for a long time.<sup>25</sup> It has recently been given support in a speech by Lord Owen (Owen 2000) (though he called them bursaries rather than vouchers) and in Pearson (2000) in his analysis of mechanisms for stimulating higher education-industry links.

The basic idea is straightforward: those who have satisfied the matriculation requirements for University receive a voucher to a given value to use at a University of their choice. Its value could be geared to the cost of the course; could be geared to the student's family circumstances; could vary with the type of course, for example to stimulate participation in shortage subjects. It is therefore potentially a very flexible instrument for distributing public monies. That is the key point: vouchers in themselves do not alter the overall level of funding going to higher education but rather the way it is distributed. In effect one is disbursing public funds via the individual rather than, as at present, via institutions. This may be a very good reason for considering some reliance on vouchers by, for example, distributing the taxpayers' contribution in this way, rather than via a block grant. As Pearson (2000) points out, it is generally more efficient to provide public subventions via the purchaser rather than the provider. Students would be empowered to a greater extent

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<sup>24</sup> The Australian HECS arrangements are often referred to as a graduate tax: they are not. Although repayments are made through the income tax system, this is simply to minimise collection costs. Graduates repay what they borrowed on an income-contingent basis.

than at present and Universities would have to compete more directly to attract the best students. Moreover, it also offers the potential for targeting public funds more effectively than now with, for example, the value of a voucher varying on a means tested basis.

However the focus of this Chapter is considering options which would enhance funding since that is the key problem. The only way in which vouchers *per se* could bring in additional funds is if students were able to augment their value.

## **6.6 Investment by Beneficiaries?**

The fourth option explores the idea that further expansion whilst maintaining quality is only feasible if more private funds are drawn in to supplement taxpayers' investment. If private funds are to be invested, where will they come from? The obvious sources are:

- Students' families
- Student earnings
- Scholarship funding
- Employers
- Students' future earnings.

The first has always had a role to play and no doubt always will, but obviously works against students from low income families; the second is becoming more common. Neither, however, can provide the volume or security of funding necessary to maintain quality and improve access let alone underpin expansion. In the longer term scholarship funding will be

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<sup>25</sup> See, for example, Friedman (1962), Peacock and Wiseman (1965), West (1965).

vitaly important, particularly when it comes to helping with access and we will return to this in Chapter 8. Employers can assist with this process, as well as in other ways. That will take time, however.

That leaves us with students' future earnings. In Chapter 4 we saw that the case for students contributing to the costs of their education is strong, on both economic and social justice grounds. The economic case derives from the high rates of return which accrue to graduates. The social justice case derives from the fact that the present system redistributes income from (on average) lower to higher income taxpayers, has a poor record in terms of social inclusion and is therefore doubly regressive. A system of loans which permits students to borrow against future earnings to make a greater contribution to the costs of their education has the potential to provide an injection of resources quickly and over a long period and is likely to be far more equitable than present arrangements. This is the focus of the next two Chapters.

## **7 THE ROLE OF DIFFERENTIAL FEES**

### **7.1 Introduction**

The principle that beneficiaries should contribute to the costs of their education was forcefully put by the Dearing Committee and accepted by Government. Following Dearing a £1,000 tuition fee was introduced, applied on a means tested basis. Primary legislation forbade Universities from charging in excess of that though, interestingly, allowed them to charge less. Thus the principle of fee differentiation has also been accepted by Government albeit within the limits of 0 to £1,000.<sup>26</sup> Following the Cubie Report, all Scottish Universities charge a zero fee for students from Scotland, but not for those from elsewhere in the UK, who pay £1,000 per year.

There are six arguments for greater differentiation of fees and in particular for giving Universities freedom to vary fees above as well as below £1,000. The first two are general arguments which have been a recurrent theme in this Report:

- First if British Universities are to continue to expand without further deterioration in class sizes, infrastructure and relative remuneration, further resource per student is required and this should come from students given their expected future income rather than from (on average) lower income taxpayers.
- Second, if British Universities are to compete effectively in the global market in recruiting international students and sustaining international excellence in research and

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<sup>26</sup> The fee is indexed to the rate of inflation and therefore became £1,025 in 1998 and £1,050 in 1999. To keep matters as simple as possible in what follows, the discussion and associated calculations will refer to £1,000.

technology transfer, they require additional funding and again this should not come from the taxpayer.

- The third argument is related to the second; different Universities have different cost structures, fashioned by, for example, subject mix; balance of activities between teaching, research and technology transfer; whether their focus is regional or international. Moreover the variation in costs is much greater than 40 years ago because there are more - and more different - Universities, and the range of subjects is greater.
- Fourth, the present arrangements mean that the contribution students make is unrelated to the costs of teaching, (theology students and medical students in their clinical years both pay £1,000 per annum), and to the expected rate of return on their degree.
- Fifth, fee differentiation permits Universities to levy higher fees on those able to pay so as to generate resource to support those from less fortunate backgrounds.
- Finally, we have greater market discipline and less need for costly regulation.

On the grounds that differential fees have the capacity to unlock additional resource for higher education to improve quality and access, to allow student contributions to be more closely geared to costs of provision and to allow Universities to manage their activities more effectively and efficiently, it is difficult to argue against the logic of introducing them. If differential fees were transplanted onto the current system, such that they supplemented existing taxpayer contributions, whether distributed as at present via block grants or directly to students via vouchers, how much additional resource could be available?

## **7.2 Differential Fees and Additional Resources**

Clearly the amount of additional resource depends on the fees set and the number of students paying them. We return to numbers later. For the moment assume that present

student numbers constitute the fee base. With regard to the tuition fees themselves, it is important in a less regulated environment that Universities decide what these are, possibly within limits so they can be geared to differences in mission, cost structures and strategic plans. To illustrate the potential resource available for investment, we experiment with two sets of fee regimes: maximum fees by subject group; a single maximum fee for all students.

### *Fee Bands*

One simple but very informative exercise which illustrates the potential resource associated with differential fees for different courses and different types of University starts with Funding Council 'Price Groups'. In calculating the grant allocated to a particular institution to support its teaching activity the HEFCE starts with four factors: number of students; subject-related factors; student-related factors; institution-related factors.

The first is straightforward; the third makes small adjustments depending on the mix between full-time and part-time; traditional and mature students. Institutional factors include London weightings, size and allowances for specialist institutions. What is most interesting for our purposes is the subject-related factors. These are an explicit recognition that "*Different subjects require different levels of resources .....*" (HEFCE, 2000). In recognition of this, the Council defines four broad groups and sets relative cost weights for each. These are set out in Table 22, together with examples of the kinds of courses in each group. This is an important classification, in part because it explicitly recognises there *are* different costs associated with teaching different courses; in part because it has an impact on the allocation of resources across Universities. The differences are significant, with the

cost weighting for price group A greater than that for price group D by a factor in excess of four.

**Table 22.** Funding Council Price Groups for Allocating Teaching Funds

| <b>Price Group</b> | <b>Description</b>   | <b>Cost Weight</b> | <b>Examples</b>   |
|--------------------|--|--------------------|-------------------|
| A                  | Clinical stages of medicine and dentistry courses and veterinary science                                       | 4.5                | Clinical Medicine |
| B                  | Laboratory-based subjects (science, pre-clinical stages of medicine and dentistry, engineering and technology) | 2                  | Chemistry         |
| C                  | Subjects with a studio, laboratory or fieldwork element  | 1.5                | Geography         |
| D                  | All other subjects   | 1                  | Philosophy        |

*Source:* HEFCE (2000)

Suppose Universities had the freedom to set differential fees which mirrored these price groups, and price ratios. Suppose further that we take the base fee at £1,000. Thus for group D students, Universities would charge £1,000 as at present but could charge up to £1,500 for group C subjects, £2,000 for group B subjects and £4,500 for group A subjects. Using these price relativities presupposes nothing more than the possibility that HEFCE’s relative prices fairly reflect differences in actual costs of teaching between different groups of subjects. It is therefore as good a starting point as any.

Given such a fee structure, revenue generated depends on the number of students in each category and therefore on the mix of teaching activities in a particular University. Universities in the UK are heterogeneous and do have different subject mixes. For illustrative purposes we take actual student numbers and subject mix for three different types of University, as follows:

Type 1: Large civic “old” University with full range of subjects in price groups A to D  
Type 2: Medium size provincial “old” university teaching across price groups B, C and D.  
Type 3: Provincial “new” university, teaching across price groups B, C and D.

We have intentionally avoided London and ancient Universities to avoid unnecessary complications with institutional premia. In all respects the experiment is realistic: we use actual student numbers for an anonymised University of each ‘Type’. The results set out in Table 23 are striking. Despite the fact that students in price group D only pay what they are presently paying, and the vast majority of students contribute no more than £2,000 the additional revenue ranges from £3 million per annum to over £8 million per annum. To put this in perspective, this is around one quarter of the current teaching allocation for the Type 1 and 2 Universities and almost one fifth of that for the Type 3 University.<sup>27</sup> Two important points stand out. First, even at modest levels, differential fees have the capacity to make a real difference. Second, differential fees have the capacity to help the funding position of *all* types of Universities, not just Russell Group research intensive institutions. If aggregated across the entire University system, fees at these levels could generate almost £600 million of recurrent additional funding, sufficient to restore funding per student to levels that prevailed five years ago.

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<sup>27</sup> In calculating revenues for clinical subjects, allowance has been made for the fact that the first two years of a programme are typically pre-clinical. These are therefore costed at £2,000 per annum rather than £4,500.

**Table 23. Additional Revenue from Differential Fees: Benchmark Case**

| <b>University</b> | <b>Additional Annual Revenue</b> | <b>Additional Revenue as per cent of Total T Grant</b> |
|-------------------|----------------------------------|--|
| Type 1            | £7.8 million                     | 24 per cent  |
| Type 2            | £3.1 million                     | 23 per cent  |
| Type 3            | £8.4 million                     | 17 per cent  |

*Notes:*

1. All data applies to 1997-98

2. Fees assumed:

|               |                          |        |
|---------------|--------------------------|--------|
| Price Group A | Clinical Subjects        | £4,500 |
| Price Group B | Laboratory subjects      | £2,000 |
| Price Group C | Part Laboratory subjects | £1,500 |
| Price Group D | Classroom Based subjects | £1,000 |

*Fee Caps*

Alternatively, suppose Government decided Universities should operate under a regime with a maximum fee which any University could levy on any student. This is a natural evolution of the current system where £1,000 is the fee cap. Suppose the maximum fee was £2,000 and all Universities charged that fee. Table 24 sets out the outcomes of this experiment. Again, all types of University benefit and the new University benefits most because it has the largest number of students. In fact, the potential additional resource which it could generate is twice that of the Russell Group University. The consequences are even more dramatic if one assumes a fee cap of £4,000 (Table 25). The Russell Group University has the potential to generate up to £28 million per annum, almost 90 per cent of its current teaching grant; the small 'liberal arts' old University, up to £15.4 million; and the new University up to £55.1 million; in excess of its current teaching block grant. For Universities as a whole, fees of £2,000 could raise up to £1.02 billion recurrent; fees of £4,000, up to £3.07 billion recurrent. If added to current block funding, the latter could take the UK beyond the EU average.

As with the previous experiment, based on banded fees mirroring HEFCE price groups, this experiment makes two points very powerfully. First, even at modest fee levels, the potential resource which could be raised from beneficiaries to invest in quality and access is very considerable. Second, all types of University have the potential to benefit. Of course, our calculations assume that all charge up to the relevant fee caps and they may not. But that is a market decision. Given differences in University missions, locations and cost structures and the opportunity to compete on price, one would expect fee differentiation to emerge.

**Table 24.** Additional Revenue from Standard Fee of £2,000

| <b>University</b> | <b>Additional Annual Revenue</b> | <b>Additional Revenue as per cent of Total T Grant</b> |
|-------------------|----------------------------------|--|
| Type 1            | £9.4 million                     | 29 per cent  |
| Type 2            | £5.1 million                     | 38 per cent  |
| Type 3            | £18.4 million                    | 37 per cent  |

**Table 25.** Additional Revenue from Standard Fee of £4,000

| <b>University</b> | <b>Additional Annual Revenue</b> | <b>Additional Revenue as per cent of Total T Grant</b> |
|-------------------|----------------------------------|--|
| Type 1            | £28.3 million                    | 87 per cent  |
| Type 2            | £15.4 million                    | 87 per cent  |
| Type 3            | £55.1 million                    | 111 per cent   |

Universities have in fact had fee differentiation for international students for a long time and competition on price has emerged. Fee levels for international students from a survey of up to 97 Universities are set out in Table 26. Since the taxpayer is investing in human capital, we would expect fees for international students to exceed those for nationals. Note, however, that the fees reported in Table 26 are not only in excess of the £1,050 currently levied on British students but also substantially in excess of the illustrative fees in Tables

23 to 25. Moreover it is also clear that, given the opportunity to compete on price, Universities do. The highest fee in both classroom based and clinical subjects is almost twice the lowest; the highest in laboratory based is more than twice the lowest. Finally, since a range of scholarship schemes for international students exist at many Universities, it is likely that some are levying full fees on those able to pay and offering lower fees to those less able to pay.

**Table 26.** Undergraduate Fees for International Students in UK Universities (£)

|                        | Classroom | Laboratory | Clinical |
|------------------------|-----------|------------|----------|
| Lowest                 | 5,000     | 5,000      | 11,950   |
| Lower quartile         | 6,300     | 6,953      | 16,914   |
| Median                 | 6,765     | 8,624      | 17,008   |
| Upper quartile         | 7,080     | 9,220      | 17,230   |
| Highest                | 9,300     | 11,240     | 19,665   |
| Number of Universities | 97        | 90         | 22       |

*Source:* CVCP Survey of Tuition Fees for International Students 2000/01. Circular 1/00/68.

#### *Fees in the US and Australia*

Another benchmark for the fees which underpin our calculations in Tables 23 to 25, is those prevailing elsewhere. Table 27 reports tuition fees for the leading 15 private US Universities as judged by *US News and World Report*. For this group of elite Universities, annual tuition fees range from around £10,000 to £17,000 (at current exchange rates). Note that the sample includes large broadly based Universities (like Pennsylvania); smaller, more liberal arts based institutions with an almost exclusive focus on undergraduate education (like Dartmouth); and Universities whose very name suggests a greater specialisation on science and technology (like CalTech and MIT). One could object that these are all private Universities. Table 28 reports information on tuition fees in the 15 most

highly rated State Universities. These receive core funding from State legislature and can then supplement this with tuition fees. As can be seen these are differentiated by institution and by whether the student is from in-state or out of state. In-state fees range from around £1,500 to £4,500 per annum; those for out of state students, from £6,500 to £13,500 per annum.

An even better comparator is Australia where the introduction of differentiated fees is relatively recent. From Table 29 we can see that the Australian system is based on three fee bands and two types of fee. The bands are clearly related to costs of provision. HECS fees refer to the contributions which Australian students currently make to tuition costs and range from just over £1,300 to £2,200 per annum (at current exchange rates). The second column refers to “full cost fees”. Australian Universities are statutorily required to recover full average costs of tuition from international students. The minimum prescribed levels of these are set out in Column 2 and range from £3,200 to £6,600 per annum. Interestingly however, Universities can also levy full cost fees on up to 25 per cent of the Australian students they admit, so long as they have filled their quota of HECS supported students. There is therefore differentiation by course, between home and international students and between home students.

**Table 27.** Tuition Fees in the 15 Most Highly Rated US Private Universities (US\$)

|                                       |        |
|---------------------------------------|--------|
| California Institute of Technology    | 19,476 |
| Harvard University                    | 24,407 |
| Massachusetts Institute of Technology | 25,000 |
| Princeton University                  | 24,630 |
| Yale University                       | 24,500 |
| Stanford University                   | 23,058 |
| Duke University                       | 23,921 |
| John Hopkins University               | 23,660 |
| University of Pennsylvania            | 24,230 |
| Columbia University                   | 24,974 |
| Cornell University                    | 23,848 |
| Dartmouth College                     | 24,774 |
| University of Chicago                 | 24,234 |
| Brown University                      | 25,186 |
| Northwestern University               | 23,496 |

Source: US News and World Report, 1999/2000

**Table 28.** Tuition Fees in the 15 Most Highly Rated US State Universities (US\$)

|   | In-State | Out of State |
|---|----------|--------------|
| University of California – Berkeley             | 4,184    | 13,568       |
| University of Virginia                          | 4,130    | 16,603       |
| University of California – Los Angeles          | 3,698    | 13,502       |
| University of Michigan – Ann Arbor              | 6,881    | 20,505       |
| University of North Carolina – Chapel Hill      | 2,262    | 11,428       |
| College of William and Mary                     | 4,658    | 16,452       |
| University of California – San Diego            | 3,874    | 14,048       |
| University of Illinois – Urbana-Champaign       | 4,746    | 11,838       |
| University of Wisconsin – Madison               | 3,650    | 12,400       |
| Georgia Institute of Technology                 | 3,108    | 10,350       |
| Pennsylvania State University – University Park | 6,092    | 12,908       |
| University of California – Davis                | 4,172    | 14,494       |
| University of California – Santa Barbara        | 4,002    | 13,996       |
| University of Texas – Austin                    | 3,128    | 9,608        |
| University of Washington                        | 3,638    | 12,029       |

Source: US News and World Report, 1999/2000

**Table 29.** Tuition Fees in Australia (A\$)

|   | HECS Fees | Full Cost Fees |
|---|-----------|----------------|
| Arts, Social Science, Education, Nursing    | 3,463     | 8,380          |
| Science, Engineering, Pharmacy, Agriculture | 4,932     | 12,530         |
| Medicine, Dentistry, Veterinary Science     | 5,772     | 17,270         |

Source: [www.hecs.gov.au](http://www.hecs.gov.au)

### **7.3 Differential Fees, Ability to Pay and Access**

The fee levels we use for calculating potential revenue are modest by comparison with what is commonly observed in private and state Universities in the United States, where participation rates have been at UK levels for a generation and for the most part, less than most Australian students pay. Nonetheless, because fees in excess of £1,000 are by definition greater than at present, their introduction could adversely affect demand for higher education in general and demand from applicants from low income families in particular, if nothing is done to help students obtain the required funding ‘up front’. Conceptually there are two related but separable issues: first, would higher fees lead to a decline in demand; second, what are the implications of differential fees for access?

Demand for higher education is fashioned by many factors. One very important driver is the expectation of higher lifetime earnings. Income is foregone for (typically) three years to enhance one’s human capital in a way that leads to subsequent returns over a working life. As we saw in Chapter 4, rates of return are high in absolute terms and relative to other investments. Moreover, high returns have been remarkably persistent through time and provide the justification for asking beneficiaries to make a greater contribution to costs. Other things being equal, of course, as one raises the contribution, one reduces the potential

returns to the individual. The key issue is by how much does the rate of return change with the introduction of fees? This depends upon fee levels, arrangements for repaying them (to which we return later) and the demand for highly skilled labour. As we noted earlier, this will continue to grow to feed the growth of a knowledge based economy, so we are unlikely to see a sharp fall in the rate of return.<sup>28</sup>

But of course the really key concern is that higher fees impact differentially on students from different backgrounds and harm access due to a combination of higher costs and up front payments. If access were damaged that would be a powerful argument against differential fees. However, this is a difficult argument to sustain, for several reasons. First, one can hardly argue that the UK presently has a socially inclusive higher education system. We discussed this in Chapter 2 and need not dwell on it here beyond emphasising again that, despite huge expansion, involvement of entrants from lower income groups in British Universities has changed little in a generation. There are a great many factors behind this. One, which is germane to whether beneficiaries should contribute more, is private funding of primary and secondary education.

Table 30 gives details of entrants to degree programmes through time, by school type. Of those who entered from secondary school (rather than a further education college or post experience entrants), 59 per cent originated in state schools, 23 per cent were from private schools and 18 per cent from grant maintained schools. In the relevant cohort, the proportion of the total population in state schools in that year was over 90 per cent, with 7 per cent in private fee paying schools. Thus, as is well known, those with a private school

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<sup>28</sup> In addition to the evidence we cited in Chapter 4, new evidence relating to the most recent earnings data will soon be reported by DfEE. It is expected that this will confirm the continued persistence of high personal rates of return.

background take up a disproportionate share of University places and, as a recent Sutton Trust Report shows, that share is particularly skewed in the leading Universities. Their analysis estimates that an applicant from a private school is almost 25 times as likely to be admitted to one of the top 13 Universities<sup>29</sup> as an applicant from a disadvantaged background (Sutton Trust, 2000).

**Table 30.** Percentage of Degree Applicants Accepted by Educational Establishment

| Educational Establishment | 1994  | 1996  | 1999  |
|---------------------------|-------|-------|-------|
| State Schools             | 76.4  | 76.8  | 59.2  |
| Private Schools           | 23.6  | 23.2  | 22.6  |
| Grant Maintained Schools  |       |       | 18.2  |
|                           | 100.0 | 100.0 | 100.0 |

Source: UCAS

This advantage comes at a price, as Table 31 shows. Typical annual fees for secondary education range from £4,800 to £10,500 for day pupils and £8,700 to £15,000 for boarders. Even the *minimum* fee quoted (£4,800) exceeds the *highest* fee in our fee band case (£4,500) and the highest in our fee cap experiments (£4,000). It is also paid for twice as long. It is hard to sustain the argument that for a significant group of entrants to University, where substantial tuition fees have been invested to influence the odds of entry, there is an ability to pay problem.

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<sup>29</sup> The top 13 was established by averaging University rankings in *The Times*, *Sunday Times* and *Financial Times* League Tables.

**Table 31.** Typical Annual Costs of Private Schooling

| <b>Level</b>                        | <b>School Fees (£)</b> |
|-------------------------------------|------------------------|
| Pre-Prep (2 – 7 years)              | 2,100 – 3,600          |
| Prep (7 – 13 years, day)            | 3,600 – 7,500          |
| Prep (7 – 13 years, boarding)       | 7,500 – 12,000         |
| Secondary (13 – 18 years, day)      | 4,800 – 10,500         |
| Secondary (13 – 18 years, boarding) | 8,700 – 15,000         |

*Source:* Independent Schools Information Service, as quoted in *The Sunday Times*, 19.3.00

But, of course, that leaves many others, including those in socio-economic groups IV and V which are so badly represented. Financial pressures are such that many families find it hard to support their offspring at state school beyond age 16, let alone contemplate school fees to enhance their prospects of University entry. How does one alleviate up-front costs for such students? There are two elements: first greater use of scholarships and bursaries; second, a well designed income contingent loan system. The first provides up front support to students without an obligation to repay. In effect it means differentiation of fees by student. Students are admitted needs blind and financial aid provided on a means tested basis. The second, income contingent loans, are a device for allowing students to borrow against the higher income streams they realise after graduation and only repay when they can afford to do so. Part of that spending power is unlocked to permit the individual to invest in him/herself. A loan scheme which covers both maintenance and fees has the capacity to relieve financial pressures not only on students whilst they are at University but also on their families. Both are necessary developments for improving access and we will develop the analysis of both in the next Chapter. To maximise their effectiveness, they will need to be complemented with pro-active and better resourced access policies to identify and interest promising students from disadvantaged backgrounds at an early age: a

challenge to which more and more Universities are responding but one that requires appropriate investment.

#### **7.4 Conclusions**

Over the last two Chapters we have reviewed four options for increasing investment in higher education. Government could solve the problem by allocating additional funding. However, that would require a dramatic reversal of policy which is difficult to imagine. A graduate tax could generate substantial resources, but aside from the fact that it would probably become another form of general taxation, it takes a long time to deliver and graduates end up paying more than the cost of their education. Existing funding for teaching could be delivered differently by being given to students in the form of vouchers or bursaries, rather than directly to institutions. This could certainly make for a more competitive, responsive and flexible environment. It would only deliver additional funds, however, if students were permitted to add to the value of their vouchers.

Differential fees transplanted onto the present block grant arrangements is the only option which meets all the objectives set out in Section 6.2 and therefore offers a way forward. They place more responsibility on the (high income) beneficiaries of higher education relative to the (lower income) taxpayer; they allow Universities greater freedom to set fees in line with underlying cost differences and be more responsive to changes in market conditions, and have the potential to bring significant additional resource to the benefit of all Universities. They also make Universities more sensitive to the will of empowered consumers. Finally, they have the potential to do something serious about access. To achieve this, however, differential fees need to be combined with better funded scholarship

arrangements and a well thought out income contingent loan scheme, to which we turn next.

## **8 SCHOLARSHIPS AND INCOME CONTINGENT LOANS**

### **8.1 Introduction**

A fundamental objective of the reform of funding must be to see access improved for socially disadvantaged groups. With deregulation of fees comes higher fees, as Universities move them closer to the actual costs of teaching and learning. Clearly if the cost of a better funded higher education system were a further barrier to participation for disadvantaged groups, that would be unacceptable. Arrangements to ensure that financial constraints are not a barrier to entry are therefore essential.

In the United States extensive use is made by private Universities of scholarships of one form or another, targeted on financial need. We focus on this in the first part of this Chapter. To make a real difference would require substantial scholarship funding which takes time to build. Therefore in the remainder of the Chapter we focus on extending income contingent loans to students, designed to remove financial pressures whilst they are at University, by allowing them to invest some of the higher earnings they can anticipate after graduation.

### **8.2 Scholarships**

Scholarship funding is an important instrument of financial aid to those who might otherwise be prevented from attending University on grounds of financial need. Effectively they are a mechanism for fee differentiation by student. Those whose family circumstances mean they can afford to pay full fees receive no scholarship support; those in need receive support. This principle already applies in the UK with regard to the £1,000 tuition fee – if

parental income is less than £28,504 the student or his/her parents, do not pay the full fee. If parental income is less than £17,805 they do not pay any fees. As Universities make their admission decision on the basis of (expected) 'A' level performance and this is separate from the decision on fee remission, we already have a needs blind scholarship system in place – it just is not called that.

The same principles apply with differential fees. Thus scholarships have been a vital ingredient of the needs blind/needs aware admissions policies of most higher education institutions in the US for a long time; an invaluable instrument for ensuring that students from low income backgrounds are not excluded from high quality (high fee) institutions because of financial need. Table 32 illustrates just how extensively financial aid is used in the leading 15 private Universities in the US. At the California Institute of Technology, recently ranked as the top University in the country by *US News* and *World Report*, well over half of its students were receiving grants based on need, the average discount on full fees being 44 per cent. Almost half Harvard's students and 40 per cent of those at Princeton, Yale and Stanford, receive financial aid. By any standards, these are among the leading Universities in the world that could no doubt fill all of their places with well qualified students whose families can afford to pay the required fees. But they do not. Instead they proactively use scholarship funding to ensure their fees do not exclude students from low income backgrounds.

How do US institutions fund such generous, access promoting arrangements? Freedom to set their own fees is one ingredient. The final column of Table 32 reports the share of fee income which is effectively redistributed from those able to pay full cost fees to those less

able to pay. As we can see, between 10 per cent and 25 per cent is effectively redistributed.

But of course one needs more than just flexibility over fees.

**Table 32.** Financial Aid in Leading US Universities

|                                       | %<br>Receiving<br>Grants<br>based on<br>Need | Avg. Cost<br>after<br>Receiving<br>Grants based<br>on Need | Average<br>Discount | %<br>of Fee<br>Income<br>Redistributed |
|---------------------------------------|--|--|---------------------|--|
| California Institute of Technology    | 57%  | \$16,615   | 44%                 | 25.1%                                  |
| Harvard University                    | 48%  | \$15,747   | 53%                 | 25.4%                                  |
| Stanford University                   | 40%  | \$14,944   | 54%                 | 21.6%                                  |
| Rice University                       | 34%  | \$13,021   | 43%                 | 14.6%                                  |
| Columbia University                   | 39%  | \$15,562   | 53%                 | 20.7%                                  |
| Princeton University                  | 40%  | \$16,440   | 50%                 | 20.0%                                  |
| Yale University                       | 41%  | \$17,000   | 49%                 | 20.1%                                  |
| Cornell University                    | 45%  | \$16,193   | 50%                 | 22.5%                                  |
| University of Chicago                 | 54%  | \$17,529   | 47%                 | 25.4%                                  |
| John Hopkins University               | 37%  | \$17,255   | 46%                 | 17.0%                                  |
| Dartmouth College                     | 44%  | \$17,929   | 46%                 | 20.2%                                  |
| Washington University                 | 52%  | \$17,852   | 44%                 | 22.9%                                  |
| Massachusetts Institute of Technology | 50%  | \$20,023   | 40%                 | 20.0%                                  |
| Duke University                       | 33%  | \$18,372   | 43%                 | 14.2%                                  |
| Northwestern University               | 46%  | \$19,005   | 40%                 | 18.4%                                  |

Source: US News and World Report. Final column, authors' own calculations.

Table 33 reports the top 20 private University endowments in the US. Even at the bottom end they exceed \$1 billion. This allows a University like Princeton to invest \$26.3m each year in financial aid. These endowments have been accumulated over many years, in an environment where alumni involvement in and giving to Universities is well entrenched. As we can see from Table 34, two thirds of Princeton's alumni, over half of Dartmouth's and a third of Stanford's financially support their University each year. British Universities do not have endowments that come anywhere near these, nor alumni participation on this scale. Many do nevertheless have scholarship schemes of one form or another and their

further development will be important to doing something serious about access and the social composition of British Universities. Fee differentiation will, of course, help the process in that the fees from those able to pay generate additional revenue. It is also an area where Government can help. It can assist directly by targeting financial support on scholarships; it can assist indirectly by providing a more supportive fiscal environment which encourages alumni giving. It has to be recognised, however, that it will take time to accumulate the levels of resource to operate financial aid on the scale of the best US Universities, which is why having a well designed income contingent loan scheme available is essential.

**Table 33.** Top 20 Private University Endowments

|                                       |              |
|---------------------------------------|--------------|
| Harvard University                    | \$13,019,736 |
| Yale University                       | \$6,624,449  |
| Princeton University                  | \$5,582,800  |
| Emroy University                      | \$5,104,801  |
| Stanford University                   | \$4,559,066  |
| Massachusetts Institute of Technology | \$3,678,127  |
| Washington University                 | \$3,445,743  |
| Columbia University                   | \$3,425,992  |
| University of Pennsylvania            | \$3,059,401  |
| Rice University                       | \$2,790,627  |
| Cornell University                    | \$2,527,871  |
| Northwestern University               | \$2,397,715  |
| University of Chicago                 | \$2,359,358  |
| University of Notre Dame              | \$1,766,176  |
| Vanderbilt University                 | \$1,539,242  |
| Dartmouth College                     | \$1,519,708  |
| University of Southern California     | \$1,432,786  |
| John Hopkins University               | \$1,373,155  |
| Duke University                       | \$1,359,992  |
| Case Western Reserve University       | \$1,328,800  |

*Notes:* figures are in \$ thousands  
*Source:* 1998 NACUBO Endowment Study

**Table 34.** Alumni Giving Rates of Peer Institutions, 1997/98

|                                       |     |
|---------------------------------------|-----|
| California Institute of Technology    | 46% |
| Harvard University                    | 46% |
| Massachusetts Institute of Technology | 44% |
| Princeton University                  | 67% |
| Yale University                       | 50% |
| Stanford University                   | 34% |
| Duke University                       | 45% |
| John Hopkins University               | 27% |
| University of Pennsylvania            | 41% |
| Columbia University                   | 31% |
| Cornell University                    | 35% |
| Dartmouth College                     | 53% |
| University of Chicago                 | 36% |
| Brown University                      | 40% |
| Northwestern University               | 30% |
| Rice University                       | 40% |
| Washington University                 | 33% |
| Emory University                      | 37% |
| University of Notre Dame              | 49% |
| Vanderbilt University                 | 31% |

*Source:* US News and World Report

### **8.3 Objectives of an Efficient Loan System**

In a series of persuasive articles, Barr (1997) and Barr and Crawford (1998) argue that an effective loan system should have the following objectives:

- promote access and reverse the social exclusion;
- reverse the erosion of quality which has followed erosion of public funding;
- constrain costs to the taxpayer;
- provide an immediate injection of additional funds.

The UK has had student loans in place since 1990, when maintenance arrangements changed. Until then students could apply for a means tested maintenance grant. Following the 1988 White Paper, '*Top-up Loans for Students*', they could borrow up to 50 per cent of the notional maximum maintenance award from the Student Loans Company (SLC). Following graduation, any loan had to be repaid in 60 equal monthly instalments, although repayments could be deferred until the graduate's income exceeded 85 per cent of national average earnings. Interest charges reflected changes in the RPI. A zero real rate of interest therefore applied, conferring a substantial interest subsidy.

These arrangements apply to all eligible students entering higher education between 1990 and 1998 and suffered from a number of systemic deficiencies. First, it is a mortgage type regime with a very short (five year) repayment period. This means that a graduate is obliged to pay back the loan in full soon after graduation, when earnings are low relative to later in their working life. For example, a graduate just above the repayment threshold could expect their loan to absorb around 10 per cent of total income. Second, it provides no additional resources whatsoever to Universities to improve quality. Third, it is a relatively costly scheme to administer. Moreover, since the loan carries a zero real rate of interest, the implicit interest subsidy is a drain on scarce taxpayer resources. Finally, no private funding is mobilised<sup>30</sup>.

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<sup>30</sup> These failings are not unique to the SLC's mortgage scheme. Albrecht and Ziderman (1993) analyse 23 loan programmes covering tuition and/or maintenance in a range of countries. As an instrument of cost recovery, many have been disappointing due to a combination of high default rates, high operating costs and the revenue foregone by interest subsidies. In some cases the erosion of repayment revenues had been so great as to make the loans no less costly than grants.

## 8.4 The Barr-Crawford Income Contingent Loan Scheme

Barr and Crawford (1998) set out the ingredients of and mechanics for, a loan or graduate contribution scheme which could meet the objectives set out above and avoid the revenue leakages identified by Albrecht and Ziderman (1993). Their scheme is designed with two specific purposes in mind: loans should be fully income contingent, rather than mortgage based and, to the maximum extent possible, should derive from non-public sources. The first ensures that the scheme helps access since repayments are a smaller proportion of start-up income; the latter ensures that additional non-taxpayer funds are drawn into the system. The key ingredients required to deliver the scheme are repayments via a supplement to National Insurance Contributions (NICs) of borrowers and securitisation of student debt.

The attractions of collection through NICs were set out more than ten years ago in Barr (1989). Since everyone has a unique National Insurance number, this is a collection route which is secure and minimises the potential for debt default - recent data from the SLC puts cumulative default in the UK at 9 per cent of total loans.<sup>31</sup> Irrespective of whether the loans system is public or private, this particular characteristic is obviously attractive. Moreover, it also makes for a cost effective collection process since one is piggy-backing loan repayments on an existing collection infrastructure<sup>32</sup>. Minimising collection costs is clearly important. Whether or not the loan scheme is public or private, it means more net revenue. An identifier could easily be attached to a graduate's NI number which instructs employers

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<sup>31</sup> This is lower than some default rates reported in Albrecht and Ziderman (1993), for example Kenya (24 per cent), Chile (21 per cent) and the US (12 per cent). It is also somewhat higher than many others, however; 4 per cent in Australia, 1 per cent in Finland, Sweden and Japan and zero in Norway.

<sup>32</sup> Administrative costs can be substantial. At the high end Albrecht and Ziderman (1993) put the losses to administration at 20 per cent in Honduras, 15 per cent in Norway and Barbados, 13 per cent in Chile. This compares with just 6 per cent in Finland and 5 per cent in Australia.

to deduct an additional  $x$  per cent.<sup>33</sup> Since the scheme is income contingent, graduates begin to make repayments at relatively low levels of income. In principle, one could even begin at the lower earnings limit for NICs of £67.00 per week. Even an uplift of 3 per cent would only cost around £2 per week. Since the lower earnings limit for NICs is around one-fifth of 85 per cent of the national average earnings (which is the start point for repayments under the mortgage system), the build up of repayments is faster as around half of all graduates defer repayment (Student Loans Company 1998).

For students enrolling at University after 1998, loan arrangements have been modified. The loan is still funded by the taxpayer, still carries the subsidy of a zero real rate of interest and is still repayable to the SLC. However, repayment arrangements have changed in two important and helpful respects. First, as the relevant guide to students states, “*The amount you repay will be based on your income after you have finished or left your course. This is known as income contingent repayment.*” (DfEE 2000). Specifically, students become liable for repayments once their gross income exceeds £10,000 per annum. Beyond this threshold, graduates pay 9 per cent of their marginal income. In other words, if their gross income is £12,000, they pay 9 per cent of £2,000. This is collected by the Inland Revenue and passed on to the SLC, which brings us to the second important feature: collections are made in a more cost effective way than the mortgage scheme applying to pre-1998 entrants.

The 1998 reforms to the loan system are helpful in that they have introduced income contingency and a more cost effective collection mechanism, thereby saving taxpayers’ money. Does that mean that all we need to do is extend present arrangements to cover

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<sup>33</sup> Superficially, this sounds like a graduate tax but it is not. The latter would apply throughout the graduate’s working life. With the Barr-Crawford loan, the graduate only repays what has been borrowed, plus any interest charges.

loans for fees as well as maintenance? Not quite, as several shortcomings remain by comparison with the Barr-Crawford scheme. First, the scheme still fails to provide additional resources, nor does it bring in any additional non-taxpayer funds. Second, the present arrangements generate repayments more slowly with an income threshold of £192 per week compared to Barr-Crawford's £67 per week. Third, there continues to be an expensive interest subsidy which applies to *all* students irrespective of need. So how do we get the benefits of income contingency and additional private funding?

### **8.5 Public or Private Loans?**

It is possible to use the services of the Inland Revenue/Contributions Agency as a collection mechanism yet securitise student debt by selling it to the private sector. This principle has already been accepted since two tranches of debt under the old mortgage scheme have been sold by the SLC. The first was £1 billion to Greenwich NatWest in 1998, the second £1.3 billion to Deutsche Bank/Nationwide in 1999. The exact details of the transactions have not been made public but it is believed that the debt was sold for around 50 per cent of its face value. Estimates suggest that the missing 50 per cent breaks down into about 15 per cent because of low income, early death and so on and 35 per cent due to the interest subsidy. As it happens, these costs are consistent with the estimates of Barr and Falkingham (1993). That same study estimated that costs of deferment and default would be much lower if income contingent loans were collected through NICs, partly because of the lower repayment threshold and partly because of the more secure collection mechanism. This, of course, makes the debt more attractive to the private sector. This attractiveness would of course be further enhanced if graduates paid an interest rate on their loans broadly equal to the government's borrowing rate. One could argue as Barr (1997) does, that

because repayments are spread over a long period and weekly repayments are therefore low, such an interest rate could be paid. Under present arrangements students pay an interest charge that adjusts only for RPI. Since the real interest rate is around 3 per cent per annum, this represents a significant subsidy from the taxpayer, which is indiscriminate rather than targeted.

If loans were securitised, the potential for an immediate and substantial injection of private funds is considerable. To see how it would operate, imagine a situation where a privatised SLC administered a loan scheme where repayments are collected via NICs or, as at present, by the Inland Revenue. Annual SLC lending is now £1 billion. The Barr-Falkingham calculations suggest that the private sector would be willing to pay £800 million for this debt, i.e. face value less expected deferment and default. That is new private money which saves the taxpayer an equivalent sum on an annual basis. A scheme which covered the equivalent of grants plus (differentiated) tuition fees at the levels we discussed could have a face value of £2.6 to £5 billion per annum depending upon fee levels, with a market value of £2.1 to £4 billion annually. At the bottom end approximately three quarters would accrue as Treasury savings and one quarter as new resource to Universities; at the top end around half would accrue to Government and half to Universities. Thus £2 billion could be available to Government for more effectively targeted expenditure (e.g. in the form of needs based scholarships) and £2 billion to Universities.

On equity and efficiency grounds, the case for income contingent loans covering fees as well as maintenance, collected through the Inland Revenue or National Insurance Contributions Office and fully securitised, is compelling. The only real barrier to implementation is the nuances of public sector accounting. If repayments are collected via

the Inland Revenue or NICO, it could be argued that insufficient risk is transferred to the private sector when the loan book is securitised and therefore all lending to students has to count against the current public sector cash requirement. This could indeed be an impediment to bringing in additional private resources rapidly. Barr (1997), however, offers a range of practical solutions to this problem involving some combination of revising public sector accounting arrangements and/or further privatising the organisation and finance of student loans.

## **8.6 Income Contingent Loans and Access**

Changing the social mix of Britain's Universities is a key objective of reforming funding arrangements as we have stressed repeatedly. The poor representation of students from the lowest socio-economic groups is the outcome of a complex interplay of factors, one of which is financial. It is sometimes argued that loans only increase the pressures on students from low income backgrounds and their families. It is vital to emphasise that income contingency ensures that this is not the case. On this point, we can do no better than cite a passage of evidence to the House of Commons Select Committee on Education and Employment from Barr and Crawford:

*'Income contingency is central to achieving the access objective, as Australian experience amply demonstrates (Chapman, 1997). In the UK context, as in Australia, it is important to understand the extent to which people are averse to debt for things like education which were previously free, a point which applies with particular force to lower socio-economic groups and to people from certain ethnic backgrounds. Income contingency deals with this problem first because it is rooted in ability to pay:*

*it tailors repayments week by week to what people can afford, thus protecting individuals from risk. It means that those who can afford to repay do so, and those who cannot are protected from debt. It does so, second, by focussing attention not on the stock of debt but on the flow of repayments: what students face is not a debt of (say) £12,000 but a potential liability to pay a fraction of their future earnings, provided those earnings are sufficient. This is a key presentational issue. With income contingent repayments, it is possible to say to students (and their parents): “You go to University; you have enough to live on; it is all free at the time; you get your degree and then you go out and start earning. Only when your earnings are high enough you pay an extra 3p per pound of earnings, which helps to pay for the education of the next generation.”*

Barr and Crawford (1997), paragraph 9.

Removing financial pressures from students and their families in this way removes a major impediment to University entry to children from disadvantaged backgrounds. If combined with more pro-active access policies to identify such students earlier, they could help transform the social mix of our Universities.

## **8.7 Conclusions**

Higher fees mean greater up-front costs for students. Therefore a move to greater fee differentiation has to be accompanied by mechanisms which reduce or remove those up-front charges. This is of particular importance to entrants from low income backgrounds. Scholarships are widely used in the US where fee levels are higher than anything that might be contemplated for the UK. At the elite US Universities a high proportion of students

benefit from financial aid and this has proven to be an effective mechanism for promoting the entry of students from disadvantaged socio-economic backgrounds. Scholarships are funded by substantial endowment funds, regularly replenished by alumni. British Universities already make use of scholarships and they will no doubt become more common. Government could certainly help their build up, by looking at the tax treatment of alumni giving. In addition, Government funding for higher education could be used in a socially more productive way if it were concentrated on scholarship funds for the less well off. Both could bring in more resource to improve quality as well as access.

Allowing those students who wish to do so to borrow for maintenance and fees, then repay on an income contingent basis, has enormous attractions. Having begun with a loan system in 1990 which was mortgage based and costly to administer, Government has now embraced the principle of income contingency. Moreover, the principle of repayment through the Inland Revenue, which is transparent and cost effective, has also been adopted, as of 1998. To get full benefit from income contingent loans, they should be broadened to cover both fees and maintenance, thereby removing up-front costs of those who do need to borrow negating the need to borrow at market rates and helping with access. If the loans carry an interest charge comparable to the Government's borrowing rate they could be readily securitised, thereby bringing substantial resource into the sector, quickly.

## 9. CONCLUSIONS

The Prime Minister has taken a keen personal interest in tertiary education in recognition of the sector's “..... *incalculable impact on the economy at large.....*”<sup>34</sup> and in various speeches and policy pronouncements has set out his ambitions for British Universities:

- Participation of 50 per cent of 18 year olds before they are aged 30, by 2009;
- Increased participation from disadvantaged socio-economic backgrounds;
- Enhancements to the basic science infrastructure to underpin innovation;
- More rapid pull-through from basic science to new products and processes;
- Enhancements to the skills base to feed the knowledge based economy;
- Increasing the UK's market share for international students from 17 to 25 per cent by 2005;
- Global leadership for the UK in development, use and export of digital learning services.

These ambitions enjoy cross-party support and the prize for success befits the ambitions. In a world where technological change is ever more rapid, succeeding means not only being at the forefront of new scientific and technological developments but having a workforce which can adapt quickly to new processes and new ways of doing things. Success means faster growth which is not only the sole guarantee of rising living standards, it is the only durable basis for really doing something about social exclusion. Universities have a central role in this agenda.

The difficulty is that funding for teaching and research has declined on a secular basis for 20 years and the UK lags well behind its major competitors in the OECD. That additional investment is required is not in doubt: for improving access for socially disadvantaged groups; modernisation of teaching and research facilities; investment to exploit the potential offered by information technology; overhauling salary structures to do something about recruiting the best and retaining them. Estimates of the required investment vary: to restore current expenditure per student to that prevailing ten years ago would require an additional £3 billion per annum; to bring expenditure on higher education up to the average for the EU as a whole would require £2.5 billion per annum extra; to reach the average for the OECD another £5 billion per annum; the CVCP<sup>35</sup> in its submission to the Government's Comprehensive Spending Review makes the case for an additional £5 billion (a mixture of recurrent and one-off allocations). Whichever estimate one takes, it seems too large for the taxpayer to contemplate given other demands on public funds.

Additional resource, to supplement that already invested by the taxpayer, must therefore be drawn in from non-government sources. Economic efficiency and social justice dictate that the beneficiaries of higher education should make a greater contribution. Enhancing existing income contingent loan arrangements allows them to do so from the higher earnings they gain throughout their working life by virtue of having been to University. Differential fees allow individual Universities to set fees which reflect their own cost structures, their ambitions regarding support for students from less well off families, their approach to e-learning and so on. Thus they allow Universities the flexibility to gear resource to mission: those which wish to maintain small group tutorials will have different investment requirements to those placing greater emphasis on distance learning; those that

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<sup>34</sup> Romanes Lecture, University of Oxford, 2<sup>nd</sup> December, 1999.

<sup>35</sup> CVCP (2000b)

wish to specialise in arts and humanities will have different requirements to those specialising in science and engineering; those which compete in the global market for staff will have different needs to those who do not, and so on.

Following the Dearing Report, tuition fees and income contingent loans have become important features of higher education funding. They were introduced to facilitate evolutionary rather than revolutionary change. It is now time to take that evolution to the next stage by making greater use of both.

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## EXECUTIVE SUMMARY

### *Looking Backwards: Higher Education in the UK*

- In less than a generation, the UK's higher education system has been transformed from an elite to a mass system. Participation increased dramatically from around 5% of 18/19 year olds at University in the early 1960s to over a third now. It is Government policy to increase this further.
- Despite increased participation, University entry remains socially exclusive with the two highest socio-economic groups accounting for over 50% of all entrants in 1998 whilst the two lowest accounted for less than 10%. The social mix has barely changed over the last 20 years. Under current funding arrangements, the system redistributes income from low income to high income taxpayers.
- Although public funding for the sector as a whole has increased in real terms, it has fallen well behind expansion. As a consequence, public funding per student has declined dramatically, by nearly 50% in real terms since 1980.
- As public funding per student has declined, the regulation of Universities has increased. As a consequence, a growing share of University resources is committed to compliance costs.
- The decline in funding per student has manifested itself in a number of ways: rising class sizes and increasing student staff ratios; deteriorating infrastructure; academic salaries which have barely changed in real terms in 20 years and which have declined markedly relative to private and public sector comparators.

### *Looking Outwards: Higher Education in the OECD*

- Like comparisons of productivity and living standards, international comparisons of higher education are a useful benchmark. In overall participation, the UK fares well in that the recent expansions have taken British participation rates above the average for the OECD as a whole. British Universities also fare well in the proportion which successfully complete their course.
- In funding term, the UK fares very badly. Expenditure on Universities as a share of GDP is less than half the average for the OECD; below the average for the EU; and one

third of that in the US. Expenditure per student is just 60 per cent of the OECD average.

- To reach the EU average would require expenditure in the UK to grow by 5 per cent in real terms each year for the next ten years; to reach the OECD average would require annual real increases of 8 per cent for ten years; to get to US levels would need annual increases of 11 per cent per annum for the same period.
- Like most markets, higher education is increasingly globalised, with vigorous competition for international students, where the UK is a leading player. Given the benefits which they bring to British Universities and the UK economy, it is vital that a reputation for quality is maintained, otherwise the Prime Minister's target of a 25 per cent share of the global market by 2005 will not be reached.
- The market for academic staff is also increasingly globalised and British Universities have to compete internationally for the best knowledge producers. The growing gap between compensation packages in the UK and elsewhere, especially the US, is an impediment to recruitment and retention of the best.

#### *Counting the Benefits to Individuals*

- Some of the benefits of a University education are experiential, quality of life type factors which are very important but difficult to quantify.
- Labour market outcomes for graduates are very favourable relative to those for non-graduates. On average they command a wage premium of around £400,000 on average over a working life. They also enjoy higher labour market participation rates and lower unemployment rates.
- Investment benefits can also be summarised by rate of return calculations, which compare the costs of acquiring a qualification with the benefits in terms of higher earnings. Evidence for the UK suggests that rates of return to a first degree at 12-20 per cent have remained high relative to other forms of investment, despite expanded numbers.
- Not all of the income enhancement following graduation may be due to the degree itself. Even when one allows for other factors such as family background and innate

ability, however, rates of return remain high, which makes a strong case for graduates contributing more to the cost of their education.

### *Counting the Benefits to Society*

- There are vitally important social and cultural benefits associated with higher education. Graduates get more involved in voluntary work, participation in community affairs and democratic processes and are important agents of social cohesion. Although real, measurement difficulties mean they are excluded from social rate of return calculations.
- Social rates of return exclude spillover benefits and benefits to economic growth. Nevertheless, recent estimates put the social rate of return to a first degree in the UK as up to 11 per cent, which is high relative to other areas of public investment.
- Education has a key role in promoting economic growth and wealth creation and higher education plays a particularly crucial role in industrialised countries. Conservative estimates suggest that the growth bonus from education could add two percentage points to social rates of return.
- Interactions between the information and communications revolution and globalisation are stimulating dramatic changes in Western economies. The key to progress in the highly competitive knowledge based international economy is a more highly educated and adaptable workforce. Higher education clearly has a critical role to play in this.

### *Alternative Funding Options*

- Reform of funding must meet a number of core objectives: reduction in social exclusion; enhancement of the resource base; greater diversity of and greater sensitivity to market signals; and reduction in wasteful regulation. In addition, any new funding arrangements should be cost effective to administer.
- Additional resources could come from public funds but the evidence suggests that it will not. To bring expenditure to the OECD average would require £5 billion per annum; to raise participation levels to the government's target of 50% even at the current funding per student would require additional public funding of £2 billion per annum. It is unlikely that the taxpayer would vote for additional funds on such a scale.

- It is possible to tie increased public expenditure to a graduate tax, the revenue raising potential of which is considerable, albeit after a very long time. But it is unlikely that a graduate tax would be hypothecated. Also, since graduates pay throughout their working life, they can end up paying much more than it cost to obtain their degree. Finally, since EU students pay the same as UK students but pay their taxes elsewhere, there would be considerable leakage of revenue.
- Distributing the taxpayers' investment via vouchers to students rather than through block grants offers the potential for delivering a more responsive higher education sector and a mechanism for more effective targeting of public funds. In themselves, however, vouchers do nothing to increase funding.
- More funding has to be generated from non-Treasury sources if expansion is to be continued, quality maintained and international competitiveness enhanced. The only secure and socially just revenue source is the future income of the beneficiaries of higher education.

#### *The Role of Differential Fees*

- In addition to unlocking additional resource from the beneficiaries of higher education, differential fees allow the contribution which beneficiaries make to be more closely related to costs. They therefore recognise that costs vary from one programme to another and from one University to another and vary much more than 20 years ago because there are more Universities and more courses.
- Additional revenue from differential fees depends on fee levels and number of students. Universities could set fees in line with the cost differentials used by HEFCE, with £1,000 as the base, and fees ranging up to £4,500 (for clinical subjects). Even with around 26% of students paying no more than at present, this would generate additional funding of £600 million per annum.
- Alternatively, Government could set a fee cap and permit variation up to that maximum. With a fee cap of £2,000, £1 billion recurrent could be generated; with a fee cap of £4,000 over £3 billion could be generated each year, enough to bring HE funding up to EU levels. *All* types of Universities benefit from such fee levels, old and new, diversified and specialised.

- If differentiated fees damaged access, that alone would make the case against them. But higher education is already socially exclusive. Moreover, close to a quarter of University entrants are from fee paying private schools where only 7 per cent of students are educated. Given the typical fee levels of independent secondary schools, there is unlikely to be an ability to pay issue for a substantial proportion of University entrants.
- For those from less advantaged families, a combination of scholarships (effectively fee differentiation by student), income contingent loans and more carefully targeted access policies could dramatically reduce social exclusion in British Universities.
- Fee differentiation is already a feature of the British system, where Universities compete on the fees they set for international students. It has always been a feature of the US and has become an important element of Australian arrangements. The fee levels likely to prevail in the UK in the medium term are modest relative to those which prevail in the US and Australia.

#### *Scholarships and Income Contingent Loans*

- Scholarships are used widely to enable students from low income families to enter University. As many as 60 per cent of those in some elite Universities of the US benefit from scholarships. They are backed by enormous endowments, regularly replenished by active alumni.
- Scholarships will have an increasing role to play in the UK but will take time to accumulate. With Government support, it would be possible to make a difference sooner rather than later. In the meantime, it is vital that an appropriate loan mechanism for allowing students to borrow against their future earnings is available.
- An effective loan system should have as its key objectives: promotion of access and reversal of social exclusion; reversal of the erosion of quality which has followed erosion of public funding; an immediate injection of additional funds from non-taxpayer sources.
- The Student Loans Company has responsibility for administering maintenance loans to students and collecting repayments. Loans which covered fees could be administered by the same body on the same basis. Since 1998 loan repayments have been income

contingent and collected through the Inland Revenue. They still, however, fail to bring new resource into the system and do little for access.

- The Barr-Crawford income contingent loan scheme has the potential to meet all of the objectives of an efficient and just regime. It is repaid only when graduates can afford to do so, and over a long period. Repayments can be collected efficiently through the Inland Revenue or National Insurance system, not only minimising collection costs but also reducing leakage from defaults.
- If loans were securitised, i.e. sold to the private sector, they would ensure that funding associated with differential fees came from the private sector and was therefore additional. Since securitisation could also apply to the present maintenance loans/grants arrangements, substantial savings to the Treasury could accrue. These could be targeted more effectively than present arrangements at those most in need.

### *Conclusions*

- All political parties have high ambitions for British higher education: increased participation; improved access; enhancement of the skills base; world class research; more innovation; increased international students; global leadership in digital learning. If Universities have to rely solely on declining public funding, these ambitions will not be realised.
- Non-taxpayer sources are needed to supplement the investment made by the taxpayer. High returns to a degree justify a greater contribution from beneficiaries through differential fees. If combined with an expanded income contingent loan regime, they have the potential to benefit *all* Universities thereby allowing them to improve access, improve quality and compete internationally.