7. Tuition Fees in Europe and Australasia: Theory, Trends and Policies

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INTRODUCTION

Americans coming over to Europe often are stunned to learn that European students enrolling in higher education[1] either pay only a modest tuition fee or no fee at all. Comparing this situation to their own country, where the price of obtaining a 4-year degree from one of America's Ivy League universities will easily surpass the figure of $100,000, the immediate questions that arise are why European universities and colleges do not charge fees, and why they are not overburdened with students and at the same time under-funded?

During the course of this chapter, we will look at the role and impact of tuition fees, the reasons for charging tuition fees and why some (European) governments do not allow universities and colleges to charge fees. Tuition policies in Europe, Australia, and New Zealand form the core of this chapter and we will present tables that show the levels of fees for a number of European and Australasian countries.

The contents of this chapter owe a great deal to past research by CHEPS; especially the work carried out with colleagues from the CPB Netherlands Bureau for Economic Policy Analysis (CPB/CHEPS, 2001).

[1] We will use the term *higher education* for all formal education programs that are founded on (or built upon) some form of completed secondary education program and lead to an officially recognized diploma. So the term may be used interchangeably with the terms 'post-secondary education' or 'tertiary education'.

J.C. Smart (ed.), Higher Education: Handbook of Theory and Research, Vol. XIX, 241–310.

The topic of charging student fees, however, is placed in a broader theoretical framework that addresses the role that fees may play as a quasi-price on the higher education market. Because the debates on fees and the tuition fee policies implemented by governments are often based on the added benefits of higher education for individuals and society, we will also present estimates of the private and social rates of return to investing in higher education.

The effects of charging fees will also be discussed here, and we will especially be interested in the question whether fees affect the size and the composition of the student body. We will look at the students' price responsiveness in general and discuss in particular the effects of fees on students from families of disadvantaged socio-economic backgrounds.

This is where we touch upon the issue of student support and other policies to promote access and equal opportunity in higher education. Although European governments still show a reluctance to introduce (or increase) tuition fees, they have in recent years adjusted student support systems in such a way that students are asked to make larger private contributions to their costs while studying. Grants and scholarships have been cut and interest subsidies have been decreased.

Finally, we will discuss fee deregulation. The institutions that have the freedom to set their own fees will often be private institutions. However, allowing institutions to set their own fees can also be extended to public institutions. While introducing market-driven fees may still look improbable to many of today's European higher education administrators, the U.S. system can teach us some lessons here. Fee deregulation touches upon the relationship between fee levels and quality, as well as the institutions' policies and strategies with regard to student admission and selectivity.

FEES AS QUASI PRICES

Tuition fees are charges levied upon students, or upon students and their parents, that cover some portion of the underlying cost of higher education (Johnstone, 1998). Tuition fees are related to the institutional costs of instruction and are thus distinct from charges related to the costs of student living, or maintenance — for example, room, board, laundry, transportation — even though such maintenance charges may also be levied upon students or parents by the institution if it operates dormitories and dining halls.

Tuition fees are not a price like any other price that is paid for a commodity or service. The fees are more like a quasi price. The reason is that higher education is a non-profit sector, whose primary feature is that government subsidizes education in order that colleges and universities can provide their services for a price that is far less than the average cost of production (Williams, 1997). Nearly all costs related to higher education, including the underlying costs of instruction as well as the costs of student living, are borne by some combination of students, parents, and taxpayers. Economists, when speaking of tuition fees, prefer using the term "user charges" or levies, instead of prices. In the for-profit sector, prices are always *greater* than production costs (the difference being profits) while in higher education tuition fees are always *less* than production costs.

Thus, the principle issues surrounding tuition fees relate to the division of the burden of covering instructional costs between the government, or the taxpayer, on the one hand, and the students and/or the parents on the other. The fact that the institution's cost of instruction are only partly borne by students (and their parents) implies that the market we are talking about is different from the market for any other commodity and that charges paid by consumers (i.e., students) do not play the same role as in any other market. For instance, in a 'standard' market, the price plays the following four roles:

- unit of resourcing,
- rationing available supply,
- signaling device,
- income (re-)distribution.

We will discuss the four functions and see how they relate to tuition fees.

The first role focuses on the role of a price in generating resources for the supplier. Through fees, universities and colleges receive income to cover their costs. The income generation role of fees is especially important in Anglo-Saxon countries like the United States, Canada, the United Kingdom, Australia, and New Zealand, where tuition fees represent a substantial source of revenues for higher education institutions. In the United States, households cover about 40 percent of the instructional cost. In Australia the figure is about one-third. In Europe, the figures are much lower. It is important to make a distinction between public and private providers. Public providers of higher education will depend largely on the state for their income. Private providers often will have to rely on the income generated from fees. Within this subset, private for-profit providers will try and create a surplus in order to make a profit. Normally, if suppliers are free to set their prices they will try

and maximize their revenues, taking into account that a higher price will decrease demand for the goods and services on offer. In higher education, this would mean that some students would decide not to go to college or go to another higher education provider.

The second role of a price lies in rationing the available supply across those expressing a demand for it. If prices are flexible, they will adjust up to the point where demand equals supply and the services are sold to those people who are prepared to offer the most. In higher education, this often is not the case. In many cases (i.e., for the higher education programs offered by public institutions), the prices — the tuition fees — are fixed. The state regulates the fees. The tuition fee is not an equilibrating price that rations the available supply among all consumers that place a value on the education that is at least as high as the rate of the tuition fee. For example, in programs in disciplines like medicine or dentistry, the state often will set the number of available study places, each of them offered for the same price. This creates excess demand and requires rationing schemes, entrance tests, or (as in the Netherlands) weighted lotteries to decide which students are offered a place. If demand exceeds supply in a "normal" market, this would signal producers to supply a higher quantity of the commodity in question. Resources, thus, would flow towards the areas of excess demand. However, in higher education, an excess demand cannot lead to an increase in the price level, partly because this might create problems with access for students from low-income families (as will be argued later on in this chapter). Excess demand will not be eliminated by means of increased ("market clearing") prices and, therefore, there is no guarantee that students that place the biggest value on the program in question will occupy the available places.

The third function of a price is that it acts as a signal on a market. Ideally, prices reflect the (marginal) cost of producing a particular product. This confronts consumers with the cost they are incurring and encourages an economic (i.e., efficient) use of resources. For higher education, students making their decisions about what and where to study are not led by signals (i.e., prices) that reflect costs and scarcities on the market. Especially, if tuition fees are the same across all programs that each have different costs. From a societal point of view this might lead to an inefficient use of resources and phenomena like an excessively long time to degree. Although some states have increased tuition fees in an effort to create incentives for students to choose more wisely or to make them study more quickly, they have chosen to implement across-the-board rises

instead of differentiated fees. Moreover, if the state chooses to maintain a system of uniform fees across all providers, it implicitly sends out the signal that all programs have the same quality.

Turning to the fourth function of a price, we observe that consumers who decide to pay the price will, along with the product they are buying get the attached government subsidies — if any — invested in the product. This role is more of an indirect one and is relevant especially in the case where the difference between the real cost and the tuition fee is relatively high. The bigger the difference, the bigger is the implicit subsidy from the government. For higher education this means that a student paying a fee that is only modest compared to the total program cost receives a larger subsidy. In the case of uniform tuition fees, it means that students in expensive programs, such as engineering, medicine, and natural sciences, receive a larger subsidy than students in social sciences or humanities. From an equity — that is societal — point of view this could be problematic if the highly subsidized students once graduated turn out to be the ones that profit the most from their education in terms of higher earnings. From a societal point of view it might have been better if subsidies were used to educate students in low-cost programs that have important societal returns. The obvious examples are programs in teacher training and nursing. In short, tuition fee policies have important implications in terms of the direction of government subsidies. Ideally, decisions on government subsidies would need to be guided by equity arguments and the external effects of particular education programs.

From this overview of the role of prices it will be clear that tuition fees are different than prices charged for commodities produced by private firms. Often, tuition fees only play a minor role in generating revenues, enhancing student choice, improving efficient resource use, and optimizing the allocation of government subsidies. Now let us look at the level of the fees charged to students in a number of OECD member states.

LEVELS OF TUITION FEES

We will now present some facts about the levels of tuition fees in Europe and Australasia. Recent levels of fees (expressed in the Euro currency) are shown in Table 7.1. Fee levels for the United States are also included for the sake of reference.

Table 7.1: Tuition Fees in Selected OECD Countries: Rates in Year 2000/2001 (in Euro)

		Public Institutions		Private Institutions	
Country	Type/Sector of Higher Education	Minimum	Maximum	Minimum	Maximum
Austria	Fachhochschule (Ba), Universität (Ba/Ma)	726	726		
Denmark	Ba/Ma	0	0		
Finland	Ba/Ma	51	86		
Flanders (Belgium)	Higher vocational education (Bachelor)	50	406		
	University (Ba/Ma)	80	660		
France	Université (Ba)	104			
	Université (Ma)		800		
	Grandes Écoles			1,400	5,600
Germany	Universität (Ba/Ma)/ Fachhochschule (Ba)	"Studentenbeitrag" ±50			
Ireland	University, college	670	670		
Netherlands	"Hogeschool" (higher vocational education; Ba)	1,302	1,302	1,585	2,950
	University (Ba/Ma)	1,302	1,302		5,210
	Part-time and "slow lane" students (unis/hogeschool)	1,302	2,605		
	MBA programs			4,500	24,000
England and Wales	Bachelor (UK/EU students)	1,500	1,500		
	Bachelor (non-EU students)	4,860	12,810		
	Master: taught MA (UK/EU students)	3,000	4,500		
	Master: research (UK/EU students)	3,910	4,640		
	Master (non-EU students)	7,880	12,920		
	MBA programs	average: 14,290			

Scotland	Bachelor	Graduate endowment: 2,840			
Spain	University	500	770		
Sweden	Ba/Ma	Union fee: 30			
Australia	Bachelor (Australian students)	HECS rates:			
	Humanities, social sciences, education, nursing, arts	2,076			
	Economics, natural sciences, engineering, math., IT	2,957			
	Medicine, law	3,461			
	Bachelor (fee-paying Australian students)	4,500–12,500			
	Bachelor (overseas students)	7,200–14,400			
	Master (coursework Ma; Australian students)	3,500–6,800			
	Master (research Ma; Australian students)	HECS rates			
New Zealand	University (Ba)	Average: 1,720 (depending on institution)		Average: 2,400 (depending on program)	
United States		Average:	min–max	Average	min–max
	University (Bachelor, 4-year)	2,890	1,260–6,930	16,650	13,620–21,870
	University (Ma)	3,500		12,030	
	University (first professional degree in Law)	6,670	18,160		
	University (first prof. degree in *Medicine*)		9,980	23,740	

Source: CHEPS.

From Table 7.1 it is immediately clear that in many European countries tuition fees are either non-existent or comparatively low. It is important to realize that in Europe the private higher education sector is very small compared to the United States. Although Belgium and the Netherlands do have a substantial private sector, the private institutions are in fact subsidized by the government on exactly the same terms as the public institutions. The private character of the institutions relates to their religious basis at the time of their foundation. Over the years these private institutions have become subjected to government regulation and, as a result, have qualified for public subsidies. Nowadays, the private institutions are completely equivalent to their public counterparts as far as their teaching and research is concerned. A similar situation exists in the United Kingdom, where most universities are set up as private charitable bodies that receive government funding and are subjected to government regulation, although formally they are self-governing institutions. In other words, a "really" private and independent sector has not yet come into existence in Europe. In cases where private higher education providers exist these are as heavily subsidized as the public institutions. Private (and public) institutions in Europe, except for a few old and prestigious ones, have almost no endowment income, making it very difficult for them — even if they were allowed — to decide themselves on the fees charged to (particular groups of) students.

For a discussion of the facts presented in Table 7.1, let us first turn to the two European countries that — compared to the other countries — charge relatively high tuition fees: the United Kingdom and the Netherlands.

In the United Kingdom, from 1977 to 1998, tuition fees for undergraduate students were paid automatically by the government — through the *Local Education Authorities*. Three fee categories (or fee bands) existed: for classroom-based subjects (a fee of £750 in 1997/98), for laboratory-based courses (£1,600), and medical courses (£2,800). Before, that is until 1977, fees were payable where income (usually that of the student's parents) was above a certain level. In addition, fees had always been charged for part-time students, postgraduate students, and many students in sub-degree higher education (Barr, 2001, p. 203). Between 1977 and 1998, full-time university bachelor students were exempt from fees. From the academic year 1998/1999, the government implemented a flat-rate tuition charge of £1,000 (on average 25 percent of average teaching costs) per student per year, irrespective of university or subject studied. This was accompanied

by an income test, which meant that students from poor backgrounds paid no fees and students from well-off backgrounds paid the entire fee. In between a lower and an upper income threshold, a tuition fee was charged on the basis of a sliding scale. Today, the fee is £1,100 (€1,500) representing the highest level in Europe. Later on in this chapter we will return to the case of Britain, when we discuss the future plans announced by the government in the beginning of 2003.

In the Netherlands, tuition fees for regular full-time students are centrally determined by Parliament (based on policy proposals by the Minister of Education) and are uniform for all subjects in the two main sectors in higher education, the universities and the *hogescholen* (universities of professional education). The rate for full-time students as of 2003 amounts to €1,515. Expressed as a percentage of the total direct instructional costs, the private contributions have been relatively stable at around 19 percent of average direct costs in the university or *hogescholen* sector. From September 1996 on tuition fees for part-time students and for full-time students who have not completed their studies within the nominal program length plus 2 years have been set by the institutions themselves at levels above a government-imposed minimum. The institutional rates, however, do not show wide variations across universities. For *hogescholen*, the situation is even more homogeneous.

Turning to the countries that charge low or modest fees, we first point out the cases of Belgium (the Flanders community) and France. These are cases where uniform national fees do exist, but students receiving student support are exempted. This means that in France, bursary holders, representing around 15 percent of all students in the first (2-year) and second (1- to 3-year) cycle of higher education, are not paying fees. Regular students in the French public institutions are paying fees, set by the ministry of Education, ranging from €100 for general programs to €800 for specialized programs. In private institutions the fees are determined by the institutions themselves and are much higher. In Belgium, bursary holders only pay some 15 percent of the tuition fee paid by non-holders.

In the Scandinavian countries and Germany, the only contributions paid by students are (compulsory) student union membership fees or health services payments. In Greece (not shown in the table) there are no fees. In Italy, since 1992 universities are free to impose fees, which may vary from 400 to (in some cases) €2,500 and are levied on top of registration fees. The public universities in Spain have to charge uniform fees, according to field and level of study. The fees vary between €500 and €750.

Austria introduced tuition fees in 2001. The level of the fee is the same across all institutions: €726.

Therefore, apart from the Netherlands and the United Kingdom, European governments have tried to stick to a tradition of free (or relatively inexpensive) education for all. Parliaments have been very reluctant to introduce tuition fees. For instance, in the case of Ireland Parliament even decided to abolish fees in 1996, which means that as of 2003 Irish students pay an annual registration fee of €670. Before, Irish students paid substantial tuition fees (on top of the registration fee), ranging from €2,400 to €4,500, depending on the level and field of study.

Often, the absence of tuition fees is defended by referring to one or more of the following reasons (Johnstone, 1998).

First, proponents of a "no fees" system emphasize the predominance of the public benefits of higher education. Higher education is important to all citizens, rather than just those who attended as students. Because all benefit, all should pay. Any tuition could begin to limit participation and thus detract from this public good.

Second, any tuition fee, even if it is accommodated by means-tested grants for students from low-income families, may still discourage enrolment and persistence from low-income or rural and ethnic-minority youth. In order to achieve the social goal of equality as well as increasing the overall educational level of the population, it is argued that higher education should be free of charge.

Third, apart from the tuition fees, students are already faced with the high costs of accommodation, travel, and general living expenses. And on top of that, there are the costs of foregone earnings during the student years (a topic we will address below). Therefore, even without tuition fees, substantial expenses are already being borne by most students and their parents. Introducing fees or raising fees then would imply raising the cost of going to college with some students either having to rely more on their parents, taking out loans or doing part-time work.

In short, the absence of fees is defended by referring to equity and equal access arguments. We will not discuss the validity of the arguments here, but merely add that, so far, Parliaments in European states have been very sensitive to them. On top of that, the principal immediate beneficiaries of free public higher education — students and friends and families of students — are enormously powerful politically, by virtue of their predominantly middle- and upper-class backgrounds, their status as intellectual and social elites.

Reviewing the fee rates in Table 7.1, one is struck by the differences between the European countries, included in the top half of the table, and countries like the United States, Australia and New Zealand, contained in the bottom half. We will discuss the Australasian tuition systems later on in this chapter. The difference between the top and bottom half of the table is even bigger if one takes into account the fact that in many European countries, in addition to being free from tuition fees or being subject to comparatively low fees, higher education students are assisted by varying combinations of grants, low-interest loans, tax breaks, subsidized services, and family allowances. The Scandinavian countries (Denmark, Norway, Sweden, Finland) and Germany all have grants and family benefits to help students pay for their living costs. In the Netherlands, all full-time students receive a basic grant, irrespective of their parents' income. In the United Kingdom, where, at first sight, students pay a comparatively high tuition fee, the actual fee paid is dependent on the parents' income.

PRIVATE RETURNS FROM HIGHER EDUCATION

Now let us look at tuition fees from the perspective of the student; placing fees in the bigger picture of the costs and benefits associated with higher education.

Higher education provides benefits to the student. This is an undisputed fact that has to be taken into account when forming an opinion on tuition fees. And the saying goes "who benefits pays." This principle, at first sight, might be used as an argument in favor of charging fees to students. However, before subscribing to this principle one should look more closely at a student's benefits and costs of attending higher education. This, first of all, leads to the question of why people attend higher education.

Students participate in higher education for two basic reasons: consumption and investment.

Under the consumption motive, higher education generates immediate benefits related to a student's curiosity and the pleasure to learn. Many courses, however, are worth more to the student than instant gratification; they equip students with knowledge and skills which will enhance her productivity at work for years to come (Johnes, 1993). This is the investment motive, which means that students incur the costs of education (both time and money) in the short run in order to derive benefits eventually in the form of a future income that is higher compared to the earnings of

workers without a college degree. This argument revolves around the idea that a student's productivity increases due to education and training. Private benefits accrue to graduates in the form of *human capital*. This is the assumption underlying the theory of *human capital* (Schultz, 1961; Becker, 1964): education enhances the knowledge and skills embodied in people, thus raising their human capital. More human capital, in turn, implies higher salaries and a smaller chance of ending up unemployed.

The benefits accruing to individuals take the form of personal, cultural, and economic rewards. There is little doubt that graduates enjoy substantial advantages over non-graduates in the labor market. Lifetime incomes are typically much higher, unemployment rates much lower and the expected duration of unemployment is relatively short for those with higher education qualifications (Chapman, 1996).

About the costs incurred, one has to note that, first of all, the general public will point at the fees and other direct costs of education such as study materials (books, personal computers, etc.). That is, of course, if fees are charged at all. However, the main cost category for individuals is foregone income while learning, that is what would have been earned in the absence of studying. This is the opportunity cost of studying. Putting the private benefits and private costs of higher education in an investment — that is, lifetime — perspective, one can calculate the private returns.

The estimation of rates of return is one of the empirical applications of human capital theory. Rates of return analyses are very popular among labor economists and policy analysts (Psacharopoulos, 1981, 1994). Most of these studies show that on average investment in higher education is associated with high private economic returns. This would answer the question why people attend higher education. However, this human capital approach is challenged by the signaling (or screening) approach (Arrow, 1973; Spence, 1973). This view on college participation states that education primarily serves to reveal the innate ability of people. Natural ability and family background are considered to be the main determinant of individual productivity.

While it cannot be observed directly, people can provide information about their productivity by investing in education. Thus, education helps to alleviate the information problem on the labor market. Having a degree, signals that the holders possess specific worthwhile characteristics, it signals to prospective employers that he or she is a high-productivity worker. Consequently, education may be a beneficial investment for individuals, even if it does not increase their productive capacity. The screening

hypothesis questions the causal link, at least for post-primary education, between education and individual productivity, arguing that education is associated with increased productivity but does not *cause* it.

A standard critique to the signaling approach is that higher education is a costly instrument to signal ability. Admission tests may be a much cheaper instrument to solve the information problem. A second objection to the so-called strong form of the screening hypothesis is that it fails where education includes professional training, for example, in medicine.

What do the data say about the importance of the human capital versus the screening hypothesis? Hartog (1983) compares earnings of people who attended a higher education program but did not obtain a degree to earnings of people who completed the program. He finds a significant negative effect of the graduation gap, that is, the number of years short of graduation for those who did not complete their studies. Quantitatively, the effect of a year of non-graduation is in the same order of magnitude as the earnings gain of an additional year of higher education. This finding supports the human capital augmenting view of education, and is in contrast with the prediction of the screening hypothesis. Other evidence supporting the human capital model is presented in Groot and Oosterbeek (1994). However, according to Temple (2000) and Weiss (1995), the overall importance of signaling remains controversial and the results of natural experiments to test the correlation between earnings and schooling are not necessarily inconsistent with the signaling view of education.

Returning to the rate of return analysis, we have to point out that this type of analysis does not capture the entire spectrum of benefits. First of all, education also generates non-monetary benefits. We already mentioned the consumption benefits of higher education. The consumption benefits are enjoyed not only during the course of instruction but over the rest of the student's life. For example, an extensive knowledge of nature, culture, and society in general allows one to enjoy one's life even more than would have been the case without a college degree. Furthermore, higher education is often believed to increase job satisfaction and job mobility (better job opportunities because of increased labor market search efficiency). Other examples of non-financial returns refer to non-wage labor market remuneration, intra-family productivity, quality of upbringing of siblings (level of education, cognitive development, health), own and spouse's health, participation in social life, consumer choice efficiency, marital choice efficiency, attainment of desired family size, charitable giving, and savings (cf. Wolfe and Haveman, 2000). Table 7.2 presents an

Table 7.2: The Private and Social Costs and Benefits of Higher Education

	Private	Social
Costs	Tuition fees	Operating costs of HE institutions
	Study materials	Student support
	Foregone earnings	Foregone national production related to students
Monetary benefits	Greater productivity	Economic growth
	Higher net earnings	National and regional development
	Employment	Higher tax revenues
	Better job opportunities	More flexible labor force
	Higher savings	Increased consumption
	Personal and professional mobility	Reduced reliance on government financial support
Non-monetary benefits	Educational consumption	Social cohesion, appreciation of social diversity and cultural heritage
	Improved working conditions	Social mobility
	Increased personal status	Reduced crime rates
	Higher job satisfaction	Improved health
	Healthier life style	More donations and charity work
	Improved quality of life (also for siblings)	Increased capacity to adapt to new technologies
	More informed decision making	Democratic participation
	More hobbies and value of leisure	Improved basic and secondary education
	Personal development	

Source: Based on World Bank (2002), Table 4.1, and Jongbloed and Vossensteyn (2002).

overview of the private (i.e., individual) benefits, both the monetary and the non-monetary benefits, and places them next to the benefits and costs to society, again distinguishing between monetary and non-monetary benefits.

The non-financial private returns to higher education are far harder to measure than the financial returns. Wolfe and Haveman (2000) survey the literature on this issue, and conclude that non-market returns to schooling are substantial: conservative estimates of the value of non-labor market influences are in the same order of magnitude as estimates of the annual financial rate of return to schooling. However, even if one only takes into account the monetary benefits of higher education the private rate of return estimations are likely to be conservative. The reason is that in many countries students receive some form of financial support or other subsidies

Table 7.3: Private Rates of Return to Tertiary Education 1999–2000

	Men	Women
Australia*	13.2	11.3
Canada	8.7	9.9
Denmark	11.5	11.1
France	14.3	15.4
Germany	9.1	8.4
Italy	7.5	n.a.
Japan	7.9	7.2
Netherlands	12.1	12.5
Sweden	11.4	10.8
UK	18.5	16.1
US	14.9	14.7
Unweighted average**	11.6	11.8

**The figures for Australia are from Chapman and Withers (2002) and relate to the year 1994/95 and are for bachelor degree (4-year degree) holders;*
*** Excluding the figure for Australia.*
Note: The reported figures relate to the comprehensive rates, thus incorporating the effect of taxes, unemployment risk, tuition fees and public student support, but excluding the non-monetary benefits of education.
Source: Blöndal, Field, and Girouard (2002).

from their government. On top of that, most students take up small jobs while in college, although probably earning a lower wage than they would have earned had they been in full-time jobs. The combined effect of these facts means that these incomes should be subtracted from the foregone earnings to arrive at the real costs to students.

While there are many shortcomings of private rate of return analyses, there are many studies that have tried to measure them.

Table 7.3 shows the private internal rate of return to higher (or tertiary) education. The internal rate is equal to the discount rate that equalizes the real costs of education during the period of study to the real gains from education thereafter. The costs equal tuition fees, foregone earnings (net of taxes and adjusted for the probability of being in employment), minus the resources made available to students in the form of student support (grants and loans). It is good to note that the foregone earnings are usually approximated by the earnings of individuals holding an

upper-secondary education degree. In other words, the rate of return analysis provides an estimate of the extra return on higher education compared to secondary education. The benefits of higher education are the gains in post-tax earnings adjusted for higher employment probability, minus the repayment, if any, of public support during the period of study (Blöndal *et al*., 2002, pp. 21, 22). The reported rate-of-return calculations abstract completely from any non-monetary benefits of education.

Blöndal *et al*. (2002) show that the private rates of return differ significantly across the countries listed in Table 7.3. The average male private rate of return for a number of OECD countries lies around 12 percent. Returns for successful students range from 6.5 percent in Italy and 7.5 percent in Japan to 17.3 percent in Britain. The figures for women were slightly lower on average. Shorter university studies are one reason why returns are so high in Britain. Estimates for rates of return to education (not necessarily higher education) in the Netherlands vary from 3 percent to 8.6 percent (Hartog *et al*., 1999). For the Netherlands, Canton (2001) presents estimates for the private returns to an extra year of higher education. His study shows that for the vocationally oriented programs offered by the universities of professional education (the so-called HBO institutions) the rates are 6.7 percent, while for the traditional universities the rates are 9.2 percent.

U.K. figures, submitted to the National Committee of Inquiry into Higher Education (the Dearing Committee), suggest that for the period 1989–95 the private rates of return from higher education for men on average varied between 9 and 11 percent, while for 18 year olds, they vary between 11 and 13 percent (Steel and Sausman, 1997). Ashworth (1997) obtains estimates of the average returns to higher education for the United Kingdom in the range of 9–21 percent, depending on assumptions with respect to economic growth, graduate unemployment and the type of student support. More recently, Blundell *et al*. (2000) estimate a rate of return to an undergraduate degree of around 17 percent for men and 37 percent for women. For Austria, similar calculations for the mid-1990s show private rates of return of around 12 percent (Biffl and Isaac, 2001).

International estimates of the returns to an extra year of education lead to figures between 5 and 15 percent, depending on the time period and country in question. The large variation across countries is partly due to the earnings differentials *within* the country — that is, between those holding a college degree and those in possession of a diploma from upper secondary education — and the earnings differentials between degree

holders from different countries. One has to note that the OECD estimates shown in Table 7.3 do take into account differences between countries in taxes, the length of education, unemployment risk, tuition fees, and student support. In other words, the rates are so-called *comprehensive* rates.

For all studies mentioned here it is warranted to conclude that the private internal rate is higher than the real interest rate or the rate of return on other productive assets. This would imply that higher education is an attractive investment.

THE SOCIAL BENEFITS FROM HIGHER EDUCATION

After having discussed the private benefits of higher education let us turn to the *social benefits*. The social benefits differ from the private benefits in that they take account not only of the benefits experienced by the individual but also of the benefits enjoyed by the rest of society. Looking at the cost side, social costs also take into account the costs borne by society (usually through taxes) in order that the individual can receive educational services. The cost of higher education now includes not only foregone earnings (i.e., the opportunity cost of having people not participating in the production of output, that is the loss of national production) but also the full cost of providing education (rather than only the cost borne by the individual through tuition fees). With respect to the latter we repeat that governments in Europe usually bear a very substantial share of the cost of education.

The benefits to society, which are often referred to as "spillover" benefits, are usually argued to include (cf. Chapman, 1996, pp. 44–45):

- the contributions to political democracy and stability, a more informed public debate and voting behavior, less crime, and more tolerance;
- the community benefits from research not completely captured by the individual, in part because of an (highly) imperfect patents system for knowledge;
- the benefits accruing to workers and others from the imitation of the skills of the highly educated, not reflected in graduates' wages;
- higher tax revenue resulting from the higher productivity and wages of the more highly educated;
- improved prospects for increased competitiveness and economic growth through more highly educated people being able to adapt

and adopt new technological progress, with returns not accruing just to graduates.

The social returns to an educational investment indicate the desirability of this investment to society and — as we will discuss later on in this chapter — constitute an important reason for the government to invest in higher education. Two essential concerns for the government are: what are the social benefits and how much are they worth? Since the early 1960s it has been argued that in a world of rapidly changing information more highly educated workers have an advantage in adapting to different environments, in "dealing with disequilibria" — the capacity to adjust to unanticipated shocks (Huffman, 1974; Fane, 1975; Schultz, 1975). Nelson and Phelps (1966) emphasized the role of the human capital stock in creating and adapting new technologies. First, creating and adopting new technologies is more effective at higher levels of human capital. Second, learning (by-doing) is more effective with higher average human capital. Third, human capital accumulation is more effective within groups with the same level of prior human capital. This third externality is not related to the average level of human capital, but to the composition of human capital.

The literature on human capital spillovers shows that more highly educated individuals are able to react productively to the emergence of new information and new technologies. In particular, new and improved agricultural inputs — such as fertilizers — are used more efficiently by more educated people. It is reasonable to suggest that this is because the process of learning associated with formal education results in people having increased capacities to understand and manage change. That is, learning how to learn is an important skill (Chapman, 2001). But for education to result in social as well as private gains requires that the rents from the process not be captured completely by the educated individuals or the firms employing them. This will be the case only if technological change flows easily from one workplace to the next (Romer, 1990). Lucas (1988) has suggested that high levels of education result in the increased dissemination of knowledge. Lucas conjectures that the human capital interaction within cities is a prominent channel, although empirical evidence for this externality is ambiguous. Rauch (1993), though, performs an analysis for the United States with the standard metropolitan statistical area as the relevant community and finds evidence for externalities. Bartel and Lichtenburg (1987) suggest that high levels of formal education seem to be necessary for the successful introduction of capital equipment.

The belief that the most important social benefit from higher education is its contribution to technological change and, consequently, economic growth has been the topic of a growing research literature, known as endogenous growth theory (Romer, 1993). However, measuring the impact of education (let alone higher education) on economic growth is not straightforward. An important reason is that the growth impact of education on the skills of the labor force will be determined by both its quantity (higher schooling levels) and its quality (the amount of knowledge imparted at any given schooling level), and this distinction raises important measurement issues. Understandably, given data availability, most analyses focus on the former. Regressions of the level of GDP on the level of human capital fail to deliver a significantly positive relationship (Venniker, 2000). The role in economic growth of both the quality and the quantity of education internationally are compared in Hanushek and Kimko (2000). They test the extent to which educational quality as measured by standardized scores for mathematical and scientific literacy has contributed to economic growth differences averaged over 30 years across 139 countries. The test results are compared with the effect of changes in schooling quantities (as measured by the number of years of schooling). They find that increases in workforce quality have a profound influence on economic growth, and by much more than quantities — where these can be measured separately. For example, on average a one standard deviation increase in test scores adds about 1.0 percent to a country's GDP per capita annual growth rate. By contrast, increases in the quantity of schooling required to match this growth rate change seems to be very much higher: that is, to achieve a one percent increase in the annual growth rate of a country's GDP per capita would require on average that workers had nine additional years of education.

The type of results produced by Hanushek and Kimko suggest that a country should watch its test scores and compare them to that of other countries. Governments, on their part, would need to examine trends influencing the quantity and the quality of education closely.

THE SOCIAL RATE OF RETURN OF INVESTMENT IN HIGHER EDUCATION

The previous section suggests that there is a compelling economic case for the maintenance of important government subsidies for higher

education. A difference between the private and social returns to education is a prime motivation for government intervention on the market for education. It is evidence of the fact that those having participated (or participating) in higher education do not reap the full benefits of their educational investment themselves. If higher education creates benefits to society over and above those to the individual this would represent a case of *positive external effects*. Such effects are known as externalities or spillover benefits, since they spill over to other members of the community. Spillover effects are a manifestation of *market failure* (Barr, 1998; Stiglitz, 2000) and point to a role for government in correcting the market by stimulating participation and investment in higher education. *Negative* external effects may occur if the government provides a degree of financial support that pushes participation to levels that are beyond the socially optimal level (i.e., private returns exceed social returns).

The fact that rational, self-interested individuals do not take the more wider, social benefits of higher education into account in their investment decisions will lead to investments in higher education that are too low from a social perspective. While the human capital spillovers discussed will be difficult to measure, there is at least one strong external benefit that may be more easy to quantify (Barr, 2001, p. 165), that is the increased tax revenues received by the government. If education increases a person's future earnings it increases his/her future tax payments. The investment in education thus confers a "dividend" on future taxpayers. In the presence of such an external benefit the resulting flow of private education investment will be less than optimal and, therefore, governments intervene by offering tax advantages for a firm's investment in physical capital or an individual's investment in post-secondary (or post-initial) education.

For governments then the question is what is the appropriate level of spending on different types of education and what is the efficient level of taxpayer subsidy (Barr, 2001, p. 161)? Do the private and social returns to higher education differ, and, if so, by how much? Notwithstanding the difficulties in measuring social benefits and the critique on human capital theory expressed by proponents of the screening hypothesis, many studies have attempted to measure the social returns to education. However, the estimates vary widely, mainly because of the different ways of capturing the social costs and benefits of education. Some authors have identified positive externalities of education but few have been able to quantify them (but, see Weisbrod, 1964; Haveman and Wolfe, 1984).

Two studies — background reports to a government-commissioned study on the future of the higher education sector in the United Kingdom (National Committee of Inquiry into Higher Education, 1997) — have focussed especially on higher education (Gemmell, 1997; Steel and Sausman, 1997). The studies do not report strong evidence for the existence of externalities related to higher education. In particular, Gemmell (1997) writes: "The most likely source of reliable evidence is likely to come from comparing macro and micro estimates of rates of return to higher education. Present evidence is very limited; again it is suggestive of a small externality effect, at best, associated with higher education but a greater weight of evidence is required before firm conclusions can be stated."

Glennerster (1997, quoted in Barr, 2002) presents modifications of Steel and Sausman results, showing social and private rates of return to a degree. Glennerster is incorporating an "alpha factor," which is the assumption about the extent to which the higher earnings of people with more education are attributed to that extra education. Thus alpha = 0.6 means that 60 percent of extra earnings are caused by extra education; by implication the remaining 40 percent is due to natural ability. If two countries differ in the extent to which other characteristics than education are translated into earnings, the value of alpha differs. For instance, the value for alpha may be related to the impact of social class on earnings. The social rates of return to education for 19-year old men estimated by Glennerster lie between 6 and 7 percent for alpha = 0.6 and between 7 and 9 for alpha = 0.8. For the early 1990s the returns seem to be slightly higher than for the mid-1980s.

The difficulty of incorporating non-economic effects in rate of return calculations and translating these into monetary values, stands in the way of constructing comprehensive social rates of return. Therefore, the OECD, following up on a review of studies measuring the social benefits of education (OECD, 2001), has recently published so-called *narrow* estimates of social rates of return to education (Blöndal *et al*., 2002). The "narrow" adjective relates to the fact that the estimate of the social returns abstracts from any externality affects non-economic benefits and assumes that all wage gains from education represent associated gains in productivity. To the extent that there are sizeable positive externalities related to human capital investment by the average student, these estimates will thus be biased downwards. Table 7.4 shows the OECD estimates for tertiary education.

Table 7.4: Estimates of Social Returns to Tertiary Education, 1999–2000

	Men	Women
Australia*	14.5	—
Canada	6.8	7.9
Denmark	4.3	11.1
France	13.2	13.1
Germany	6.5	6.9
Italy	9.7	n.a.
Japan	6.7	5.7
Netherlands	10.0	6.3
Sweden	7.5	5.7
UK	15.2	13.6
US	13.7	12.3
Unweighted average**	9.6	8.4

**The figure for Australia is from Borland et al. (2000), table 2.6, and relates to the year 1997; is for men and women and is based on a 4-year bachelor degree;*
***Excluding the figure for Australia.*
Note: Reported figures related to so-called "narrow" rates of return, which exclude any possible positive external effects due to education.
Source: Blöndal, Field, and Girouard (2002).

The social rate of return is calculated as the discount rate that equalizes future costs and benefits, where social cost is the opportunity cost of lost output plus the direct total (public and private) cost of providing education, and the social benefits are equal to the extra (unemployment risk-adjusted) earnings for tertiary educated persons (extra, in the sense of compared to the earnings of persons holding only an upper-secondary degree).

The social rates of return are generally significantly lower than the private rates of return (Table 7.3), due to the fact that the social cost of education is higher than the private cost. Notwithstanding this, the social rates of return are on average 8–9 percent, which suggests that investment in tertiary education may often be a productive use of public funds. For the Netherlands, Canton (2001) reports social returns that are somewhat lower than the estimates reported by the OECD. For higher vocational programs the social return in 1997 was 4.3 percent, while for academic programs a social return of 6.6 percent was reported.

Although the OECD calculations quoted here seem rather reliable, a recent review finds that empirical evidence on social returns is still inconclusive, providing only weak support for human capital spillovers (Venniker, 2001). Blundell *et al*. (1999) write: "The very few available estimates of the rates of return to education at the aggregate level do not, however, suggest that allowing for an externality effect adds very much to private rates of return based on earnings differences" (p. 15).

It should be noted that private and social returns to schooling may differ for other reasons than the simple fact that the direct costs of education are borne to a large extent by the government. In general, apart from the already mentioned human capital spill-overs there is another important explanation for a divergence between the private rate of return and the social rate of return. Temple (2000), for instance, mentions signaling and rent-seeking activities (think of lawyers) as explanations for why the social return could be lower than the private return. The first explanation alludes to the argument that education merely acts as a signaling device and does not contribute to higher productivity. The second argues that more educated workers may have better access to those jobs in which workers share some of the rents earned by imperfectly competitive firms. As Temple argues, it remains worth bearing in mind that other mechanisms will have a positive effect on the social returns to education. On the other hand, the social return may exceed the private rate of return if an improved matching between workers and jobs leads to a more productive economy. In other words, even if education does act mainly as a signal (Arrow, 1973; Stiglitz, 1975), there should not be a presumption that education is therefore socially wasteful.

POLICY ISSUES

Having looked at the costs and benefits of investing in higher education we now turn to policy-related issues. In principle, one of the key roles for government is to help ensure the production of optimal quantities of goods and services. For higher education, this means that government intervention on the market for education should ensure that society receives the appropriate level of higher education investment and there is no under-investment in higher education. Ideally, this requires public subsidies equal to the marginal value of the externality associated with higher education. However, as the previous section has argued, it is not currently

possible to accurately quantify the extent of spillover benefits from higher education. Rate of return analyses, although still very prominent in the (higher) education literature and the policy research by the OECD and the World Bank (e.g., Psacharopoulos and Patrinos, 2002), therefore cannot be used as the single motivation for government policy aimed at ensuring an optimal level of higher education spending. Government policy and public investment in higher education will have to be guided by other indicators and motivations as well. Examples are indicators relating to the country's potential in terms of research and development and innovation.

The rate of return calculations show that returns on investment in higher education are generally well above the real interest rate and the rate of return on other productive assets. Even if we take into account the fact that the rates of return are subjected to considerable uncertainty (as indicated, *inter alia*, by the wide dispersion of earnings among the better educated (see Blöndal *et al*., 2002, p. 29) and that investors normally would require a risk premium that reflects this, the size of the estimated rates of return suggest that the market for highly educated workers shows a shortage of better-educated workers. This market failure would call for government intervention where government authorities try to enhance the incentives for investment in higher education. The rate of return perspective provides a number of ways by which a government can try to influence the levels of investment in higher education. From the way they are calculated it will be clear that the levels of the rates of return depend on a number of policy-related factors: (1) government subsidies, (2) financial support for students, (3) length of study periods, and (4) tax incentives.

The first policy instrument is the level and extent to which the government finances the provision of higher education. In many European countries the government is heavily subsidizing public as well as private higher education providers. In other words, private tuition costs tend to be low and private individuals are thereby encouraged to invest in higher education. Table 7.5 illustrates that the average public subsidy rate in higher education ranges from less than 50 percent in Japan and the United States to close to 100 percent in some European countries. In Europe, the Netherlands and the United Kingdom are the countries where the presence of a tuition fee is reflected in a subsidy rate that is lower than for most other European countries.

Second, most OECD governments have tried to stimulate investment in higher education by offering financial assistance to individuals during their studies. The student aid is supplied in the form of grants and

Table 7.5: Subsidy Rates for Higher Education, 1999

	Relative Proportion of Public Sources
Australia	53.5
Canada	61.7
Denmark	97.7
France	88.0
Germany	91.8
Italy	86.5
Japan	44.5
Netherlands	79.7
Sweden	88.4
UK	73.9
US	46.9

Note: Share of direct public expenditure on tertiary education institutions and total public subsidies to households and other private entities in total sources of funds (public and private) for tertiary education.
Source: OECD (2002), Education at a Glance, Table B4.2.

favorable loan arrangements. Increasing the generosity of the student financial support system directly translates in higher private rates of return for students. The rationale for offering student support lies not just in encouraging enrolments for efficiency reasons (i.e., addressing the underinvestment in education that is caused by externalities in the form of knowledge spillovers), but also in equity arguments, that is, equality of opportunity. We will return to equity arguments and data on student support later on in this chapter.

The third government instrument that influences the rate of return and that might be used to raise participation in higher education is the length of the study period. Very long study programs will tend to discourage participation in higher education, because for students it leads to a higher level of foregone earnings. Therefore, reducing the time students would need to obtain a degree would act as an incentive to invest in higher education. A critical condition, of course, is that the reduction of the standard length of the education programs does not reduce the quality of the programs. In terms of the human capital theory, the reduction of the time to degree should not lead to a reduction in the student's productive capacity and, therefore, the student's earnings potential. Looking at the standard (i.e., the stipulated or official) length of first degree higher education programs in the OECD as well as the actual (or typical) length in the year

Table 7.6: Length (in years) of First-Degree Higher Education Programs in Selected OECD Countries, 1999

	Theoretical Length	Typical Length
Australia	3	3
Canada	4	5
Denmark	3	3
France	3	3–4
Germany	5	6–7
Italy	4–6	4–6
Japan	4	n.a.
Netherlands	4–5	5–6
Sweden	3–4	n.a.
UK	3–4	4
US	4	5

Note: Data for non-European countries based on: OECD (1999), Classifying educational programmes. Manual for ISCED-97 implementation in OECD countries, *1999 edition*. *Paris: OECD.*
Source: CHEPS Higher Education Monitor.

1999, one can observe quite some variation between countries (see Table 7.6). In countries like Australia and the United Kingdom, the theoretical length is much shorter than in Germany or the Netherlands. If one looks at the actual time to degree, one observes an even more substantial difference in the length of study periods between the countries just mentioned. It should be noted, however, that after the adoption of the Bologna declaration, most European higher education systems have agreed to implement a more uniform system of tertiary degrees, based on a binary degree structure, with the first degree (the bachelor) taking 3 years and the advanced (master or professional degree) taking 2 years to finish. A system like this would enhance student mobility, increase transparency, and allow for the mutual recognition of degrees across country borders. For countries like the Netherlands, Germany, and Italy that used to have relatively long standard program lengths, this could lead to a shorter time to degree and raise participation in higher education.

The fourth instrument, like the first one also relating to government finance, is the tax system. If income taxes are progressive, this implies that the increased earnings that are due to increased levels of human capital accumulation are "taken away" by taxes. The earnings of the better-educated are taxed at a higher rate than the rate applied to the earnings of

the less-educated. Thus, the tax system will discourage investing in higher education. A less progressive (i.e., a more proportional) tax regime can act as a stimulus for individuals to invest in higher education. Alternatively, making private contributions to higher education tax deductible acts as a similar instrument in encouraging human capital accumulation.

The four policy instruments all have an effect on the private rate of return and — in combination — might be used to affect participation in higher education and, through this, produce benefits for society as a whole. Whether (potential) students are indeed reacting to financial incentives like the four instruments presented here is, however, another matter. The crucial parameter here is the price elasticity of the demand for higher education. We will return to the issue of the sensitivity of enrolment to price increases later on in this article, but first of all we will discuss one of them, student support, from the perspective of other market imperfections as well as the perspective of increasing equity in society.

STUDENT SUPPORT

Redressing market failures like the under-investment in higher education that is due to human capital spillovers is one of the reasons why governments all over the world intervene heavily in the higher education sector. There are, however, other reasons why governments subsidize higher education and, in particular, provide financial support to students. The reasons can be grouped under the following headings:

- credit market imperfections,
- risk/insurance market imperfections,
- equity concerns.

We will now briefly discuss the three reasons.

Credit market imperfections form a first reason why governments provide student support (CPB and CHEPS, 2001, p. 38). They are yet another example of market failure. Students may need to borrow to finance their investment in human capital. They need to cover their living expenses and tuition fees during the time of their study. This is because their income and/or their parents' income are insufficient to cover the expenses. However, student loans are rarely provided by private banks.

Two factors account for the reluctance of commercial banks to offer study loans. First of all, there is no asset market for human capital.

Therefore, human capital cannot serve as a collateral. The lender (i.e. the bank) has no security for the loan and, consequently is faced with significant risk and uncertainty. Second, the characteristics and behavior of borrowers are hard to monitor (or to predict) by the lender. Thus, the factors that influence the return on human capital investment are largely unobservable for the banks and, consequently, banks are not prepared to offer loans on good terms. Students that are more likely to default, irrespective of their behavior, are more inclined to apply for student loans, while students with very low default risks are induced to refrain from applying for loans because they do not want to pay the risk premium.

This leads to the adverse selection problem; borrowers are better informed than the lender about the risks connected with the human capital investment. The result of this is that the average default risks of the students that still want to apply for loans are driven up, which in turn drives up the risk premium charged by banks and induces even more relatively low-risk students to refrain from loans. The end result may be that banks are unwilling to lend against commercial interest rates and there will be an amount of lending that is too low from a national point of view: the development of new and flexible skills for society is discouraged. In addition to this adverse selection problem, the fact that individual behavior is difficult to monitor could lead to the moral hazard phenomenon, in the sense that borrowers do not try all they can to finish their program in time and relieve the debt obligation.

The appropriate type of government intervention to correct the problems of credit market imperfections is to make sure that students can borrow — either by governments issuing a bank guarantee of by direct public provision of student loans.

Next to the risk and uncertainty facing lenders, there is the risk and uncertainty facing borrowers. This constitutes the second reason why governments intervene through student support. For (prospective) students, investing in higher education involves two types of risk. First, students may be unsure about the effect of higher education on their human capital due to the uncertainty about their own ability (he or she may fail to obtain a degree) and about the quality of educational services offered by higher education providers. Second, students may be unsure about the effects of human capital accumulation on their prospective income and employment opportunities. This is caused by the uncertainty about the future (composition of the) demand for labor. Although the average private rate of return to investment in higher education is positive (and sufficiently large, it

would seem), there is considerable variance about that average (Barr, 2001, p. 176), so the borrower faces uncertainty and risk about the return to a particular qualification.

The first risk is primarily idiosyncratic: due to the law of large numbers, pooling of the risk, resulting in a less risky portfolio of educational investments, is possible in principle. The sum of the individual investments is not risky for society as a whole. The second risk is a form of aggregate risk; one can think of recessions, shifts in labor demand and uncertainty with respect to skill-based technological change. For this type of risk, risk sharing is more difficult; its effect on individual decisions can only be limited by shifting risk from more to less risk-averse individuals (which is also possible for the first type of risk). Both pooling (reduction of risk) and shifting of risk will induce risk-averse people to increase their investment. However, markets fail to provide such insurance, due to moral hazard and adverse selection problems mentioned before. The resulting under-investment in education is generally expected to be particularly severe among students from poor backgrounds, who have to finance their education investments through loans and are afraid to be left with large debts they cannot repay.

Before we turn to the equity argument as a reason for governments to offer student support, let us address the question of how relevant credit market imperfections are in practice. When liquidity constraints are important, one would expect parental income to have a positive impact on the enrolment decision. However, Oosterbeek and Webbink (1995) conclude from Dutch data that the effect of parental income on enrolment is not significant. Other authors have reached similar conclusions (cf. Shea, 2000). This does not imply that the government has no role in alleviating credit market problems. In fact, the observation that liquidity constraints do not seem to be very important in the current situation could indicate that government intervention is effective. A widely used government instrument is to lower the price of educational services through subsidies, which alleviate the liquidity constraints and the need to borrow. This policy is not very efficient: students from affluent backgrounds also benefit from these subsidies, while the poorest students may still not be able to finance their studies. A more efficient type of public action would seem to be to provide government loans to students or for the government to stand surety for student loans offered by commercial banks. One possible objection is that students from poorer backgrounds are less willing to incur debts. As will be argued later on in this chapter, income-contingent repayments will alleviate this problem. In that case, graduates repay their debt

only when their income exceeds some threshold. A good example of such a repayment system is the Australian Higher Education Contribution Scheme (HECS).

Government intervention of this ("Australian") kind could also be the response to the above-mentioned absence of a private insurance market to address the risks and uncertainties facing students. Government can (partly) provide such insurance making repayments of student loans income-contingent. Again, this would seem to be a better policy than a system of offering income-contingent loans (ICL) that potentially distorts future choices that have an impact on earnings, like the labour supply decision, the choice of jobs and choices to invest in continuing education. A graduate tax, which is sometimes proposed by student unions and political parties as an alternative to a student loans system, also provides partial insurance. In the case of a graduate tax, each student receives funds (to pay for tuition fees and/or living expenses) and in return the government gets a claim on the student's future income through a special income tax for graduates. A graduate tax introduces solidarity between successful and unsuccessful students. It has some possible drawbacks, however (Oosterbeek, 1995): the tax is based on total income, instead of the income that might be attributed to human capital accumulation, and the graduate tax may distort future labour supply and education choices. Furthermore, a graduate tax system could suffer from tax evasion, with the authorities unable to collect taxes from graduates who have left the country.

The other basic argument for government intervention in private markets is establishing a more equitable society and striving for equality of opportunity. Equity concerns refer to the extent to which higher education does or should redistribute from rich to poor or between different social classes (Barr, 1998). In this sense, equity also relates to the distribution of educational outcomes, for example, whether poorer people end up with fewer qualifications and, as a result, with lower incomes. As argued by Barr (2001, p. 161), equity does not mean that everyone, for example, can go to university; it does not mean that anyone who wishes can go to university. But it does mean that if two people have identical abilities and identical tastes, they receive the same education, irrespective of factors that are regarded as irrelevant such as parental income. If, as suggested by the empirical evidence on social returns, society receives substantial gains from investing in higher education, governments should especially encourage talented individuals from economically disadvantaged families to realize their potential and climb up the social ladder. This would plead for

targeting public support to those groups, instead of providing generic public support.

When discussing equity, one has to distinguish between equity from a lifetime perspective and equity at the moment of attendance (Oosterbeek, 1998a). Looking from the lifetime perspective, one will have to realize that students probably belong to the people with the highest income earning potential. As such, subsidizing them with public money seems unfair (World Bank, 1994; Oosterbeek, 1998a), it would be a form of a regressive policy with people from better-off backgrounds consuming services that are funded from general tax income. However, equity at the moment of attendance refers to the idea that potential students from different socio-economic backgrounds may have unequal opportunities to enter higher education. It is feared that tuition fees and other private contributions particularly harm access of students from poorer and otherwise disadvantaged backgrounds, because they lack the ability of self-finance or to borrow against other collateral. Public support in the form of grants, loans, and tuition fee reductions may increase their likelihood to invest in higher education.

If student support policies are formed on the basis of the current income situation of students, then the policies that increase the students' ability to finance the cost of their higher education investment are likely to lead to grants and loans that depend on a student's family income (Barr, 2001, p. 191). Alternatively, should the long-term perspective be taken, then support will be supplied in the form of a "study now, pay later" scheme. Examples of a strategy like this are student loans that are repaid on the basis of the graduate's future earnings or graduate taxes. It will be clear that the approach of the government needs to be driven by long-term considerations. However, so far many European governments have not shown the audacity to accept the long-term perspective. The reasons for this most probably can be found in a fear to alienate key elements of the electorate.

Looking at the role of student fees in financing higher education, Canton (2001) argues that equity arguments for government intervention in the setting of fees are subtler than it often seems in popular debates. Some people use the equity argument to plead for lower private contributions, while others use it to advocate tuition fee increases. The first group uses an income-redistribution argument, while the second points to the high private returns to justify a substantial tuition fee (see Oosterbeek, 1998b).

The income redistribution motive is based on the idea that the income distribution is affected by participation in higher education. In particular, it has been argued that government support to higher education might help to reduce income inequality in the national economy (Goldin and Margo, 1992; Teulings, 2000). If government support leads to more highly educated workers in society, this will have a downward effect on their earnings. The so-called skill premium of graduates will decline and wages for the less highly educated workers will go up, leading to an income distribution that may more closely reflect social preferences with regard to equity.

As Canton (2001) argues, using education subsidies instead of progressive income taxation to establish a more equal income distribution may be a rather ineffective instrument. This is because, on average, students are not very price responsive (as we will see later on in this chapter) and the effect of an increase in the supply of graduates on their wages is not well established. It is sometimes even claimed that there is a perverse relationship between supply and skill premium (Acemoglu, 2000; Nahuis and Smulders, 2000).

Furthermore, it can be questioned whether a further subsidization of higher education is an equitable policy, as it implies an income transfer from the average taxpayer to tomorrow's well-off — at least in the short run, when the effects on the skill premium are not yet visible. In this view, the equity argument is put forward by proponents of (introducing or raising) tuition fees. This type of argument will be discussed now, along with other pro-fee arguments.

THE CASE FOR TUITION FEES

From the discussion earlier on in this article it will be clear that the individual student as well as society as a whole reap substantial benefits from investing in higher education. This implies that resources for higher education should come from the private purse as well as from the public purse, that is, the taxpayer. Public funds would need to be supplemented by private funds. Finding the right balance between the two, however, is the challenge that many governments are currently faced with, now that their countries for some years have experienced mass enrolments in higher education.

Economic theory suggests that it is efficient if the student pays for his/her private benefit and that the government should finance higher

education to the extent that the investment of taxpayers' resources contributes to the social good. As far as the latter is concerned, the role of the government is to help ensure the production of the optimal quantity of higher education, and this objective is realized when the public subsidies are equal to the marginal value of the externality associated with higher education (Chapman, 2002). Earlier we have made it clear that the private rates of return as well as the size of the external benefits to higher education cannot be measured with a great degree of accuracy and, therefore, the optimal size of the higher education sector cannot be quantified satisfactorily. In other words, one cannot derive the optimal size of the public as well as the private investment in higher education.

What we do know, however, is that each system of private contributions implicitly places a value on the externalities produced by higher education. Therefore, having no charge would suggest that the societal benefits of higher education at least equal the size of the subsidy, and, implicitly, that graduates receive no direct benefits (Chapman, 2002). Clearly, the empirical evidence tells us that this is a false statement; higher education delivers important private benefits to graduates.

Moreover, from an equity point of view, a system without private charges is regressive and hence unjust. There is ample evidence that students in higher education are more likely to come from privileged backgrounds (middle class, professional backgrounds). Combined with the fact that graduates do well in the labor market this leads to the conclusion that a totally tax funded higher education system implies an income transfer to today's and tomorrow's well-off and, therefore, a zero charge system is unquestionably unfair. The argument that "free" higher education promotes access simply does not hold when looking at it from either an efficiency or an equity perspective. This conclusion is even more relevant for countries in Scandinavia and Germany where the higher education systems are maintained fully out of taxation. This situation, combined with the expansion of student numbers, has implied that governments, faced with fiscal constraints and competing claims on the public budget, have been forced to reduce the public funding per student.

Funding higher education entirely from tax funding, therefore, is very likely to lead to a shortage of resources for higher education institution. However, it should be said that funding shortages also have arisen in countries where tuition fees are already in place. As we will see later on in this article, it is in some of these countries (most notably Australia, the Netherlands and the United Kingdom) that governments have considered

raising or deregulating tuition fees, thereby giving institutions more room to raise additional revenues from the beneficiaries of higher education.

Vossensteyn and Canton (2001) argue that tuition fees can help ensure that the decision to participate in higher education is taken more seriously by candidates. A private contribution encourages and motivates students to study seriously. Thus, the moral hazard risk is reduced. In addition, if students have to pay a price, they are more likely to demand value-for-money. As mentioned in the above section on tuition fees acting as (quasi) prices, the existence of a fee may stimulate competition in the system and induce higher education institutions to offer an attractive price-quality package (Eurydice, 1999). Moreover, tuition fees could help to filter out the less talented students who are taking up a higher education program even though, strictly speaking, they might not possess the competencies required for the program. Thus, fees may help to reduce the adverse selection problem and promote self-selection among students.

Thus, there is a strong case for charging tuition fees (Oosterbeek, 1998a), and an equally strong case for continuing subsidization of higher education. However, the question of finding the balance between public resources and private contributions is still unresolved. Barr (2001, p. 194), argues that the way out of this problem is to deregulate the higher education system to a large extent. He proposes to leave decisions on the size of the system — the prices (fees) charged and the volumes (i.e., numbers of students) accepted — to students and higher education providers, while leaving the question on the size of public spending to the government. In his view, if public spending falls short of that necessary to meet the choices of citizens and universities, the difference will have to be made up with private spending. In his words (and emphasis): "the market decides on *total* spending, the government on *public* spending" (Barr, 2001, p. 194).

However, to prevent potential students from under-investment in higher education, governments should safeguard student access. In other words, the Barr strategy does not merely imply a passive role for the government. Politicians and parliaments will always be worried about the possibility that a fee-based system prices some students out of the market and that students accumulate "disproportionate debt." Governments therefore, will have a role in offering student support and promoting student access through non-financial means, including the provision of information. How a system of private charges and the accompanying system of student support may be designed is the topic of one of the following sections. However, because many government policies make use of financial

instrument to increase (or decrease) demand for higher education, we will first of all address the topic of the price elasticity of demand.

TUITION FEES AND STUDENT DEMAND

Earlier, we mentioned the tuition fee as one of the policy instruments that might be used by governments to influence the private rate of return to higher education investments. Taking a human capital theory perspective, raising (or introducing) tuition fees can be expected to have a negative influence on the students' investment (i.e., participation) in higher education. The question is, however, whether students actually react to changes in tuition fees or, in other words, whether the price elasticity of the demand for higher education is significant. To what extent do higher tuition fees harm access, in particular for students from lower socio-economic groups in society? This question is especially important now that many countries have experienced increases in the contributions students have to make to the cost of their higher education. One (but only one) of the causes of the rise in private contributions is the rise in tuition fees.

For the European higher education systems, there are only a limited number of studies that contain insights into the effects of the rising cost of higher education. However, there is growing concern in many countries about the effects of increasing levels of student debt on participation in higher education. Most of the available research on price elasticities originates from the United States, a country in which paying for higher education has a much longer history and thus has a much longer time period over which data have been collected and analyzed. Leslie and Brinkman (1987) provide a meta analysis on student price responses in American higher education, updated in Heller (1997). Their major conclusion, quoted by Vossensteyn and Canton (2001), is that students are responsive to prices and that — ceteris paribus — for every $100 increase in tuition price one would expect the participation rate to drop by about 0.7 percentage-point. Vossensteyn and Canton (2001) state that for an average weighted tuition fee of $3,420 and a national higher education participation rate of 0.33 in 1982/83 (cf. Leslie and Brinkman, 1987), this corresponds to a price elasticity of −0.73.

Other authors (Manski and Wise, 1983; McPherson and Schapiro, 1991; Moore *et al*., 1991; Gladieux and Hauptman, 1995) add that particularly low-income students are more sensitive to tuition price levels than higher

income students. McPherson and Schapiro (1997, 1998a,b) stress that, though enrolment rates for all racial groups have risen, the gap between the enrolment rates of whites and other racial groups has widened. Heller (1997) also shows this variation in price sensitivity among different racial groups. In addition, Kane (1995) shows that increases in net costs over time are related to decreases in enrolment rates for low-income students in the United States. Contrasting to this, evidence shows that increases in net cost did not inhibit enrolment for more affluent students. However, middle-income students also seem to have reached a price threshold, particularly in the private sector institutions (Breneman, 1994; Campaigne and Hossler, 1998).

Based on these findings, McPherson and Schapiro (1997) conclude that policies that call for cross-subsidization among students, such as the high tuition — high aid strategies, make sense from the viewpoint of economic efficiency (although targeted student support by the government would be a better policy instrument). The high tuition — high aid strategy comes down to a situation in which richer students pay a substantial part of the costs of education. This revenue is partly used for providing tuition discounts to poorer students. Notwithstanding this practice, there have been considerable increases in net tuition for low-income students, leading to a growing gap between enrolment rates for high- and low-income students and to an increased concentration of low-income students at the least costly institutions and programs (Duffy and Goldberg, 1998). Low-income groups have become concentrated in public, low-status community colleges, contributing significantly to the growing stratification evident in the U.S. higher education system.

Leslie and Brinkman (1987) address the quandary that participation rates have not gone down in the United States while tuition fees increased. They explain this phenomenon by noting that, over the period of analysis, tuition prices did not increase that much in real terms, and that financial support ameliorated access. In addition they note that demand is known to be affected not only by price but also by the money income of the buyer, by tastes and preferences, and by the value of the good from a consumption or an investment perspective.

The McPherson and Schapiro (2000) paper relates to more recent research and takes into account the substantial increase in costs to students of participating in higher education and the trends in student aid that show more money being made available to students in the form of (repayable) loans rather than non-repayable grants. They also focus

specifically on examining and explaining the seemingly paradoxical situation in the United States that was analyzed by Leslie and Brinkman. The primary cause of the phenomenon, having the highest enrolment figures coinciding with the highest levels of cost, appears to be that the increase in enrolment is not uniform across all groups. While participation is growing for all groups in absolute terms, relative enrolment levels are changing. This is evident in the enrolment trends for both income and ethnic groups and evidence of this is presented in the study of Kane (1995). The econometric analyses by Kane, and McPherson and Schapiro seem to support the conclusion that the "price sensitivity" is concentrated among low-income students.

What the U.S. research suggests is that the disincentive effects of higher tuition costs and loan debt is linked to class position, but the relationship between the two is complex. It is not simply the case that low-income students are "debt averse" as is suggested in some literature. This view is not borne out by research data that shows there is little difference in loan take-up rates between social classes once enrolled in higher education.

In research carried out for the Department for Education and Employment in Great Britain, Callendar and Kemp (2000) found that levels of borrowing, rather than borrowing per se, were associated with a student's social class. Those eligible for the highest level of means-tested non-repayable government maintenance grants, that is, students from low-income households, had the highest levels of borrowing. This is a not unexpected finding given their likely familial financial resources. Debt aversion was found among all students, but most frequently among students enrolled for short courses (less than one year), students living at home with their parents, and Asian students (Callendar and Kemp, 2000, p. 79). A report commissioned by the New Zealand (Education and Science Committee, 2001), referring to another British research report (Connor and Dewson, 2001), goes as far as concluding that "although the research literature alludes frequently to incurring debt as a negative factor in decisions to participate, there is little research to suggest that this actually relates specifically to lower social class groups (Connor and Dewson, 2001, p. 15). Debt aversion as an explanation for lower rates of participation would appear to be somewhat out of date" (Education and Science Committee, 2001, p. 57). In addition to some students being debt averse, however, the New Zealand Committee's report states that students are effectively deterred by the up-front costs of higher education, both in terms of tuition

and living costs. If this is the case, the availability of student loans to fund higher education will not have the effect of encouraging enrolment from low income students. The obstacle for these students to overcome in order to enroll is the cost of tuition and/or living expenses, not merely the prospect of incurring debt (Education and Science Committee, 2001, p. 15).

Whether such a subtle conclusion is justified cannot be answered here. More research into student choice and student attitudes towards debt is needed. Recent research from the United Kingdom (Callender, 2003) does indeed provide evidence that those most likely to be deterred by the financial disadvantages of student loans were from the lowest social classes and especially students from the lowest social classes expressed concerns about borrowing, debt, and repayments. However, Connor and Dewson (2001) show that concerns about the ability to afford the cost of study is only one issue in a range of factors that discourage students from entering higher education. The other factors being (1) the uncertainty about the future benefits of higher education, (2) not having enough information about the costs of higher education and the student support system, and (3) uncertainty about the likelihood of being able to earn income during term-time. What this list of issues points to is a stronger and more concerted effort by all parties concerned to communicate more effectively about the present and future costs and benefits of higher education programs. Financial instruments are only one type of policy instruments.

For the Netherlands, where government imposes the level and increase in tuition fees, the scarce studies on the price sensitivity of student demand include Kodde and Ritzen (1984), Huijsman *et al*. (1986), de Jong *et al*. (1990), and Canton and de Jong (2002). Among other variables, these time series studies try to establish the impact of tuition fees on student enrolment. Oosterbeek and Webbink (1995), using micro-data on secondary school-leavers, find a statistically insignificant effect from tuition fees on student enrollment. Huijsman *et al*. (1986) report an elasticity with respect to tuition fees of −0.003. This would imply that demand is fairly insensitive to the tuition fee level. de Jong *et al*. (1990) report that economic variables hardly affect the decision to enroll in an academic program. Bronneman-Helmers and Kuhry (1996) report price elasticities in the range of −0.01 to −0.1. A recent study by Felsö *et al*. (2000) indicates that students are not likely to change their program choice in cases where tuition fees were either increased or reduced by €454 (almost a third of the present day fee level). Finally, Canton and de Jong (2002) conclude that students are not responsive to tuition fees, but financial support, the

college premium and the foregone labor market earnings are important in the enrollment decision.

All in all, the Dutch evidence typically suggests that students hardly respond to tuition fee changes. This is in contrast to the findings in the U.S. and U.K. studies. However, the Dutch studies suffer from an important drawback, namely that they do not take into account that, over time, governments have compensated the increase in the tuition fee by a raise in the student financial support offered in the form of grants and loans. Fees and student support are policy instruments that are, however, in the hands of the government (i.e., parliament). What little room Dutch universities and HBO institutions do have (from the year 1996 on) to set their own levels for tuition fees is restricted to the charging of fees to part-time students and other students that do not — or no longer (due to long study periods) — qualify for student support. Neither universities nor HBO institutions seem to have experienced enrolment changes as a result of the little use they make of this freedom (Jongbloed and Koelman, 1999a).

The low elasticity of student demand with respect to tuition fees is typically weak and insignificant for the Dutch case. However, this makes sense from the viewpoint of the human capital model, as this direct cost component is very small when considered against the gain in lifetime income associated with an academic degree. Canton and de Jong (2002), however, do show a remarkable result in the sense that they report a positive elasticity of demand with respect to student financial support. This result may be useful in the debate on reform of the student support system. Options for reform recently proposed (CPB and CHEPS, 2001) include the introduction of a student loan scheme with income-contingent repayment rates, along the lines of the HECS and graduate taxes (Jacobs, 2002). In the next section we will discuss the effects of HECS on student enrolments in Australia.

AUSTRALIA: THE HECS AND ITS EFFECTS ON ACCESS

Australia is the fourth country for which research is available on the relationship between student contributions and student participation in higher education. Some of the features of the Australian higher education system and the way it has implemented charges to be paid by the beneficiaries of higher education will also be discussed later on in this chapter. Here, we will only discuss the issue of students' price responsiveness. For regular (full-time Australian) students, the "price" that is relevant in

this respect is the charge that is levied through the HECS, introduced in 1989 (see Chapman, 1997). HECS is a scheme through which (ex-)students pay for tuition fees. HECS was motivated by the sheer need to attract additional resources for the Australian higher education system in order to allow for further expansion in times of fiscal pressures for the government. Under the HECS system, students contribute approximately a quarter of the average cost of their training program, either by paying up-front (at the point of entry into higher education) or by taking out a loan and deferring repayment (through the tax system) until after graduation. The important condition for the HECS system was that the private contributions should not harm access to higher education, particularly not for people from disadvantaged backgrounds. In particular, the deferred payment option in HECS meant that students who could not or did not want to pay up-front were allowed to pay later (as a graduate).

HECS was introduced by Minister John Dawkins as part of a larger package of funding reforms. Despite the strong arguments in favor of introducing fees, parliament and public opinion were very skeptical about it, fearing a worsening of access. However, the "package deal" tactic of the minister that included more public funds for universities did the trick. HECS applies to Australian and New Zealand students in undergraduate programs (bachelor's degree) and master's students in so-called *master's by coursework* programs. *Master's by research* students and Ph.D. students are not part of the HECS regime and fall under the research funding system. All foreign (overseas) students had to pay a cost-covering fee. The level of the HECS rate was determined by the Minister of Education and set to recover about 20 percent of the costs of an average university program. The rate was indexed to the cost of living and rose to 2,450 Australian dollar (A$) in 1996. Table 7.7 shows the level of the HECS charge (1 US$ is about 2 A$). Until 1997, the HECS charge was the same across all subjects and all universities.

When paying the charge, the student has a choice of either paying up-front, attracting a discount on the HECS payment, or defer payment until after graduation. The discount on up-front payment was originally 15 percent but was later raised to 25 percent. In 1997, about 29 percent of students chose to pay up-front. In case students choose the deferred payment option, the Commonwealth (i.e., federal) government pays the charge for the students and the student incurs a debt that is repaid via the taxation system. The value of the outstanding loan is adjusted annually with the consumer price index to maintain the real value of the debt. Students that defer payment, therefore, receive an interest subsidy on their debt. The Australian Taxation Office

Table 7.7: HECS Rates (in A$) for Selected Years

1989	1996	1997	1999	2003
Uniform rate: 1,800	Uniform rate: 2,450	Band 1: 3,300 Band 2: 4,700 Band 3: 5,500	Band 1: 3,409 Band 2: 4,855 Band 3: 5,682	Band 1: 3,680 Band 2: 5,242 Band 3: 6,136
		Band	Disciplines	
		Band 1	Arts, humanities, social studies/ behavioral sciences, education, visual/performing arts, nursing, justice, and legal studies	
		Band 2	Mathematics, computing, other health sciences, agriculture/ renewable resources, built environment/architecture, sciences, engineering/processing, administration, business, and economics	
		Band 3	Law, medicine, medical science, dentistry, dental services, veterinary science	

Source: Australian Department for Education, Science and Training (DEST).

(ATO) administers the debt and collects repayments. The (at that time) innovative characteristic of HECS is that repayments are income-contingent. Therefore, HECS sometimes is termed a system of income-contingent loans.[2] In 1989 the income threshold for repayment was A$27,700 per annum. At this level of income graduates had to pay 2 percent of their taxable income each year, with payments rising to 3 or 4 percent at higher levels of income. These proportions have since been increased.

The Australian Higher Education Contribution Scheme is operationally distinct, compared with conventional student loan schemes in most other countries, which offer what are often called "mortgage type" loans. The obvious difference is that in the case of mortgage type loans the repayments do not depend on former students' incomes. The difference between HECS and subsidized bank loan schemes of other countries is

[2] Please note that it is not the loan that is income contingent, but the repayment. This makes the system resemble a graduate tax system. However, the name graduate tax is not correct. In fact, HECS is a system of fees and loans with income contingent repayments.

that the latter typically offer assistance to a minority of students, with eligibility depending on a range of factors, including family income and age (Chapman and Ryan, 2002, p. 6). HECS has no eligibility criterion — it is offered to all prospective students. The third difference between HECS and other student loans systems is that HECS is only about the repayment of deferred tuition charges and not about the repayment of loans that cover the student's living expenses.

The Australian Higher Education Contribution Scheme brought in significant revenues for the Australian universities. In 2001 students provided over A$800 million in terms of up-front payments and income contingent repayments through the tax system. This is about 20 percent of total recurrent cost of higher education in Australia (Chapman and Ryan, 2002, p. 10).

When a new (conservative) government came to power in 1996, HECS was reformed. Charges were increased substantially (by about 40 percent on average) and their structure changed, so that they varied by subject but not by university. Three fee "Bands" were created (see Table 7.7) containing disciplines that attracted low, middle, and high HECS charges. This new charging scheme can be characterized as a hybrid of a teaching cost-related system and an expected future earnings (i.e., private rate of return) system (Chapman, 1997). As such, the most expensive tier not only included expensive courses like medicine, but also law, which is one of the cheapest subjects in terms of teaching costs. Other inexpensive programs, such as economics and business, attracted a medium charge.

Turning to the effect of HECS on student participation, we start by mentioning that Parliament imposed a system of monitoring to ensure that access and equity claims were tested annually. Chapman (1997), summarizing a number of studies, claims that "the introduction of HECS does not seem to have had any discernible effects on the socio-economic composition of the student body" so that "there is no evidence of HECS diminishing access to higher education of the disadvantaged" (Chapman, 1997, p. 749). Also the 1997-changes to the HECS have hardly changed the rates of return and, as such, were unlikely to reduce the attractiveness of higher education (Chapman and Salvage, 1997).

Andrews (1999) measured changes in the proportion of first year higher education students from relatively poor backgrounds. While the causes for lower participation rates for low socio-economic status (SES) groups are likely to be complex and include social, cultural, and attitudinal factors as well as financial, he points out that for low SES groups HECS appears to have been a minor influence on decision making. Evidence for

the lack of deterrent effect is seen in the fact that participation rates for low SES groups have not worsened since the introduction of HECS. Overall the number of undergraduates doubled between 1989 and 1998. While numbers may not have dropped, the general expansion and availability of funding to participate does not appear to have improved the socio-economic composition of the student population either. Vossensteyn and Canton (2001) in their review of studies that have evaluated the effects of HECS, come to the same conclusion, stressing the role of non-financial factors such as values and attitudes in determining student choice.

One of the founding fathers of the HECS, Bruce Chapman, presents the following summary of findings from research looking at the effects of HECS on access for the disadvantaged (Chapman and Ryan, 2002, p. 13):

(a) The relatively disadvantaged in Australia were less likely to attend university even when there were no student fees. This provides further support for the view that a no-charge public university system (that is financed by all taxpayers) is regressive,
(b) The introduction of HECS was associated with aggregate increases in higher education participation,
(c) HECS did not result in decreases in the participation of prospective students from relatively poor families, although the absolute increases were higher for relatively advantaged students,
(d) The significant changes to HECS introduced in 1997 were associated with increases in the participation of individuals irrespective of their family wealth.

LESSONS FROM INTERNATIONAL EXPERIENCE: GERMANY

Germany is a perfect example of a country where the tradition of free (that is zero tuition fee) higher education has led the higher education system into a state of under-funding and confusion about its future. For the state to finance the rapid expansion of student numbers and accommodate the increased diversity of the higher education system from tax sources alone has proven to be unsustainable in an environment of fiscal restraint. With no private higher education sector to speak of, the system is overwhelmingly public, with (in 2002) 1.8 million students studying at some 90 universities

and 140 other (more vocationally oriented) institutions. For a large number of years the heavily regulated German system has been experiencing a funding crisis, with debates on the topic of funding reforms concentrating on the charging of tuition fees. These debates have been very emotional and ideological (Ziegele, 2001) and so far have not led to funding reforms.

Where students and some institutional leaders stress the potentially negative effects of introducing fees, others expect to solve all of higher education's problems with the imposition of fees. Opponents of fees predict an end to the open access character of German higher education and fear that fee revenue would merely be used as a way to reduce grants to institutions. The proponents of fees stress the fact that tuition free higher education is to be regarded as a subsidy for a group of well-off academics financed by all taxpayers. Apart from pointing at the private rate of return (see Table 7.3), they point at the fact that a family's socio-economic status plays a very large role in who has access to and attends higher education. 59 percent of students enrolled in higher education came from either an upper- or upper-middle class background whereas only 13 percent of students came from lower class families (Albrecht, 2003).

Clearly the challenge is to introduce fees in combination with a larger package of complementary reforms in the field of student support and non-financial instruments aimed at disadvantaged or otherwise underrepresented groups. This could ensure that fees do not harm access and actually could bring in resources that improve access and quality. The *Hochschulrahmengesetz*, The Framework Act for Higher Education, is the overarching federal law that guides higher education policy in Germany and, among other things, gives each state in the Federal Republic of Germany the responsibility to fund its institutions. Enacted in 1976 and last amended in 1998, the Framework Act provides the federal guidelines which all state-run institutions of higher education must follow. Passage of the Framework Act Amendments in 1998 was seriously delayed over the issue of whether or not a ban on charging tuition fees should be included in the Act. The fight was lost due to the fact that if the prohibition were included, the states would certainly challenge it in the courts. The exclusion of the ban on charging tuition in the Framework Act ultimately gave states the power to assess tuition fees to students.

Some states have introduced special, selective forms of tuition fees. Three main models have recently emerged: (1) tuition fees for "slow-lane" students, (2) tuition fees for degree holders, and (3) administrative enrollment fees.

Students in the "slow-lane" as it is termed are a common problem in German universities. While university students are expected to complete their degree in 4–5 years, the average duration is almost 7 years. "Slow-lane" fees would charge students tuition fees each semester that they enrolled after the 13th semester (i.e., the normal duration plus 4 semesters) and thus constitute a punishment for long-term students. Slow-lane fees are meant to act as an incentive for efficient student behavior.

In July 2001, a German court upheld the ability for the state of Baden-Württemberg to charge a €550 penalty fee per semester for "slow-lane" students. Baden-Württemberg, the most publicized German state for the introduction of fees, initiated the penalty fee in 1996. The new rule requires students to pay a fee after their 12th semester (depending on the area of study). Preliminary findings have shown that the penalty fee has decreased the number of students studying longer than thirteen semesters by one-half. The remaining "slow-lane" students are obviously still a problem because students who are holding on to these seats at the university are denying the ability for new students to enter.

Baden-Württemberg has not been the only state to introduce fees; the city-state of Berlin passed a law in 1994 to charge students fees and introduced a nine-semester limit for most academic majors. The exception was natural science and engineering majors who were allowed 10 semesters. In January 2003, the government of Nordrhein-Westfalen approved the charging of tuition fees to students after their fourteenth semester, after which time they will be charged €650 per semester. The states of Saarland, Hamburg, and Thüringen, all run by the same political party as Baden-Württemberg also plan to introduce tuition fees to "slow-lane" students (Albrecht, 2003, p. 12).

With respect to the second and third fee types we observe the following: in the states of Bavaria and Saxony, the state governments have introduced fees to be paid by students that already hold a degree from a higher education institution. The fee (some €500 in Bavaria and €300 in Saxony) is intended to limit the tuition-free period to a first higher education degree. In a number of other states (e.g., Berlin, Lower Saxony, Brandenburg) governments have implemented fees as a user charge to recover some of the administrative cost of institutions.

Common features of these models are their very limited objective and scope. Moreover, they have been implemented without accompanying changes in student support mechanisms. Ziegele (2001) criticizes the fee models and the absence of accompanying support schemes. He puts

forward the recommendation to introduce fees for all students, along with a system of income-contingent loans. The current German fee systems in place do not establish a better functioning higher education market. The slow lane fees do not act as a quasi price as described earlier on in this article. Probably the only positive effect is the dropout of the students who are only enrolled to benefit from certain social advantages of the student status (such as free public transport). While the logic behind the charging of fees for second studies may be acceptable, the effects are minimal. In fact, there may even be an incentive to design courses according to the preferences of the paying students, meaning a disadvantage for the "normal" student whose needs are not backed by payments.

LESSONS FROM INTERNATIONAL EXPERIENCE: THE NETHERLANDS

While perhaps not as harsh as in Germany, the students and the higher education institutions in the Netherlands also are experiencing the effects of shortfalls in government funding. As in Germany, current debates address the various options for reforming the tuition fee and student support arrangements as well as the more general mechanisms of public funding for the traditional universities (13 in total) and the universities of professional education (some 50 in total).

A prominent feature of the Dutch higher education system is the trend towards *cost sharing* (Vossensteyn, 2002). While the (public as well as private) institutions and their students are heavily subsidized by the government, there has been a trend of increasing tuition fees, reducing the subsidies to students and their families, and a stronger emphasis on student loans in the student support system. Tuition fees have been a long-standing feature of the Dutch higher education system. The fees are set by the government and are the same across all institutions (universities, offering academic programs, and the so-called HBO institutions offering vocationally oriented programs) and all programs. Initially the level of the fee was moderate, in the period 1945 to 1971 students were paying only €90 a year. After an initial increase to €450 in 1972 and 1973, the level was set at €230 between 1974 and 1980. Since then, tuition fees have gradually increased up to a level of around €1,400 per year. The fee increase outpaced the rate of inflation.

The student support system underwent several changes. It transformed from a system consisting of family allowances and tax benefits to a system of grants and loans. From 1986 on, the system consists of three components: the basic grant, the supplementary grant, and a student loan. All students receive a basic grant, independent of parental income. The supplementary grant is based on a parental income test. The loans, which are not means-tested and can be taken up on a voluntary basis, bear a market-based interest rate from 1992 onward. They are of a mortgage-type, meaning that repayment takes place in fixed installments over a fifteen-year period. Repayments do not depend on the income of the (former) student. Loans are not very popular with students; the take-up rate is low and students prefer taking on part-time jobs during their studies.

Over the years, the amount of the basic grants (available to all full-time students) decreased, partly compensated by increases in the supplementary grant. The supplementary means-tested grant also compensated for tuition fee increases. Underlying this was the wish to maintain the open access type character of Dutch higher education, particularly for students from disadvantaged backgrounds. Supplementary grants are available to about 25–30 percent of all full-time students. To stress cost sharing, the duration of the grant was reduced. This had a large impact on students because (like in Germany) most students exceed the nominal duration of the program. Average times to degree declined, also because of other changes in the student and institutional support mechanisms.

The role of loans gained in importance. The maximum amounts were increased, also partly to compensate increases in tuition fees. Interestingly, from 1996 on, both the basic and the supplementary grants are given to the student as a loan (hence the name performance-related grant), which is converted to a grant if students meet necessary performance criteria, the most important being that they obtain their qualification within a specified duration. Earlier (in 1993) performance requirements had already been attached to the grants, but since 1996 they are felt to be more intense.

The reason to sketch the tuition fee system as well as the student support system is that they are connected in the sense that Parliament has compensated the increases in fees by means of adjusting grants and loans. Moreover, both are regarded as instruments in achieving the aim of efficient study behavior among the student population and both have (at least in theory and in public opinion) an impact on the decision to participate in higher education.

In 1999, the Dutch Ministry of Finance commissioned a research institute to look into the reactions and potential effects of a system of deregulated and differential fees, set by the higher education institutions themselves (Jongbloed and Koelman, 1999b). The effects on programmatic diversity were to be particularly addressed. The question was, whether such a system could be effectively combined with a system of student loans offered by private banks. Instead of the conventional approach of governments backing the loans, the idea was that the loans were to be guaranteed by higher education institutions, giving them an incentive to create successful graduates. From an expert group discussion that was organized on the basis of two scenarios the following outcomes were generated.

Institutional leaders (i.e., university presidents), when given the freedom to set their own fees, will make relatively little use of this. They will set differential fees mainly to reflect differences in program cost, especially the mode of delivery, and the demand expressed by the market (i.e., students and employers). The former relates to the way in which the program is offered to the students (intensive versus less-intensive modules, reflecting the institution's educational profile and the students' wishes to receive a specific type of instruction). The latter relates to the question of what the market can bear. In all of this, the institutional leaders observed that student demand in the Netherlands was relatively price-inelastic. The administrators also mentioned they would use the fees to compensate for the cutbacks in government allocations.

Where students were very skeptical about was the proposal of differentiated tuition fees; the private banks expressed a willingness to participate in such a system, provided that the scale of the operation (the number of loans to be handed out, the number of institutions participating) was sufficiently large. The banks did not see a lot of reason to have a guarantee on the loan and the institutional leaders found the guarantee totally unacceptable.

Some of the difficulties that were mentioned in the focus group discussions were that the higher education cost structure is very obscure, due to capital costs and cross-subsidies, and that a relationship between tuition fees and cost could not be well grounded.

Other outcomes of the experiment also were mentioned in a research report compiled by a group of officials from five Dutch ministries, including the Ministry of Education, the Ministry of Economic Affairs, and the Ministry of Finance (IBO, 2003). The group was assisted by two academics acting as experts. This IBO (Interdepartmental Research Group) report also addresses the topic of tuition fee deregulation and comes up with

a number of recommendations for improving the tuition fee and student support system. The report investigates the possibilities and options for introducing flexible fees in the Netherlands. Before presenting the report's conclusions, it is good to remember three things:

- The Netherlands is emerging from a situation with (still very) modest uniform fees for all programs and all institutions.
- Until August 2002, separate bachelor's and master's tracks did not exist in the Netherlands; all programs were leading to a type of master's degree. After 2002 bachelor's and master's programs are in place and the debate about the extent to which each should be funded respectively by the taxpayer and the student has begun only recently.
- For fear of creating elite programs, the previous Parliament scrapped initiatives by the then minister of Education to allow institutions to charge more for specific high quality programs.

The IBO group proposed — in a unanimous decision — to the Cabinet a choice of three options:

- Allow fee differentiation up to a maximum for high quality master's programs
- Allow fee differentiation (up to a maximum) for all (publicly funded) master's programs
- Allow fee differentiation (up to a maximum) for all bachelor's and master's programs.

Implicitly, the IBO group suggested implementing the first option (the research masters and some professional masters), then broaden the system (option 2) to all masters, and finally (in option 3) extend it to all undergraduate and postgraduate programs.

It was left to the (recent — 2003 — installed) Cabinet to decide whether it wanted to go forward with any of the options. The signs are that this time there is a bigger chance of introducing flexible fees, especially because members of Parliament expect that fees will not just rise, but also decline for socially relevant programs in areas like nurse training and teacher training. The chances of implementing fees will heavily depend on the accommodating policies (student support, changes in the funding system, information supply, monitoring of events). A "package deal" (see the HECS introduction) will probably be necessary.

The arguments for fee differentiation mentioned in the IBO report were that it would stimulate the emergence of a differentiated system of program supply, allowing more choices for students, and a market that is functioning better (restoring the price signal). However, accommodating policies were also deemed necessary, especially with respect to:

- the student support system (a review is presently being carried out by another committee);
- the funding system (more differentiation in funding rates — not like the present two/three categories, but more closely reflecting costs and externalities);
- the system of providing 'consumer' information (quality, labor market effects, etc.).

One of the recommendations was also to make a distinction between tuition cost and living expenses in the student support system. This would send out a clear signal to students about the purposes of the support budget and to the higher education community in general about what it is the government actually subsidizes.

LESSONS FROM INTERNATIONAL EXPERIENCE: THE UNITED KINGDOM

As in the Netherlands, the issue of differential fees, set by the higher education institutions themselves, was also a central element in the recent proposals presented in a 2003 White Paper by the British government (Department for Education and Skills/DFES, 2003). Earlier in this article it was mentioned that tuition fees have been in place in the United Kingdom for quite some time, but until 1997/98 they were paid by the government authorities on behalf of the (full-time) student. Partly as a result of the Dearing review (National Committee of Inquiry into Higher Education, 1997), full-time undergraduate students were asked to pay a fee, set by the government and to be paid according to parental income. Until 1998/99 the students' living expenses were covered by a mixture of a tax-funded grant, a loan with mortgage-type repayments, and (voluntary) parental contributions. The grant was means-tested and dependent on whether the student was independent or lived with his/her parents. Loans were available for all.

Since 1998/99, there has been an up-front fee, irrespective of subject or university; there is no loan to cover the fee; living expenses are met by

a mixture of parental contributions and an ICL. The ICL is a loan with repayments calculated as a percentage of the borrower's subsequent earnings, collected alongside the income tax. Similar to Australia, the ICL attracts no real interest fee. Student grants were more or less abolished (exceptions are for students in hardship situations). Students in postgraduate programs cannot receive student support and, on top of that, have to pay a tuition fee that is set by the institution itself (see Table 7.2). Students in research master's or Ph.D. programs, though, can apply for grant support (scholarships) from research councils.

The government's proposals, released in its White Paper (DFES, 2003) contain the following proposals:

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

With respect to the last element, it is important to note that the government (in fact, the Funding Council, an intermediate body) only funds a restricted number of students in each university or college. In this sense, the British system is centrally planned, comparable to the Australian system.

The rationale for the White Paper, as in the two countries mentioned in the previous sections of this article, lies in concerns about the quality of the higher education system (the fear of losing out to other national systems that lure away students and academics), the size of the system (the still comparatively low participation rate in the United Kingdom) and, the level of resources per student (real funding per student has fallen over the years).

Recently (January 2004) the government's reform package was passed by a narrow majority in the House of Commons after heated debates that in particular focused on the potential effects of the deregulated fees on access. In Parliament the Tories launched a proposal to abolish all tuition charges and to keep participation at its current levels. The analytical arguments in favor of tuition fees have been presented elsewhere in this article. Barr (2003) forcefully supports the government proposals and argues that flexible fees are necessary and desirable for addressing a diverse, mass higher education system. Today, he argues, the necessary variation in funding is much

greater than formerly and the problem is now too complex for a central planner to have the sole power of decision about how resources should be divided between institutions and what the funding levels for different institutions and programs should be. Thus, institutions should have the freedom to set their own fee levels. He does make clear that that freedom could be constrained and he is not against a fee cap. However, the cap should not be placed at too low a level. Fees could rise, freeing up the necessary private resources to halt the quality decline and to improve access for the disadvantaged. Without higher fees, he argues, quality will continue to be eroded and, given flat fees, quality would erod most at the best institutions. Therefore, as he continues, flexible fees benefit *all* tertiary institutions, not just the best ones.

LESSONS FROM INTERNATIONAL EXPERIENCE: AUSTRALIA

Earlier, we touched upon Australia when we gave a description and assessment of the Australian student charging system and its effects on participation. Therefore we now can be brief on most of the fee-related aspects of the system.

While HECS (described above) was most probably the right system of freeing up additional resources for a much-needed expansion, today's differentiated HECS system has come under substantial criticism. Again, the reason is that government funding per student has gone down, quality is in danger of declining, and increased student demand cannot be accommodated by the public system of universities.

The HECS reforms in 1996 that introduced three fee bands and higher fee levels, like the recent UK White Paper proposals, did not mark the end of central planning. In particular, the federal government continued to set the levels of the fees as well as the numbers of (HECS-liable) students it was prepared to fund at each university. As part of the reforms in the second half of the 1990s, the federal government allowed institutions that had filled their quotas of publicly funded students to recruit (at maximum) an additional 25 percent of students as "domestic full fee paying undergraduates." The institutions were allowed to set the fee levels for this category of students, but were not receiving the full funding per student as for the other (HECS-liable) students. The only public grant universities were receiving for these students was a so-called "marginal funding for

over-enrolled places" (equal to 75 percent of the Band 1 HECS rate: A$2,700 in 1998). The fees charged were full-cost fees. In 2002, the number of full-fee paying Australian undergraduates was 6,500 and in 2003 their number had risen to 9,300 (2 percent of the total number of 531,000 students).

The full fee paying students did not qualify for HECS loans and therefore constituted a separate category of clients for the institutions, next to the students that studied in a government-funded and HECS-liable "slot". Clearly, this dual structure is distortionary and inequitable, allowing less bright students from wealthy families to get into top universities on the basis of wealth rather than ability (Barr, 2001, p. 210).

Although an earlier review committee had produced an assessment of the Australian funding system and proposed a more demand-driven funding system (the West Committee), the present (2003) government organized a new review in 2002. The federal ministry of education produced a discussion paper (*Higher Education at the Crossroads*) and invited public comment. In May 2003 the minister of Education, Science and Training released his plan (Nelson, 2003).

Part of the plan is to make a kind of HECS available for students in recognized private higher education institutions as well as students who are paying full-cost fees in public universities. The system is called FEE-HELP (Higher Education Loan Programme) and also intends to cover the system of loans that was introduced (in 2001) to help postgraduate students pay for their fees. The latter system (PELS: Postgraduate Education Loan Scheme) was targeted at students in public universities who were studying for a master's by coursework program (a taught — that is, non-research — master's degree) and enabled students to take up an interest-free loan to cover the postgraduate fee, the level of which was set by the university itself. PELS was introduced because postgraduate students did not qualify for HECS-loans (a situation comparable to the United Kingdom). Unlike HECS, PELS did not provide for a 25 percent discount on the fee rate should a student wish to pay up-front. The introduction of PELS led to a rise in the number of coursework master's students and a rise in the loans taken up.

In the recent (2003) plans of the minister, HECS and PELS are modified. The new system, called HECS-HELP, however, is based on the same principles as HECS. However, the following changes are proposed, apart from the changes already mentioned:

- universities can set the fees for their undergraduate students up to a maximum that differs according to the 'Band' in which the

program is categorized. HECS-HELP has the same categories as the differentiated HECS system;
- the income threshold that sets off the debt repayments is increased and the repayment rates are slightly increased;
- the discount of 25 percent on the up-front payment of fees is lowered to 20 percent of the fee rate;
- the FEE-HELP loan (for full-cost fee paying students in public and private institutions) attracts an interest rate that is 3.5 percent above the rate of inflation;
- PELS is replaced by FEE-HELP;
- learning entitlements (i.e., a right to study) for a maximum of 5 years in a government-supported place will be introduced.

The maximum levels to which universities can set their student contributions from the year 2005 on are as follows:

- Band 1 maximum = A$5,010
- Band 2 maximum = A$7,137
- Band 3 maximum = A$8,355

The maximum is set at a level that lies 30 percent above projected HECS rates.

As a last comment on the Australian system we mention that the feature of allowing institutions to recruit two types of students, *viz.* full-fee paying students and students paying capped fees will stay in place. Finally, we stress the fact that HECS-HELP and FEE-HELP do not cover the students' living expenses. Youth Allowances and Austudy grants are available for undergraduate students.

LESSONS FROM INTERNATIONAL EXPERIENCE: NEW ZEALAND

The New Zealand (NZ) experience in terms of fee setting is interesting, because fee-setting was at the discretion of the providers over the period of 1992–2000. Furthermore, fees and students' living expenses are covered by loans. The loans are fully income-contingent, with repayments collected by the tax authorities and loans carrying a market or near-market interest rate.

In the years following the introduction (in 1992) of fee deregulation, the average tuition subsidy per student paid by the government to the

institutions decreased significantly. The average fee over that period increased (approximately) by the decrease in the level of tuition subsidy, after inflation was taken into account. Thus there is a close link between levels of public tuition subsidy and the student fees charged by the institutions. The government was thus able to exercise indirect influence over fee setting by varying the levels of public funding. An important corollary of this ability however is that, unless government funding is increased it is likely that student fees will continue to increase.

Fee-setting practices are driven by both supply and demand factors. The strategies for fee-setting in New Zealand vary between providers. Some providers appear to have taken a relatively simple approach wherein fees represent the difference between the cost of delivery and government subsidies. Most providers have taken more complex approaches to fee setting and these have resulted in commensurably complex fee structures (TEAC, 2001). In some cases relatively low fees have been set (at times discounted below average cost) in areas where a provider faces direct competition or is attempting to attract a greater share of available students in a particular program. Some providers offer free courses to attract more students, and one provider basically offered all of its courses free (to utilize the economies of scale implicit in higher education).

Provider behavior in terms of fee-setting was such that providers were very concerned about the potential loss of students (knowing that the vast majority of funding was paid on a per student basis), and providers tended to be very aware of what other providers were doing in terms of fees. Thus the incentive to keep fees low was strong. In other cases it appears that providers may have set fees at a level much higher than course costs would indicate — because of high demand for the course, price inelasticities, or a lack of competition.

In the latter part of the period 1992–2000, providers were tending to be more sophisticated in terms of their fee-setting behavior. One could witness more differentiation in the market. There was some evidence of higher priced providers emerging in the market, and there certainly were some higher priced courses (e.g., MBAs where the fee was very high by New Zealand standards — reflecting demand for the courses and the fact that often employers paid the fee, not the student, etc).

One interesting feature is that providers tended to cross-subsidize internally from their so-called "cash cows" to maintain relatively low fees

in less popular courses. The areas where providers tended to make money were often commerce and business, where the number of students enrolling was high. This was a fairly consistent pattern; providers tended to want to protect their offerings in less popular areas (and were trying very hard to attract as many students as possible in these areas). A further feature is that it is clear that the price elasticities were not high — the evidence is that students were making study choice decisions on the basis of likely labor market outcomes rather than price of study.

There was a high level of concern amongst the general public with increases in student debt, and a major element of this was the increase in fees over the 1990s. This may be due primarily to the decrease in the per student tuition subsidies, and not the fact that fee setting was deregulated per se. The decrease in per student tuition subsidies of course allowed the large increase in participation in higher education that New Zealand enjoyed over the 1990s, within acceptable fiscal limits for successive governments.

From 2000 on, the government was committed very much to stabilizing fees and ensuring that the cost of tuition to students did not significantly rise. The present government has stabilized fees by linking per student funding ("tuition subsidies," as they are known in New Zealand) to the freezing of tuition fees. Reforms in 2000 increased the subsidy on interest rates charged on student debt. New plans, recently revealed, show that New Zealand is moving closer towards the Australian system, with the government setting the maximum fee levels up to which institutions may set their fees.

FLEXIBLE FEES: CAN THEY WORK?

The international experience set out in the previous section shows that in many states the higher education providers and their students are experiencing the effects of prolonged periods of under-funding by their national governments. In light of this funding crisis, many proposals for reform have been put forward to remedy deficiencies and prepare the sector for the challenges ahead. In the financing options under discussion, student contributions are becoming an increasingly important issue. In countries like the United Kingdom, Germany, the Netherlands and Australia, there have been heated debates about the need to promote greater institutional autonomy and flexibility with respect to student charges.

Allowing institutions — not governments — to set the levels of the tuition fees has been put forward as an option in the countries just mentioned. It was suggested that price discretion is an instrument that will enable institutions to tap into new sources of revenue, allowing tuition fees to bear a closer relationship to the different costs of providing different subjects, while allowing fees to reflect the different financial returns that students (once graduated) get depending on the institution attended and subject studied.

Recapitulating, the effects of flexible fees can be grouped into two broad categories of expectations. The main *positive* effects are:

- increased income from students,
- increased diversity in program supply and delivery,
- increased competition between providers,
- enhanced decision-making by students on the basis of price-quality trade-off,
- a closer relationship between the student and the higher education institution,
- the institution's prices increasingly reflect its circumstances, goals, and opportunities.

Some of the *negative* effects are:

- student choices are increasingly driven by financial motives at the expense of intrinsic motivation,
- an increased focus by providers on profitable programs at the expense of unpopular ones,
- geography and history give some institutions a commercial advantage over others,
- students (especially those living in border regions) will be attracted to providers abroad that charge less than domestic ones,
- the increased charge burden may deter students from disadvantaged backgrounds to participate in HE or from enrolling in the institution of their first choice.

For a market-based system of flexible fees to work successfully it may be argued that some conditions need to be met in order that the positive effects become real. To combat the potential negative effects on variety and access, while strengthening the desired outcomes, some critical considerations will need to be addressed. It may be argued that (at least)

six related critical conditions need to be fulfilled. These relate to:

1. the student support system,
2. the availability and adequacy of information,
3. the government's communication strategy,
4. the presence of government-imposed capacity limits on funded places,
5. the relationship between public funding rates and program costs,
6. the relationship between public funding and student numbers.

Since some of the students would not have the resources to pay the fees, they would need financial assistance of some sort — either from their parents, the government, their employer, or other sources.

The first condition for differentiated fees to work, therefore, is the existence of a well-designed student support system. Thus prospective students without sufficient financial resources will be able to enroll in a degree program. A student support system gives students access to government loans or guaranteed (i.e., government-backed) bank loans. Much has been written already about the design of the student support system (by authors like Bruce Chapman and Nicholas Barr), and the key lesson seems to be that the best way for students to pay is via a deferred payment system such as the Australian HECS system. Income-contingent payment gives students (or rather graduates) the possibility to defer payment till after graduation. Levies are in proportion to a graduate's income (above some income-threshold), and are collected by tax authorities.

The second condition refers to the availability of recent information that informs students about the quality of education, and the likely outcomes from their education. The information should relate to the quality of different degrees at different institutions. This must include outcome measures, such as subsequent employment rates, salaries, etc. The availability of information might be considered a "conditio sine qua no" for any education system, but it is likely to be more important in a fee-deregulated environment.

The third criterion points at the government's (or department's) "public relations strategy." Before it can consider introducing flexible fees, the government needs to communicate effectively to students and providers the rationale for a differentiated fees system and the changes to the various ingredients of the accompanying student support and institutional support system (see items 4 and 5, below). A lot of the public resistance towards fee deregulation in countries like the Netherlands, the

United Kingdom, New Zealand, and Australia has been because people (including members of Parliament) focus on the headline (e.g., €10,000), without realizing that income-contingent loan repayments are — from the students' point of view — little different from income tax.

The fourth criterion is that there should not be limits on the numbers of students who will be funded at particular providers. Basically, if there is fee-setting autonomy, the risk should be in place that providers will lose students (and income) if the fee rise is unacceptably high. If there are limits on the number of funded places at each provider, providers do not experience this risk, and there will be a natural tendency for providers to increase their costs when they come under pressure from whatever cost drivers they face. This does not mean that governments cannot place limits on the total number of places that they fund. Governments can still choose to fund only a certain number of places, so long as they do not limit the number of funded places at particular providers.

The fifth criterion is that there should be some relation between cost of provision and level of underpinning subsidy. This allows some room for providers to cross-subsidize, but if there is too much difference between cost of provision and subsidy differentials then the incentive not to cross-subsidize would be high, thus endangering less popular areas, and also endangering provision in areas where the underpinning subsidy is much lower (relative to other disciplines or levels of study) than the cost of provision.

The sixth criterion is that a reasonable amount of payment to providers should be based on a per student basis. The consequences of losing students because of high fee levels is high if the bulk of the money being paid to providers is paid on a per student basis. This adds to the incentives to keep fees down.

In addition to items 5 and 6 it can be mentioned that, if (a) a government thinks it is important that subjects like classics, music, drama, etc. are taught and (b) universities find it hard to support such subjects, then it is open to government to subsidize (i) particular subjects and/or (ii) particular institutions and/or (iii) particular students.

This suggests that flexible fees can only work successfully if governments — in agreement with other players — implement reforms in many areas at the same time. Private charges, funding mechanisms, student support, information supply and public relations all need to be addressed. Neglecting one of these issues is likely to decrease the chances of a successful attainment of goals. The New Zealand case illustrates the

problems of rapid deregulation. Barr (2001, p. 211) has termed it a "big bang" introduction. This presents the danger that fees and student indebtedness could rise sharply, without giving people the time to adjust to the new arrangements.

CONCLUSIONS

This chapter has looked at student contributions and especially tuition fees. Fees were placed in the larger spectrum of the costs and benefits of investing in human capital. As such, the human capital theory and the screening theory were discussed. Fees were also examined by comparing them to market prices paid for commercial products on competitive markets.

Looking at the empirical evidence on the private and social returns to investment in higher education and the international evidence presented in the form of five case study sections discussing fee policies in Europe and Australasia, one can arrive at the following conclusions with respect to the financing of higher education from the public and — in keeping with the topic of this article — the private purse.

The most important conclusion is that a private contribution, in addition to the income foregone by students, appears justified. Efficiency as well as equity arguments have been put forward to explain this, the arguments revolving around the labor market effects and the externality effects of higher education investment. This does not mean that higher education should be fully funded by the private purse, but it does mean that funding should be a shared responsibility of the student (or rather, the graduate) and the taxpayer. From earlier sections in this chapter it will be clear that the nature and size of the non-financial benefits to higher education investments is still largely unknown and the subject of ongoing research in higher education.

It was argued that higher education should not be free, but it should be free at the point of entry. This relates to our second conclusion, which is the answer to the question — if there should be a charge, how should it be paid? The answer is that the best way to pay for this charge is through income contingency — that is, wait for students to graduate and then have them pay in proportion to their earnings. There should be a loan facility to make this possible and up-front payment of fees should be eliminated. The private bank sector or the government might provide loans, but without

governments guaranteeing the repayment of the debt in case of default, bank loans will not be provided. Most loan systems, therefore, must be government administered, also for reasons of minimizing transaction costs. The Australian and New Zealand cases demonstrated the success of such "study now, pay later" schemes. However, attractive as they may seem, one should not forget that the design of loan schemes (as reflected in the arrangements for eligibility, interest rates, repayment, etc.) is crucially important and further research on this matter is needed. Loans, however, are only one way to cover (part of the) college costs, and college costs consist not just of tuition fees. Recent research carried out by Ma (2003) looks into the effects of arrangements that allow students and their parents to save in advance for college expenses through Education Savings Accounts. Dedicated savings incentives, however, are rarely used in Europe and — like tax incentives — their potential for stimulating human capital investment remains unknown.

The issue of access provides another rationale for governments to intervene and provide student support. It is a fact that students from low socio economic status groups are underrepresented in higher education. Research shows that they are both price- and debt-averse and this impacts their human capital decisions. This justifies targeted government policies aimed at providing grants, scholarships, soft loans, and tax facilities. However, it also calls for action on non-financial areas, such as providing information, changing attitudes, offering learning facilities, adjusting curricula, addressing parents, etc. While policy action is called for on areas like these, again the effects are still largely unknown. While it may be argued that an important policy goal is to encourage students to go to college, it may be equally important to affect the student's decision about which college he/she attends (university, higher vocational education, community college, etc.) or to affect the timing and type of attendance (full-time, part-time, early or later on in life). As Hoxby (2003) argues, it is not college attendance that is interesting, but college choices.

The appropriate amount of the private contribution is difficult to determine and is dependent upon finding an appropriate balance between public and private financing, with the level of public financing necessarily left to politicians as representatives of all stakeholders in society. The level of the tuition fee, being part of the private investment in higher education, is often set by government. This is the case in Europe and Australia. Our review of the international evidence suggests that, from efficiency and equity points of view, the decision on fees should be left to the

institutions. A deregulated, thereby differentiated fee structure, was argued to be the only feasible long-term outcome of debates on the level of the tuition fee. However, if institutions set the level of the fees, the immediate question that arises is how they determine the appropriate level. While this is largely a matter of how the institutional management perceives the supply and demand in the market for graduates (cf. the New Zealand case) and its reputation in the market, it does make our attention turn to (potential) students and the information they use to guide their decisions on human capital investments. If fees differ across institutions, individuals will need access to reliable information on the returns they can secure from studying various subjects at different institutions. While this chapter has shown the average private returns to be high, it should be noted that averages often hide wide disparities across fields, institutions and — even — students. However, while research on the rates of return to additional years of education exist, evidence on the returns to specific qualifications is scarce and largely non-existent outside Anglo-Saxon countries. Recent research by Conlon and Chevalier for the United Kingdom shows that there are increasing returns associated with increasing qualification attainment (Chevalier *et al*., 2002; Chevalier and Conlon, 2003). However, the returns associated with degree level qualifications vary substantially according to the type of institution attended, the subject studied and the social class of the individual in possession of the qualification. The high degrees of variance in returns to degrees implies that the risk/reward equation differs considerably for different students. Again, this underlines the importance of research on the determinants of student (or college) choice. It also has important implications for policy and practice aimed at influencing decision-making by students.

While differentiated fees may be desirable, a system of fees set by the institutions themselves can only work if a number of important conditions are met. If not, the market will fail and a great deal of harm may be done. The necessary conditions for an efficient higher education market have been presented in this article and relate not just to the design of the fees system, but also to student support and the system through which government funds the providers of higher education. Higher education researchers will have to help identify which conditions are crucial and how they should be shaped in order to contribute to the desired policy objectives. This calls for more evaluation research into the effects of the various types of intervention instruments used by governments and it calls for interdisciplinary research on the drivers of student choice. Policies will

need to be informed by research that identifies the incentives that shape behavior. And, quoting a recent report (CPB and CHEPS, 2001) that analyzed a number of case studies in the area of higher education policy, getting all the incentives right is the challenge that lies ahead.

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