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AN EQUITY PERSPECTIVE ON ACCESS TO, ENROLMENT IN AND FINANCE OF TERTIARY EDUCATION

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ABSTRACT: The failure to achieve equitable access to university studies has turned the focus to the funding of European higher education systems. Since the large amounts of public subsidies injected in tertiary-level education have not succeeded in reducing disparities in access for children from different social backgrounds, this is seen as compelling evidence for there being a need to revise higher education financing not only on efficiency but also on equity grounds. Such policies are already pursued, planned or intensively discussed in most of Europe.

More equitable access to and participation in university education through changes in the funding sources and mechanisms is a challenging policy with long-term implications. Hence, it should preferably be based on reliable empirical evidence. This raises the question of what the theoretical and empirical literature actually tells us about these matters. How severe is the under-representation of students from a socially disadvantaged background? Has this inequality changed over time across and within European countries? What role does funding play? Have the changes in funding systems already undertaken in several European countries improved the participation of students from low-income families? This review paper aims to answer these important questions by drawing together the available evidence, by contrasting it against pursued educational policies and by pointing to still existing knowledge gaps.

Key words: access, equity, financing, tertiary education

JEL code: I22

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TIIVISTELMÄ: Epäonnistuminen oikeudenmukaisen jakauman saavuttamisessa korkeakoulutukseen hakeutumisessa on kohdistanut huomion eurooppalaisten korkeakoulujärjestelmien rahoitukseen. Niihin sijoitetut julkiset tuet eivät ole onnistuneet vähentämään eroja eri sosiaaliluokista tulevien lasten hakeutumisessa korkeakoulutukseen, mikä on nähty vakuuttavana todisteena siitä, että korkeakoulutuksen rahoitusta tulee uudistaa paitsi tehokkuuden, myös oikeudenmukaisuuden näkökulmasta. Monissa Euroopan maissa näistä uudistuksista keskustellaan, niitä suunnitellaan tai niitä jo toteutetaan.

Rahoituslähteiden ja -mekanismien muutosten kautta saavutettava oikeudenmukaisempi pääsy yliopistokoulutukseen on haastava projekti jolla on pitkäaikaisia seurausvaikutuksia, joten se olisi suotavaa perustaa luotettavaan empiiriseen näyttöön. Tällöin herää kysymys, mitä teoreettinen ja empiirinen kirjallisuus sanovat asiasta. Kuinka vakava on vähempiosaisista sosiaaliluokista tulevien opiskelijoiden aliedustus? Onko tämä epätasa-arvoisuus muuttunut ajan kuluessa Euroopan maiden välillä tai sisällä? Mikä on rahoituksen rooli? Ovatko opintojen rahoitusjärjestelmiin useissa Euroopan maissa tehdyt muutokset parantaneet pienituloisista perheistä tulevien opiskelijoiden osallistumisastetta? Tämä katsaus pyrkii vastaamaan näihin tärkeisiin kysymyksiin kokoamalla yhteen saatavilla olevan näytön, vertaamalla sitä harjoitettuihin koulutuspolitiikkoihin ja osoittamalla yhä olemassa oleviin tietämyksen aukkoihin.

Avainsanat: hakeutuminen, korkeakoulutus, pääsy, rahoitus, sosioekonominen tausta

JEL-koodi: I22

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1 INTRODUCTION

The conclusions of the Lisbon European Council held in March 2000, more commonly known as 'the Lisbon Strategy', identify education and training as crucial factors for the development of Europe's long-term potential for competitiveness and social cohesion.[1] The 2001 Stockholm European Council followed up this call for increased and improved investment in Europe's human resources by agreeing on a work programme 'Education and Training 2010' focused on questions related to the quality, efficiency, access and openness of Europe's education and training systems.[2] In a recent strategic paper[3], improved educational qualifications are shown also to be a main driver of improved employment levels, along with those key employment-inducing components – R&D and ICT – already stressed in the Lisbon Strategy.

These positive effects ascribed to investments in learning have stirred the European Commission to repeatedly urge its member states to continue to expand their investments at all levels of education and especially in tertiary education. Indeed, in a topical communication on universities, the Commission recommends that the EU should aim, within the next ten years, to dedicate at least 2 per cent of GDP to tertiary education [COM(2006)208 final]. In view of the present situation and the evolution since ten years back, this ambitious objective will put considerable pressure on most EU countries for the following reasons. First, a majority of the member states – just as most non-EU countries for which data are available – still score well below this GDP share. While the USA is already above the 2 per cent level, most European countries are far below it and will have to almost double their spending on tertiary education to reach the targeted 2 per cent level (Figure 1). The only exceptions are the Nordic countries, less Iceland; with a tertiary-education GDP share exceeding 1.5 per cent they currently outperform even Australia.

Second, many European countries saw a rather modest growth in tertiary-education expenditure between 1993 and 2003. Despite rapidly increasing participation rates, the tertiary-education GDP share remained constant in Finland, Germany and Italy while even displaying a decreasing trend in Ireland. However, the impressive economic growth that Ireland experienced in the nineties suggests that this decrease was mainly due to the expenditure on tertiary education increasing at a slower pace than GDP. Finally, compared to both Australia and the USA, the private-sector contribution to tertiary education is by far much lower in Europe. This creates additional pressure on tertiary-education oriented public resources and makes the European 2 per cent target all the more harder to attain.

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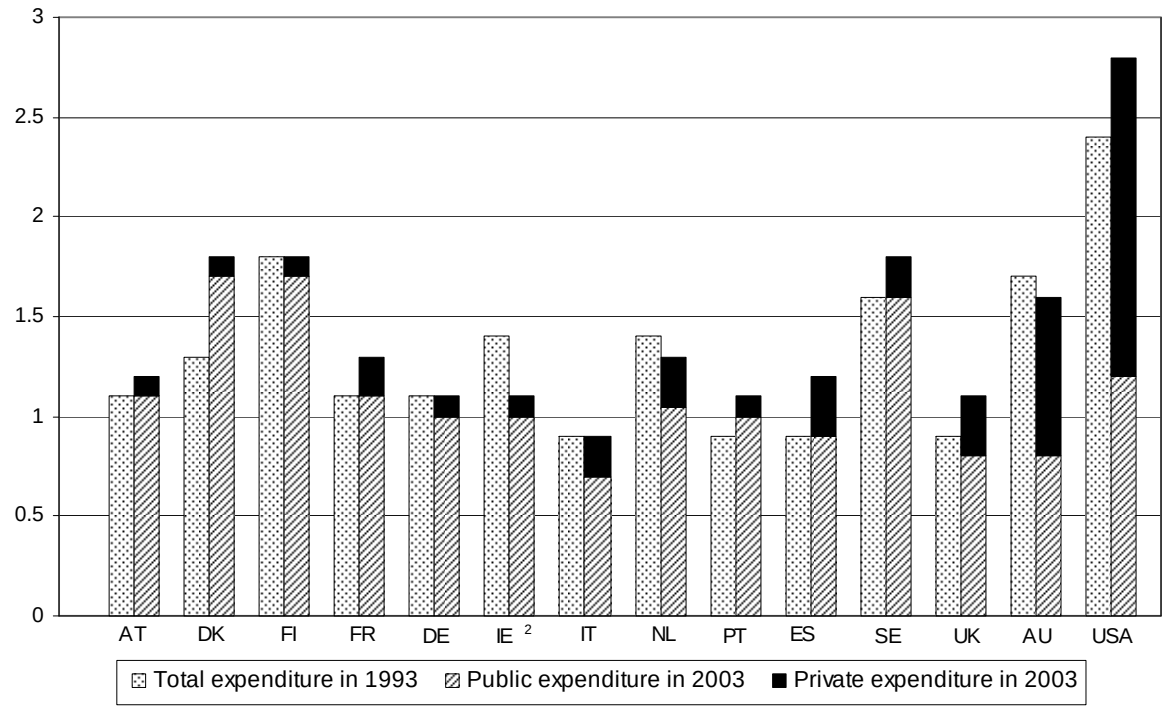
1 http://ec.europa.eu/growthandjobs/key/index_en.htm

2 http://ec.europa.eu/education/policies/2010/et_2010_en.html

3 Centre d'analyse stratégique (2006).

Figure 1 *Total (public and private) expenditure on tertiary education as a percentage of GDP in 1993 and 2003 for selected countries* [1]



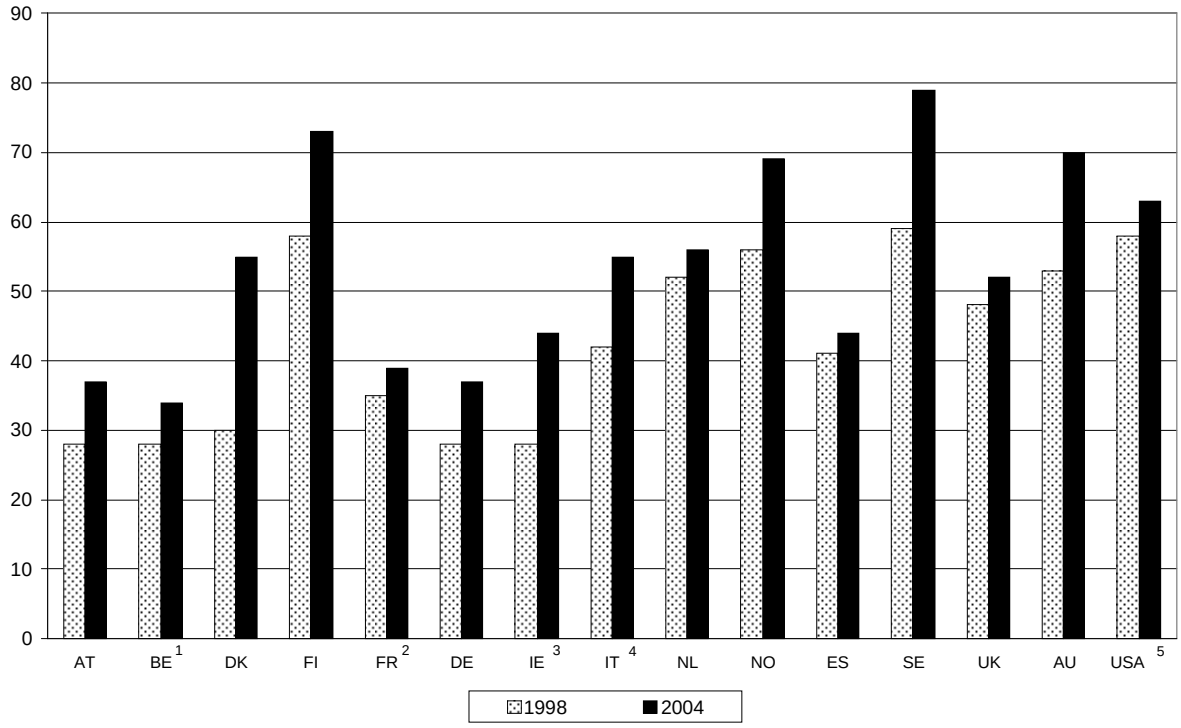
Notes: [1] Public expenditure on tertiary-level educational institutions includes public subsidies to households attributable for educational institutions, as well as direct expenditure on educational institutions from international sources. Correspondingly, private expenditure is net of public subsidies attributable for educational institutions. Abbreviations used are: AT=Austria, DK=Denmark, FI=Finland, FR=France, DE=Germany, IE=Ireland, IT=Italy, NL=Netherlands, PT=Portugal, ES=Spain, SE=Sweden, UK=United Kingdom, AU=Australia. [2] For Ireland (2003), total expenditure on educational institutions as a percentage of GDP is underestimated.

Source: OECD (1996, Table F1.2) and (2006, Table B2.1b).

The explicit national public policies of expanding participation in tertiary education have induced a substantial increase in enrolment and participation rates across Europe (Figure 2). At the same time, however, increasing worries are expressed concerning the equality/equity[4] dimension of tertiary-education expansion. More precisely, increased participation in university studies in Europe is stated not to have enhanced equity in access to it. The under-representation of children from low socio-economic status families is constantly underscored in OECD's reports on educational policies and outcomes. Similar contentions are repeated in the European Commission's frequent communications on European education and training systems.

[4] Although 'equity' is still frequently used as a synonym for 'equality', the former seems to have gained the position of the preferred term. Instance (1997), for example, argues that 'equity' can be viewed as a more open and neutral term. *Cf.* also EGREES (2005) and SEC(2006)1096 and the literature referred to therein.

Figure 2 *Entry rates into tertiary–Type A education in 1998 and 2004 for selected countries**



Notes: * AT=Austria, BE=Belgium, DK=Denmark, FI=Finland, FR=France, DE=Germany, IE=Ireland, IT=Italy, NL=Netherlands, NO=Norway, ES=Spain, SE=Sweden, UK=United Kingdom, AU=Australia. [1] Belgium: Belgium (FL) in 1998 and excludes the German-speaking community in 2004. [2] France: reference year is 1999. [3] Ireland: full-time entrants only for 2004. [4] Italy: entry rate for tertiary–Type A programmes calculated as a gross entry rate for 2004. [5] USA: the net entry rates of Tertiary–Type A programmes include the entry rates of Tertiary–Type B programmes for both years.

Source: OECD (2000, Table C3.1) and (2006, Table C2.1).

This failure to achieve equitable access to university studies has turned the focus also to the funding of European higher education systems. Since the large amounts of public subsidies injected also in tertiary-level education have not succeeded in reducing disparities in access for children from different social backgrounds, this is seen as compelling evidence for there being a need to revise higher education financing not only on efficiency but also on equity grounds. Such policies are already pursued, planned or intensively discussed in most of Europe, often accompanied with a search for 'good practices' outside Europe.

More equitable access to and participation in university education through changes in the funding sources and mechanisms is a challenging policy with long-term implications. Hence, it should preferably be based on solid empirical evidence. This raises the question of what the theoretical and empirical literature actually tells us about these matters. How severe is the under-representation of students from a socially disadvantaged background? Has this inequality changed over time across and within European countries? What role does funding play? Have the changes in funding systems already undertaken in several European countries improved or rather hampered the participation of students from low-income families?

This review paper aims to answer these important questions by drawing together the available evidence, by contrasting it against pursued educational policies and by pointing to still existing knowledge gaps. As already indicated above, the focus is entirely on university education (tertiary–Type A, ISCED 5A) as separate from shorter non-university study programmes (tertiary–Type B, ISCED 5B) for the simple reason that the two levels differ substantially when it comes to the students' socio-economic background. Indeed, in many European countries the students from lower educational backgrounds are rather over-represented at non-university higher education institutions (EUROSTUDENT Report 2005). In what follows, a strict focus on university education is, however, not always possible due to lack of detailed statistics. Moreover, the relevant literature too seldom makes a clear distinction between 'higher education', 'tertiary education' and 'university education'. Instead these three concepts often seem to be treated as synonyms.

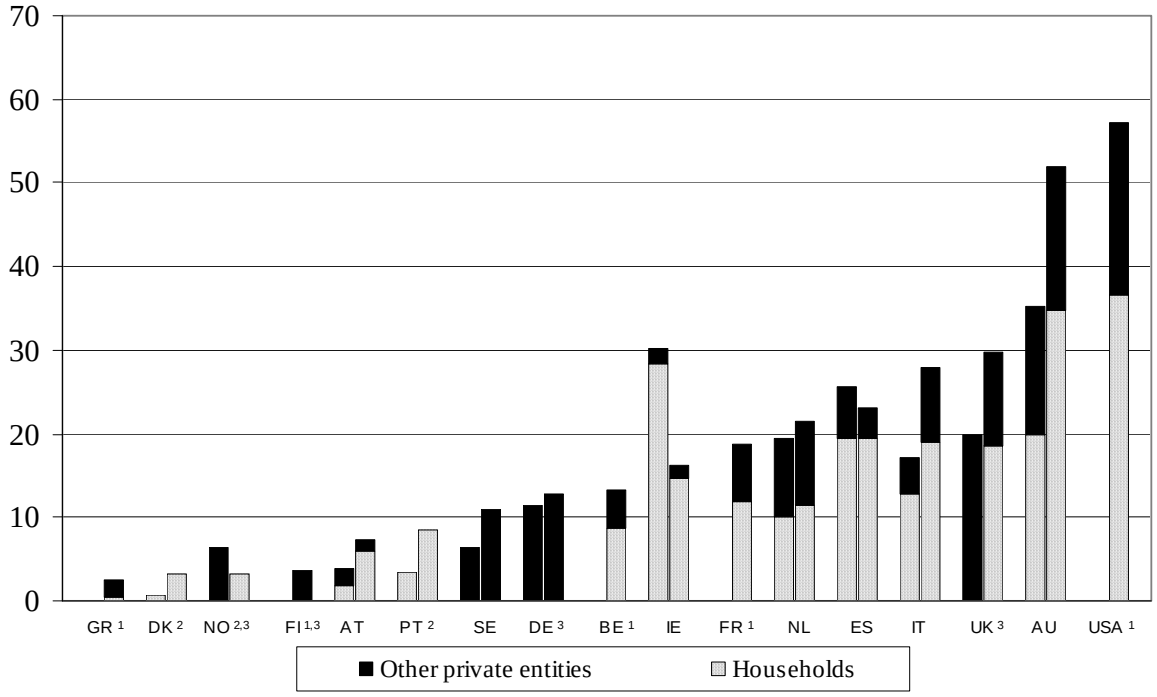
The next section gives a brief background-type outline of past-decade changes in the supply of university education. Section 3 focuses on inequality in access to and enrolment in university education and discusses potential reasons for the continuously strong impact of family background. In Sections 4 and 5, the emphasis is turned to tuition fees and student financing schemes as sources of inequality. Major theory-based claims for shifting part of the financing burden to the students and/or their families as well as proposed financing reforms are briefly reviewed in Section 4. Section 5 presents the main equity-enhancing elements imbedded in the university financing systems presently in place in a selected number of European countries. It also draws together the key equity-related findings from existing evaluations of the impact of undertaken financing reforms. The importance of two complementary financing sources – parental contributions and part-time work – is commented upon in Section 6. Section 7 concludes with a discussion of policy-relevant issues contrasted against both the existing and the still lacking knowledge about the role and influence of the socio-economic background.

2 THE SUPPLY OF TERTIARY EDUCATION

In most European countries, higher education systems were originally developed on the principles of free university education for all, the underlying rationale being that fees may discourage students from modest socio-economic backgrounds. Hence, free or low-cost entry has traditionally seen as a means of equalising access to higher education. In addition it is also seen as an investment given the high social returns that are expected from an educated population. Yet, private returns on investments in tertiary education are in general also high, which is often argued to legitimate higher contributions from university students and their families to the costs of their investment. Finally, spreading the burden of financing university studies between the private and the public sector is increasingly seen as a means to reduce the competition for public resources from other compelling needs, including earlier stages of education (*e.g.* EU–RA 2004).

As noticed already in relation to Figure 1, Australia and the USA resort much more heavily on private resources than do European countries. Nonetheless, as is evident from Figure 1, these two countries' total share of GDP devoted to tertiary education is notably higher than the European average. This suggests that private and public

Figure 3 *Relative proportions of household expenditure and other private expenditure on tertiary-level educational institutions in 1995 and 2003 for selected countries*[*]



Notes: [*] GR=Greece, DK=Denmark, NO=Norway, FI=Finland, AT=Austria, PT=Portugal, SE=Sweden, DE=Germany, BE=Belgium, IE=Ireland, FR=France, NL=Netherlands, ES=Spain, IT=Italy, UK=United Kingdom, AU=Australia.[1] For Belgium, Finland, France, Greece and the USA data are missing for 1995. [2] For Denmark (1995, 2003), Norway (2003) and Portugal (1995, 2003) private expenditure comprises household expenditure only. [3] For Finland (2003), Germany (1995, 2002), Norway (1995) and the UK (1995) no distinction is made between household expenditure and expenditure of other private entities.

Source: OECD (2006, Table B3.2b).

resources act as complements rather than substitutes, yielding resources that are jointly sufficient to satisfy the increasing demand for university education.

Another common feature of most European countries is the limited diversity of private resources in that they mostly come from household expenditures (students and their families) while so-called other private entities (enterprises, donations, charities, etc.) typically play a much smaller role (Figure 3). Obviously this is largely due to institutional features such as the extent of autonomy of institutions or national restrictions placed on the capability of institutions to exploit their knowledge. In Australia and the USA, as well as in a number of other non-European countries including Canada and New Zealand, the contribution of other private entities is much higher. Thus, not only are private resources higher in these countries, but they are more diversified as well.

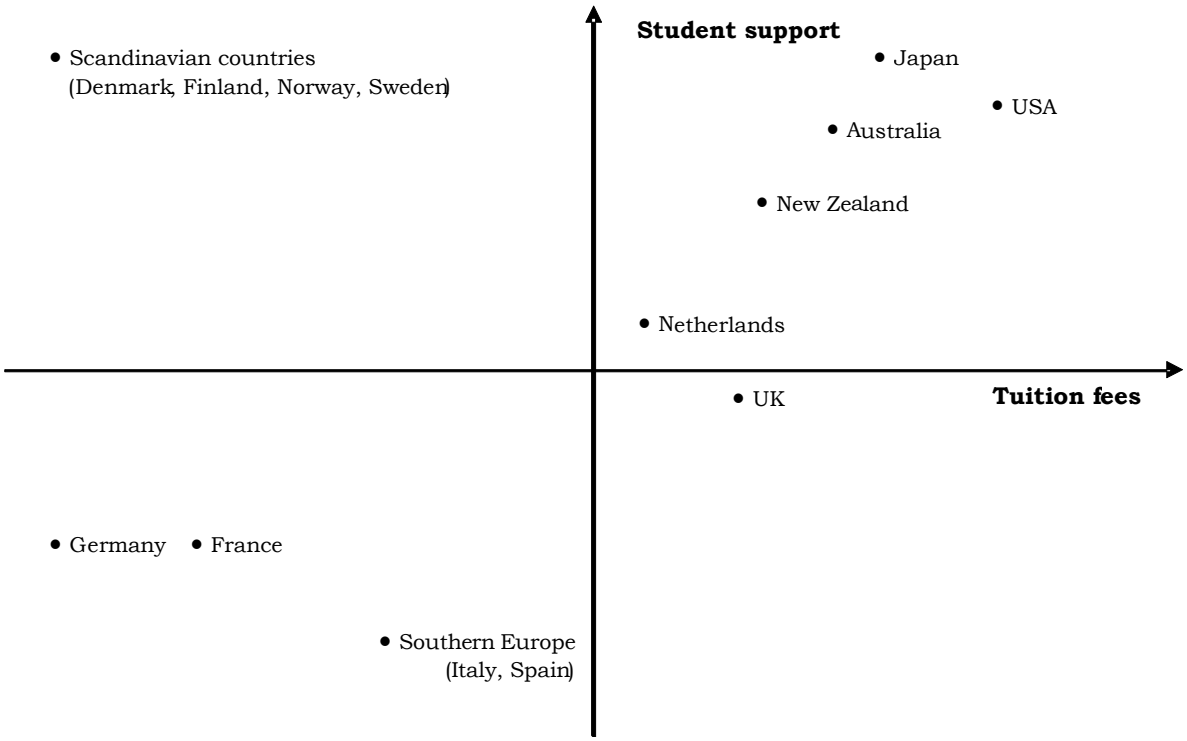
In recent years, several European countries have tried to ease the financial burden of the government by introducing or raising the tuition fees charged to university students (see Section 4.3). Evidently such a strategy aims primarily at diversifying funding sources. Other countries have pursued different objectives. For example, the so-called *université du 3ème millénaire (U3M)*, a French strategy implemented in 2000, aimed at increasing the absolute level of resources. The idea is to combine governmental funds with regional as well as European structural funds to ensure a higher contribution of education and research to the economic development of the country and its regions. Similarly, the main objective of the so-called *Campus companies* adopted in Ireland in 1996 is to allow universities to sell their research or other specific university services. Still other countries have focused on increased efficiency in public expenditure use. The management-by-objectives strategy implemented in Finland already in 1986 and in Sweden in 1993 aims at ensuring that funds are properly targeted and results matched with costs through an accountability system.

While imposing tuition fees on students, the Australian and US governments continue to encourage students to pursue university studies through grants, scholarships and loans. Likewise, in the UK where tuition fees are the highest in Europe, tuition fee payments may be deferred until after graduation and the real-interest-rate-free student loans are repaid contingent on subsequent earnings. The strong correlation between tuition fees and student support in the Anglo-Saxon countries is evident also from Figure 4, which provides a comparison of a selected number of European and non-European countries in two critical dimensions: the amount of tuition fees charged to the students as an indicator of the diversity of funding sources, and the extent of student support. Hence, increased reliance on private resources does not automatically imply that equity aspects and incentives to participate are ignored, as will be discussed in more detail in Section 4.

The structure of a country's higher education system and the reforms introduced over the years can be expected to have had consequences for both enrolment rates and funding schemes.[5] These, in turn, are likely to have affected the competition

[5] The European countries differ quite notably in the way they have structured their higher education systems. Although the public institutions dominate, some countries rely heavily on privately managed but predominantly publicly subsidised institutions, as in the Netherlands and the UK, or on both privately managed and funded institutions, as in Poland and Portugal. See OECD (2006, Table C2.3).

Figure 4 Cross-country comparison of tertiary-education funding schemes



Source: Maguin (2004).

not only between the different types of educational institutions but also within them. Existing national – not to mention cross-country – evidence, however, mostly fails to shed light on these intrinsic but highly important relationships. The available means still seem to be restricted to non-analytical inspection of compiled statistics and calculation of simple correlations. Accordingly the literature does not provide an answer to the question of the extent to which changes in enrolment rates, funding schemes and educational institutions – and their interactions – are reflected in a country's investment in each student.

As is evident from Figures 5 and 6, the increase in annual expenditure on students enrolled in tertiary education[6] has varied substantially across countries since the mid-90s. The two figures indicate the following, at least. First, despite of notable variation in investment rates, the internal ranking of countries based on absolute annual expenditure levels has changed only marginally.[7] In principle, three groups of countries can be distinguished: Mediterranean countries (Greece, Portugal and Spain) with low annual expenditures per student, Nordic countries (Denmark,

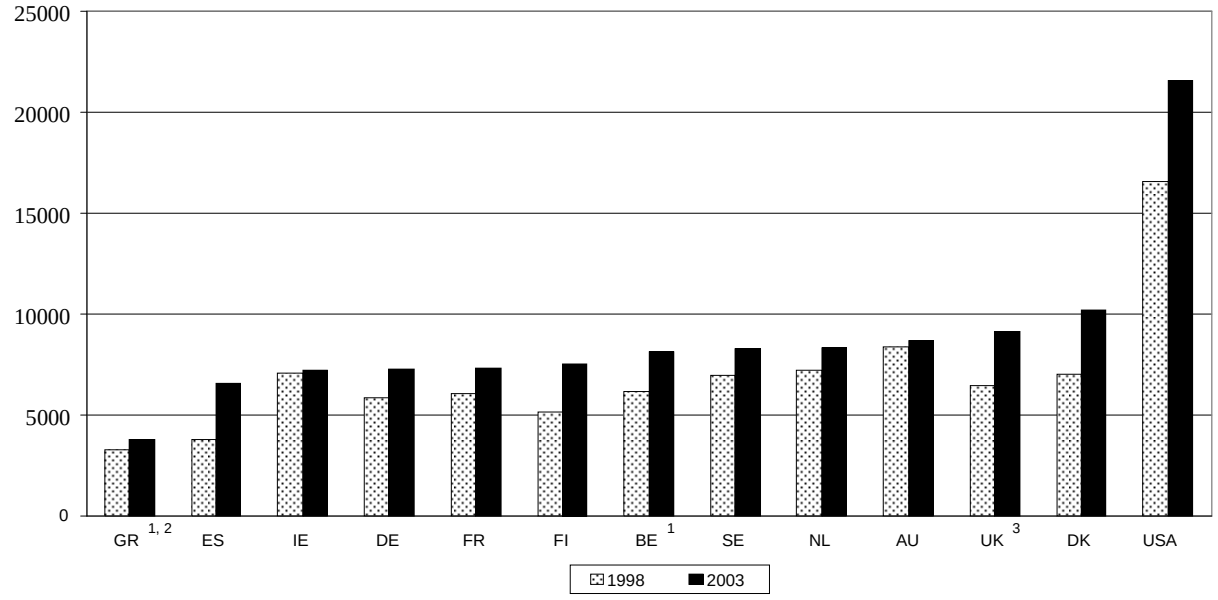
6 Unfortunately the statistics reported in Figures 5 and 6 are not available separately for university and non-university tertiary education.

7 This ranking of countries is largely maintained also when comparing the total cost of educating the typical tertiary-level student instead of annual expenditure per student. The latter measure mediates information on the financial resources that the country uses per student at an annual basis while the former also accounts for the average (theoretical) duration of tertiary studies.

Finland, Norway and Sweden) with high levels, and the rest of the countries falling between these two extremes. Compared to non-European countries, average spending per student in the large group of in-between countries is roughly equal to the Australian level, while no EU country reaches the US level. Needless to say, a relatively low expenditure level does not necessarily mean low education quality and *vice versa*, as is also evident from the OECD–PISA studies. On the other hand, the tertiary level is still lacking its own PISA study.

Secondly, the attempt in Figure 6 to link the change in annual expenditure per student to the change in, respectively, enrolment rates and total expenditure suggests that total expenditure reflects the trade-off that has to be made between containing the costs, on the one hand, and balancing the importance of improving the quality of educational services with the desirability of expanding access to educational opportunities, on the other. Among the European countries, only in Portugal has there been a decrease in expenditure per student that is due to the number of students increasing faster than total expenditure. The same holds true for Australia. In Norway, Sweden and the UK, the rise in the number of students has been perfectly balanced by a concomitant increase in expenditures. In all other European countries displayed in the figure, including the USA, expenditures have risen faster than the number of students.

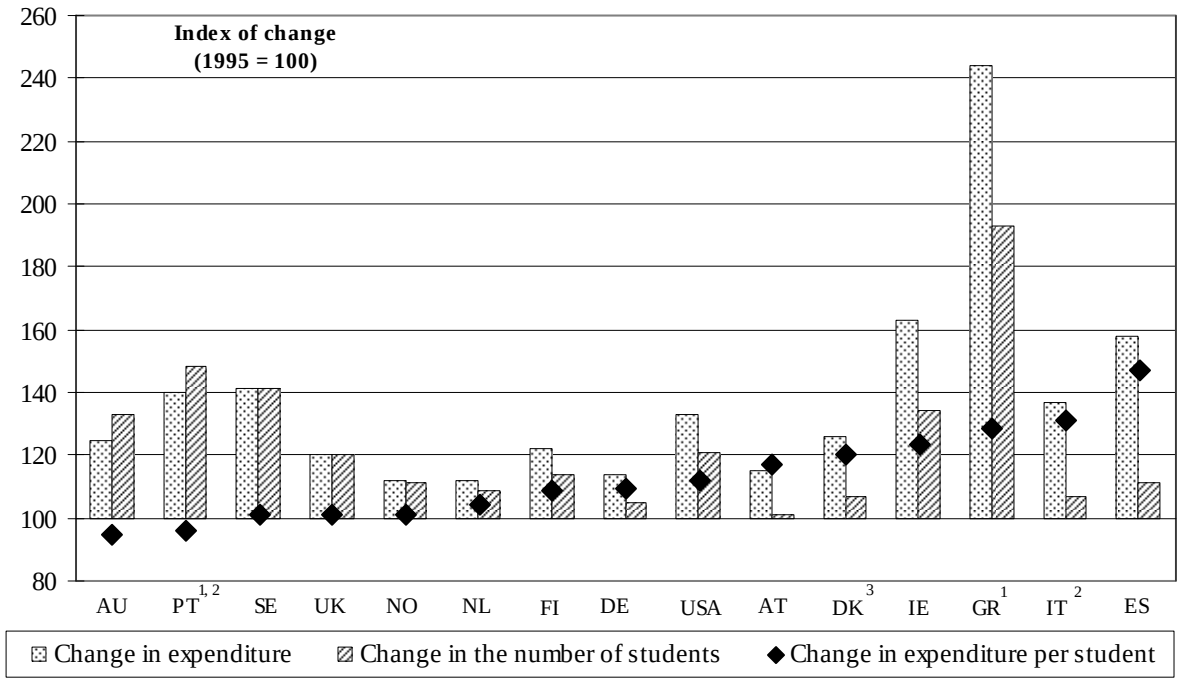
Figure 5 *Annual total expenditure per student on all tertiary education (Type A & Type B) for all services, excluding R&D, in 1998 and 2003 for selected countries (in equivalent US dollars converted using PPPs for GDP)* *



Notes: * GR=Greece, ES=Spain, IE=Ireland, DE=Germany, FR=France, FI=Finland, BE=Belgium, SE=Sweden, NL=Netherlands, AU=Australia, UK=United Kingdom, DK=Denmark. [1] For Belgium and Greece, the reference year is 1999. [2] For Greece, the 1999 figure includes post-secondary non-tertiary education. [3] For the UK, the 1998 figure covers public and government-dependent private institutions only.

Source: OECD (2001a, Table B6.3), (2002, Table B6.2) and (2006, Table B1.1c).

Figure 6 Change in expenditure on tertiary-education institutions per student and its components (1995, 2003) *



Notes: * AU=Australia, PT=Portugal, SE=Sweden, UK=United Kingdom, NO=Norway, NL=Netherlands, FI=Finland, DE=Germany, AT=Austria, DK=Denmark, IE=Ireland, GR=Greece, IT=Italy, ES=Spain. [1] Public expenditure only. [2] Public institutions only. [3] Tertiary education includes post-secondary non-tertiary education.

Source: OECD (2006, Table B1.5).

Related to these quantitative aspects is the equity question of the extent to which the observed changes in the number of university attendees and in expenditure have been accompanied by improved opportunities to pursue university studies also for children from socially disadvantaged backgrounds. We raise this issue in the next section.

3 INEQUALITY IN ACCESS TO AND ENROLMENT IN TERTIARY EDUCATION

It is by now a stylised fact that the socio-economic background still exerts a strong influence on a child's probability of attending university-level education. In the longer term this will affect inter-generational income mobility and ultimately income inequality (*e.g.* Blanden 2007). Moreover, it is often argued that the average annual increase in the participation rates of students from disadvantaged socio-economic backgrounds has in most cases failed to keep up with the increase in total participation rates. Although the expansion in tertiary education has improved the *absolute* prospects of poorer students to invest in further studies, it is seen to have had little impact on their *relative* prospects.

These kinds of contentions are seldom accompanied by supportive up-to-date evidence, though, which raises the question: What do we actually know about the participation in university-level education of students from different social backgrounds? Surprisingly little since comparative international data on participation rates and trends by socio-economic background are simply not available. Apart from the cross-country comparison published by Blossfeld and Shavit in 1993, the contemporary Britain-in-an-international-perspective study by Halsey (1993) and scattered country-specific figures[8], the only more recent sources shedding at least some comparative light on this question are the EUROSTUDENT Reports, the OECD–PISA studies and the Blöndal *et al.* study (2002).

In a majority of the eleven European countries covered in the EUROSTUDENT Report 2005, the participation of young people in university education reveals a strong correlation with both the socio-economic background and the educational attainment of parents. Students whose fathers' occupational status is working class (blue-collar) are reported to be extremely under-represented in Austria, Germany, France and Portugal, slightly under-represented in Finland, the Netherlands and Spain but equally represented in Ireland (Table 1). The opposite pattern emerges when the point of reference is the proportion of students whose fathers hold a university degree. In all countries, except Ireland, these students are about twice as likely to participate in university education as are students whose fathers have a lower level of education. For Portugal the ratio is as high as 5.4.

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8 Blossfeld and Shavit (1993) concluded that expansion had not significantly reduced social class inequalities in access to higher education. They found that only Sweden and the Netherlands had achieved a significant equalisation among socio-economic groups. Similar findings were reported by Halsey (1993). See further OECD (2001b), Biffl and Isaac (2002), Blöndal *et al.* (2002, Table 6) and Clancy and Goastellec (2007) for an overview of selected country-specific evidence, and *e.g.* Kivinen *et al.* (2001) for Finland, Barbaro (2003) for Germany, Opheim (2004) for Norway, Holzer (2006) for Sweden, Galindo-Rueda *et al.* (2004) and Machin and Vignoles (2004) for the UK.

Table 1 Indicators of the social make-up of the student body for selected countries

Country	EUROSTUDENT Report 2005*				OECD–PISA 2000**			
	Ratio of parents with working-class status		Ratio of parents with higher education		Percentage with a tertiary-level degree by parents' educational attainment			Increased likelihood
	Father	Mother	Father	Mother	Basic (1)	Second. (2)	Tertiary (3)	(3)/(1)
Australia	-	-	-	-	20.0	25.7	39.2	2.0
Austria	0.5	0.7	2.6	2.6	-	-	-	-
Belgium	-	-	-	-	15.3	32.8	49.7	3.2
Finland	0.8	1.9	1.7	1.6	-	-	-	-
France	0.5	0.6	2.0	2.0	-	-	-	-
Germany	0.4	0.4	2.2	2.2	16.0	23.3	38.4	2.4
Ireland	1.0	-	1.1	1.1	12.0	36.1	57.4	4.8
Italy	-	-	1.7	1.7				
Netherlands	0.7	1.4	1.6	1.2	12.8	22.5	42.6	3.3
Portugal	0.5	0.5	5.4	4.7	-	-	-	-
Spain	0.9	1.1	1.5	1.4	-	-	-	-
Sweden	-	-	-	-	18.7	29.5	40.2	2.1
UK	-	-	-	-	16.5	38.2	47.0	2.8
USA	-	-	-	-	19.7	35.7	64.2	3.3

Notes: * Ratio of students' fathers (mothers) to all men (women) of corresponding age groups with working-class status (first two columns) and with higher education (next two columns). ** Percentage of the population aged 16 to 65 having completed tertiary education by the level of educational attainment of their parents, and the increased likelihood of obtaining a tertiary degree for individuals whose parents have also completed tertiary education compared with individuals whose parents have not completed secondary education.

Sources: EUROSTUDENT Report 2005 (Fig. 14, 14.1, 15 and 15.1) and OECD–PISA 2000 (Annex B1, Table 6.8).

Similar overall patterns already emerged among the eight European countries that participated in the corresponding survey for the year 2000.[9] Of these countries, all but one (Belgium) participated also in the 2005 survey, which could offer a possibility to identify eventual changes in the enrolment of students from socially more disadvantaged backgrounds. Such a comparison points to a worsening of the situation in principally all seven countries appearing in both surveys. On the other hand, a closer inspection of the underlying data reveals that any comparison across countries or within countries over time should be made with great caution.

The perspective is slightly different in the OECD–PISA 2000 study in the sense that the focus is not on the enrolled students but on those having completed a tertiary education. Nonetheless the results are broadly in line with those in the EUROSTUDENT Reports. For all twelve OECD countries analysed, individuals whose parents have a tertiary education are shown to be at least twice as likely to obtain a tertiary-level degree compared to those whose parents have not completed a secondary education (Table 1).[10] Whether or not this likelihood has changed since remains an

[9] These countries were: Austria, Belgium, Finland, France, Germany, Ireland, Italy and Netherlands. *Cf.* EUROSTUDENT Report 2000, Fig. 13 (p. 40) and Fig. 14 (p. 42).

[10] A similar overall finding is reported by Blöndal *et al.* (2002), although their analysis focuses on participation rates for those aged 18–24 half a decade earlier (1994/95) and for a partially different pool of countries: Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden and the USA. They also tried to investigate, for a separate pool of countries, if the influence of parental background has changed over time by comparing two generations of adults, twenty

open question as the PISA 2003 study does not contain corresponding information, whereas PISA 2006 will. It is also tempting to compare the results for the three countries – Germany, Ireland and the Netherlands – that appear both in the PISA 2000 study and in the EUROSTUDENT Report 2000. The most striking outcome of this admittedly questionable comparison is that Ireland shifts from one of the most equalised countries (in the EUROSTUDENT Report) to one of the least equalised (according to the PISA study), while the opposite occurs for Germany.

Taken together, the available information thus provides strong support for prospective students from disadvantaged social backgrounds typically having a much lower probability to participate in university-level education and, accordingly, to have completed a university degree. But it allows no unambiguous conclusions on cross-country differences in patterns and trends. Moreover, Clancy and Goastellec (2007) criticise existing studies for being historical by relying on cohort data and, hence, for having little policy relevance. Arum *et al.* (2007), in turn, claim that previous work has mistakenly interpreted rising enrolment in combination with stable odds for intergenerational educational mobility as evidence for 'persisting inequality', when instead this situation should be expected to induce increasing inclusiveness as larger proportions of all social strata attend tertiary education.

Over the years, several hypotheses have been put forward in an attempt to explain the under-representation in universities of children from socially more disadvantaged backgrounds. The suggested explanations, all more or less consistent with a form of liquidity constraint, may be divided into two broad but not necessarily mutually exclusive categories: (1) those emphasising the failure of these children to achieve access to university studies, and (2) those stressing various factors that discourage these children from enrolling even when they are eligible to do so. The following overview provides some insight on these matters but is far from exhaustive.[11]

A common feature of most countries is that successful completion of general upper-secondary education is the standard basic requirement for entry to a university (Table 2).[12] Accordingly it is often argued that a major explanation for the imbal-

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years apart. Their findings suggested that the relative influence of parental educational background had declined in Belgium (Flanders), Netherlands, Switzerland and the USA, but increased in Australia, Canada and Germany.

[11] Explanations referring simply to a declining population of parents with a low income or social background are refuted by Blöndal *et al.* (2002).

[12] Among the eleven European countries participating in the EUROSTUDENT Report 2005 only between 3 and 9 per cent of the students had gained access to a university along so-called non-traditional routes; that is, via paths other than the general schooling system. Also in this respect Ireland stands out as an exception: the share is as high as 17.6 per cent for males and 19.5 per cent for females (Fig. 5, p. 36). Unfortunately there is no corresponding information depending on the students' family background. Possibly the clear-cut correlation between social background and students holding vocational qualifications *previous to* entering a university could be taken as an indication of students from a disadvantaged social background being more likely to enter via non-traditional routes. This correlation is strongest for countries such as Austria, Germany, Ireland, Italy and Portugal, while no such correlation is discernible for Finland or Latvia (Fig. 7, p. 40).

ances in the representation of different socio-economic classes in university-level education can be found in the earlier stages of the education system, which have not been able to break the link between performance and children's social background. Failure in compulsory school undermines the possibilities of children from a socially disadvantaged background to achieve the qualifications needed for entrance into a university. This explanation thus boils down to underlining the critical role of policies aimed to encourage successful completion of high school.

Table 2 Entry to university studies: Selection criteria in selected countries

	Access			**Over-subscribed courses**			
		Selectivity		**Responsibility for setting criteria**		**Nature of the selection process**	
	Free	Partial	Compre-hensive	Gov.	Institution	Entrance exam	Marks in school-leaving exam
Austria	Y				Y	Y[2]	
Belgium	Y			Y	Y	Y[3]	
Denmark		Y			Y		Y[4]
Finland			Y		Y		Y
France		Y	Y[1]		Y		Y[5]
Germany		Y		Y	Y		Y
Greece			Y	Y			Y
Ireland			Y		Y		Y
Italy		Y	Y[1]	Y	Y		Y
Luxemburg	Y	Y[1]			Y		Y
Netherlands		Y		Y	Y		Y[6]
Portugal			Y	Y	Y		Y[7]
Spain			Y	Y			Y
Sweden			Y		Y		Y
UK			Y		Y		Y

Notes: [1] For the non-university sector. [2] For *Fachhochschulen*. [3] For civil engineers. [4] Test and interview. [5] Plus previous academic performance. [6] Under the form of a weighted lottery-type draw. [7] Plus national exam.

Source: Debande (2003, p. 10).

But socio-economic imbalances in this respect are today claimed to be more of a problem of developing countries (*e.g.* Yaqub Vawda 2003). In developed countries, there seems to be more concern about not least urban–rural imbalances in the completion of high school, whereas socio-economic differences in completion rates are often argued to have become a less prominent issue due to today's high participation rates in secondary education.[13] Instead the focus has shifted to socio-economic differences in the propensity of high-school graduates to pursue university studies. The crucial question then is: Why do these differences in university-studies decisions exist and, furthermore, prevail over time?

Empirical research provides overwhelming support for the social background exerting a strong influence on high-school graduates' decisions to proceed to university

[13] See the discussion and references in Le and Miller (2005). *Cf.* though Blöndal *et al.* (2002) who stress that all OECD countries have 'not succeeded in sufficiently reducing the link between basic educational attainment and children's parental background' (p. 78).

studies. Other important determinants, most of them being more or less interrelated with family background, are: characteristics specific to the individual (such as abilities and preferences, including risk aversion), the region of residence, early school achievement and the school attended.[14] More disagreement exists on the major reasons for the social background still exerting such a strong influence on high-school graduates' decisions to continue (or not) in university education.

A frequently emphasised rationale for children from socially disadvantaged backgrounds not to pursue university studies is that they are more risk averse in several key dimensions.[15] First, they are alleged to be more price-averse than the children from wealthier backgrounds. The mere existence of tuition fees, or increases in them, might spur these children (or their parents) to rather choose educations that are free of charge. They may also be discouraged by the length of university studies; the longer the study times, the higher is the opportunity cost (*i.e.* the earnings foregone while studying) that would need to be compensated by the earnings premium reaped from the investment. Both contentions might be argued to receive at least partial support from the fact that, as already noted in the outline, children from a low-income background reveal a higher probability of pursuing tertiary-level non-university studies, which are of a shorter duration than university studies.[16]

Second, in addition to this price aversion originating in the direct and indirect costs of education also the student financing system in place (or prominent changes in it) may discourage children from lower socio-economic status to continue in university education. More precisely, because these children are basically more risk averse, they are also alleged to be more reluctant to take student loans. The student debt dilemma is, in effect, a lively debated issue despite the fact that the socially disadvantaged children's debt aversion is generally considered to be less of a problem than their price aversion (see *e.g.* Burdman (2005) and the references therein).

Third, students from low-income families face on average a higher academic risk than students from wealthier backgrounds. In other words, they tend to feel more uncertainty concerning their success in university studies and in job finding, which can be expected to exacerbate their price and debt aversion. This notion shifts the attention to the issue of selectivity at the entry to universities, which is often seen as an efficient device to reduce the academic risks related to the completion of a de-

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14 For recent illustrative examples, see *e.g.* Galindo-Rueda *et al.* (2004), Cunha *et al.* (2005), Le and Miller (2005), Belzil and Leonardi (2006) and Stratton *et al.* (2006).

15 See *e.g.* Connor (2001) and Callender (2003). A recent study based on Italian data (Belzil and Leonardi 2006), however, reports a negative relationship between risk aversion and schooling but only for levels up to high-school grades; the relationship turns *positive* for higher-level degrees. The impact on schooling attainment of differences in attitudes towards risk was found to be small, though, compared to the effect of differences in parental human capital. While these two effects were compared they were not interacted, implying that the study cannot shed light on differences in risk attitudes depending on family background.

16 *Cf.* EUROSTUDENT Report 2005, Fig. 9, p. 44.

gree. Research in this field is sparse, though. US evidence, based on a pool of applicants to one particular 'top five' economics department, suggests that success in admission ratings is a useful predictor of the applicants' subsequent job placement (Krueger and Wu 2000). The information contained in the students' application folders, however, turned out to provide an even better forecast, which induced the authors to conclude that an optimal admissions strategy would combine the two sources of information.

Constrained access to universities, in turn, raises the question whether the resultant selectivity process possibly involves a non-negligible socio-economic dimension. But there is not much empirical evidence on this aspect, either, especially as institutional constraints to university entrance are mostly overlooked in empirical analyses of the determinants of high-school graduates' decisions to pursue further education. Results for Finland indicate that entrance exams tend to create socio-economic imbalances to the extent that they are rigorous enough to attract prospective students to use time and money on the preparation courses provided by private organisations. Indeed, applicants from wealthier and more highly educated families have been found to be more likely to take preparation courses and also to benefit from them more than do applicants with lower socio-economic status and less educated parents.[17] Also evidence for Portugal suggests that admissions rules add to the unequal chances of applicants of being admitted to higher education institutions, but unfortunately the study makes no account for the potential role of the applicants' family background in the success or failure in entrance exams (Botelho *et al.* 2001).

Apart from the risk behaviour of prospective students and their parents, increasing attention has been paid also to other factors potentially discouraging especially children from disadvantaged social backgrounds to pursue university studies. The liquidity constraint explanation that still dominates the literature and continues to guide education policy has been challenged over the past few years but remains a matter of empirical controversy (see further *e.g.* Asplund 2007). Both UK and US evidence suggests that the long-term consequences of better family resources (in the form of higher-quality education and better environments) in a child's formative years are far more important for subsequent higher education enrolment than are the short-term liquidity constraints facing families in a child's adolescent years. A modest socio-economic background is found to have a negligible independent effect on university attendance in the UK once earlier school achievement is controlled for (Galindo-Rueda *et al.* 2004). The long-term family factors which foster the cognitive and non-cognitive skills that children need to be able to benefit from attending college, are shown to explain most of the family income gap in US college enrolment

[17] See the review by Asplund and Leijola (2005), which also shows that there is a source of regional inequality present as well: the private providers of preparation courses generally operate in large (university) cities.

(Carneiro and Heckman 2002). This latter finding is interesting also in view of the growing concern in the USA about socio-economic disparities in college admissions due to geographical stratification according to income and the conflicting evidence on the effectiveness of socio-economic preferences (positive discrimination) in college admissions; that is, of admissions policies that account, in a systematic way, for the relationship between differences in the quality of primary and secondary education (environmental-related circumstances) and achievement (see Studley 2003). Recent experimental use of affirmative action in California, Florida and Texas has spurred a lively debate on the pros and cons of such strategies for promoting social diversity in higher education (*e.g.* Chan and Eyster 2007, Clancy and Goastellec 2007).

Other aspects emphasised in this context are, *inter alia*, socio-economically rooted differences in cultural perceptions and preferences. Still another potential source of socio-economic inequality relates to information and transparency.[18] More precisely, children from disadvantaged social backgrounds might be more likely to receive inappropriate information – or lack information altogether – on student financing options as well as on alternative university study lines. In combination with liquidity constraints this information poverty is likely to increase the risk aversion of prospective but poor students and their families.

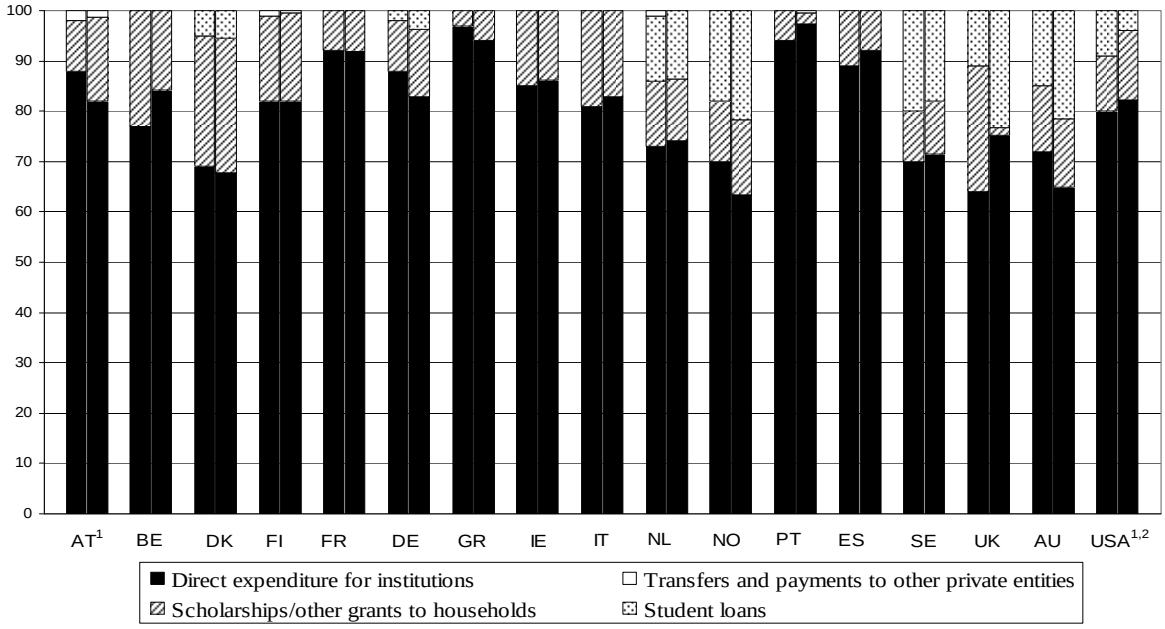
All in all, there is an obvious lack of harmonised cross-country data on access to and enrolment in universities of students from different socio-economic backgrounds. Also missing is comprehensive empirical evidence on the main channels of influence of family background on prospective students' decisions to proceed to university studies. Equally important is the question of the potential influence of admissions standards: are they screening student qualities and capacities in a consistent and socially neutral way? A related aspect that also has received only minor attention is whether economically disadvantaged students are unduly constrained in their choices of universities and/or fields of study. Needless to say, the scarce – and often also inconclusive – present-day evidence on the role of the socio-economic background has implications for policymaking as efficient equality of opportunity enhancing policies require good knowledge about causes and their relative importance.

18 See Barr (2005), Burdman (2005) and Jacobs and van der Ploeg (2006).

4 TUITION FEES AND STUDENT FINANCING AS SOURCES OF INEQUALITY

A traditional but, as indicated above, empirically controversial interpretation of the unbalanced participation in university education of students from different socio-economic backgrounds is that the prospective applicants and their families face liquidity constraints; that is, market failures in the form of capital (credit rationing) and insurance (income risks) market imperfections hampering their access to universities. Indeed, the lack of collateral and the inability to monitor effort in relation to investment in human capital are widely-cited motives for large-scale public subsidies also to university studies. In view of this 'equal access' thinking it is hardly surprising that most European countries still record a high subsidy rate to university education (Figure 7).

Figure 7 *Public subsidies to households and other private entities as a percentage of total public expenditure on tertiary education in 1998 and 2003 for selected countries*[*]



Notes: [*] AT=Austria, BE=Belgium, DK=Denmark, FI=Finland, FR=France, DE=Germany, GR=Greece, IE=Ireland, IT=Italy, NL=Netherlands, NO=Norway, PT=Portugal, ES=Spain, SE=Sweden, UK=United Kingdom, AU=Australia. [1] For Austria (1998) and the USA (1998), scholarships/other grants to households attributable for educational institutions are included in total financial aid to students. [2] For the USA (1998), post-secondary non-tertiary education is included.

Source: OECD (2001a, Table B5.2) and (2006, Table B5.2).

But this traditional way of supporting university studies through the tax system has been increasingly challenged over more recent years. As indicated in the previous section, few European countries can provide persuasive evidence in support of the contention that the existence of a heavily subsidised university system based on low (or no) tuition fees in combination with maintenance grants has encouraged

greater participation of students from disadvantaged socio-economic backgrounds (*cf.* Daniel *et al.* 1999). Instead many countries seem to face an unchanged or even worsening situation despite rapidly expanded opportunities to enrol in universities. Moreover, an emerging body of literature was shown to point to several other important reasons in addition to the mere lack of the resources required to finance university studies. Hence, financial aid can be seen as a necessary but not as a sufficient means for increasing the university attendance of children from socially disadvantaged backgrounds. Last, but not least, the expansive tertiary education policies pursued by European governments in a context of tightening budget constraints is causing growing funding problems; there is increasing pressure for students to bear a larger share of the costs of their education and for governments to undertake a concomitant adjustment of the student aid system in order to prevent the increased financing burden of students to harm equity in access and enrolment.

This section addresses the issues of tuition fees and study financing schemes. The aim is not to provide an exhaustive review of these issues but to highlight potential and actual socio-economic disparities in these particular respects.

4.1 Why Tuition Fees on Equity Grounds?

Both the academic and political debate has put forward a number of equity-based[19] motivations for why the financial participation of university students and/or their families should be increased. A commonly-used argument is that large-scale public subsidisation of university studies affects the distribution of the costs and benefits of university studies and, moreover, involves a distributional effect that is regressive rather than progressive in nature.[20] This reversed redistribution arises if the students benefiting from (almost) free university education come disproportionately from socially more advantaged backgrounds. As most European countries have failed to improve the socio-economic balance among those enrolling in universities despite the financial generosity of the system, increased financial participation of students in the form of tuition fees is seen to be well justified. The released funds have been suggested to be used for, *inter alia*, increased financial support to the less advantaged students.

However, this widespread hypothesis of there being a regressive effect involved in publicly subsidised university education does not receive unambiguous support in

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19 For equity- as well as efficiency-based arguments, see *e.g.* Dolton *et al.* (1997), Barr and Crawford (1998), Woodhall (2002), Greenaway and Haynes (2003), DfES (2004), Gary-Bobo and Trannoy (2005) and Jacobs and van der Ploeg (2006).

20 Vandenberghe and Debande (2005a) argue that a zero-fee education can be seen as corresponding to an implicit loan system. Using Belgian, German and UK data on higher education public expenditure and income taxes paid by graduates and non-graduates over their lifetime, they show that the implicit reimbursement rate varies from 37 to 95 per cent. For lifetime income (re-)distributional effects of public subsidies to higher education, see Asplund (2007) and the references therein.

the empirical literature. Instead several studies report the effect to be progressive rather than regressive in the sense that the subsidy granted to students from low-income families is larger, not smaller, than that granted to students from higher-income families.[21] A major explanation for the contradictory results is argued to be found in the extent to which the undertaken calculations account for the student financial assistance scheme especially when directed towards supporting poorer students. Accordingly it is claimed that cuts in means-tested student aid might well turn a progressive effect regressive. Another important factor shown to influence the outcome is the combined effect of the distribution of the student population across different social strata and the selection of students to university studies. This would imply that the mere over-representation of students from socially more advantaged backgrounds is a necessary but not a sufficient condition for higher education subsidies to have a regressive distributional impact.

Another frequently used equity argument for charging tuition fees is that the economic benefits from investment in university education are high and to most part private. Moreover, estimates of private internal rates of return to tertiary education indicate that public student support (grants and loan arrangements) has a considerable impact adding on average 2.4 percentage points in the case of men and 3.1 percentage points in the case of women (Blöndal *et al.* 2002). But the variation across the studied countries is large with the top-ranking Nordic countries being accompanied by both the UK and the USA. Hence, there seems to be no clear-cut correlation between the return and the private–public financing ratio. Furthermore, the average return provides only a partial picture: a growing body of the rate-of-return literature presents empirical evidence showing that the economic benefit from a university degree varies substantially across graduates with the social background being one potential but little researched contributing factor.

On the whole, then, the main equity arguments put in favour of tuition fees seem to receive rather inconclusive empirical support. The pace of change is accelerating, though, and tuition fees are becoming the rule rather than the exception also in Europe. Of the 13 European countries[22] listed in Appendix Table A1, all except the Nordic countries charge tuition fees of some sort and also vary the fees to some extent. While Denmark and Sweden have introduced tuition fees for non-EU students, Finland is intensively discussing the issue.

However, despite the increased use of tuition fees they still contribute only marginally to the financing of university education and do not as such provide a means for

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[21] For a brief review of the empirical literature, see *e.g.* Barbaro (2003). A recent review of student support in 13 countries reveals that due to the wide use of parental-income-tested financing of higher education, students from low-income families typically receive larger subsidies for the same educational attainment (NCES 2003). Also see Table 4 of sub-section 4.3.

[22] Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Sweden and the UK.

solving the funding needs of universities. The marginal role of tuition fees is also evident from the estimates of private internal rates of return to tertiary education reported by Blöndal *et al.* (2002), showing that the return-reducing impact of tuition fees is limited except in Canada, Japan, the UK and the USA. Hence, free or almost free university education is still strongly ingrained in many European countries.

The fact that the actual cost for the student is usually rather low even in countries with formally high tuition fees is due to various financial assistance arrangements directed especially to less affluent students (see Section 4.3 below). This may also explain why the equity dimension of tuition fees deals primarily with the question of how to prevent the fees from having a deterrent effect on the enrolment of prospective students from socially disadvantaged backgrounds rather than on the optimal level and structure of the fees. Indeed, the prevalent opinion seems to be that the construction of tuition fees should be driven by efficiency considerations and whatever equity aspects arise, they are to be dealt with through the student financing scheme.

4.2 Equity Aspects in Student Financing Schemes

The theoretical literature concerned with the most equitable and efficient way of financing university education has expanded rapidly in recent years.[23] A common feature of the suggested models is that they are claimed to be superior to large-scale direct public subsidisation of university education in solving capital and insurance market failures and, hence, the resultant under-investment in human capital from a social perspective. This theory-based discussion has gained further support from simulations of the consequences of (partially) replacing public subsidies with the proposed financing schemes.[24]

The solutions dominating the literature suggest a balanced combination of (higher) tuition fees, grants and student loans in order to avoid increased inequality in access to and enrolment in universities. Although the models typically reflect divergent views on the optimal balance between these financing modes, they mediate an impression of widespread agreement concerning the equity role and, hence, the needed structure of grants and other kinds of financial assistance. More precisely, these interventions should be means-tested so that they can be targeted at students from poorer backgrounds to counterbalance any inequitable effects that may arise from the organisation of tuition fees and/or student loans.

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[23] For early contributions, see Friedman (1962), Nerlove (1972, 1975) and Schultz (1972). A selection of more recent references is: Barr (1991, 1993, 2001, 2004), Chapman (1997), Oosterbeek (1998), Jacobs (2002), Dur *et al.* (2004), Greenaway and Haynes (2004), Johnstone (2004), Palacio Lleras (2004), Shireman (2004), Jacobs and van der Ploeg (2006), Migali (2006) and Teixeira *et al.* (2006).

[24] See *e.g.* Jacobs (2002) who reports extensive simulation outcomes for the Netherlands, and Vandenberghe and Debande (2005b) who present results from similar calculations for Belgium.

The study financing literature provides strong support for the use of student loans (debt financing).[25] Apart from improved efficiency and equity, benefits are seen to accrue also in the form of reduced public funding. But despite a strong rationale for increased use of student loans, it has also been noted that this is not necessarily a preferred solution in all institutional settings and especially not in countries with very progressive income taxation systems, unless full fiscal deductibility is allowed for the costs of the student loan (Debande 2003).

The literature advocating in favour of student loans, however, conceals a multitude of divergent views concerning principally all key parameters of a loan, including the criteria to be implemented in each case: means-tested loan or not; performance-dependent loan or not; type of costs to be covered by the loan – tuition fees and/or living costs; interest rate or not; and terms of repayment. Of all these dimensions, the last two have received particular attention. The equity discussion surrounding the interest rate on student loans is twofold in the sense that it focuses on two distinct questions. First, should interest rates be charged on student loans? Both those opposing and those in favour of interest rates refer to equity aspects. A zero interest rate is a subsidy to the borrower. Those advocating positive interest rates argue that such a subsidy increases inequality because of the over-representation of university students from higher socio-economic backgrounds. Those defending zero interest rates, in contrast, emphasise the typically longer repayment period of students from lower-income families, which induces an equity-enhancing re-distributive effect between borrowers from different social backgrounds (*cf.* Biffl and Isaac 2002). Second, should interest rates on student loans be subsidised or not? Although the focus has been primarily on the adverse selection and moral hazard problems faced by private capital market actors and the role of interest-rate subsidies in mitigating these problems, equity aspects arise also in this context.[26] Most important, interest-rate subsidies, especially if targeted at students from poorer backgrounds, are seen to have a socially equalising impact on attitudes towards borrowing for funding one's studies. Others argue that this effect should be aimed at through the repayment arrangements and not by means of subsidised interest rates.

Based on the terms of repayment the government-supported student loans can be divided into two broad categories: mortgage-type loans and income-contingent loans. While the former stipulate repayment in fixed instalments over a fixed period of time, the latter allow repayment in the form of a certain proportion of the student's earnings upon graduation. Proponents of income-contingent loans emphasise that the ability-to-pay-dependent repayment period introduces an element of flexi-

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[25] Apart from the theory-based references in footnote 23 above and the literature referred to in the text, student loans schemes are comprehensively discussed in Chapman (2006). Also see Guille (2002), Debande (2004) and Ziderman (2005).

[26] Also the adverse selection and moral hazard problems may involve equity aspects in the form of distortional income redistributions (*e.g.* Jacobs 2002). The relative importance of these redistributive effects is subject to some controversy, though (*e.g.* Jacobs and van Wijnbergen 2005).

bility that responds to all those core features that are commonly stated to be crucial for a well-functioning student loan scheme. From an equity point of view income-contingent loans are claimed to reduce both the dependency on family support and the risk and debt aversion of prospective students from socially more disadvantaged backgrounds as the loan covers both tuition fees and living costs while the repayments are balanced against the realisation of the economic benefits of the investment, allowing also for deferment and forbearance. Potential adverse selection problems arising from the costs of default (non-repayment) being shared among the graduates (risk pooling) can, it is argued, be mitigated by shifting part of the default risk to be born by the taxpayers, that is, by use of *ex post* rather than *ex ante* tax-financed education subsidies. This risk shifting option would thus partially reintroduce the mixing of education and income redistribution policies that the large-scale public subsidies are criticised for to pursue.

Alternatives to student loans have also been proposed. One much debated solution is the graduate tax, which can be viewed as a kind of equity financing.[27] Broadly speaking it advocates a universal public grant that covers both tuition costs and maintenance and that is repaid by the graduates through a special income-contingent tax. Apart from recouping the costs of grants, today born by the taxpayers and hence potentially regressive in nature, the graduate tax is also thought to equalise the starting positions of students from different social backgrounds by awarding the same grant to all students. Opponents, on the other hand, consider this lack of a differentiation between students from different family backgrounds as a notable disadvantage. The graduate tax has been criticised for being unfair also because it is open-ended in the sense that high-earning graduates are expected to repay an amount that substantially exceeds the full costs of their studies and that will be used to subsidise the costs incurred by low-earning graduates, who thus do not fully pay back their education cost. Proponents, in contrast, regard this redistribution of lifetime incomes as a desirable insurance element of the system.

The few studies having applied formal analysis to the problem of optimal financing of risky university education and to the proposed theory-based solutions have concluded in favour of a graduate tax based scheme. García-Peñalosa and Wälde (2000) argue that the graduate tax is preferable both to the traditional tax-subsidy system, the pure loan scheme and the income-contingent loan system due to its superior insurance properties. This overall conclusion has gained further support from more recent analyses that also account for the microeconomic causes – adverse selection and moral hazard – underlying capital and insurance market failures.[28] The gradu-

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[27] See *e.g.* Dietsch (2006) and the references in footnotes 23 and 24.

[28] Also see Chapman (2006) who compares the various forms of income-contingent financing instruments and contrasts them against a host of economic issues such as adverse selection, moral hazard, allocative efficiency, equity and administrative feasibility while simultaneously illustrating how fundamental the operational and design features of the different schemes are for the potential efficacy of funding reforms.

ate tax is the preferred solution of Cigno and Luporini (2003) for financing a scholarship that is dependent on both need and merit. Also the optimal solution derived by Jacobs and van Wijnbergen (2005) boils in practice down to the use of a graduate tax, the superiority of which is corroborated by their calculations for the Netherlands of the likely consequences of replacing the country's loan system with a graduate tax.

So far no country has implemented a pure graduate tax, though. Those three countries coming closest to a graduate tax – Australia, New Zealand and, most recently, the UK – have preferred a deferred tuition fee system which has been evaluated to involve lesser disadvantages than the graduate tax (*cf.* DfES 2003a). A deferred fee system means that the student can pay the tuition fee up-front or defer the payments until after graduation whereby the repayments are made through the tax system contingent on the graduate's ability to pay.

5 STUDENT FINANCING SCHEMES IN EUROPE AND THEIR REFORMS

This section explores the tuition fee and student financing schemes presently in use in a number of European countries, again with the emphasis on equity aspects. It also reviews the equity implications of changes in the finance of university education as reported in country-specific evaluations.

5.1 Student Financing Schemes in Europe: An Overview

Figure 8 gives the proportion of total public expenditure on tertiary education devoted to financial aid to students in 1999 and 2003. Although the observed cross-country differences may partly reflect budget constraints, they also highlight the political willingness in respective country to promote participation in tertiary education as well as the funding mechanisms used and the levels of efficiency achieved in doing so (*cf.* Kaiser *et al.* 1992).

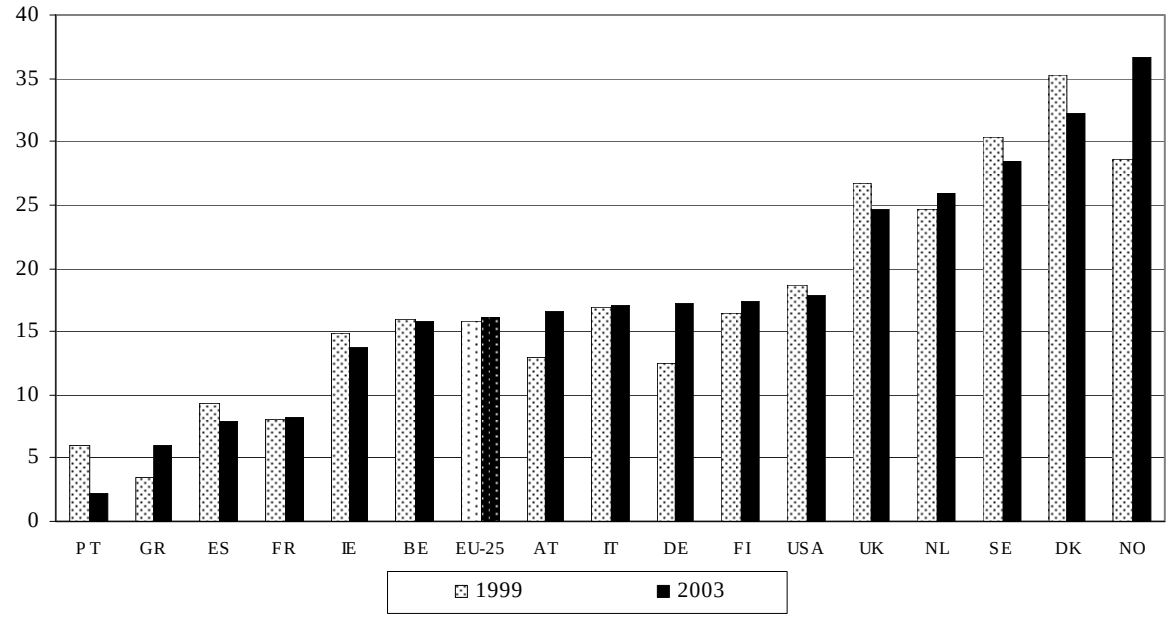
While the EU–25 average is around 16 per cent, the Netherlands, the Nordic countries and the UK reach far beyond it (some 25 per cent) whereas the Mediterranean countries, apart from Italy, and the French-speaking countries rank far below it (around 8 per cent). The rest of the countries, including the USA, form a third group that surrounds the EU average. Moreover, no signs of convergence emerge from the figure: student support has weakened in countries where it was low already in 1999 (Portugal and Spain) and increased further in high-support countries such as Germany and the Netherlands.

But the European countries differ not only in the extent to which they provide their university students with financial aid but also in the way they combine the various support devices: grants, loans, subsidised services, family allowances and tax breaks. Despite this diversity, however, the common targeted goal is to reconcile efficiency and equity[29]; that is, to promote participation in general while encouraging enrolment of prospective students from socially disadvantaged backgrounds. A key question then is whether all these student support schemes represent equally efficient means of attaining the targeted objective. Table 1 of Section 3 suggests that this is not necessarily the case while it also illustrates the obvious need of equity indicators which are harmonised across countries. If such indicators were available, the observed cross-country variability could be used to assess quantitatively the effectiveness of the various adopted financing schemes in equalising access to and enrolment in university studies. But comprehensive harmonised data on direct financial support – not to mention indirect financial support – are missing as well (see the attempt by Kaiser *et al.* 1992). Nonetheless this sub-section attempts to provide a qualitative comparison of European

[29] Jacobs and van der Ploeg (2006) underline the need of fundamental reforms of European universities on efficiency grounds (*e.g.* competition with the best universities in the Anglo-Saxon world) as well as equity grounds (*e.g.* student poverty and transparency).

financing schemes with special emphasis on their equity aspects. Given the ongoing debate, as summarised in the previous section, the focus is on grants and loans.

Figure 8 *Financial aid to students as a percentage of total public expenditure on tertiary education (ISCED 5–6) in 1999 and 2003 for selected countries*



Note: PT=Portugal, GR=Greece, ES=Spain, FR=France, IE=Ireland, BE=Belgium, AT=Austria, IT=Italy, DE=Germany, FI=Finland, UK=United Kingdom, NL=Netherlands, SE=Sweden, DK=Denmark, NO=Norway.

Source: Eurostat database.

The financial aid per student varies considerably across countries ranging from exclusively grants-based schemes to exclusively loans-based ones (Table 3). Some of this variation is certainly due to cultural factors affecting the behaviour of students and the social role played by the family. For the old EU–15 area, Guille (2002) distinguishes between three groups of countries: the Nordic countries with most students living away from home and high shares of students benefiting from both grants and loans; Germany and the Netherlands where financial aid is means-tested against parental resources and provided to large numbers of students; and southern European countries with students mostly living at home as the provided financial support is rather limited.

Grants are in use in all European countries and, hence, are the most widespread form of student aid. There is also broad-based homogeneity in the criteria for eligibility in that grants are predominantly allocated on the basis of some means-testing procedure. Additionally a growing number of countries have introduced performance-based criteria for the renewal of grants. Moreover, public support through grants has increased over the past years, except in Germany and the UK, and most notably in Ireland, Italy, Netherlands and Spain. Common reasons for this increase are revisions of the amounts awarded through grants or increasing numbers of eligible students. But there are obviously country-specific factors at work as well. For instance, the expansion in grants observed for Italy is at least partly linked to the liberalisation of tuition fees since 1996.

*Table 3 Outline of the tuition fee, grant and loan systems in selected countries**

	Fees set by[1]		Grants			Loans							
	Govern-ment	HE institu-tions	Basic	Means tested	Merit	Means tested	Educational awarding criteria	Coverage		Repayment			Interest rate
								Tuition fees	Living costs	Mortgage	Income contingent	Start of repayment	
AU	√			√	√	No loan system							
BE	√			√		Family			Partly			After graduation	3–6% subsidised
DK	√		√			Student			Partly	√		One year after graduation	Danish Central Bank (DCB) interest rate plus 1%
FR	√			√	√				Partly	√		After graduation	Interest free
FI	√		√	√		Student			Partly/ fully		√	To be agreed with the banks	Approx. market with state's guaran-tee
DE	√			√	√	Family	√		Partly	√ with in-come- con-tingent safeguard		5 years after expiration of assistance pe-riod	Interest free
GR	√			√	√	No loan system still in place							
IE	√			√		No loan system in place							
IT	√			√	√	Family	√		Partly		√ partially with a limit of 20% of income	After graduation	Interest free
NL	√		√	√	√			√	√	√ with in-come- con-tingent safeguard		After graduation	Approx. market
PT	√			√	√	No loan system in place							
ES	√			√	√			Autonomous region of Catalonia only.					
SE	√		√	√		Student	√		Partly		√ (4% of income)	Two years after graduation	Approx. market
UK	√			√		Family	Partly	Partly/fully			√ (9% of income)	After graduation	Zero real subsidised
AL	√	√		√				√			√	Not available	Zero real subsidised
CA	√							√	√			Not available	
NZ		√		√				√	√		√	Not available	Approx. market
USA		√						Partly/fully		√		Not available	Subsidised

Note: * AU=Austria, BE=Belgium, DK=Denmark, FR=France, FI=Finland, DE=Germany, GR=Greece, IE=Ireland, IT=Italy, NL=Netherlands, PT= Portugal, ES=Spain, SE=Sweden, UK=United Kingdom, AL=Australia, CA=Canada, NZ=New Zealand. [1] The tuition fee systems in 13 European countries are outlined in Appendix Table A1.

Sources: Debande (2003), Vossensteyn (2004) and Ziderman (2005).

Table 4 State assistance by student category in selected countries[1]

	Loans and grants: loans as a mode of state assistance, in %	**State assistance as a percentage of the students' total monthly income**		**Percentage of students receiving state assistance**				**Average monthly amount of state assistance, in Euros**				**State assistance differentials: students maintaining their own household[2]**	
		Students maintaining their own household	Students living with parents or relatives	All	Students maintaining their own household	Students living with parents or relatives	Parents with less than upper secondary education	All	Students maintaining their own household	Students living with parents or relatives	Parents with less than upper secondary education	Low education background	High education background
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**
AU	0	9	8	27	28	22	41	343	366	48	404	171	39
DE	50	13	12	23	28	19	31	352	367	270	405	168	56
ES	0	8	7	23	28	21	29	134	185	104	142	118	58
FI	34	30	18	71	79	71	75	427	339	220	402	93	99
FR	0	29	23	53	72	29	61	278	270	304	349	121	83
IE	0	11	11	31	35	26	47	317	345	247	325	146	51
IT	0	-	-	9	-	-	14	159	-	-	162	-	-
NL	40	27	34	62	74	94	61	342	365	195	361	93	107
PT	0	8	11	24	27	23	-	-	214	179	186	118	98
UK	-	52	49	85	86	79	-	694	719	604	-	-	-

Notes: [1] AU=Austria, DE=Germany, ES=Spain, FI=Finland, FR=France, IE=Ireland, IT=Italy, NL=Netherlands, PT= Portugal. [2] Students from families with, respectively, a low and a high educational background are compared with respect to their income from state assistance (national average = 100).

Source: EUROSTUDENT Report 2005, Fig. 23, 23.1, 24, 25, 26 and 27.

One important source of the European diversity relates to the coverage of grants. Although Table 4 is far from complete, it reveals large cross-European variation in coverage rates. Broadly speaking, grants are targeted at a small proportion of students in Mediterranean and French-speaking Europe while they are awarded to most students in the Netherlands and the Nordic countries.

Student support schemes combining grants and loans have been adopted in a number of countries with the aim of making the students independent of parental assistance.[30] Student loans, however, are used to a much lesser extent in Europe than in non-European Anglo-Saxon countries such as Australia, Canada, New Zealand and the USA. The only exceptions are the Netherlands and the UK where loans are today the most important component of financial aid to students. Some European countries have clearly failed in setting up a student loan scheme. The loan system introduced in France in 1991 is considered to have been a failure as only a very limited number of students resort to it.[31] The student loan system introduced in Greece in 1991 was abolished in 1995. An experimental loan system has been introduced in Spain but it has been adopted only in the Autonomous Region of Catalonia. Similarly, Portugal recently introduced a state-subsidised loan system but it was never implemented.

As with grants, those countries that resort to student loans as a support device display quite a variable set of schemes, which may at least in part be explained by differences in the targeted equity–efficiency trade-off. A comparison of countries with respect to eligibility criteria and subsidisation policies could shed some light on the equity dimension of the various schemes in use. Two key features thereby emerge. Student loans usually imply a financial commitment by the government in the form of subsidised interest payments, guarantees against default, etc. More important, the award of publicly subsidised loans is in general means-tested implying that it is basically intended for students from a low-income background.

A common European feature is that only students eligible for grants have access to loans. However and as already noted above, grants are themselves typically means-tested implying that students are eligible for grants only when the family's income is below a given threshold. For loans this means that below the specified threshold, the amount a student is entitled to will be inversely proportionate to parental income. There are, however, several notable exceptions to this general rule. In the Nordic countries (Denmark, Finland, Sweden), the means-testing of eligibility for grants and, hence, for loans is based on the student's own income and not on that of the family unit. In the Netherlands, all students receive a basic grant, the amount of which is independent of parental income but dependent on whether or

[30] Nevertheless, parental and job contributions have remained important sources of student income in most European countries (see further Section 6 below).

[31] Around 1 per cent of the students benefits from loans. In 2002 this corresponded to fewer than 600 students.

not the student lives at home. They might also receive a supplementary grant that is means-tested against parental income, as well as a student loan. In reality, both the basic and the means-tested grants are initially provided in the form of a loan, and only if the student completes the degree in a specified duration is the loan converted into a grant.[32] The German system, finally, is noteworthy in that students receive public financial assistance only if their parents are unable to provide sufficient maintenance to cover living costs. Hence, apart from being means-tested against the parents' income the support also depends on whether the student lives at home or not. Half of the amount received is a grant, the other half a loan.

With respect to interest rate subsidies, three groups of countries may be distinguished. In the Netherlands and the Nordic countries where the vast majority of students are entitled to take up loans, students pay an interest rate that is close to the market rate. In the Netherlands, for instance, whenever a loan is not converted into a grant, it has to be repaid subject to an interest rate that is around 2 per cent on top of the rate on long-term government bonds. In countries like Germany, France and Italy, interest-free loans are targeted at students from low-income families. In most other countries, the government is providing some form of interest-rate subsidy, the level of which tends to be related to the financial characteristics of the beneficiaries and the coverage of the loan scheme. Only in Denmark and Finland do students pay all or some of the interest on their loans already while studying. Repayment of loans generally starts only after the student has left the university.

A final question is how successful the different student financing schemes are in attaining the equity target. Table 5.3 represents an attempt to provide a partial answer to this question in that it compares for a number of European countries the proportion of students awarded state assistance and indicators of the students' social status background. The first column replicates the previous notion of grants still being the most widespread student support device in a majority of countries. The next two columns give the share of state assistance in the students' total monthly income, separately for students maintaining their own household and for those living with their parents or relatives. The highly varying importance of state assistance in student income illustrates the different means-testing principles adopted across Europe. A more coherent pattern emerges when looking instead at the proportion of students receiving state assistance (columns 4 to 6): apart from the Netherlands, students maintaining their own household are much more likely to receive state assistance. Also their average amount of state assistance is generally higher (columns 8 to 10). The only exception is France where the average amount of state assistance is higher for students living with their parents or relatives. In Austria, in contrast, these students receive a minor contribution from the state compared with their family-independent counterparts.

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[32] A similar system has been adopted in Norway but a recent evaluation of the undertaken study financing reforms suggests that the impact on the students' incentives to shorten the time-to-degree has been moderate (Aamodt *et al.* 2006).

The socio-economic dimension of student support is contained in columns 7, 11, 12 and 13. Compared to column 4, column 7 suggests that the proportion of students receiving state assistance is throughout higher among those whose parents have less than upper secondary education (the difference observed for the Netherlands is hardly significant). Taking the difference between the proportions in columns 4 and 7 yields a ranking which suggests that Ireland followed by Austria, France and Germany are the most egalitarian countries with respect to the parents' qualification criterion whereas the Netherlands ranks as the least egalitarian country, preceded by Finland and Italy. This ranking, however, is not informative enough to tell whether a well-diversified student support system is truly more profitable to students from socially disadvantaged backgrounds.

Comparing columns 8 and 11 suggests that the average amount of state assistance is typically higher for students whose parents did not continue beyond lower secondary education. Only in Finland do students with low-educated parents seem to receive less from the state than the average student.[33] But this outcome is probably due to the means-testing of grants in Finland being based on the students' endowments, mainly their own earnings, and not on their parents'. Also this comparison places Austria, France and Germany (but not Ireland) among the most egalitarian countries in Europe (*cf.* the shifting ranking of Ireland in Table 5.1).

Columns 12 and 13, finally, report state-assistance differentials for students that maintain their own household but differ with respect to the educational attainment of their parents. These differentials are calculated in relation to the average support beneficiary, the average being normalised to 100. Again the differentials work in favour of students from low-education backgrounds. The only exceptions from this pattern are Finland and the Netherlands, two loan-scheme countries for which students are reported to have increased their paid employment in order to avoid indebtedness (see further Section 6). Taken together these notions clearly show that the parents' educational background is only one of several dimensions that should be accounted for when judging the equity effects of student support systems.

5.2 Equity Effects of Changing Tuition Fees and Student Financing Systems

Due to the lack of harmonised international data, the cross-sectional approach applied above could only allow partial qualitative assessments of the equity dimension of European student financing schemes. Yet, as noted in Section 2, a number of countries have recently changed their finance of university-level education. As a complement to the above analysis, one might adopt a dynamic perspective by exploring the effects of the implemented reforms. Indeed, this is the purpose of the

[33] It may be noted in this context that a recent survey among tertiary education students in Norway reveals that both the share of those receiving state assistance and the amount received increases with the parents' educational attainment level (Aamodt *et al.* 2006).

present sub-section, which focuses on the attempts made to evaluate the equity effects of changing tuition fees and student support devices.

The net direct cost of university-level education that a student or his/her family bears depends on the entry cost, which is mainly determined by the amount of tuition fees and the support provided by the government.[34] Under the assumption that the net direct cost is the main determinant of students' decisions to pursue university studies, one can reasonably expect any change in the financing system to affect the students' willingness and/or opportunity to enrol. Assessing the effect of financing reforms on overall participation rates is of course important. But from an equity point of view it is crucial to also assess whether such reforms affect dissimilarly the participation behaviour of prospective students from different family backgrounds.

If first considering a situation where tuition fees are introduced or raised, the effect will evidently depend on the students' and/or their parents' ability to pay. Accordingly, equity will require that means-tested grants or scholarships are awarded to those who cannot afford the tuition fees with the magnitude of this support determined by the fee elasticity of enrolment. It might also be necessary to adapt the amount of student support to the field of study or to the type of institution in order to counterbalance the tendency of students from lower socio-economic backgrounds to choose shorter, cheaper, less prestigious and less risky educational opportunities in response to tuition fees or cuts in student support (*cf.* Otero and McCoshan 2005). The regulatory authorities may opt for variable tuition fees or give the educational institutions a certain degree of freedom to do so, in which case the amount to be raised will depend on a variety of factors such as the quality of institutions, the popularity of certain fields of study or the earnings capacity they provide students with.[35]

The existing empirical evidence on the effect of tuition fees on enrolment is rather ambiguous.[36] Some studies evaluate the enrolment elasticity to be positive or even non-linearly positive. For instance, US evidence indicates that the higher is the tuition fee, the more is enrolment reduced by further increases in the fee. Australian and European studies, in contrast, provide no support for there being a negative effect of tuition fees on enrolment. Moreover, both European and US evidence suggests that the demand for higher education is rather inelastic for those coming from

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[34] Appendix Table A1 contrasts the amount of tuition fees raised in different countries to the average amount of support to eligible students, be it in the form of grants or loans.

[35] Vandenberghe and Debande (2007) argue that this could also provide a means for limiting the adverse selection problems related to deferred or income-contingent payments of tuition fees.

[36] Relevant references providing country-specific evidence as well as brief cross-country reviews include McPherson and Shapiro (1991), Andrews (1999), Vossensteyn (1999), Chapman (2001), Chapman and Ryan (2002), Biffl and Isaac (2002), Debande (2003), Dynarski (2003), Corak *et al.* (2003) and Ziderman (2005). *Cf.* also Chevalier *et al.* (2007). In their comprehensive study, Otero and McCoshan (2005) conclude: 'Great increases in fees "US-style"[, however,] could in our view have harming effects on access to tertiary education in Europe.´ (p. 53)

wealthier backgrounds but price-responsive for those from socially more disadvantaged backgrounds. Australian and Canadian studies, on the other hand, provide no evidence in support of a negative effect of tuition fees on the enrolment of students from low-income families.

These empirical controversies illustrate the difficulty of evaluating the effects of student financing reforms. Several factors contribute to this unsatisfactory situation. First, the effect will naturally differ between countries because there are different mechanisms in force giving rise to different net effects with these being further influenced by cultural aspects such as the students' behaviour and the social role of the family. Second, the effect may change over time within countries due to changes in the size of the population, the number of eligible students, the proportion of beneficiaries, etc. Third, there is an obvious lack of appropriate data. In many European countries, the undertaken reforms are too recent to allow proper evaluations of the net effect on enrolment of tuition fees backed up with loans and grants. Examples of such countries include Belgium, Latvia, the Netherlands and the UK. And as already noted above, cross-country comparative data on participation in university-level education by socio-economic groups are simply not there. Since the available information does not allow the effects on student behaviour of changes in the financing system to be assessed from broad-based comparisons within and/or across countries, one has to rely mainly on evidence for a few single non-European countries.

In Australia, the Higher Education Contribution Scheme (HECS) Act of 1988 and the resulting 1989 reform introduced a uniform tuition fee. The fee could be paid up front at a discount or repaid only upon graduation through an income-contingent loan scheme with repayments collected by the tax authorities, no real interest rate being charged. The system was revised in 1996 requiring each university to set a fee in relation to each course, up to a national cap. These regulated differential fees replaced the uniform fee in 1997. The system is offered to all prospective students without means-testing criteria and the repayment conditions are independent of the risk characteristics, preferences and abilities of the students. The default risk is transferred to the society (risk-shifting) implying that implicitly the system incorporates an untargeted student subsidy. Several evaluations have concluded that these reforms have had no adverse effect on the participation of students from poorer families. Instead participation has increased in all socio-economic groups also after higher differential fees were introduced. As students from low-income backgrounds are usually taken to be financially constrained especially by the indirect costs of studying, a negative effect could have been expected. The limit in terms of loan amount to the coverage of tuition fees is, however, argued to effectively reduce the students' risk of excessive indebtedness. In his review of undertaken evaluations Debande (2003) concludes that the 1996/97 change of the Australian system promoted neither efficiency nor equity '…since it allows less able students from wealthy families to access top universities on the basis of wealth rather than ability' (p. 41).

Corak *et al.* (2003) conclude that the rise in tuition fees in Canada has not adversely affected the participation of students from low-income backgrounds. On the contrary, only children from the lowest income group were found to have increased their participation rate in university-level education between 1991 and 1997, a period when the tuition fees of some subjects of study doubled or more than doubled. Concomitantly the relative share of students from high-income backgrounds dropped. Children from poorer backgrounds are noted to be nearly as likely as those from middle-income families to attend university. Usher (2006) reports prospective students from low-income backgrounds not to be short of money at the time they are to continue in post-secondary education but rather to evaluate the cost–benefit ratio (i.e. the academic risk) of further education in a systematically different way from wealthier students. Only if they are given some subsidy that increases their subjective rate of return would they see enrolment into tertiary education as a profitable investment. Accordingly he concludes that grants are effective at increasing access of low-income students in Canada.

These Australian and Canadian experiences thus indicate that the introduction of higher (differential) fees does not affect adversely the participation of students from less well-off families especially if backed by fee deferral arrangements. Debande (2003) concludes that this outcome seems to be due to these students being less – not more – debt-averse, as commonly argued in the literature (*cf.* Section 3 above).[37] Indeed, studies for the USA indicate that students from low-income backgrounds show a higher probability of using loans and, hence, of becoming overly indebted especially if ending up as low-income graduates. They also tend to be more poorly prepared to manage their level of indebtedness. US evidence further suggests that, compared to average students, those from low-income backgrounds are more responsive to immediate determinants of the costs of university-level education such as tuition fees and living costs. Results in support of students from poorer family backgrounds being more price-averse than debt-averse have also been reported for New Zealand in the sense that borrowing and debt is shown to decrease when moving up the student's social class ladder. Hence, borrowing is highest where means-tested maintenance grants are most needed.

It is probably this non-European evidence that spurred the European Commission [SEC(2006)1096] to argue: 'The experience of countries that have combined an increase in tuition fees and an increase in student loan facilities suggests that there are no significant adverse effects on equity of access and participation' (p. 26). While the European evidence is still scarce it does seem to point in much the same direction. In the Netherlands, increased tuition fees and a new mix of grants and

[37] There is, however, also evidence in support of these hypothetical contentions. For instance, Opheim (2002) finds for Norway that students from higher social backgrounds tend to take up larger loans than students from lower backgrounds, even when comparing students participating in similar courses of study. They have also been found to be less concerned about the repayment of their loan (Aamodt *et al.* 2006).

loans with more weight on loans did not produce adverse effects in terms of the participation of children from disadvantaged groups. According to Vossensteyn (1999) the reform actually induced more participation from low-income students. The German Student Aid Reform of 2001, in contrast, which aimed at raising the enrolment rates of students from low-income families by increasing the amount of aid they receive, seems to have failed in achieving this goal; a recent evaluation of the reform indicates that it has had a small positive but insignificant effect on enrolment rates (Baumgartner and Steiner 2006).

These two European examples, however, do not necessarily mean that any combination of tuition fees and student loans is a success with respect to equity. In the UK, the implemented combination has resulted in increased enrolment in university-level education but with the proportion of socially disadvantaged groups having remained constant.[38] This outcome is argued to be due to the debt aversion of low-income families.[39] Contrasting this UK result against the diverse Australian, Dutch and US experiences suggests that the degree of debt aversion of students from more disadvantaged backgrounds is a crucial determinant of the equity implications of student loan systems.[40] Notwithstanding this, Usher and Cervenan (2005) argue the general picture to be that countries with well-developed financial support schemes to accompany tuition fees display more equitable access to higher education than many of the countries with 'free' higher education.

[38] DfES (2003b). Also see Galindo-Rueda *et al.* (2004) and Ziderman (2005). Bratti (2006), however, when analysing the relationship between social class and undergraduate degree subject in the UK, concludes that the replacement of student grants with student loans and the introduction of undergraduate student tuition fees granted equal opportunities to students from different social classes in terms of degree subject enrolment.

[39] See the discussion in Ziderman (2005).

[40] An important dimension in this context is the effect of tertiary education financing systems on lifetime incomes. In analysing the effect of the UK reform, Dearden *et al.* (2006) point to significant differences in the financing policy effects.

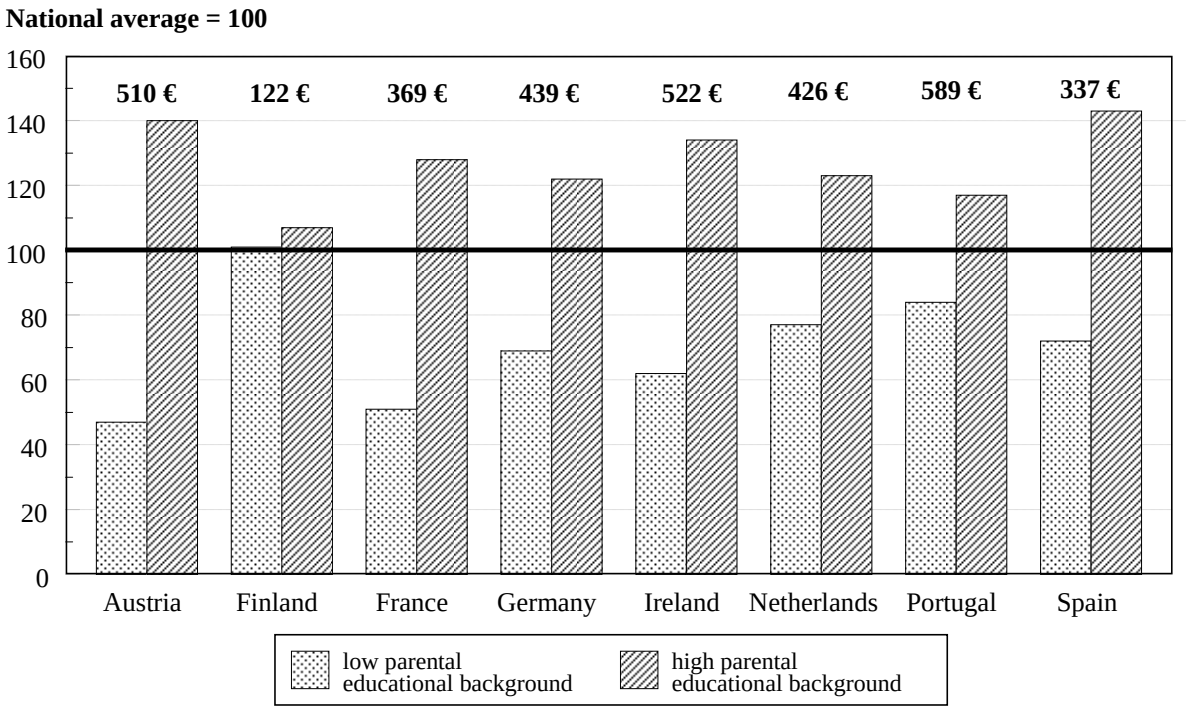
6 PARENTAL CONTRIBUTIONS AND PART-TIME WORK

While the theoretical and empirical literature has been heavily focused on alternative mechanisms for financing higher education, minor attention has been paid to family contributions and part-time work while studying. Yet, these two income sources are still today the most important ones for students. According to EUROSTUDENT 2005 data, parental and job contributions typically cover between 70 and 90 per cent of the total income of students irrespective of whether they maintain their own household or not. The only outstanding exception is the UK (England + Wales) where the joint contribution of parents and personal earnings makes up less than 50 per cent of the student income; this, however, tends to reflect the relatively high costs of studying in the UK rather than UK parents providing less support or UK students working less while studying. Indeed, the share of students receiving parental contributions is recorded to be among the highest in the UK, as is also the share of students with paid employment.

The EUROSTUDENT Report for 2005 also paints a picture of the differences in parental and job contributions between students from different socio-economic backgrounds. Figures 9 and 10 reproduce the reported results with respect to differentials in, respectively, family/partner contributions and student employment rates during term. All countries, except Finland, reveal clear gaps in family contributions between students from less and more educationally-oriented homes. These gaps, however, turn out to be efficiently counterbalanced through various state assistance schemes resulting in a total monthly income that is only marginally influenced by the students' social background.

Figure 10 shows that a substantial proportion of the students work part-time while studying. Moreover, this holds true irrespective of the educational attainment level of the students' parents. The employment rate, however, is typically slightly higher among students from less educationally-oriented homes. Hence, the probability of taking up paid employment does seem to correlate with the students' social background but the strength of this correlation varies quite markedly across the investigated countries and is even reversed for one of the countries (Finland). On the other hand, the displayed socio-economic gaps in student employment rates within and between countries are likely to conceal differences in several key dimensions such as the extent of employment, the level of the earned income and the relation of the job to the studies; factors that may increase rather than reduce the relative importance of job contributions for students from poorer backgrounds. Unfortunately the EUROSTUDENT Report does not provide this type of information by parental background.

Figure 9 *Family/partner contribution differentials for students maintaining their own household, by parental educational background for selected countries*



Notes: The numbers on top of the bars give the average monthly amount of family/partner contributions (cash and intangibles). Information by parental educational background is missing for Italy, Latvia and the UK, as well as for students living with their parents or relatives.

Source: EUROSTUDENT Report 2005, Fig. 23 and Fig. 27.

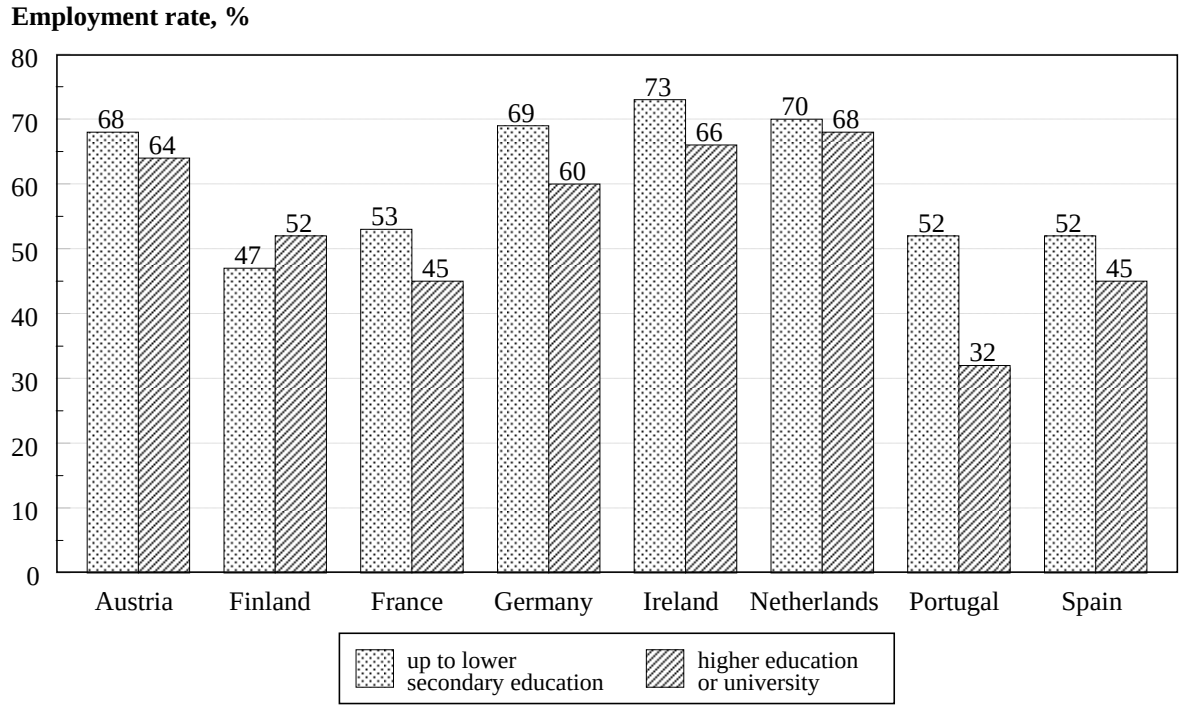
The reasons underlying the widespread habit of university students to combine studies with work are not well known. The students may be forced to take up paid employment because the financial support system is inadequate, because they cannot rely on their parents for financial support and/or because they want to avoid indebtedness by taking up a student loan. These hypotheses have, in effect, received some support in countries like Finland, the Netherlands, Norway and the UK.[41] In addition it has been hypothesised that inefficiently organised education may prolong the duration of studies and, hence, cause a need for extra financing. Part-time working has also been stated to reflect a kind of cultural trend, a wish to be independent.

Some reflections have also been made in relation to the potential pros and cons of being in paid employment during term time. Worries have been expressed that frequent part-time working has a negative effect on the students' academic performance and studying times. Scattered country-specific evidence seems to support also

[41] See Finnish Ministry of Education (2006) for Finland, Vossensteyn (2005) for the Netherlands, Aamodt *et al.* (2006) for Norway and UNITE (2007) for the UK.

these contentions.[42] On the other hand, working already while studying might offer valuable work experience that enhances the student's transition into working life after graduation. Regulating the time that students can allocate to paid employment in order to protect their study performance and cut the time used for completing a first degree, as is the case in some European countries, thus involves an intricate trade-off. Moreover, since paid employment also has an equity dimension, limiting the students' possibilities to work part-time might have an adverse impact especially on the financing situation of students from low-income backgrounds.

Figure 10 Student employment rates during term by parental educational background for selected countries



Note: Information by parental educational background is missing for Italy, Latvia and the UK.

Source: EUROSTUDENT Report 2005, Fig. 36.

In sum, our current knowledge on the extent and content of paid employment while studying, on the one hand, and the reasons for and consequences of combining work with studies, on the other, is stunningly scant especially when it comes to the students' socio-economic background. There is an obvious need to extend both the theoretical and the empirical analyses of student financing schemes to parental and job contributions.

[42] See Asplund *et al.* (2007) for Finland and UNITE (2007) for the UK. Evidence for Norway, in contrast, shows no significant effect of part-time work on the probability of the studies being delayed (Aamodt *et al.* 2006)

7 CONCLUDING REMARKS

Family background still exerts a strong influence on a child's probability of pursuing university studies. Although the expansion in tertiary-level education has improved the absolute prospects of students from low-income families to invest in further studies, it seems to have had minor impact on their relative prospects. In the longer term this persistent inequality in opportunity affects intergenerational income mobility and ultimately income inequality.

Cross-country comparative information on the access to and enrolment in universities of students from different socio-economic backgrounds is still lacking, though. Accordingly there is little knowledge about the extent to which the underrepresentation of students from socially disadvantaged backgrounds varies across countries when it comes to levels as well as past trends. In other words, there is an urgent need to collect data on access and equity from those currently enrolled in tertiary-level education and to compare these data with those from earlier enrolment cohorts. The lack of comprehensive harmonised data should be of concern to policymakers in view of the high priority given to the equity aspect in present-day education policies.

Also missing is comprehensive empirical evidence on the main channels of influence of family background on prospective students' decisions to proceed (or not) to university studies. There is also an obvious need to remedy the inconclusiveness of existing evidence on the relative weight of short-term versus long-term factors in shaping the strong positive correlation observed between socio-economic background and children's educational attainment. Equally important is further research on possible equity consequences of the increasing use of admissions rules, that is, on the capability of the adopted standards to screen student qualities and capacities in a consistent and socially neutral way.

The key role of the above aspects is further stressed by the fact that there is emerging evidence indicating that the influence of family background is working primarily through early educational attainment and cognitive ability rather than having a direct impact on educational performance once enrolled and, hence, on subsequent labour market success. Early evidence for Australia shows that once children of deprived backgrounds have managed to reach the stage of university entrance examinations, they do not seem to fare worse than children of a richer background; the retention and success rates of students from disadvantaged backgrounds were found to be almost 100 per cent (Skuja 1995). UK evidence suggests that there are no major differences in the earnings of similarly educated and similarly able graduates from richer and poorer family backgrounds (Galindo-Rueda and Vignoles 2005). Results for Finland (Asplund *et al.* 2007) and Norway (Aamodt *et al.* 2006) imply that the students' speed of graduation (time-to-degree) is not influenced by the parents' educational background.

No dissimilarity in performance between similarly able students from different socio-economic backgrounds pursuing the same university studies may, however, conceal one dimension of inequality that has so far received only minor attention: are economically disadvantaged students unduly constrained in their choices of universities and/or fields of study in the sense that they tend to opt for less expensive universities and/or courses? The few studies having addressed this question provide unambiguous support for the presence of this kind of inequality of opportunity. For Australia Skuja (1995) finds that students from disadvantaged backgrounds are substantially underrepresented in the more prestigious fields such as medicine, dentistry and law. For the UK Galindo-Rueda *et al.* (2004) conclude that students from poorer backgrounds are less likely to attend 'old' universities. Similar evidence has also been reported for Australia (Skuja *et al.* 1997) and Sweden (Holzer 2006). These findings thus imply that equality in accessibility is necessary but not always sufficient for guaranteeing equality of opportunity in university-level education.

Needless to say, the scarce – and often also inconclusive – present-day evidence on the role of the socio-economic background has implications for policymaking as efficient equality of opportunity enhancing higher education policies require good knowledge about the underlying causes and their relative importance. This kind of evidence is of relevance also when reforming the finance of university-level education and, especially, when introducing or raising tuition fees. Although the price elasticity of enrolment has been estimated to be low, these same results indicate that prospective students from more disadvantaged backgrounds are much more price-responsive than students from wealthier backgrounds. Accordingly, if tuition fees have a dissimilar effect on the enrolment decisions of students from different socio-economic backgrounds or change these decisions in an inequality increasing way, this might affect relative wages and, hence, wage profiles with consequences for the income distribution and, ultimately, the incentives to acquire skills.

Simultaneously recent financing reforms undertaken in several European countries mediate the impression that increased access of those coming from disadvantaged socio-economic backgrounds has not, in the last resort, been a central goal. Equity aspects seem rather to have been a subsidiary objective of not weakening the opportunities of prospective students from low-income families. Possibly one reason for the subordinate role of equity considerations in this context is that they easily result in complex situations as education policies in support of equality in accessibility are commonly matched with redistribution policies (*cf.* Asplund 2007). Indeed, the redistributive implications seem to be a major source of disagreement between the proponents of the various financing reforms suggested in the literature.

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APPENDIX TABLE A1

Countries	Tuition fees	Amounts of grants	Amounts of loans
Austria	• Full-time and part-time students (EU and EEA): 363.36 € per semester. • Students outside EU and EEA: 726.72 € per semester. • Fee to the national union of students: 14.86 € per semester.	• Single student: 424 € per month (5 088 € per year). • Students whose parents have died: 606 € per month (7 272 € per year). • Married students: 606 € per month (7 272 € per year). • Self-supporting students (at least 4 year before study): 606 € per month (7 272 € per year). • Students who have to move: 606 € per month (7 272 € per year). • Students with children: 650 € per month (7 800 € per year).	No loan system
Belgium (Dutch speaking community)	• Fixed part: 145 € per academic year. • Variable part: 5 € to 6 € per credit. • Students receiving study grants: 55 € to 100 € per academic year.	• Student living independently (taking 60 credits): 3 069 € per annum. • Student living with his parents (taking 60 credits):1 842 € per annum. • Student living independently (taking 60 credits) and with a very low income (or families with low income): 4 132 € per annum. • Student living with his parents (taking 60 credits) and with a very low income (or families with low income): 2 673 € per annum.	• Students living away from home: up to 1 000 € per annum. • Students living with their parents: up to 650 € per annum.
Belgium (French speaking community)	• Students at university: up to 726 € per annum. • Students at university receiving study grants: 98 € per annum at minimum. • Students at 'Hautes Ecoles': 151 to 197 € per annum. • Students at 'Hautes Ecoles' receiving study grants: 30.60 € per annum. • For the long programs: 303 to 394 € per annum (only 45.29 € for grants recipients).		
Denmark	No tuition fees.	• Student living independently: 610 € per month at maximum. • Student living with parents: 302 € per month at maximum.	• 310 € per month at maximum.

Finland	No tuition fees.	• Student married or has maintenance liabilities: 259.01 € per month (before taxes). • Student lives alone aged 18 or over: 259.01 € per month (before taxes). • Student lives alone aged under 18: 126.14 € per month at minimum (before taxes). • Student lives with parents, aged 20 or over: 105.96 € per month at minimum (before taxes). • Student lives with parents, aged under 20: 38.68 € per month at minimum (before taxes).	• Student aged 18 or over: 220 € per month. • Student aged under 18: 160 € per month. • Student receives adult education allowance: 310 € per month. • Student studies abroad: 360 € per month.
France	Between 120 and 356 € per year.	• The social grants (BCS): 1 296 to 3 501 € per year. • The Merit based grants: 6 102 € per year. • Grants on university criteria: 3 456 and 4 077 € per year.	• 'Prêts d'honneur': on average 1 500 € per year.
Germany	Roughly 500 € on average per semester, but there is large variability across Landers.	• 'BAfog' (50% as a grant and 50% as a loan): 292.50 € per month at maximum (plus another € 292.50 as a loan). The average is 185.50 € (plus another 185.5 € as a loan). • Students living with their parents: 216.50€ per month (plus another 216.50 € as a loan). • Students living away from home receive an additional sum of 197 € per month (only half as a grant).	
Ireland	• Uniform registration, examination and service charges themselves: 750 € in 2003/2004. • Service charges: 50 to 70 € per year (vary in each university).	• Students living away from their parents: 2 885 € per year at maximum. • Students living with their parents: 1 155 € per year at maximum.	No formal student loan system.
Italy	• Entrance fees for undergraduate studies: 950 to 1100 € per year. • For graduate degrees 'Laurea Specilistica': 1 500 to 1 700 € per year.	• The minimum amount of grant for out-of-town students was 4 000 € per year (during the academic year 2003/2004). • The minimum amount of grant for students living in town was 3 000 € per year (during the academic year 2003/2004).	Loans are regulated by regions.
Netherlands	• Full-time students: 1 445 € in 2003/2004 (1 505 € in 2004/2005). • Part-time students: 567.23 € in 2003/2004.	• Basic grant (student living away from home and takes private or public health insurance): 228.20 € per month (January–August 2004). • Supplementary grant (student living away from home and takes private health insurance): 234.72 € per month (January–August 2004). • Basic grant (student living with parents and takes private or public health insurance): 216.72 € per month (January–August 2004). • Supplementary grant (student living with parents and takes private health insurance): 253.27 € per month (January–August 2004). • Supplementary grant (student living away from home and takes public health insurance): 198.02 € per month (January–August 2004). • Supplementary grant (student living with parents and takes public health insurance): 180.02 € per month (January–August 2004).	253.27 € per month (January–August 2004)

Norway	No tuition fees.	• Students living with their parents: only loan, 984.20 € per month (ten months). • Students living away from home can receive 40% of this amount as educational grant but the grant is dependent upon completion of exam and the student's income.	
Portugal	In 2003/2004, the limits were 463.68 and 852 € per year.	• Students not dislocated from home: between 34.70 and 408 € per month. • Students dislocated far away from family home: 513 € per month.	No student loans.
Sweden	No tuition fees.	67 € per week.	• 128 € per week. • Students aged 25 or more can apply for a supplementary loan of 44 € per week, if they are enrolled full-time and had an income of 18 463 € in the previous year.
United Kingdom (England and Wales)	• For European students who entered tertiary education in 2006/07: up to a maximum of 4 430 € per year. • For previously enrolled European students: up to a maximum of 1 772 € per year. • For non-European students: up to 33 000 € per year.	• The Higher Education grant (available for students who started tertiary education in 2005/06 or earlier): Household income below 23557 €, 1475 € per year. Household income between 23557 and 32386 €, partial grant. Household income above 32387 €, no grant. • The Higher Education Maintenance grant (available for students who started tertiary education in 2006/07): Household income below 25 817 €, 3 983 € per year. Household income between 25 817 and 55 209 €, partial grant. Household income above 55 210 €, no grant.	• Students living away from their parents' home and studying in London (full-year rates): 9 101 € per year at maximum. • Students living away from their parents' home and studying elsewhere (full-year rates): 7 754 € per year at maximum. • Students living at their parents' home (full-year rates): 5 039 € per year at maximum. • Students living away from their parents' home and studying in London (final-year rates): 8 294 € per year at maximum. • Students living away from their parents' home and studying elsewhere (final-year rates): 6 744 € per year at maximum. • Students living at their parents' home (final-year rates): 4 553 € per year at maximum.
United Kingdom (Scotland)	• No tuition fees for eligible Scottish and European students. • Non-Europeans: variable		In 2004/2005: • For mature students and young students living out of the parental home: up to 6 221 € per year. • For young students and young students living in the parental home: up to 4 922 € per year. • Minimum loan regardless of income for students living in the parental home: 805 € per year. • Minimum loan regardless of income for all other students: 1230 € per year.

Note: 1 € = 0.6772 £.

Sources: Vossensteyn (2004), OECD (2006) and www.kcl.ac.uk.

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