



Do changes in cost-sharing have an impact on the behaviour of students and higher education institutions?

Evidence from
nine case studies

VOLUME I:
COMPARATIVE REPORT

**Europe Direct is a service to help you find answers
to your questions about the European Union**

Freephone number (*):

00 800 6 7 8 9 10 11

(*) Certain mobile telephone operators do not allow access to 00 800 numbers
or these calls may be billed.

More information on the European Union is available on the Internet (<http://europa.eu>).

Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2014

© European Union, 2014

Reproduction is authorised provided the source is acknowledged.

Publications Office of the European Union

2014 — 121 pp. — 21 x 29.7 cm

ISBN 978-92-79-38181-2

DOI 10.2766/74065

Contract n° EAC-2012-0529

A report prepared by:



Dominic Orr
Johannes Wespel



Alex Usher

This document has been prepared for the European Commission. However, it reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein

Le présent document a été élaboré pour la Commission européenne. Toutefois, les avis qui y sont exprimés sont ceux des seuls auteurs et la Commission ne saurait être tenue pour responsable de l'utilisation qui serait faite des informations figurant dans le document.

Dieses Dokument wurde im Auftrag der Europäischen Kommission erstellt. Die Verantwortung für den Inhalt tragen jedoch allein die Verfasser; die Kommission haftet nicht für die weitere Verwendung der darin enthaltenen Angaben.

Table of Contents

| | |
|--|-------------------------------------|
| Executive Summary..... | 8 |
| Studying cost-sharing in higher education | Error! Bookmark not defined. |
| Main findings | Error! Bookmark not defined. |
| 1. Introduction..... | 14 |
| 1.1 Background and objective of this study..... | 14 |
| 1.2 Analytical Framework | 15 |
| 1.2.1 Two perspectives on cost-sharing | 15 |
| 1.2.2 Four hypotheses on cost-sharing | 17 |
| 1.2.3 The case-study method | 25 |
| 2. Descriptive Basis: The Setting..... | 28 |
| 2.1 The challenge – enrolment growth | 28 |
| 2.2 A common trend – the increasing significance of private funding..... | 28 |
| 2.3 Student contributions – continuity and policy shifts | 31 |
| 2.3.1 Changes to the number of fee payers and the amounts | 32 |
| 2.3.2 Dynamics of change: continuity versus discontinuity | 33 |
| 2.4 Context | 34 |
| 2.4.1 Demand for higher education | 35 |
| 2.4.2 Institutional autonomy | 36 |
| 2.4.3 Study aid systems | 37 |
| 2.4.4 Strength of the national economy | 38 |
| 2.4.5 Traditions of cost-sharing..... | 40 |
| 3. Implications at the institutional level..... | 41 |
| 3.1 Changes in private funding..... | 41 |
| 3.2 Effects of reforms | 45 |
| 3.3 How institutions react..... | 50 |
| 3.3.1 Changes in academic programming | 51 |
| 3.3.2 Changes in enrolment composition..... | 58 |
| 3.3.3 Changes in outreach practices | 59 |
| 3.3.4 Changes in expenditure | 60 |
| 3.3.5 Changes in quality and relevance..... | 65 |
| 3.4 Conclusion | 65 |
| 4. Implications at the Student Level | 68 |
| 4.1 Changes to student demand..... | 68 |
| 4.1.1 Changes in student costs | 69 |
| 4.1.2 Fees and participation | 77 |
| 4.1.3 Participation of under-represented groups..... | 85 |
| 4.1.4 Fees, completion rates and student success | 93 |
| 4.1.5 Assessment of results..... | 94 |
| 4.2 Changes in mode or programme of study..... | 99 |
| 4.2.1 Fees and changes in study patterns | 100 |
| 4.2.2 Fees and changes in study location | 102 |
| 4.2.3 Fees and time to completion | 103 |
| 4.2.4 Fees and field of study..... | 104 |
| 4.3 Conclusion | 104 |
| 5. Policy considerations..... | 105 |
| References | 113 |
| Appendix: Glossary of Terms | 119 |

List of Figures

| | |
|--|----|
| Figure 1.1: Tuition fees in the context of student expenditures and institutional revenues | 16 |
| Figure 2.1: Change in total number of students at all levels of higher education in all HEI types (1995-2000, 2000-2005, 2005-2010) | 28 |
| Figure 2.2: Growth in shares of private revenues to HEI income (1995-2000, 2000-2005, 2005-2010) | 29 |
| Figure 2.3: Changes in size of age group 18-24 (1995-2010) | 35 |
| Figure 2.4: GDP per capita in euros ppp (1995-2012), constant prices (2011) | 38 |
| Figure 2.5: Expenditure on higher education as a share of national GDP (total and private expenditure), 2010 | 40 |
| Figure 3.1: Per-student income from public funding and student contributions to HEIs (1995-2010, indexed to earliest year available) | 42 |
| Figure 3.2: Per-student income from student contributions to HEIs (1995-2010, indexed to earliest year available) | 43 |
| Figure 3.3: Per-student income from public funding to HEIs, indexed to earliest year available | 44 |
| Figure 3.4: Per-student income by source in Portuguese HEIs (1999-2007) | 45 |
| Figure 3.5: Per-student income by source in HEIs from five fee-charging German <i>Länder</i> (combined, 2003-2011) | 46 |
| Figure 3.6: Per-student income by source in Austrian HEIs (2004-2010) | 47 |
| Figure 3.7: Per-student income by source in English HEIs (1995-2011) | 48 |
| Figure 3.8: Annual per-student expenditure of HEIs excluding expenditure on research and development (2005, 2010) | 61 |
| Figure 3.9: Students per academic staff (1995-2012, indexed to earliest year available) | 62 |
| Figure 3.10: Students per academic staff in reforming jurisdictions (2001-2011) | 64 |
| Figure 4.1: Fees at public HEIs in case-study countries (1995-2010) | 71 |
| Figure 4.2: Fees at private HEIs in three case-study countries (1995-2010) | 71 |
| Figure 4.3: Net fees, public institutions only (1995-2010) | 74 |
| Figure 4.4: 'Out-of-pocket' fees, public institutions only (1995-2010) | 75 |
| Figure 4.5: Total enrolments, indexed to 1995 | 79 |
| Figure 4.6: Total enrolments in university sectors (1995-2010) | 80 |
| Figure 4.7: Enrolment in jurisdictions with discontinuous rises in tuition, indexed to year of discontinuity | 81 |
| Figure 4.8: Enrolments in German <i>Länder</i> according to presence/absence of fees, (2003/4 – 2010/11, indexed to 2006) | 82 |
| Figure 4.9: Accepted applications, by country, UK (2008-2013, indexed to 2008) | 83 |
| Figure 4.10 Applications by country, UK (2008-2013, indexed to 2008) | 84 |
| Figure 4.11: Changes in English applications by race (2008-2013, indexed to 2008) | 87 |
| Figure 4.12: Changes in English acceptances by race (2008-2013, indexed to 2008) | 88 |
| Figure 4.13: Shares of total enrolment by socio-economic status, Austria (1998-2011) | 89 |
| Figure 4.14: Entry rates by income quintile, England (2004-2013) | 90 |
| Figure 4.15: Change in participation by family income quintile, Poland (1994-2008) | 91 |
| Figure 4.16: Application rates by age band, England (2008 to 2013, indexed to 2008) | 92 |
| Figure 4.17: Ranges of ratios of average wages of higher education and secondary school graduates (1998-2010) | 99 |

List of Tables

| | |
|--|-----|
| Table 1.1: Key characteristics of all nine case-study countries | 27 |
| Table 2.1: Importance of private sector in case-study countries (2010) | 31 |
| Table 2.2: Change in tuition fee policies in case study countries 1995-2010 | 31 |
| Table 2.3: Overview of tuition fee policy change in the period of investigation | 34 |
| Table 2.4: Context factors influencing cost-sharing strategies | 35 |
| Table 3.1: Countries' autonomy in programme setting and enrolment regulation..... | 52 |
| Table 3.2: HEI autonomy in programme setting and enrolment regulation..... | 54 |
| Table 4.1: Changes in student assistance | 72 |
| Table 4.2: Total annual costs to students, in euros | 76 |
| Table 4.3: Increases in funding per student, by source, in euros | 77 |
| Table 4.4: Total enrolments (1995-2010)..... | 78 |
| Table 4.5: Participation rates in case study countries, best four years (1995-2010)..... | 85 |
| Table 4.6: Trends in participation by specific demographics | 86 |
| Table 4.7: Examples of fee payment exemptions in case study countries..... | 95 |
| Table 4.8: Trends in part-time student status | 101 |
| Table 4.9: Trends in age-profile of the student body | 102 |
| Table 4.10: Trends in study location | 103 |
| Table 4.11: Trends in time-to-completion patterns | 104 |

Acknowledgements

In various ways, numerous researchers from around the globe have provided input to this project, which the authors gratefully acknowledge. The authors would like to thank in particular our international advisors D. Bruce Johnstone, Jan Sadlak and Jamil Salmi for providing their expertise at various stages of the project; it was invaluable for designing the study and conducting the analyses on which this final report is based. Furthermore, the authors would like to acknowledge the support in data research and interpretation provided by the national experts: Martin Unger and Jakob Hartl (Austria), Alison Johnston (UK-England), Jussi Kivistö and Elias Pekkola (Finland), Tamás Kozma, József Temesi and Zsuzsanna Veroszta (Hungary), Cezary Kościelniak (Poland), Luisa Cerdeira (Portugal) and Hwanbo Park (South Korea). Finally, the authors would like to acknowledge the contribution of Lori McElroy, Pamela Marcucci and Ronja Wöstheinrich, who helped conduct background research and improve the national and comparative reports.

Executive Summary

Higher education systems have been and are still faced with the task of accommodating growing numbers of students without compromising the quality of education, and without creating undesirable inequalities in access and completion. It is in this context that governments have been adjusting the balance of public and private resources with the goal of achieving more inclusive, more effective, and more sustainable higher education systems. Internationally comparative data sets show that over the last two decades, there has been a general shift towards larger shares of private funding of higher education (see Chapter 2). This shift was achieved largely through raising additional or higher revenues from tuition fees (sometimes termed 'student contributions').

The concept of 'cost-sharing' is used here to investigate this shift in the balance of public and private funding. Changes in the way costs are shared can take several forms, including the introduction of tuition fees where they did not previously exist or a sharp increase where they already did. They can also involve a reduction or even a freezing of student grants or student loan subsidies (reductions in student aid also constitute an increase in the private funding necessary to cover educational and living costs), but also public policies that encourage enrolment shifts from a heavily subsidised public sector to a much less subsidised, fee-dependent private sector.

Looking at cost-sharing from the student perspective, the study focusses on student net-costs, i.e. total costs borne by a student after consideration of tuition fees and compensatory study aid. Even in countries without tuition fees, there is still a substantial amount of cost-sharing because no higher education system covers students' educational and living costs completely. It is surmised that an increase in private costs to students will impact on the behaviour of students.

The study also looks at the institutional side of cost-sharing and investigates the changing balance of public and private revenues for higher education institutions (HEIs). From the perspective of HEIs, cost-sharing involves changes to the share of public and private funding as income sources (and thus the respective role of tuition fees, contract income, philanthropic donations, etc. as opposed to state funding). Since a change to this balance affects the relative importance of these sources, it is assumed that it will also change the behaviour of HEIs.

Reflecting on the expected impacts on student and HEI behaviours of changes to the cost-sharing balance, the study is framed by four hypotheses as part of a single comprehensive policy analysis model. The hypotheses pick up on key aspects of sustainability, effectiveness and equity of tuition fee policies in higher education.

- *Hypothesis A:* As private funding increases, total revenue of HEIs increases.
- *Hypothesis B:* As the incentives to earn private funding increase, HEIs become more responsive to student demand.
- *Hypothesis C:* Increasing private funding has a negative effect on student demand.
- *Hypothesis D:* Increasing private funding affects student choice of how and what to study.

To investigate how public and private funding changed and what impact various changes have had on the behaviour of HEIs and students, the authors carried out nine systematic country case studies – seven countries from the European Union and two from outside Europe (Austria, Canada, England, Finland, Germany, Hungary, Poland, Portugal and

South Korea). This selection of countries provides a variety of settings in which to investigate the effects. Different countries were chosen according to the following criteria: geographic coverage, economic strength, population size, enrolment numbers, share of students in private higher education, degree of public funding of institutions, changes to private funding, tuition fee policy, and student financial aid provision.

It was surmised that the countries with the biggest and most rapid shifts in tuition fee policy would be most interesting for the study, since such shifts could be expected to have greater impact on student and HEI behaviour than a generally stable tuition fee policy. For this reason the cases were split into 'discontinuity countries' (Austria, England, Germany and Portugal) and 'continuity countries' (Canada, Finland, Hungary, Poland and South Korea) for the analysis. The table below presents a summary overview of the country patterns (a detailed overview of the developments can be found in Table 2.2 of the main report).

Overview of tuition fee policy change in the period of investigation

| | | | |
|---------------------------------|---|-----------------|---|
| Share of fee-paying students | | | |
| Increased | | | England 1998 England 2006 Germany 2006/07 Austria 2001 |
| Stayed the same | | Finland | Portugal 2003 (England 2012)* South Korea Canada |
| Decreased | Poland Austria 2009 Germany 2011-2013 | | Hungary |
| Average amount paid per student | Decreased | Stayed the same | Increased |

Note: When no year is given it means that any change was gradual. (England 2012)*: The 2012 tuition fee reform in England is outside the period of investigation of this study, but will be included where data are available and relevant for the purpose of this study.

For each case study country, a detailed national report assembles all the elements of the respective cost-sharing system to fully portray the balance between public and private sources of revenues (see National Reports in the main appendix).

Main Findings

From the analysis, we can make the following observations with respect to how changes in fees affect students and institutions:

Higher education data systems remain incomplete

The state of the data needed to reasonably assess the state of access to higher education is in many countries fairly poor. In some countries – notably Hungary and Poland – even obtaining simple information about institutional income sources is nearly impossible. Furthermore, even tracking the level of tuition fees which are actually paid remains difficult in some jurisdictions. This situation presents a constraint for policy-based research on a national level, but makes studies aiming to provide a robust evidence base on a cross-national level even more challenging. The conclusions drawn from this study must be viewed in the light of this fact.

The introduction of tuition fees usually makes the system better-off overall, by increasing the total amount of resources available

The study concludes that as private funding for institutions increased, public revenues did not tend to decrease, bringing about an overall increase in institutional income (Hypothesis A, see Chapter 3). The hypothesis was tested using per-student income from public and private sources as a basic indicator. It was found that for most countries and periods of time, the hypothesis can be verified. The few periods of decreasing public per-student income corresponded to phases of either economic crisis (Canada in the 1990s) or massive enrolment growth (Poland in the 1990s to early 2000s, Austria in the late 2000s). In these specific cases, overall student funding (public and private funding combined) also decreased, i.e. private funding was not used to compensate for this.

Most interesting from a policy evaluation perspective are cases in which governments had the goal of bringing about shifts in the cost-sharing balance. Such attempts were made in four of the case study countries: Austria, England, Germany and Portugal. It was shown that from a purely financial point of view, the tuition fee reforms in Germany and Portugal were comparatively modest in scope. Their aim was to provide the system with more funds, without fundamentally altering the predominance of the public sector in higher education funding. The analysis showed that this objective was achieved in Portugal and to some degree in Germany. In Austria, the initial goal of introducing tuition fees appears to have been to bring about a net shift in the cost-sharing balance rather than to increase the funds available to the system. If this is the correct interpretation of the underlying policy goals, then the Austrian reform can be considered a (short-lived) success: the introduction of tuition fees changed the cost-sharing balance, but did not lead to an increase in overall funds for institutions. In England, in contrast to the other three 'discontinuity countries' studied here, the tuition fee reforms successively transformed the system into a model in which private contributions serve as a mainstay of institutional funding of higher education. Particularly the most recent reform from 2012 (which cannot yet be evaluated sufficiently because it is so recent) shows a clear shift to private funding of higher education – with liquidity and affordability problems being alleviated through a comprehensive public loan scheme.

The resources gained through new fee-derived income are not always invested in ways that would be expected to perceptibly improve the student experience

We note that across a number of case studies, the tendency over time was for students-per-staff ratios to rise, even when institutional income per-student was rising. This is a question of HEI behaviour investigated using Hypothesis B (see Chapter 4). The most extreme example of this was in Canada, where student-teacher ratios rose detrimentally by 20% even as per-student income rose by 40%. Thus, while it may be true that fees make institutions better off, they do not necessarily make for a better student experience, even when per-student income is rising.

There are three main reasons why this is so. Firstly, in some cases, new funds are dedicated to expansion rather than improvements in quality. Thus, new money is devoted to giving the same experience to more people rather than a better experience for the same number of people. This is a legitimate policy goal, but it can lead to claims that "students are paying more but not getting more" – which would be true at an individual rather than an aggregate level. The second is cost-inflation for academic staff, which increases the costs per student and thus contributes significantly to the phenomenon of extra funds not buying perceptible improvements.

In some countries there is a third factor at work – expenditure has increased on non-instructional activities. This was particularly true in Canada and England. This expenditure may be for administrative or management tasks. Research activities have also taken on greater importance for both governments and institutions over the past

fifteen years or so, partly as a response to economic changes favouring knowledge-intensive sectors and partly in response to prestige-competition that has emerged with the arrival of research-centred global rankings. Undoubtedly, greater investment in these areas is beneficial for faculty, can contribute to scientific advances and may lead to important economic spin-offs. However, to the extent that these greater investments are effectively being subsidised by higher student fees, this can be seen as a diversion of resources from what students perceive as the task at hand – namely, educating undergraduates.

HEIs' behaviour is not necessarily affected by the availability of fee income

One common argument on the effect of fees is that they make higher education institutions more responsive to market demand. However, this is likely based on a simplistic view of the value and incentive structures of higher education institutions and especially universities. According to evidence collated through Hypothesis B (see Chapter 3), our case studies do not support this assumption – or at least not universally. The determining factor is not the mere presence of fees, but the structural incentives which surround the fees.

In essence, the likelihood of HEIs increasing efforts to attract new students once fees are introduced depends on the following external factors:

- *The shape of competing financial incentives.* Where institutions are already funded on some kind of a per-student basis, fees are unlikely to change behaviour much, since institutions will already be geared towards attracting students.
- *The shape of competing prestige incentives.* Universities are not really income-maximising institutions; rather they are prestige-maximising institutions. In some countries, those two goals go hand in hand, since money can translate into prestige in a number of different ways. In Canada, England and South Korea, for instance, institutions seem quite willing to engage in commercial behaviour in order to increase income. But in Austria and Germany, where institutions have considerable freedom to raise income through teaching continuing and professional education courses, they have chosen not to do so despite its revenue-enhancing potential, because it is seen as largely outside of their mission and not prestige-enhancing.
- *The continuity of government policy-making.* In Austria, Finland and Germany, we heard that higher education institutions delayed the pursuit of major investments to ensure success under new government plans (e.g. in expanded international recruitment in Finland), because the institutions did not expect the policy change to be permanent. In the cases of Austria and Germany, policy did indeed change, whilst the final decision on international student recruitment will not be made in Finland until 2015, when a trial period in selected fee-charging programmes will have ended.

Real responsiveness does not result from putting private funding into public university systems; it comes from permitting new institutions to evolve

The findings do not fully support the assumption that HEIs, which receive more funds from private users, become more responsive to their needs and requirements (Hypothesis B, see Chapter 3). It should be noted that in Austria and Germany, two of the discontinuity countries, increasing responsiveness was not an explicit objective of the tuition fee reforms.

On the whole, few indications of increased responsiveness were found, using the proxies available to investigate this issue. This applies to countries with continuous and discontinuous cost-sharing policies alike. At the same time, the study found that HEIs rarely have the high level of autonomy that would allow them to alter their patterns of provision or activities in a radical way. Another way to see this is that institutional steering at a distance makes it possible for higher education policy to retain a certain

amount of control over HEIs in jurisdictions with some elements of market forces in the higher education system and/or with market-like mechanisms in public funding models of HEIs.

Rather, it is the planned introduction of either private universities or new, specific types of public institutions which seem to make the most difference in this area. One can see this with respect to private universities in Hungary, Poland and South Korea; in all three of these countries, significant fluctuations in enrolments by fields of study were evident, apparently all labour-market driven. But introducing private universities is not the only way to achieve this. In Finland, an entirely new system of polytechnics (*ammattikorkeakoulu*) was introduced. These new institutions taught a very different set of subjects and absorbed roughly four-fifths of system growth between 1995 and 2010. In Austria, well before the introduction of tuition fees, *Fachhochschulen* based on the German model were introduced, and this accounted for roughly two-thirds of all system growth. As in Finland, these institutions offered a different palette of programs and hence changed the overall profile of higher education. And in Germany, by design, enrolments in *Fachhochschulen* grew much faster than those of universities, with similar results to Austria. Thus, in these cases, changing user demand tended to be accommodated at system level rather than through increased responsiveness of existing HEIs.

Unless the magnitude of change is exceptionally large, rises in fees seemingly have no detectable negative effect on aggregate demand and enrolment

The negative effects of rising private costs to student demand are much smaller than is commonly assumed (Hypothesis C, see Chapter 4). Almost without exception among the case studies, participation rates rose throughout the analysis period regardless of fees policy; to the extent that when declines in actual enrolments were detected, they were nearly always the result of demographic change rather than a negative change in participation rates. Indeed, in some countries (notably Poland and South Korea), the ability of HEIs to charge fees quite clearly facilitated quantitative expansion to higher education. The only places and times where participation rates do not seem to have increased in the period covered by the study are Hungary between 2005-2010, where a dual fee structure was in place but no real change in fees occurred, and Finland in the same period and where no fees were payable. Therefore, the balance of evidence accumulated through case studies suggests that, given the high level of personal benefits of higher education, relatively small movements in fees have little to no negative effect on participation rates. On the contrary, to the extent these funds are re-invested in creating more spaces, they can have a beneficial impact. The only clear-cut example of a fee rise affecting demand is England in 2012 (outside the main period covered by the study), following a fee increase of over €8000.

Accessibility is not just a question of how many people attend higher education; it is also a question of who gets to attend. One might reasonably expect that even if fees had little to no effect on overall participation rates, they still might have had effects on the composition of the student body. This is not a hypothesis that can be entirely ruled out; unfortunately, most countries' national statistical systems are weak when it comes to measuring participation by sub-groups such as family background, social class or ethnicity. However, available data suggest that changes in fees i) have no effect with respect to the gender composition of the student body (female numbers rose faster than males ones in all nine countries), ii) have little to no effect on the proportion of students drawn from lower socio-economic backgrounds, and iii) have little to no effect on the ethnic composition of the student body.

With respect to the age composition of the student body, we find very little evidence of change in eight of our nine case studies. However, in England, the data shows that in the extreme case of a nearly €8000 increase in fees, while the effects among 18 year-olds

are close to nil, they are strongly negative for older age categories. This is to some degree consistent with human capital theory, i.e. assuming that prospective students make decisions based on their estimates of future returns on their investment. However, in contrast to this theory, the effect does not appear to worsen with age (i.e. the effect on 19-20 year-olds was about the same as it was for 40 year-olds). To the extent that students who delay attending university come disproportionately from lower social groups, this age-related effect of fees may in fact be a socio-economic effect in disguise.

The question of the effects of fees on student persistence (completion of studies) was also investigated. Only four countries were able to provide any data at all on this question; where data was available, there was no indication that fees had a negative impact on persistence. The only country where a negative tendency could be perceived was in Finland, and since this country has no fees, other factors must be at work.

Study aid matters

In the context of investigating student enrolment (Hypothesis C), we looked at enrolment in connection with changes to the net costs for students (i.e. total costs minus study aid of various forms). As has been noted already, increases in fees have had few effects either on total enrolments or on most vulnerable populations such as students from low social backgrounds. This may be explained by the fact that, with few exceptions, rises in fees tend to have been accompanied by rises in offsetting forms of study aid. In England, for instance, rises in tuition fees were fully offset by loans; in Canada, rises were for the most part offset by changes in grants and tax credits. Poland and South Korea also had significant increases in study aid (grants in the former, loans in the latter) during the period under consideration. In Austria, all recipients of need-based grants were eligible for an additional type of aid refunding tuition fees. Finnish HEIs charge no fees at all, but the country has a substantial student support system, which is certainly one reason why participation rates in Finland are among the highest in Europe. In short, the evidence amassed in this research confirms that looking at (changing) fee levels in isolation is insufficient to explain (changes in) participation or study behaviour; at the aggregate level, it would appear that students are more sensitive to the balance of fees on the one hand and student aid on the other hand.

Cost-sharing strategies call for integrative approaches to institutional funding and student aid

This study made an effort to bring together the institutional and the student side of cost-sharing in higher education. Importantly, each of these components, even when considered separately, is embedded in a structure of interrelated factors conditioning institutional and individual behaviour. Few of the cost-sharing systems investigated in this study give the impression of pursuing policies in which these interrelations are fully acknowledged. A central consideration for policy development is, therefore, how to draw-up comprehensive cost-sharing strategies, which coordinate the regulative and incentive structures effective for institutions and students (and, ultimately, other stakeholders) in a coherent fashion.

1. Introduction

1.1 Background and objective of this study

Higher education systems have been and are continuing to be faced with the task of accommodating growing numbers of students without compromising the quality of education, and without creating undesired inequalities of access. The Council of the European Union stated in its strategy document for 2020 that “high quality will only be achieved through the efficient and sustainable use of resources — both public and private, as appropriate”, whilst stressing that educational opportunity should be open to all citizens “irrespective of their personal, social or economic circumstances” (EU, 2009). In 2011, a strategy document specifically focussed on higher education within the framework of the overall EU strategy for supporting growth and jobs laid out an agenda for the modernisation of Europe’s higher education system (EU, 2011).¹ It too called for improvements in the quantity and quality of higher education graduates. Some of this growth should come from attracting “a broader cross-section of society into higher education” (EU, 2011). The document stated that the total investment in higher education in Europe was too low, at 1.3% of GDP on average, behind both US and Japan and that additional funding sources – “be they public or private” – were necessary (EU, 2011).

Internationally comparative data sets show that over the last two decades, there has been a shift towards larger shares of private funding of higher education (see Chapter 2). This tendency can be related to similar trends of privatisation in various areas of public services and administration (Megginson & Netter, 2001). Even though higher education is not easily comparable to other types of public institutions, motives to aim for increased shares of private financial contributions in higher education are not unlike what drives privatisation of other social subsystems: They include restricting public spending in times of severe fiscal constraints; reducing organisational inertia; and increasing efficiency by replacing monopolies through competitive environments, among other things.

The aim of the present study is to examine the above mentioned shift in the balance of private and public funding to higher education and to compare the benefits of the resulting funding models. The three main issues for investigation were impacts on sustainability, effectiveness and equity.

- *Sustainability:* In the context of very large and in many cases still growing higher education sectors there is a need to find a funding model that can cope with this challenge. Whilst higher education is seen as a major driver of a nations’ economic and social well-being, the growth in higher education participation puts enormous strains on the public purse. This has led to higher education institutions (HEIs) diversifying their income sources, often by charging (higher) tuition fees.² The advantage of tuition fees over other sources of supplementary income is that they do not tend to add additional costs to the institution or divert academic staff away from their core teaching responsibilities, as might be the case with entrepreneurial activities or research grants. Tuition fees can also represent a significant and reliable share of HEIs’ income, unlike other possible sources of private funding (i.e. businesses and private donations).

¹ In this report the term ‘higher education’ will be used generally and, as is common practice in comparative reports, no distinction will be drawn between higher and tertiary education.

² This study uses the term ‘tuition fee’ to refer to “any sum of money paid by students with which they formally and compulsorily contribute to the costs of their higher education” (Eurydice, 2011, p.104). Some jurisdictions investigated in this study raise small administrative fees from students, but they will not be counted as tuition fees.

- *Effectiveness*: This is about high-quality provision of higher education, which ensures that HEIs can provide students with the best possible training. There is an argument that the introduction of market virtues into the higher education system will increase HEIs' responsiveness to the needs of students and the labour market into which they should transition following graduation.
- *Equity*: There are in fact two perspectives to the equity issue. On the one hand, the equity notion argues that those who benefit directly from higher education should also contribute to its costs. If they do not, students' training is funded by all tax-payers, whether they themselves had a fair chance to study or not. On the other hand, the equity notion focusses on current barriers to higher education participation and places attention on the question of whether additional costs at entry to higher education will increase these barriers, making higher education participation even more unfair than before fees. These two perspectives do not have to be contradictions, since the additional money raised through private revenues can be used to particularly support under-represented groups.

In operationalising these three key concepts, a two-stage approach was chosen: In a first step, four hypotheses were defined aiming at key aspects of sustainability, effectiveness and equity in higher education (see Section 1.2.2 below). Each hypothesis was then further substantiated by attaching to it a set of evaluation questions. The data collected in the empirical stages of this project were used to answer these evaluation questions, and conclusions concerning the overriding hypotheses and, via these hypotheses, the concepts of sustainability, effectiveness and equity, were drawn.

1.2 Analytical Framework

1.2.1 Two perspectives on cost-sharing

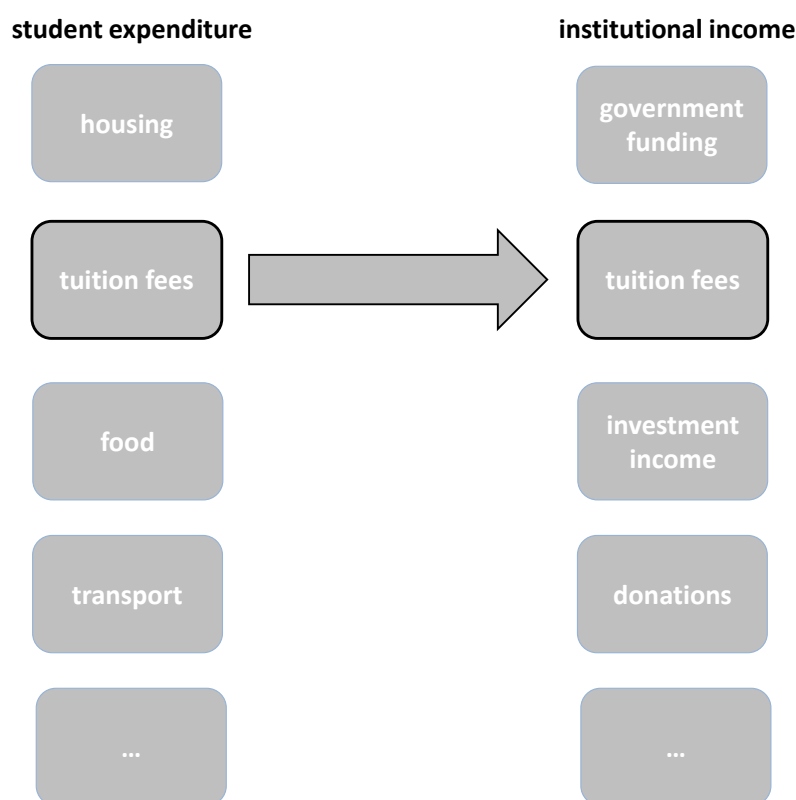
The concept 'cost-sharing' is used here to investigate the change in the balance of public and private funding. Changes in the way costs are shared can take several forms (Johnstone, 2014), including the introduction of tuition fees where they did not previously exist or a sharp increase where they already did. They can also involve a reduction or even a freezing of student grants or student loan subsidies (reductions in study aid also constitute an increase in the private funding necessary to cover educational and living costs) or public policies that shift enrolments from a heavily subsidised public sector to a much less subsidised, tuition-dependent private sector. Although the more typical change in cost-sharing has been towards an increase in private funding, changes in the opposite direction have also occurred, generally in the form of an abolition or reduction of tuition fees or an increase in public study aid.

Even though private income that is not from tuition fees is also covered in the analyses that follow, the main focus is on tuition fees for three reasons. Firstly, in contrast to tuition fee income, 'other income' is hard to capture as it is not defined or recorded in consistent ways, and can, in some cases, include public and private funds. Secondly, other private income sources are not usually regulated and influenced by a single policy initiative and fluctuate in importance for HEIs from year to year. Thirdly, in most European countries (including most countries investigated for this study), institutions secure significantly more income through tuition fees than through other private sources. This applies in particular when the instructional mission of HEIs is under consideration.

This study adopts a twofold perspective on cost-sharing: firstly, cost-sharing is investigated in terms of the changing balance of public and private revenues for *institutions*. From the perspective of HEIs, cost-sharing involves changes to the share of public and private funding as income sources (and the respective role of tuition fees, contract income, philanthropic donations, etc. as opposed to state funding). As Figure 1.1 shows, for HEIs tuition fees are one source of income among several.

Secondly, the study also adopts the *student* perspective by investigating the costs students (and/or their families) have to pursue higher education, but also to support themselves while completing their studies. Thus, even in countries without tuition fees, there is still a substantial amount of cost-sharing because no higher education system covers students' educational and living costs completely. As with HEIs, for students, tuition fees are one type of expenditure among several, as shown in Figure 1.1.

Figure 1.1: Tuition fees in the context of student expenditures and institutional revenues



Source: Authors.

A study by Schwarzenberger (2008) highlighted the fact that the various elements of a full cost-sharing system are seldom part of one comprehensive policy or model; this is even more the case when looking both at the institutional and student side of cost-sharing. The approach for this research was to study cost sharing in nine countries, using a case study methodology. For each case-study country, the national report presents the elements of cost-sharing systems as fully as possible in order to portray the balance between public and private sources of revenues and expenditures for institutions and students. In this comparative report, institutional aspects of cost-sharing (right side in Figure 1.1) will be discussed in Chapter 3, whereas the student perspective (left side in Figure 1.1) will be at the centre of Chapter 4.

1.2.2 Four hypotheses on cost-sharing

Following the evaluation perspective developed by Pawson and Tilley (1997, 2004), the specific rationales for a particular policy intervention – in this case, changes in cost-sharing – can be used as criteria to frame the assessment of the effectiveness of that intervention. Interventions are based on sets of specific theoretical assumptions about how to bring about a particular change.

Policy debates and practices in connection with cost-sharing have also been framed by such assumptions. These were re-formulated as working hypotheses at the start of the study, to be tested through the information generated by case studies. There are four working hypotheses framing this study. They all start with the assumption that private revenue has increased and, therefore, changed the cost-sharing balance. They all end with the outcome that is commonly expected of this change – with two expected outcomes concerning higher education institutions (their financial strength and strategic behaviour), and two concerning students (aggregate demand and study behaviour). The authors deliberately chose hypotheses reflecting common conceptions about the effects of cost-sharing as they are found in policy debates and research literature on the topic. The principal objective of this study is thus not to uncover novel, previously unrecognised effects of different cost-sharing models; it was rather to test whether standard, but not sufficiently scrutinised assumptions about cost-sharing are true in a comparative outlook.

Each of the four hypotheses contains an intermediate condition that is assumed to determine the final outcome of the increase in private revenues for higher education funding. Here also, the assumptions are meant to capture commonplace explanation patterns for the hypothesised observations that will be reviewed in the course of the study.

To investigate the respective hypotheses, evaluative and context-related questions were specified and indicators or specific information sources were identified. This information provided the data needed to evaluate each hypothesis.

Impact on Institutional Behaviour

From an institutional perspective, the analysis of cost-sharing focuses on the financial contribution made by private sources, including students and their families, and other private donors and benefactors, to the revenue of an HEI. Therefore, private sources of funding must be considered in the context of the whole funding system, including the amount and types of sources of funding available to HEIs, and constraints on how each source can be used and to what extent charges are constrained (e.g. through maximum amounts, numbers of places or other regulations).

Two hypotheses were formulated to investigate the influence of changes in cost-sharing on institutions. They investigate how a change in cost-sharing in the form of an increase in private funding to institutions might affect institutional behaviour:

- *Hypothesis A:* As private funding increases, institutional revenue increases.
- *Hypothesis B:* As the incentives to earn private funding increase, institutions become more responsive to student demand.

Hypothesis A: As private funding increases, institutional revenue increases



In times of expanding higher education participation (and significant financial constraints on public funding) there is the common argument that public funding of higher education has not kept pace with enrolment growth and the need for quality improvement (see for example Altbach, 1999, p. 111). In order to maintain quality and/or expand further, private funding in the form of fees is seen as a way to fill the funding gap. Hypothesis A thus addresses the question of *financial sustainability* in the context of changing financial requirements. Box 1.1 presents a short overview of literature pertaining to this first hypothesis. The one evaluative question formulated to investigate this was:

- Has the introduction of fees resulted in an increase in institutional revenue, or only offset the loss in revenue from a decline in public funding?

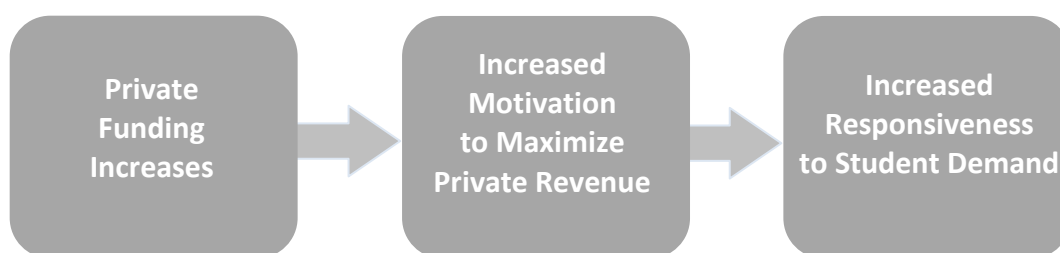
All four hypotheses dealt with in this study were influenced both by political debates and by a literature review conducted in the early stages of the project.

Box 1.1: Brief review of literature pertaining to Hypothesis A

In the past decade, there has been quite a bit of attention among scholars and in the press to alleged decreases in governments' share of funding to higher education relative to funding from private sources as well as to real decreases in government funding overall and government per student funding. Such decreases are seen first as a result of expanding higher education systems (Cheps, IOE, & Technopolis, 2009) and more recently, as a result of austerity measures, particularly in light of the global economic crisis (Johnstone, 2003, p. 354; UNESCO, 2012). Altbach (1999) links the shift in funding to a change in perception: higher education is increasingly seen as a private rather than a public good.

Scholars in the United States and Canada trace the shift of the financial burden from the government to students and their families as having occurred earlier than in other OECD countries. Geiger and Heller (2011) report that the proportion of revenues for public higher education institutions that come from the state have been declining since 1980 and that in 1980, student tuition provided roughly 20 percent of operating funds for major universities, but in 2006 that figure was 43 percent. Finnie and Usher (2006) trace Canada's drop in the share of public expenditure on higher education as having occurred in the mid-1990s when the proportion of institutional revenue from the government decreased from 80 percent to 60 percent. Additional research focussing on other countries (Aghion, Dewatripont, Hoxby, Mas-Colell, & Sapir, 2008; Jongbloed, 2010) noted similar changes to the balance between public and private expenditures from the mid-1990s. Overall, Usher (2009) noted a slight shift away from public financing and toward private financing in Europe, though not large. He argued that while private funds played a more important role than they did a decade earlier, the fact remained that almost all countries had poured additional public funding into tertiary education in the last decade.

Taking enrolment increases into account, however, tempers the funding increases that were experienced in a number of countries and in some cases, spending per student fell, as expenditure did not keep up with expanding enrolments. Geiger and Heller (2011) report that since 1980, state appropriations as measured in constant dollars and on a per student basis have decline 10 percent in the United States. The CHEPS and Institute of Education (de Boer, Jongbloed, Enders, & File, 2010) report on funding reforms in Europe looked at funding levels in 33 European higher education systems and found between 1995 and 2008, the level of public funding per student increased in 60 percent of the 33 countries, was stable in about 25 percent and decreased in 20 percent.

Hypothesis B: As the incentives to earn private funding increase, institutions become more responsive to student demand

Producer-responsiveness and drives towards increased efficiency can be expected to lead away from homogeneity of institutional provision to more diverse study programmes and modes of delivery (Marginson, 1999, p. 12). This is because institutions become more responsive to student demand and seek their place in the higher education a market. Thus, more information about student demand and competitors is necessary for higher education institutions to act strategically within this context. A fee structure may also lead to increasing numbers of HEIs focusing on popular courses or indeed on lower-cost courses (soft disciplines, paper and pencil subjects-areas or blended-learning provision). This may lead to overall changes in the discipline profile of a national higher education system. Hypothesis B was used to test whether such changes have actually taken place in different countries with different cost-sharing dynamics. Inasmuch as responsiveness to user demands is a desired result of a supply system, Hypothesis B addresses *effectiveness* in higher education. Box 1.2 presents a short overview of literature pertaining to this hypothesis.

Seven specific evaluative questions were formulated in order to investigate this theme:

- If institutional revenues are increased, how are they being spent? Does this result in more expenditure per student for teaching, an increase in the provision of study spaces, or are new revenues being used to supplement spending in non-teaching areas?³
- Has the discipline profile of HEIs in a country changed (e.g., increasing offers in paper-and-pencil subjects and fewer provisions in expensive lab-based areas, or focus on more popular subjects)?
- Has there been any change in the modes of study, such as an increase in part-time provision, with the aim of increasing private revenue?
- Has there been a change in the enrolment composition to maximize revenue, such as more international (non-domestic) students paying international student fees?
- Has there been a change in the degree of diversity in higher education providers, such as more private institutions, or more programmes offered by public institutions?
- Are institutions becoming more focussed on outreach, as evidenced in marketing budgets (increase), governance structure (more students/employers), or entrance policies (reduction in entry grades)?
- What impact have the changes in institutional strategy had on quality and relevance? Are students and graduates satisfied with the options available to them? Are graduates satisfied with their employment outcomes? Are employers satisfied with recent graduates?

³ This topic was dealt with under Hypothesis A in the national reports.

Box 1.2: Brief review of literature pertaining to Hypothesis B

The argument that increasing the share of private funding in higher education will also increase the responsiveness of HEIs is mentioned frequently (Johnstone, 2003; Massy, 2004; Teixeira, Jongbloed, Dill, & Amaral, 2004). However, there is a limited body of literature that examines the extent to which increased incentives for private funding motivate higher education institutions to maximize income from private sources by becoming more responsive to student demand. In England, some institutions have increased their outreach activities in order to attract additional students (Rolfe, 2003). Other institutions in Europe and the United States have responded by changing their discipline mix or adding new programs or by introducing a differentiation in fee regimes among different student groups that allows them to charge higher fees to certain categories of students such as part-time students or international students or to students studying in higher cost courses or in courses that lead to especially remunerative employment (Ehrenberg, 2007; Estermann & Pruvot, 2011). All of these institutional behaviours, however, have to be seen within the contextual limitations within which institutions operate. The EUA's 2009 and 2011 reports on autonomy (Estermann, Nokkala, & Steinel, 2011; Estermann & Nokkala, 2009; Estermann & Pruvot, 2011) note that universities' ability to respond to student demand by introducing new programs, setting differential fee levels and expanding enrolment numbers is limited in some countries.

Impact on Student Demand and Student Behaviour

The hypothesis that fees would deter students from studying is based on the notion that an increased financial burden would create a substantial barrier for some students to attend (or at least to attend the programme of their choice) either because they could not assemble enough money to pay fees at the point of delivery (i.e. a liquidity issue) or because the introduction of fees means a student no longer sees the long-term value of a programme of study and decides not to pursue it (i.e. a rate-of-return issue). Additionally, such changes also have psychological effects on prospective students, changing their perception of the cost-benefit of higher education. This may also affect their actions and choices.

From this perspective, cost-sharing must be defined in terms of students' ability to pay – and not just to pay the direct costs of their education, but also to support themselves while completing their studies. Thus, even in countries without fees, there is still a substantial amount of cost-sharing because no higher education system covers a student's educational and living costs completely. Additionally, a reduction in study aid in such countries would also constitute an increase in the private funding necessary to cover educational and living costs.

Two hypotheses were formulated with respect to the impact on students:

- Hypothesis C: Increasing private funding has a negative effect on student demand.
- Hypothesis D: Increasing private funding affects student choice of how and what to study.

Hypothesis C: Increasing private funding has a negative effect on participation



This hypothesis is related to the overriding notion of *equity*. Cost increases can introduce a new barrier to entry for certain students by creating a liquidity constraint, thus reducing participation rates. Or they may choose not to participate because of changes in the real, or perceived, rate of return for higher education. These constraints can be expected to affect different types of students differently, which is reflected in the overall composition of the student body. For those students already participating in higher education, changes in student costs may affect completion rates for the same reasons. Box 1.3 presents a short overview of literature pertaining to this hypothesis.

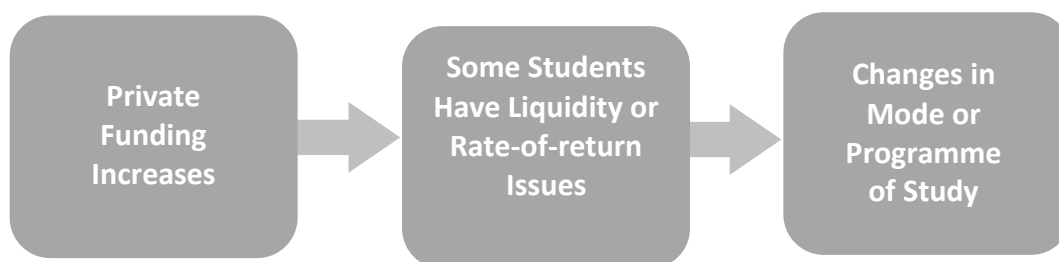
Three specific evaluative questions were formulated in order to investigate this theme:

- How have increases in private funding changed costs to students (net and gross costs)?
- What effect does an increase in private funding (e.g., introduction of fees or increase in fees) have on transition rates from secondary education and on overall participation rates?
- How have increases in private funding affected the composition of the student body?

Box 1.3: Brief review of literature pertaining to Hypothesis C

This hypothesis takes up the counter-argument to the equity argument claiming that introducing and/or increasing student fees in higher education creates a fairer, more inclusive system of higher education. The key argument proffered by proponents of this notion (see Barr & Crawford, 1998; Greenaway & Haynes, 2003) put simply is that higher education entails measurable individual advantages for users, e.g. in terms of employment outcomes, and that a direct financial contribution by this advantaged group is thus more equitable than spreading the costs across the entire population via taxes. A wide range of research has looked at student price responsiveness in higher education and the impact of changes in cost-sharing and financial assistance policies on aggregate demand as well as how this impact varies according to such characteristics as gender, income, ethnic/racial background. Research in Australia (Andrews, 1999; Chapman & Ryan, 2003), Austria (Pechar, 2004; Unger, 2004), Canada (Finnie & Usher, 2006; Johnson, 2008; Junor & Usher, 2004), China (Huang, 2005), Germany (Hübner, 2009), the Netherlands (Vossensteyn & de Jong, 2007), New Zealand (LaRocque, 2003), the United Kingdom (Brown & Ramsden, 2008; Callender & Jackson, 2005) and the United States (Heller, 1997; Hemelt & Marcotte, 2008; Leslie & Brinkman, 1997; McPherson, Schapiro, & Winston, 1993; McPherson & Shulenburg, 2008) confirm that demand for higher education is relatively insensitive to increases in price (tuition/participation fees) at the aggregate level, but they may have an impact on enrolment behaviour when they exceed a certain level or pertaining to certain – often under-represented – groups, such as low income students or students from ethnic or minority racial groups (Campagne & Hossler, 1998). Much of the literature (meta-analysis of early research by Leslie and Brinkman (1997) and more recent research by McPherson, Schapiro and Winston (1993), Heller (1999), Vossensteyn (2005) and Vossensteyn & de Jong (2007) also concludes that changes in financial aid levels have similar effects (or lack thereof) as changes in tuition/participation fees at the aggregate level, but that for certain groups - mainly low income students - the deterrent impact of student fees on enrolment behaviour is about twice as strong as the attractive power of grants. This research also suggests that different types of financial aid may have varying impacts on enrolment behaviour and that grants may have a stronger influence on college enrolment than loans, work study, or tax credits (Heller, 2001; Lang, 2005; Vossensteyn, 2005).

Hypothesis D: Increasing private funding affects student choice of how or what to study



Rather than an absolute effect on the level of participation, liquidity issues may lead to students switching to a different mode of delivery that enables them to study whilst

working and earning income, or delay participation to work to save money before entering higher education. Hence trends in the number of students studying part-time, and delays in entry to higher education were examined as these changes may reflect behavioural responses to increased cost-sharing.

An increase in private costs may lead students and their families to treat higher education as a scarce resource. Requiring fees is expected to encourage prospective students and students to act more economically, e.g., less subject changes in the first years of studying and shorter time to study completion. It may also affect the field of study they select; theoretically students could be expected to avoid more expensive fields (reducing liquidity constraints), or select programs with a more direct connection to the labour market (improving rates of return).

There are two factors that can influence enrolments by programme: students can select programmes based on expected rates of return or institutions can offer more spaces in programmes that are less expensive for them to deliver (see Hypothesis B). The latter only matters when differential fees are not charged in relation to cost to deliver. If institutions can charge more for programmes that are more costly to deliver, then each programme can be equally profitable from the supplier perspective, and changes in enrolment by field are more likely due to changes on the demand side, i.e. the choices made by students. Box 1.4 presents a short overview of literature pertaining to Hypothesis D.

Below are the four specific evaluative questions that were formulated in order to investigate this theme.

- Have increases in private funding affected how students study (examining factors such as changes in study mode, i.e. part-time versus full-time study, and delay in entry)?
- Have increases in private funding affected where students chose to study?
- Have increases in private funding affected what students study?
- Are increases in private funding making students more efficient (measured by time to completion)?

Box 1.4: Brief review of literature pertaining to Hypothesis D

Changes in cost-sharing may have behavioural effects that are missed by looking only at changes in students' enrolment behaviour. Hanover Research (n.d.) notes a growing consensus that fee increases portend a future in which students will behave more like consumers balancing higher education costs against returns on their investment. Such behaviour changes could include some students enrolling in colleges with more vocationally oriented profiles and shorter programmes (e.g. community colleges) rather than four-year universities, students switching from full- to part-time study or starting higher education later so they can first earn money, students living at home rather than away and students' increasing the number of hours they work (Johnstone & Marcucci, 2010). The body of research on the impact of changes in cost-sharing on students' decisions about how (part time versus full time, longer versus shorter programmes, living situation, during-study employment decisions, persistence) and what (discipline choice) to study is far less developed than that of their sensitivity to price. Moreover, isolating the impacts of increased cost-sharing is difficult given parallel changes that are also taking place in the labour market and in the ways that higher education is organised.

Nevertheless, there has been some recent research that has attempted to identify impacts of changes in cost-sharing on student behaviour in terms of time spent on outside employment and student program and discipline choices though a clear consensus has not emerged. Kaplan (2011) found limited evidence for the impact of the costs of tertiary education on student labour force participation in the UK. A study by Deloitte (2011) in Australia found that an increase in the relative price of higher education for a given field or discipline of study generally resulted in a decline in relative demand. Research in South Korea (Kim & Young Lee, 2003) shows that socially disadvantaged groups from lower-income groups and rural areas tend to be more sensitive to educational costs when they choose a course in college. Stange (2012) found that differential pricing of disciplines had little impact on the choice of major by students in the United States, while Duffy and Goldberg note that increases in tuition fees have gradually driven low-income and ethnic minority students away from four-year university programs and instead towards less prestigious two-year colleges (Duffy & Goldberg, 1998; Kinzie et al., 2004; McPherson et al., 1993). Similar findings were discovered by Sallie Mae in the United States (Sallie Mae, 2012), where research found that families continued the shift toward lower-cost community college, with 29 percent of students enrolled in two-year public community colleges and 45 percent in four-year public colleges, compared to 23 percent and 52 percent two years earlier.

1.2.3 The case-study method

There are two approaches to assessing the impacts of changes in cost-sharing. One approach is to use internationally comparable data sets to make direct comparisons across countries. Indeed some of this data is used in the ensuing chapters for setting the scene. However, the approach chosen for this study was to focus on case-study research. Working with more context-related knowledge provided by national experts allows for a better assessment of the particular cost-sharing system of a country. An understanding of the contextual situation is necessary for developing policy-related considerations that can facilitate policy learning across states. It is for this reason that the case studies conducted in this research gave preference to data provided directly from national sources and only resorted to international data sets where the former option was not viable. Data from internationally comparative data sets are often standardised in order to make direct comparisons possible. While this is helpful in many contexts, the case-study approach chosen here makes it seem more reasonable to prefer the 'untreated' data from

national sources. For similar reasons, the present comparative report is cautious in collating data gathered from different countries in charts and tables.

The necessary information for the case studies was collected through country experts in nine countries and used for summary and comparative analyses by the authors of this report. The quantitative and qualitative information were collated by the national experts according to an extensive manual and data templates designed by the project team. The team used the data delivered by the national experts to create a case-study report for each country.

Thus the focus of this study is on what can be learned from case studies carried out within a comparative framework of investigation. The countries chosen for the case studies were: **Austria** (AT), **Canada** (CA), **England** (ENG)⁴, **Finland** (FI), **Germany** (DE), **Hungary** (HU), **Poland** (PL), **Portugal** (PT) and **South Korea** (KR). The choice of countries was made in an attempt to assure a high degree of diversity in dimensions directly and indirectly relevant to cost-sharing policies. Table 1.1 below gives an overview of the applied selection criteria.

⁴ England is a clear policy jurisdiction in the United Kingdom and has increasingly developed its higher education system in a distinct manner to the jurisdictions Wales, Scotland and Northern Ireland. Most information and data in this comparative report and the national report refers therefore to England only and not to the other jurisdictions. In the case that this differentiation was not possible, information for the United Kingdom will be used.

Table 1.1: Key characteristics of all nine case-study countries

| Characteristic | Value | Countries |
|--|-------------------------------|--|
| Population size | Below 10 million | Austria, Finland, Hungary |
| | 10 - 25 million | Portugal |
| | 25 - 50 million | Canada, Poland |
| | 50 million and more | England, Germany, South Korea |
| Geographic location | Northern Europe | England, Finland |
| | Southern Europe | Portugal |
| | Central Europe | Hungary, Poland |
| | Western Europe | Austria, Germany |
| | Non-EU | Canada, South Korea |
| Economic strength (GDP per head in 2005, in constant 2011 US\$) | Below 20,000\$ | Hungary, Poland |
| | 20,000\$ – 30,000\$ | Portugal, South Korea |
| | 30,000\$ and more | Austria, Canada, England, Finland, Germany |
| Degree of public funding for institutions | Above 90% | Austria, Finland |
| | 80 to 90% | Germany |
| | 50% to 80% | Canada, Hungary, Poland, Portugal |
| | Below 50% | England, South Korea |
| Enrolments in private higher education | Above 50% | South Korea |
| | 25% to 49% | Poland, Portugal |
| | 10% to 24% | Hungary |
| | Below 10% | Austria, Canada, England, Finland, Germany |
| Tuition fee policy | Tuition fees | Canada, England, Portugal, South Korea |
| | Free higher education | Austria, Finland, Germany |
| | Dual-track tuition fee system | Hungary, Poland |

Source: Authors.

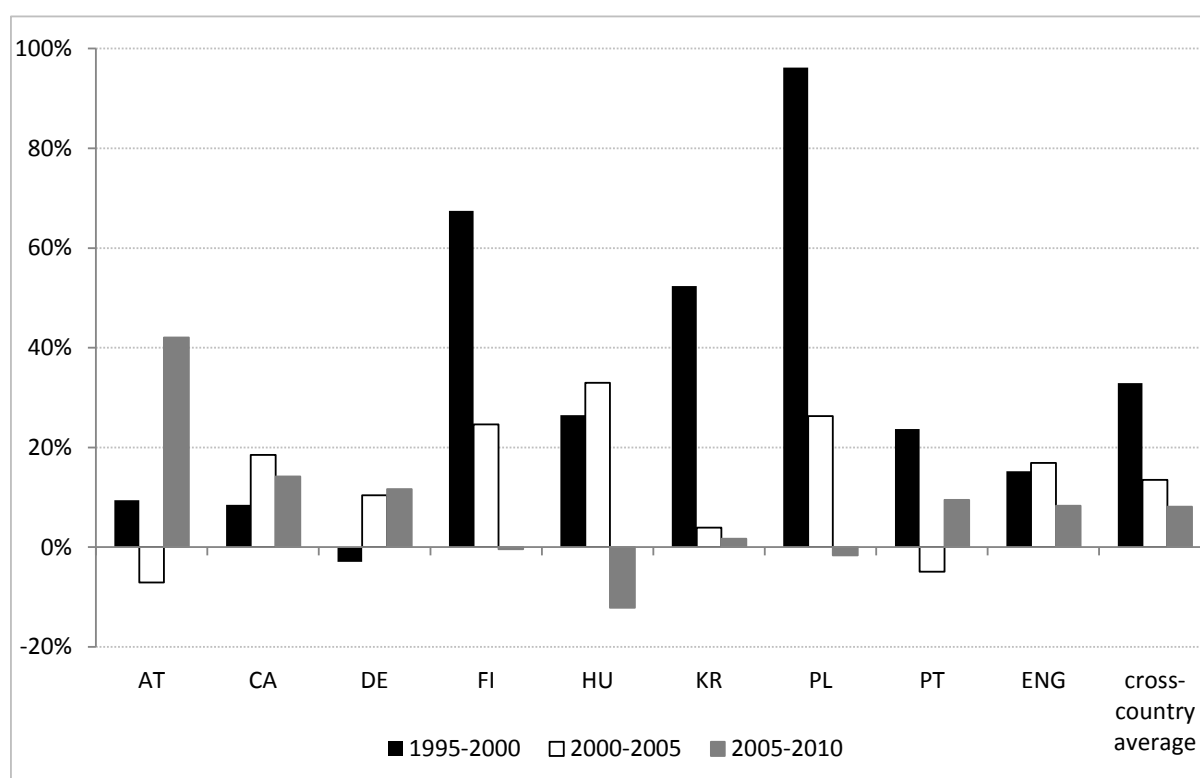
Another important distinction between cases concerns the mode in which changes to cost-sharing occur. While sometimes these changes are a result of isolated government interventions, other times the changes occur slowly and stepwise. The former type of change is more insightful for policy evaluations, and will therefore be a central point in Chapter 3, where impacts of changes in cost-sharing on institutions are discussed. The above-mentioned distinction, often referred to here as that between 'continuous' versus 'discontinuous' policies, does not apply to countries as a whole, but rather to singular political measures. Four countries were identified in which such discontinuities could be observed in the period of investigation: Austria, England, Germany and Portugal.

2. Descriptive Basis: The Setting

2.1 The challenge – enrolment growth

The growth in enrolment figures across the world has led to the challenge of finding an appropriate funding model to secure high quality, sustainable higher education provision. Regarding the case study countries in this study, the number of students in higher education rose in cross-country average between 1995 and 2000 by +33%, between 2000 and 2005 by +14% and between 2005 and 2010 by +8% – as shown in Figure 2.1. Overall growth with a slowdown in the past years is, therefore, the general trend. This holds for all countries, except Austria and Germany, which have both had the strongest growth after the mid-2000s. In the case of Poland, Finland and South Korea the strongest growth occurred in the lead-up to the 2000s. Furthermore, Hungary and Poland are of interest as countries which now have a declining student number.

Figure 2.1: Change in total number of students at all levels of higher education in all HEI types (1995-2000, 2000-2005, 2005-2010)



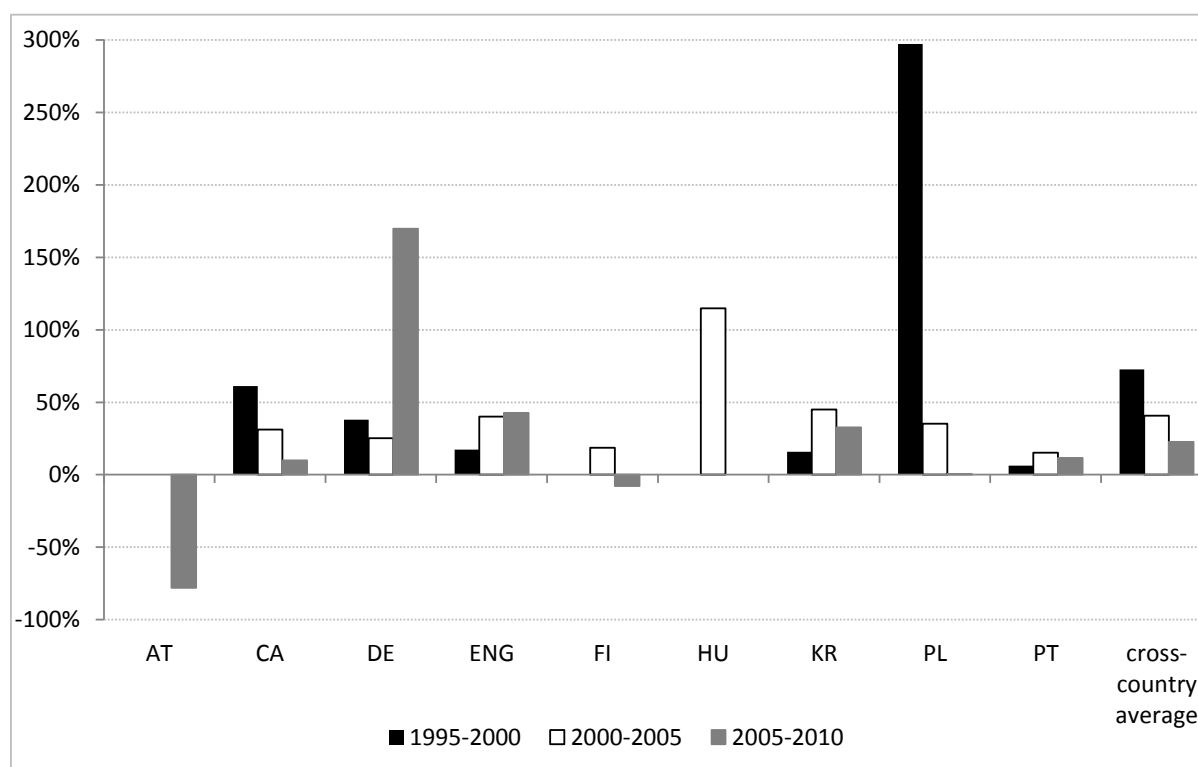
Note: Earliest data for South Korea 1998, most recent data for Finland and South Korea 2009. No data: 1995-2005 Austria, 1995-2000 Finland, 1995-2000 / 2005-2010 Hungary. For Portugal and Austria only change in fee income.

Source: Case study data.

2.2 A common trend – the increasing significance of private funding

As a reaction to this expansion, but also as part of a general programme encouraging the higher education sector to diversify its funding streams (Clark, 1997; Estermann & Pruvot, 2011; European University Association & Association, 2009), there has been an overall increase in the significance of private funding as source of HEI income – see

Figure 2.2. Similarly to the growth in enrolments, developments have slowed on this measure as well, with the exception of Germany and England (no data for Austria).



Note: Earliest data for South Korea 1998, most recent data for Finland and South Korea 2009. No data: 1995-2005 Austria, 1995-2000 Finland, 1995-2000 / 2005-2010 Hungary. For Portugal and Austria only change in fee income.

Source: Case study data.

Figure 2.2: Growth in shares of private revenues to HEI income (1995-2000, 2000-2005, 2005-2010)

There are two components of these private revenues: student contributions (tuition fees from private households) and other private income. This other income is earned by HEIs from private stakeholders such as business and industry, philanthropic organisations or individuals, and foundations.

It is important to note that 'other private funding' is difficult to capture and to analyse comparatively for a number of reasons: For one thing, in some countries like Finland or Germany, national statistical systems are not well geared towards the distinction between public and private income. They distinguish instead between funds provided by the government as recurrent institutional core funding on the one hand and all sorts of 'additional' funding on the other hand. The latter category may include a variety of items, e.g. revenues from capital expenditure or rentals, as well as funds provided for research projects, or donations. These funds may be provided by either private or public entities, but are not labelled accordingly in the data. The demarcation of the category of 'other' funding is also difficult due to different demarcations of funding streams in different countries. In some countries, public research funds are administered in a large part by

independent bodies and are thus not part of the routine appropriations to HEIs. These funds have to be acquired in competitive tenders (which may include non-university competitors), and due to these differences from institutional core funding they are sometimes not registered in the category 'public funding', but rather counted as 'other' funds. In countries in which direct institutional funding for research and teaching prevail, greater shares of research funds might be assigned the item 'public funding'. A closer look at developments related to this additional source of funding is taken in Chapter 2 of the national reports.

Another distinction concerning 'privateness' must be made between private revenues of institutions on the one hand and private legal status on the other hand. An institution may be public legally speaking but nonetheless secure large shares of its revenues through private sources. On the other hand, an HEI may be private from a juridical point of view and still receive the majority of its funding from public sources. Distinguishing between public or private status is of some importance for this study because as the following chapters will reveal, private institutions tend to be regulated and governed differently from public institutions, as well as to behave differently vis-à-vis user demand. That being said, a stringent distinction between 'privateness' and 'publicness' in higher education is difficult to make and has led to a host of definitions in academic research (see Reisz & Stock 2012, pp. 198f. for an overview). The present study follows national classifications with respect to the definition of public and private institutions, with the exception of legally private institutions that receive the larger share of their core income from public sources: They will be consistently treated as public institutions because the financial aspect is more important for this study than the legal aspect.⁵

Table 2.1 below gives an overview of the numeric importance of private institutions in the nine case-study countries. It shows that a) the share of private institutions is always larger than the share of students enrolled in private institutions, i.e. private HEIs tend to be much smaller than public institutions, and b) concerning enrolment numbers, private institutions are relatively marginal except in South Korea, Poland and Portugal. Using terms proposed in Kwiek (2009), 'internal privatisation' (that is, acquisition of private money in public institutions) will be more important in this study than 'external privatisation' (that is, increase in private higher education providers), although South Korea and Poland in particular will provide useful contrasting insights.

⁵ Examples would be the Fachhochschulen (universities of applied sciences) in Austria and a number of polytechnics in Finland.

Table 2.1: Importance of private sector in case-study countries (2010)

| | Percentage of private institutions in higher education sector | Percentage of enrolments (head counts) in private higher education institutions |
|-------------|---|---|
| Austria | 18 | 2 |
| Canada | 14 | n/a |
| England | 2 | <1 |
| Finland | 0 | 0 |
| Germany | 35 | <5 |
| Hungary | 20 | 7 |
| Poland | 71 | 31 |
| Portugal | 69 | 21 |
| South Korea | 85 | 74 |

Note: Canada: excluding career colleges.

Source: Case study research.

2.3 Student contributions – continuity and policy shifts

In terms of clear policy direction, the biggest shifts in cost-sharing have been related to the introduction of or the increase in tuition fees for normal students. The following chart summarises results from the case studies.

Table 2.2: Change in tuition fee policies in case study countries 1995-2010

| | Type of change | Magnitude (per annum) |
|---------------------|--|--|
| Austria (2001) | One-time increase, applicable to nearly all students. | Up from €0 to €727. |
| Austria (2009) | Elimination of fees for nearly all students. | Down from to €727 to €0. |
| Canada | In most provinces, continual small increases (avg. 5%/year). | Nationally, up from €2,500 to €4,000, but varies by province – some provinces more than doubled, others fell by 25%. |
| England (1998) | One-time increase. Roughly one-third paid no fees; those with family income between £20-30,000 paid half; those from families with income above £30,000 paid full amount. | Up from €0 to €1,200. |
| England (2006) | One-time increase, applicable to all students. | Up from €1,200 to €3,600. |
| England (2012)* | One-time increase, applicable to all students. | Up from €4,000 to on average €11,500. |
| Finland | None. | None. |
| Germany (2006/07)** | One-time increase in selected <i>Länder</i> (states), covering 2/3 of all students in Germany, applicable to most students, though significant numbers of students were exempted from payment. | Up from €0 to €1,000. |
| Hungary | Fees for students not on state-funded places, i.e. around half of all students, with gradual increases in fees. | Rising to around €1,000 in the late 2000s. |

| | Type of change | Magnitude (per annum) |
|-------------|--|---|
| Poland | Gradual changes over time of fees for 'part-time' study in public universities and in private universities. Percentage of students paying fees was around 45% in 1999 and has since fallen to about 30%. | Public: up from approx. €2,500 in 1995 to €2,800 in 2010, but fell to as low as €2,000 in 2001. Private: up from approximately €1,150 in 1995 to €1,750 in 2010. |
| Portugal | Gradual increase over time of fees in both public and private universities, but step-increase in 2003. | Public: up from €400 in late 1990s to €1,000 in 2010. Private: up from €2,700 in mid-90s to €3,600 in 2010. |
| South Korea | Gradual increase over time of fees in both public and private universities. | Public: up from €1,850 to €3,500. Private: up from €3,850 to €5,400. |

Note: England 2012 is not a focus of the present study. ** All German *Länder* with tuition fees will have abolished general tuition fees by autumn 2014. The effects of the abolition of fees in Germany is not a focus of this study, either.

Source: Case studies.

The dynamics of higher education funding in our case study countries are apparent from what has been said so far. The sections below will highlight the dimensions of these changes and group the case study countries accordingly.

2.3.1 Changes to the number of fee payers and the amounts

Based on the information in Table 2.2, countries can be clustered into four groups on the dimensions of share of fee-paying students and of fee level:

- Shift from lesser to greater shares of fee-paying students: In Germany, several federal *Länder* (federated states) moved from a virtually fee-free system⁶ to a system in which a large share of students had to pay fees in the years after the Federal Constitutional Court had lifted the country-wide ban on tuition fees. Fees were introduced in seven *Länder* in 2006 and 2007.
- Other countries in which this change took place: Tuition fees for domestic students were introduced in England in 1998 at a rate of 1,200 euros per annum. The fees could be partially or fully waived depending on students' household income. Austria introduced general tuition fees in 2001, and the government set the exact amount at 727 euros per annum for domestic and EEA-students, and twice as much for non-EEA international students.
- Still another case in which countries move towards greater shares of fee-paying students is when the share of students enrolled in private institutions increases in systems in which the public sector is tuition-free. A slight tendency in this direction is visible in Austria and Germany, both of which have small but expanding private sectors run in parallel with public HEIs in fee-free jurisdictions.
- Shift from greater to lesser shares of fee-paying students: In Austria, the tuition fee system introduced in 2001 is officially still in place, but in 2009, a legal amendment exempted most domestic and EEA-students from paying fees, leaving only a minority of fee-paying students of about 15% (non-EEA students and students who have studied an excessively long time).
- Other countries in which this change took place: In Portugal, fees were lowered to next to zero in 1996. However, in 1997 fees they were re-introduced. All German *Länder* but one have also abolished general fees as of 2013. This happened in each case after governments opposing tuition fees came to power. The final *Land* (Lower Saxony) in

⁶ Some *Länder* had fees for specific, small groups of students before the introduction of general fees.

which tuition fees are being charged will have abolished fees by the winter term 2014/2015.

- Shift from lower to higher average fees: In 2006, England increased the fees HEIs can charge from a fixed 1,200 euros to a maximum of 3,600 euros. In 2012, the maximum amount was raised once more to a translated 11,500 euros. Many HEIs made full use of this option, and a much higher share of private funding ensued.
- Other countries in which this change took place: In Canada, average tuition fees rose in the period of investigation from 2,500 euros to almost double at 4,000 euros. A similar growth rate can be observed in South Korea in both public and private institutions, and in Polish private institutions. Importantly, in all of these cases, the change was slower and steadier than in England.
- Shift from higher to lower average fees: This shift can happen in market-orientated systems with dropping demand. A case in point is Poland: Fee-paying students at public universities are mostly part-time students, and this mode of study was much favoured by persons who had had no opportunity to study in the former socialist system. When the majority of this generation of older students had finished their studies in the late 1990s, the share of part-time and thus fee-paying students declined, and due to weakening demand institutions could not make up for this by increasing fees substantially. Hence both the share of fee-paying students and the average amount charged decreased.

This overview shows that there is a diversity of patterns with respect to shifts in tuition fee schemes. Changes that increase the contributions of students for higher education costs (by extending the share of students required to pay fees, or by increasing fees) are common in the countries examined in this study, but the shift can also go in the other direction. Examples would be the elimination of fees in Austria and several German *Länder*, which was justified by arguments relating to access and equity. And there are cases like Finland, in which tuition fees have not been an issue despite a growth in enrolments comparable to other countries with increased private contributions.

2.3.2 Dynamics of change: continuity versus discontinuity

While the previous section describes the direction of change, it does not take into account another feature which is also significant for impact, that is, the *rapidity* with which changes in fee policies unfold. If institutions and individuals are given time to adapt to changes that happen gradually, their behaviour will tend to be different than if changes are introduced abruptly, even though the financial shifts might lead to identical results. Thus two comprehensive groups can be distinguished:

- Countries in which a rapid shift in fee policies took place: This group consists of England, in which fees were first introduced in 1998 and then increased twice by introducing fee ceilings; Portugal, with a significant step-up in fee levels in 2003; Germany, where general tuition fees were introduced in seven *Länder* in the years 2006 and 2007 and then scrapped in most states after 2010; and Austria, where general fees were introduced in 2001 and then essentially scrapped in 2009.
- Countries with a continuous change in fee levels: In systems in which tuition fee rates are determined each year, a continuous increase in fee levels might result. In systems with a low level of regulation to begin with, continual increases or decreases in fee levels might be regarded as expressions of 'market trends' rather than policy outcomes. For example, in South Korea, the constant increase in tuition fees cannot be linked to specific political measures – instead, institutions have gradually increased fee levels, and demand for higher education being as it is, students have accepted this development. This state of affairs also applies to all providers of private higher education and especially to the relatively large sectors in Poland and Hungary, which tend to be much less constrained by state regulations. Fee levels may also be

mitigated through government policy, even in countries with otherwise only weakly regulated fee policies. Cases in point are Canada and Hungary, where provincial and national governments, respectively, determine the rates by which fees might be raised or lowered annually. In times of economic recession, some Canadian provinces allowed fees to climb, whereas fees were reduced or frozen when there were sufficient public budgets to increase appropriations to higher education institutions.

For countries in the first, discontinuous group, the rapidity and extensiveness of these shifts would be expected to have more marked impacts on student and HEI behaviours than the general stability of countries in the second group. It is for this reason that the split between countries into 'discontinuity countries', i.e. the first group, and 'continuity countries', i.e. the second group, will be used for the ensuing analyses in Chapters 3 and 4. Table 2.3 presents a summary overview of the country patterns.

Table 2.3: Overview of tuition fee policy change in the period of investigation

| Share of fee-paying students | | | |
|------------------------------|---|------------------------|---|
| <i>Increased</i> | | | England 1998 England 2006 Germany 2006/07 Austria 2001 |
| <i>Stayed the same</i> | | Finland | Portugal 2003 (England 2012)* South Korea Canada |
| <i>Decreased</i> | Poland Austria 2009 Germany 2011-2013 | | Hungary |
| Average amount paid | <i>Decreased</i> | <i>Stayed the same</i> | <i>Increased</i> |

Note: When no year is given it means that any change was gradual. (England 2012)*: The 2012 tuition fee reform in England is outside the period of investigation of this study, but will be included where data are available and relevant for the purpose of this study.

Source: Authors.

2.4 Context

A basic assumption made in this report is that national cost-sharing profiles are best analysed by taking into account a number of contextual factors affecting the ways both institutions and individuals act. In this way, the risk of jumping to conclusions or drawing over-simplified comparisons can be curtailed. The most important contextual factors considered in this study will be described below, and will be picked up again in the analytic chapters (Chapters 3 and 4 in particular). These factors are: general demand for higher education, institutional autonomy of HEIs, tradition of cost-sharing and provision of study aid for students and, on a more general level, strength of the national economy. Some of these only apply to students, some only to HEIs and some to both – see Table 2.4.

Table 2.4: Context factors influencing cost-sharing strategies

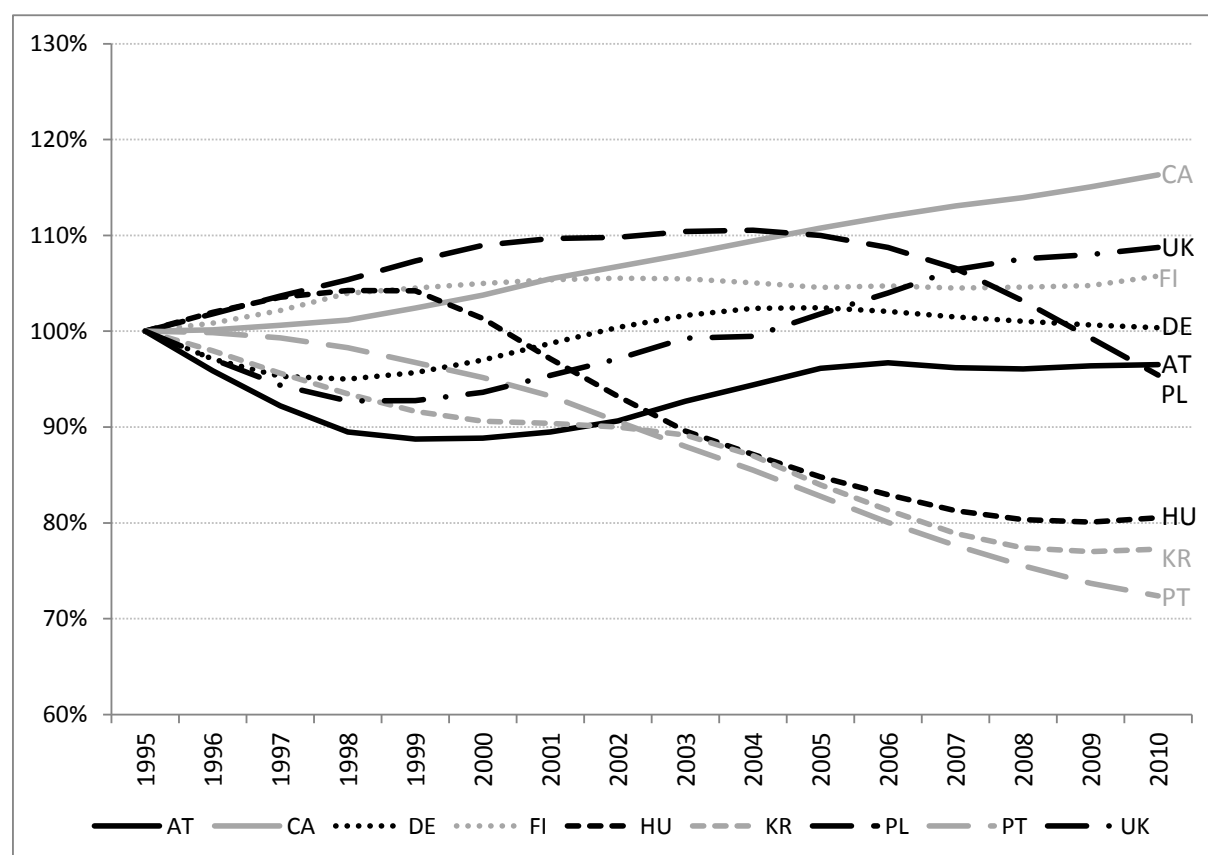
| Context factor | Relevant for HEIs | Relevant for students |
|---------------------------------|-------------------|-----------------------|
| Demand for higher education | X | |
| HEI autonomy | X | |
| Study aid (grants and/or loans) | X | X |
| Economic conditions | X | X |
| Traditions of cost-sharing | X | X |

Source: Authors.

2.4.1 Demand for higher education

The data on enrolment growth suggests a strong demand for higher education over the period of investigation. However, this demand may be of different strength in different countries and indeed it may change over time. An extraneous factor influencing demand for higher education is population change (Grünberg & Vlasceanu, 2007). The most critical group in this respect is people in the typical student age. Although this age varies somewhat between countries and periods of time, age 18-24 is fairly representative. Figure 2.3 below shows indexed changes in this cohort in the period of investigation (1995 = 100%).

Figure 2.3: Changes in size of age group 18-24 (1995-2010)



Source: Case studies.

Over time, only one country – Canada – shows a continual growth of this age group, although in the United Kingdom (including England) this group has been growing since the early 2000s following an initial decline between 1995 and 2002. In contrast, this group of young people was growing in Poland until around the mid-2000s and has since been declining. Germany and Austria started the period of investigation with a declining group of 18-24 year olds, but this has since levelled off at a similar size to 1995 since the mid-2000s. Hungary, South Korea and Portugal, however, have shown a significant decline in the age group of between 20%-30% in the period of investigation.

It is important to note that a decline in this age group does not necessarily imply a weakening demand for higher education, since participation rates can be increasing (see Chapter 4). Additionally, in the context of lifelong learning, mature students have become an important target group of higher education (EUA, 2008). The research conducted for the country case studies included looking at ways in which HEIs reach out to potential users, including non-traditional students. Another strategy for HEIs to balance a decline in potential students at home is to attract more students from abroad. However, these issues have implications for cost-sharing in many jurisdictions, e.g. by charging different amounts of fees from part-time students and full-time students, or from domestic and international students. Therefore, significant changes in the size of the age group 18-24 have an impact on what cost-sharing strategies governments and institutions will choose in the medium and long term.

Another factor influencing demand is the accessibility of non-higher education vocational education. Countries with strong vocational sectors will show a lower overall demand for higher education, since prospective students have real alternatives.⁷ Contrarily, higher education sectors without parallel vocational sectors may indeed offer vocational training within the higher education sector (e.g. in Hungary and Poland), which will create a relatively higher demand for higher education. In our period of investigation, in Finland and to some extent in Austria (for teachers) the higher-vocational sector was integrated into the higher education sector and offered by polytechnics, thereby increasing overall demand in the higher education sector.

2.4.2 Institutional autonomy

A general assumption made in this research was that institutions act on incentives (see, in particular, Hypothesis B). This implies that setting incentives will affect the behaviour of an institution and that institutions have the freedom to choose between alternative courses of action. This is particularly an issue in higher education, where institutions are subject to a multitude of regulations and restrictions (Estermann, Pruvot, & Claeys-Kulik, 2013). Incentives are used by a steering unit, usually national ministries, to motivate the institutions to take certain actions rather than others. Although in many jurisdictions HEIs have had a high degree of autonomy for a long time and numerous other countries have made efforts to increase institutional autonomy in our period of interest, it would be mistaken to assume that European higher education systems have reached comparable levels of autonomy (Estermann & Nokkala, 2009). Elements of close steering through directives rather than indirectly through incentives can be found in all the case study countries.

Furthermore, institutional autonomy can be realised to different degrees and in different dimensions. It can concern matters of internal management as well as financing or academic programming. Therefore, this study also took into account the freedom HEIs have in terms of the acquisition and expenditure of funds. More specifically, this concerns issues such as the regulation of enrolment, regulations restricting the ability to set the level of fees and to whom the fees apply, and rules concerning the use of fee-related

⁷ Among the countries studied in this research, Germany is arguably the most prominent example of a country in which the vocational sector attracts many potential students, see Müller et al. (2011).

income as well as the general status of fee-income as a budgetary essential or an add-on. In the research, the regulation of financial autonomy was frequently found to touch not only on tuition fee schemes, but also on enhancing institutions' ability to acquire funds from other private sources. Aspects of institutional 'responsiveness' must be viewed against this background. In some cases, assessing institutions' ability to respond to user demand requires going into matters of organisational management, e.g. to determine who is in charge of budgetary decisions of a university. Such questions were in many cases discussed in interviews with the national experts.

2.4.3 Study aid systems

The concept of cost-sharing in a wider definition not only comprises issues of institutional funding through public and private stakeholders, but also the cost of student living (see Section 1.2). To support students in dealing with this cost, most jurisdictions operate some kind of study aid system, which also represents a form of public spending on higher education. The functioning of these systems is often complex and will not be covered in any detail in this chapter (but see Sections 1.4 and 4.1 of the country case studies for more detailed information).

From a high-level policy perspective, a key question is how student support systems can be designed to achieve a reasonable balance of access, equity and quality. In this context, a range of options present themselves:

- Should all types of students be eligible for student support, or only a certain portion thereof (e.g. only full-time students, only students below a certain age / number of semesters enrolled)?
- Should loans and grants be allocated based on needs-testing or merit? If both are offered, how should the mix be determined?
- Should loans and grants only cover instructional costs (fees and possibly learning materials), or should they be extended so as to cover living costs?
- Should student support be provided in the form of non-repayable grants or as repayable loans? If both are offered, how should the mix be determined?
- Should student support go to the students directly, to their parents as their providers, or should it be in-kind, e.g. in the form of subsidised housing and board?
- If a student loan system is put in place, what rate of interest should loans be invested with? Should there be interest subsidies? If yes, for whom? Should repayment be made income-contingent or be made refundable at a fixed rate?

Loan and grant systems for students are not *per se* relevant to cost-sharing if only the public-private balance is concerned – they can be transactions between private parties. But given that the largest part of those support systems are operated by the state, they represent a shift of costs from private to public (even if some of the cost may be recouped later in the case of loans) and are thus relevant to an analysis of cost-sharing. Clearly, student support systems can be described in terms of incentives, too:

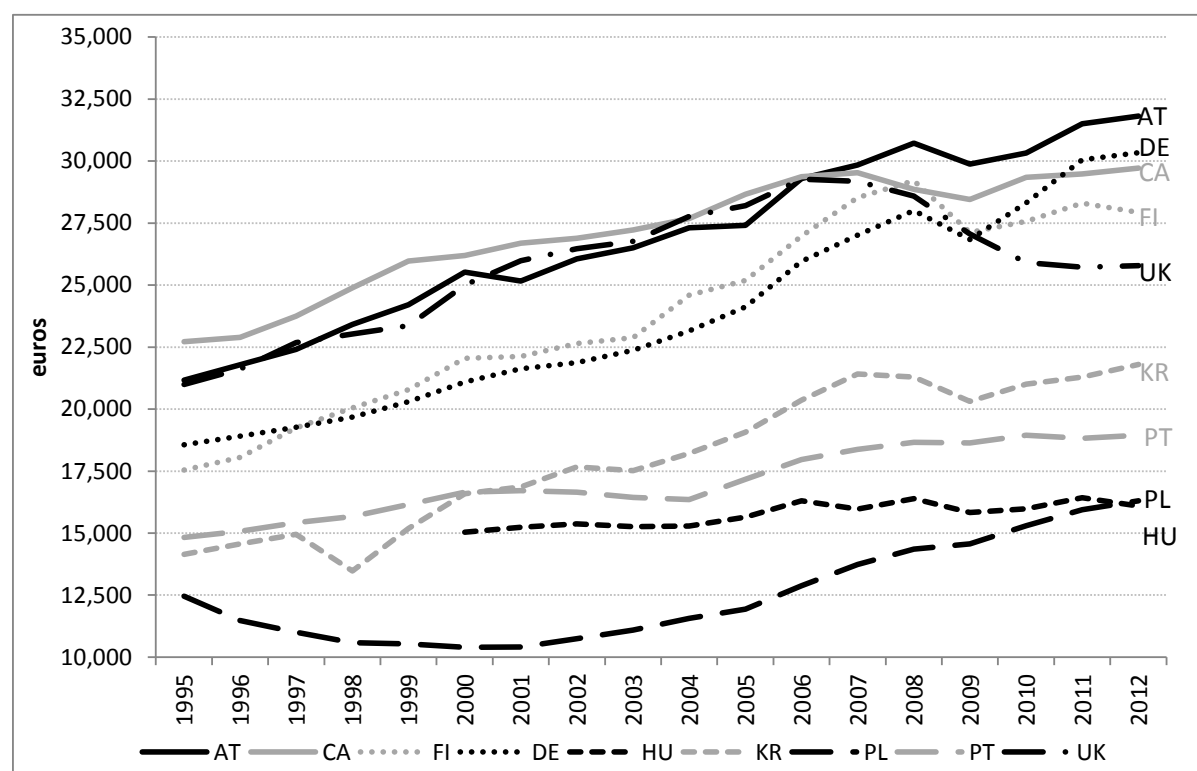
- The availability of a loan or grant is an incentive for prospective students to attend higher education, as they reduce out-of-pocket costs; the accumulation of debts or the loss of income during studying are relevant counter-incentives that must be overridden for a student support system to work. Since the resulting incentive structures are often specific to socio-demographic groups, many student support systems make different offers for different groups, e.g. grants for notoriously debt-averse groups and loans for the rest of the student body.
- The provision of state support (grants and/or loans) to students can also be a way of providing HEIs with funding via the students, since the HEIs can charge fees which are made affordable to the students through the state support.

In this way, study aid can provide incentives for prospective students to study and – in the interests of HEIs – reduce the cost-sensitivity of students to fees. The most pronounced example of this interaction is the case of England, with fees of around 11,500 euros, which are, however, covered at the point of entry by a government-supported loan available to all students.

2.4.4 Strength of the national economy

A country's economic situation can also influence the dynamics of a higher education system, since it affects state budgets, the budgets of private households and the expectations of HEIs on cost-sensitivity. In times of crisis, unemployment rates tend to rise, and young people with few chances of finding a job might enter higher education or remain there as a way of bridging the time, thus increasing demand. On the other hand, in systems with high educational costs, an economic downturn might cause a decrease in demand due to students' financial hardship. Economic developments also influence the supply side of higher education: Governments and other public funding bodies depend on sufficient tax income to be able to fund institutions. For private HEI funders, the ability to pay for instruction, to finance university research, etc., is equally tied in with liquidity issues which on the macro-level are a function of economic conditions. Figure 2.4 below shows per-capita GDP in the case study countries as an indicator of economic wealth.

Figure 2.4: GDP per capita in euros ppp (1995-2012), constant prices (2011)



Note: 1995-2000 data for Hungary unreliable. ppp = purchasing power parity.
Source: Eurostat / OECD data.

The chart illustrates three points which are of note for the case study countries:

Firstly, there has been an upward tendency in per-capita GDP for all countries for virtually the whole period of investigation. Secondly, the figure shows the particular challenge resulting from the financial crisis beginning 2007/2008, which is echoed in the

GDP data for all countries, but especially for the UK (including England) with a decline from 29,000 euros per head in 2008 to 26,000 euros in 2012. Thirdly, the countries Hungary, South Korea, Poland and Portugal have much lower economic wealth, with a clear gap to the other five countries. This lower wealth per head means that investment in higher education requires either a particular prioritisation of public funding and/or private household investment or lower quality higher education in these countries.

Box 2.1: The use of constant prices

Not all statistical sources take into account temporal changes in the purchasing power per unit of money when representing financial data in time series. This can lead to biases in comparing the significance of expenditures / revenues at different points in time: The typical development in the countries and periods considered here is for money to lose purchasing power over time due to cost inflation. To avoid this bias, the present study represents time series in 'constant prices' (see OECD, 2001). Effects of inflation (or deflation) are factored out of the data by representing all financial values in prices of 2011. Consequently, if for example a national economy underwent a 5% inflation between 2000 and 2011, financial data from 2000 are multiplied by 1.05 to take into account the fact that, at the time, the amount specified for 2000 had 1.05 times the purchasing power of what could be purchased with it ("what it was worth") in 2011. Each year before 2011 was thus given a country-specific individual factor of inflation adjustment. These factors are published by providers of internationally comparative statistics such as Eurostat or OECD.

Changes in a currency's purchasing power can differ according to whether individuals or national economies are considered. Therefore, when financial data related to individuals are discussed (in our case, students), inflation adjustment is calculated based on the change of consumer prices, whereas in all other cases (e.g. expenditures of governments or aggregated income of institutions), inflation adjustment is based on the growth of GDP.

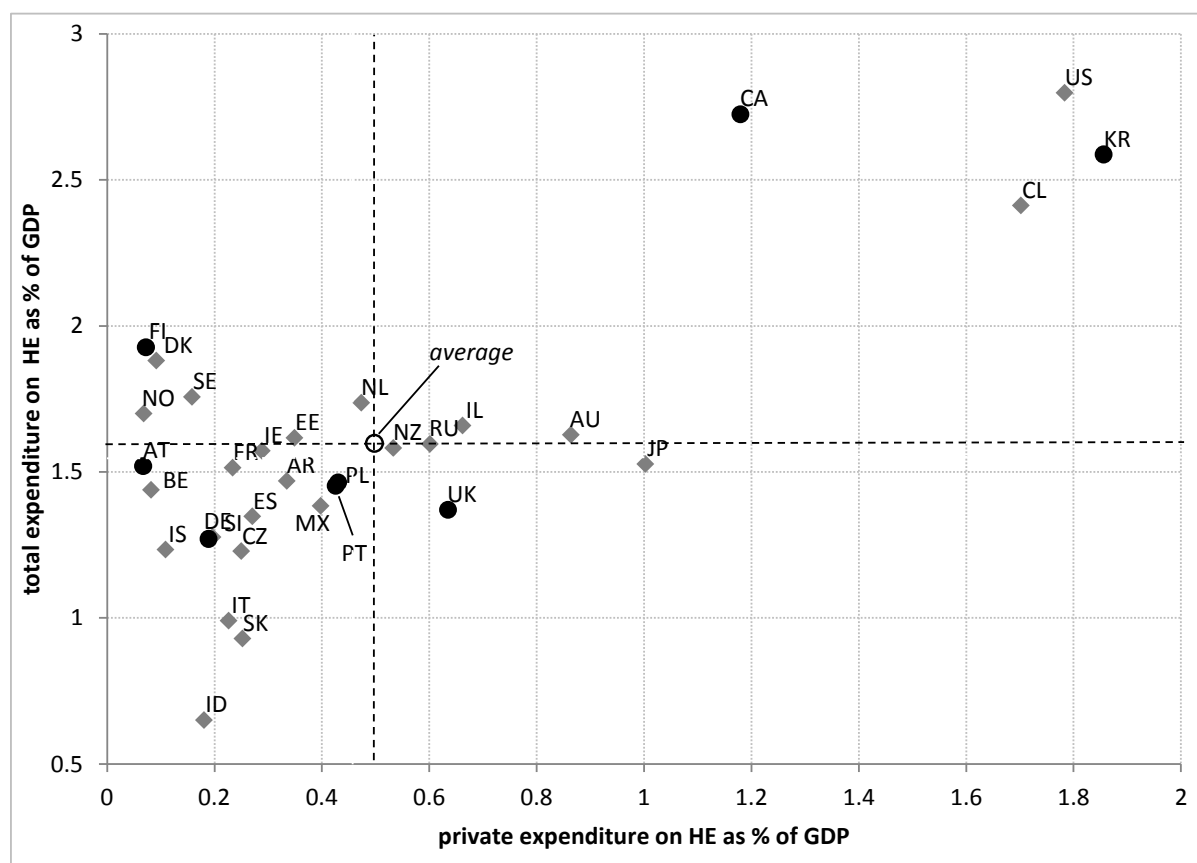
Another statistical concept used to facilitate comparability of financial values is purchasing power parities (ppp). These are rates of currency conversion that result from eliminating differences in price levels between countries. Since changes through time in a single jurisdiction are more important in this study than direct quantitative comparisons between jurisdictions, purchasing power parities will rarely be applied in the present study.

Figure 2.5 below shows that similar levels of economic power as expressed in GDP per capita do not result in similar levels of spending on tertiary education, nor in similar parameter-settings with respect to cost-sharing.

To see the first point, note that countries with lower levels of GDP per head, such as Poland or South Korea, spend larger shares of their GDP on tertiary education than countries with higher levels of economic power, such as e.g. Germany or the UK (vertical axis). In addition, no correlation can be observed between economic power and the shares of public and private funding streams: Both Canada and South Korea have high shares of private financing but fairly different levels of GDP per capita. Contrariwise, the UK and Finland have similar levels of GDP per capita but divergent shares of private expenditure on tertiary education (although there is a tendency for countries with higher GDP per capita to have less private funding in our case study set). For the comparative work of the following chapters, this means that while a country's economic power is

relevant contextual information, no direct conclusions or projections can be made from it concerning expenditure on higher education or the regulation of cost-sharing.⁸

Figure 2.5: Expenditure on higher education as a share of national GDP (total and private expenditure), 2010



Source: UOE data set with 32 countries' data. No data for Hungary, Greece, Luxembourg, Switzerland and Turkey. Data for Germany and Iceland 2009.

2.4.5 Traditions of cost-sharing

Comparable policy measures in similar situations might cause different reactions depending on the existing deep-consensus on cost-sharing in a country and on how jurisdictions have handled cost-sharing in the past. For instance, HEIs might be granted comparable levels of autonomy to acquire private funds in different jurisdictions, but might make different use of their autonomy based on whether cost-sharing is a long-standing principle of operation or whether public funding has been the only relevant source of income in the past.

A similar reasoning applies to the student side. Has there been a tradition of students paying for their studies directly? In this case, parents will often expect to be making this investment. In other countries the expectation is that the state uses taxpayers' money to

⁸ In a comparative study, Reisz & Stock (2012) find that there is a negative correlation between the share of enrolments in the financially independent private higher education sector and per capita GDP in a cross-national perspective, but the authors note that there are exceptions to this, e.g. the Japanese and South Korean systems, and conclude that national differences prevail in the interaction of public/private higher education and economic development.

invest in students on the understanding that this next generation of students will do the same as graduates and taxpayers for a future generation of students. To be sure, such basic consensual assumptions can change, but not within a short period of time.

3. Implications at the institutional level

This chapter compares the outcomes of assessing Hypotheses A and B, which both focus on the effects of changes in cost-sharing on institutions, as opposed to students. That is to say, this chapter is concerned with the relevance of public and private income sources for institutions in different systems and different periods of time. The first section will describe quantitative changes in higher education funding in the macro perspective; the second section will concentrate on financial effects of specific reforms to cost-sharing regimes in four case-study countries. Changes to institutional behaviour might be expected as an effect of increased incentives to acquire private funding; the third section will investigate whether this occurred under the term 'responsiveness'.

3.1 Changes in private funding

The first hypothesis investigated in this research (Hypothesis A) was that HEIs' total budgets increase as private revenues increase:

Hypothesis A: As private funding increases, institutional revenue increases

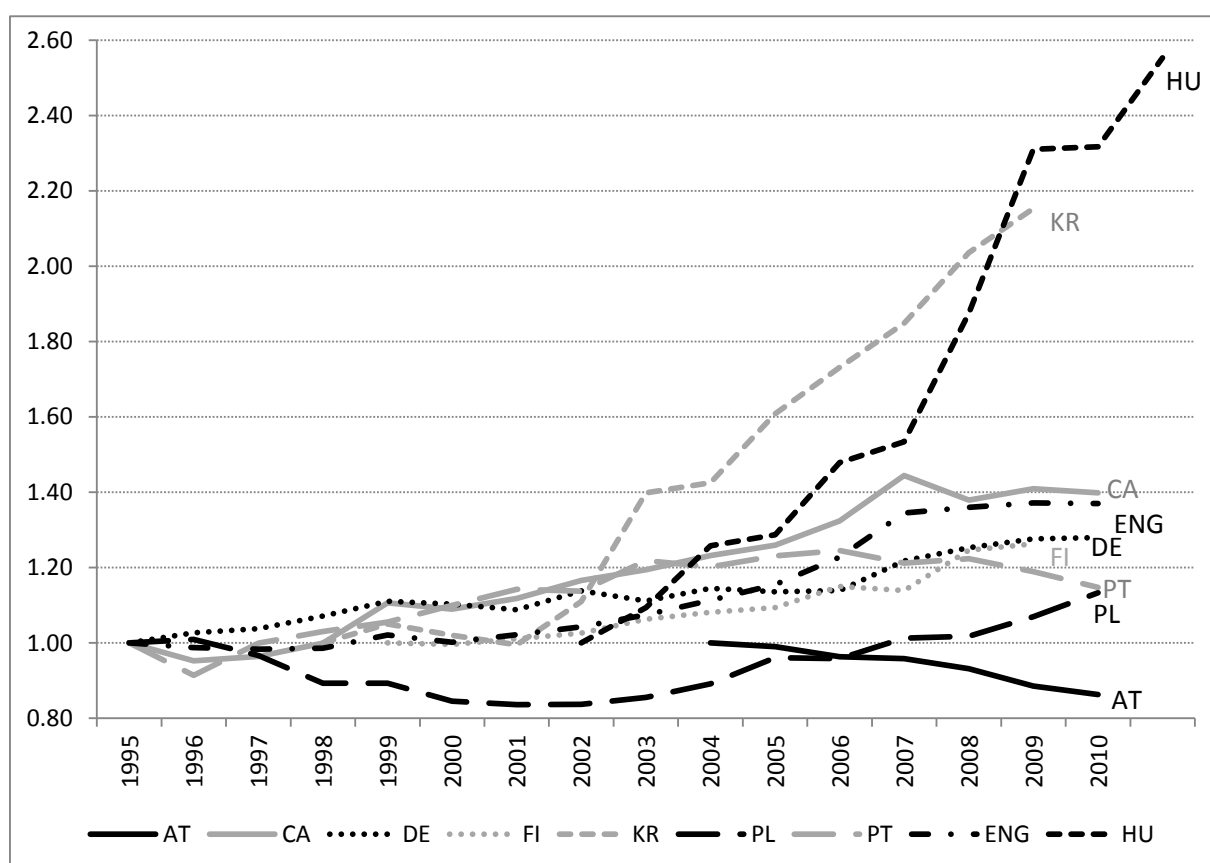


As the schema shows, the assumption underlying this hypothesis is that cost-sharing will help institutions to increase the funds available to them and will not be used by governments to reduce their responsibilities in higher education financing. Evidently, these two options are not mutually exclusive: A government might decrease subsidies for higher education and overall higher education funding might still increase due to an outsized growth of private funds. However, given that public funding is considerably more substantial than private funding in most jurisdictions investigated for this study, changes in public funding remain critical for overall institutional budgets even if privatisation is gaining in importance.

The developments discussed in this section are concerned with the contributions of different *income* sources to the overall income of institutions. The results are not identical with *expenditure* on higher education, a related indicator commonly used in international data sets: The two perspectives of institutional income, on the one hand, and expenditure on higher education, on the other, may diverge when subsidies for students are taken into account: They are higher education *expenditures* of governments (or other stakeholders), but they are not *revenues* of institutions. What is shown is therefore not equal to statistics specifying expenditure on higher education per country, especially not where jurisdictions with extensive student support systems, such as England, are concerned.

The figures below are concerned more specifically with changes in total institutional revenues *per student*. Using per-student income instead of absolute amounts is important because, as was mentioned before, growth in student numbers was a constraint affecting all higher education systems in the period of investigation to a variable extent. Figure 3.1 shows per-student income from public sources and tuition fees combined in all nine case-study countries to see whether the consequent of Hypothesis A, i.e. 'institutional revenue increases', holds. After that, the roles of private and public providers to changes in overall revenues will be investigated. In all cases the figures are indexed to the earliest year for which data were available (mostly 1995), and pertain to the higher education system as a whole, including both public and private institutions, except where otherwise noted.

Figure 3.1: Per-student income from public funding and student contributions to HEIs (1995-2010, indexed to earliest year available)



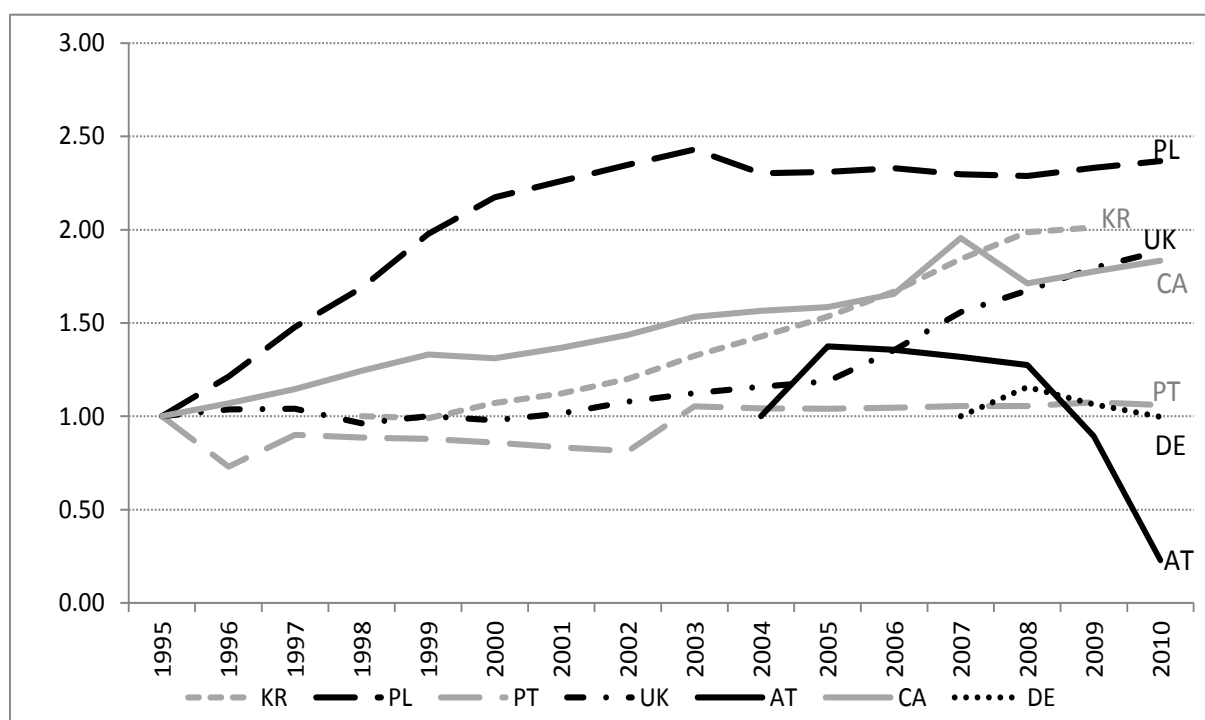
Note: Constant prices (2011).

Source: Case studies.

We see that an increase in overall per-student income is a common feature of nearly all case study countries in almost all years in the period of investigation. Austria is the only country in which total per-student income at the end of the period of investigation was lower than in the earliest year, although this result must be interpreted with caution because the indexing year for Austria is 2004, i.e. later than for all other countries. Poland stands out with a decrease in per-student income over several years in a row (1996-2002) during its time of massive enrolment expansion, a trend which stopped once enrolment numbers stabilised.

To see whether the reasoning of Hypothesis A is correct, Figures 3.2 and 3.3 below show changes in private and public per-student income, respectively. We see that in most jurisdictions, both increased in the period of investigation. This means that for the most part, governments did not use the increased inflow of private funds to reduce funding to HEIs, confirming Hypothesis A. Some of the more insightful cases where decreases in public funding took place will be discussed in Section 3.2 below; for all other cases, further information can be found in the case study reports in the appendix.

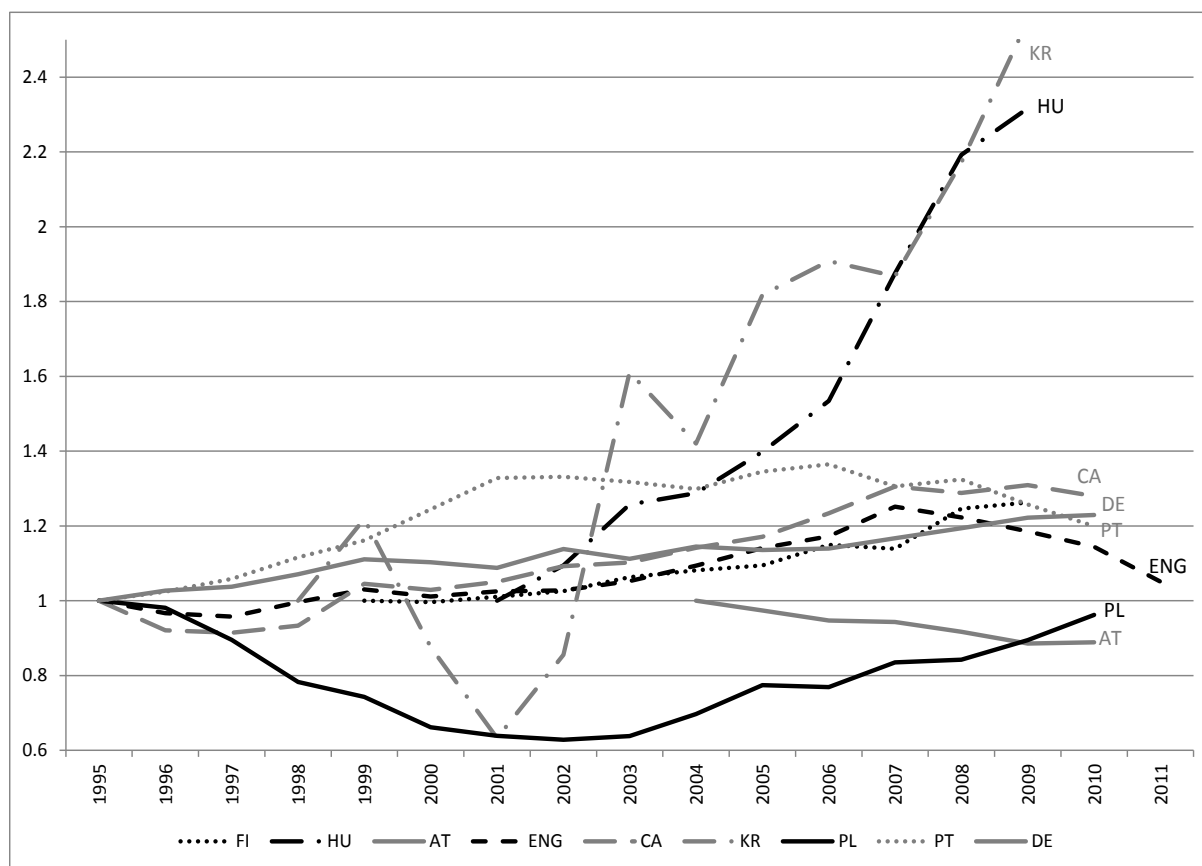
Figure 3.2: Per-student income from student contributions to HEIs (1995-2010, indexed to earliest year available)



Note: Austria: only public universities. Germany: only public HEIs. Finland: HEIs received no substantial student contributions in the period of investigations. Hungary: no data. Constant prices (2011).

Source: Case studies.

Figure 3.3: Per-student income from public funding to HEIs, indexed to earliest year available



Note: Constant prices (2011)

Source: Case studies.

Figure 3.2 furthermore illustrates that the assumption on which this research builds, i.e. that private income has become more important, is correct. Figure 3.3 shows that in the period of investigation, examples of decreasing public income are rather rare, even when specified on a per-student basis. This makes it difficult to falsify Hypothesis A in the first place. One case in point would be Poland, as mentioned above. Other cases in which public income decreased significantly over longer stretches of time are Canada in the late 1990s, South Korea 1999-2001, England post-2007, or Austria 2004-2009. It appears that decreases in public per-student income can have one of two main causes: either a serious economic downturn – this was the case in Canada in the early 1990s (with effects on public spending being delayed into the late 1990s) and in South Korea after the currency crisis of 1997/1998; or a vast enrolment growth, as in Poland in the 1990s to mid-2000s, and, albeit less pronounced, in Austria in the 2000s. In England both factors appear to have worked together after 2007.

In summary, and bearing the restrictions in mind, which were described above, it can be stated that the countries chosen for this study tend to verify Hypothesis A: Increased private funding leads to increased overall revenue.

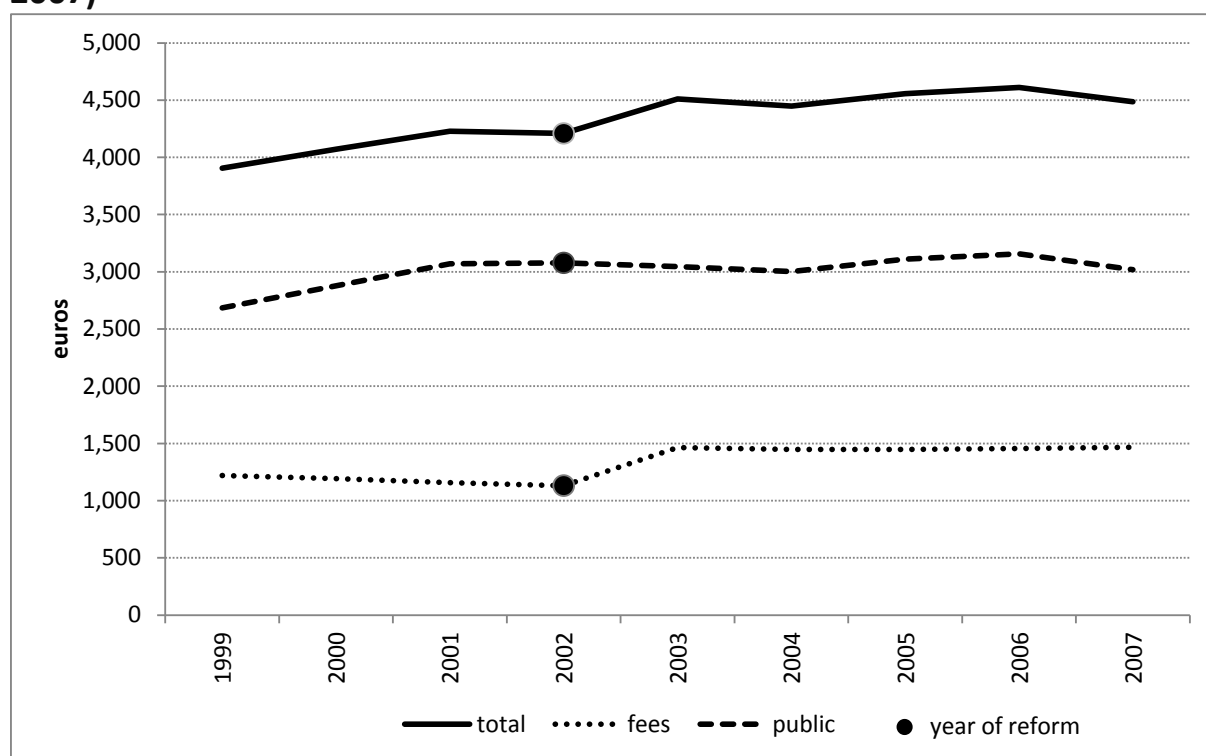
3.2 Effects of reforms

A major interest of this study is in the effects of policy interventions on the cost-sharing balance. Therefore, this section focusses on the sub-set of case study countries which were identified in Section 2.3 as having undergone disruptions in fee policy. This group comprises the following countries: Portugal, Germany, Austria and England. The analysis below concentrates not on the whole period 1995-2010, but on the years before, during which and after the reforms were carried out, usually in an eight-year-window. In keeping with the spirit of the case study-approach, the four countries will be discussed individually below before a synoptic summary is given.

Portugal

In Portugal, tuition fees had been made a constituent of HEI funding as early as 1992. In 2003, the existing fee regime was re-adjusted by defining a minimum and maximum fee level for public institutions coupled to national minimum wages. *De facto*, this resulted in an increase in average fees. The effects on HEIs' revenues are shown below.⁹

Figure 3.4: Per-student income by source in Portuguese HEIs (1999-2007)



Note: Constant prices (2011).

Source: Case study research.

In Portugal, tuition fees had been made a constituent of HEI funding as early as 1992. In 2003, the existing fee regime was re-adjusted by defining a minimum and maximum fee level.

The effects of the fee reform are clearly visible in the lower line showing private income: From 2002 to 2003, fees rose by 333 euros on average, an increase of roughly 40

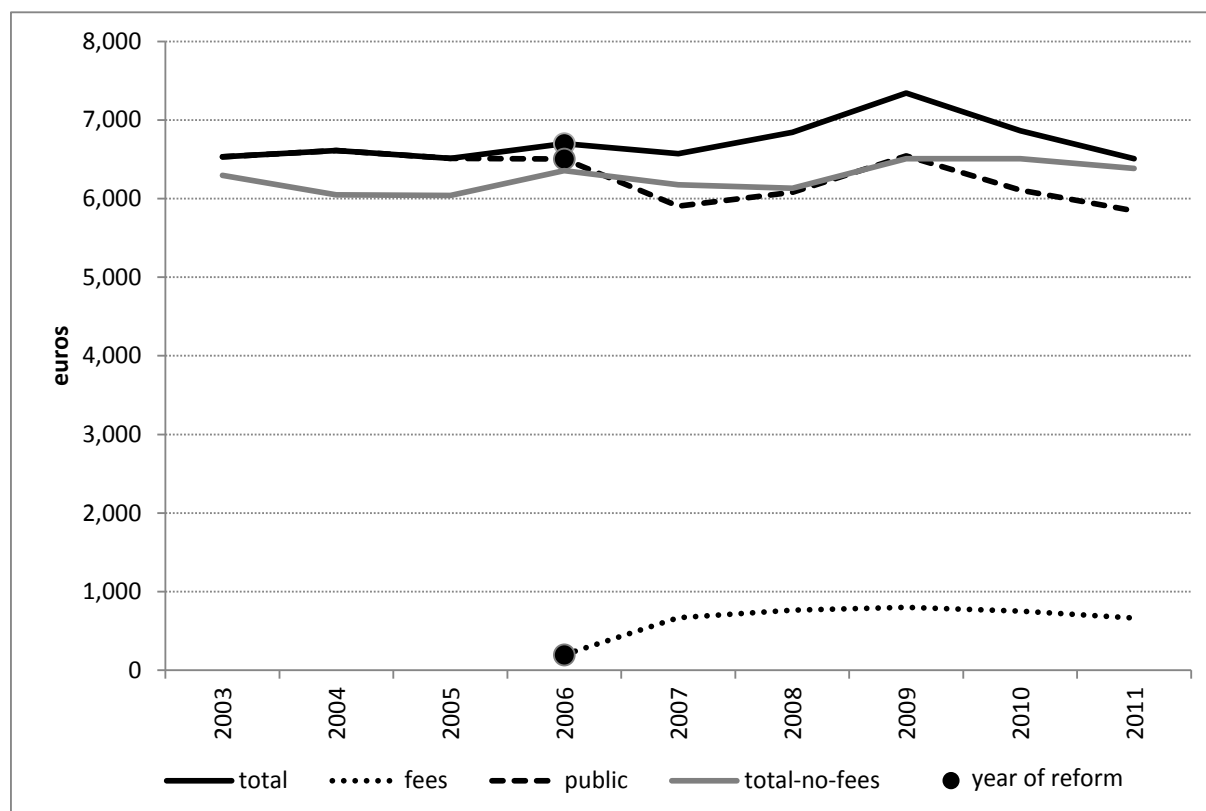
⁹ Note: The marks locating the year of reform in this graph and the next ones indicate the year *before* the reform took effect in HEIs' budgets.

percent from the level of 2002. We also see that income from public sources barely changed at all in the years before and after the reform, and that private income remained quite constant after the increase in 2003. As a consequence, the reform brought a one-time increase to institutional revenues that stabilised in the years after.

Germany

General tuition fees were introduced in a common initiative of seven Christian-Democratic *Länder* governments in 2007. Out of these, five kept them until the end of the period of investigation (all *Länder* will have abolished fees by the end of 2014). The data below are for these five, called 'fee-charging *Länder*' – Baden-Württemberg, Bavaria, Hamburg, Lower Saxony and North Rhine-Westphalia – for the sake of simplicity. As a rule, both domestic and international students were charged 500 euros per semester, although there were reductions or exemptions for some groups of students. Nine *Länder* chose not to introduce fees. They are represented below for comparison (light line). Two more *Länder* (Hesse and the Saarland) introduced them in 2007 but abolished them still within our period of investigation, which is why they will not be considered here.

Figure 3.5: Per-student income by source in HEIs from five fee-charging German *Länder* (combined, 2003-2011)



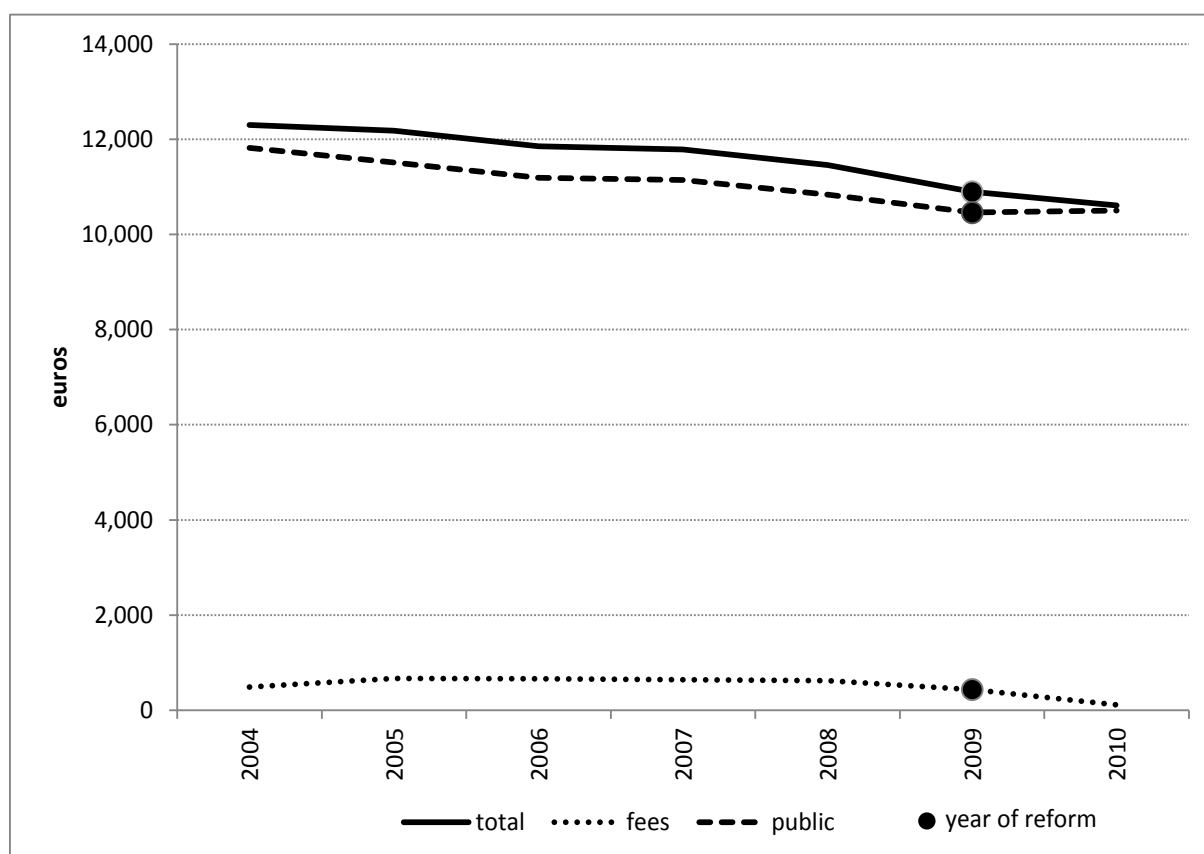
Note: The five fee-charging *Länder* included are: Baden-Württemberg, Bavaria, Hamburg, Lower Saxony and North Rhine-Westphalia. Contrast group ('no fees'): all other *Länder* except Hesse and Saarland. Student numbers and income were cumulated for the fee-group and no-fee-group, respectively. Constant prices (2011). Source: Case study research.

Figure 3.5 shows that fee income per student peaked at an average of 800 euros per student annually in 2009. Public per-student income was somewhat unsteady in the time before and after the reform, but between 2007 and 2009 total per-student income was clearly higher than before the reform due to the additional private income. A comparison with the *Länder* in which no fees were charged shows that in 2011, the financial advantage of fee-charging institutions in terms of total per-student income had virtually vanished due to the increasing share of students for whom fees were being waived and the concurrent decrease in public funding per-student in the fee-charging *Länder*.

Austria

In 2001, the Austrian government introduced fees of roughly 730 euros per annum for domestic university students and 730 euros per semester for non-EU/EEA international students. This regulation was altered in 2009: Most domestic and EU/EEA students were exempted from paying fees, and other international students' fees were reduced to 363 euros per semester. Figure 3.6 below focusses on the time around abolition of fees in 2009 (no data were available for the years after 2010).

Figure 3.6: Per-student income by source in Austrian HEIs (2004-2010)



Note: Constant prices (2011).

Source: Case study research.

We see that preceding the years of the abolition of fees there was a gentle but constant decrease in public per-student income, which turned into a slight increase in 2010. The income through tuition fees merely mitigated the overall downward trend. An analysis of the statements of accounts of universities conducted for the case-study shows that the increase in public revenues in 2010 was due to the compensations the government paid

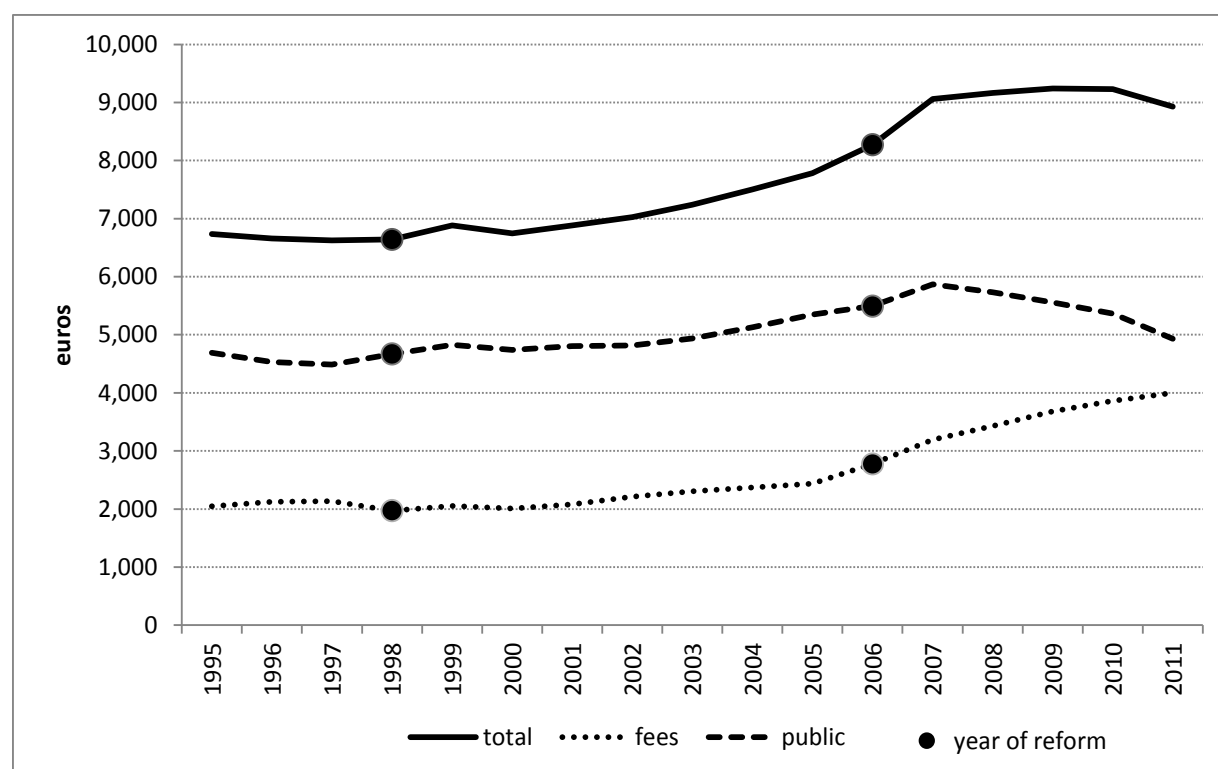
for lost fees. They were equal to what institutions had gained through fees. The same source also shows that these compensations were granted in equal amounts in the academic years 2011 and 2012.

Relevant data for the time of the introduction of fees in 2001 were not available. National experts were asked about the financial effects of this reform, and there was consensus that the introduction of general fees in Austria was predated by public budget cuts just about equalling the additional income generated through fees, supporting the argument that the fee system was actually introduced to balance the preceding budget cuts.

England

England had two tuition fee reforms in the period of investigation: first the introduction of general tuition fees of 1,200 euros per annum for domestic undergraduate students in 1998, and then the introduction of fee ceilings of 3,600 euros per annum in 2006, resulting in a significant increase in average fee levels. In 2012, another reform was carried out, raising fee caps to 11,500 euros per annum. The latter reform is not represented in the graph because the relevant data are not yet available.

Figure 3.7: Per-student income by source in English HEIs (1995-2011)



Note: Constant prices (2011).

Source: Case study research.

We see that the first reform (1998) did not have any visible effects on the funding streams. According to findings of the national case study, this can be explained by the relatively high number of fee exemptions and reductions, and the dominance of fees collected from international and graduate students, which at the time were already of such importance that the new type of fee did not have a major impact on institutional income. The reform in 2006 was different, since it led to a significant and constant increase in private revenue in the ensuing years. Per-student fee income in 2011 was

64% higher than in 2005. This was an effect of many institutions approaching the fee ceilings the government had stipulated. The introduction of new, higher fee caps of 11,500 euros per annum gave institutions an incentive to increase private funding even more. Recent data on average fees paid by students show that in 2012, students paid 7,860 euros per year on average, compared to 3,230 euros per year in 2011. This clearly implies that per-student fee income for institutions has increased once more. - On the public side, we see a constant decrease in per-student income starting 2007, in a time in which enrolments started to grow significantly (+17% between 2007 and 2011). As a result, the public and private income curves start to converge from 2007 onwards.

The discussion of the four countries proved to be insightful insofar as it showed a different pattern for each country. The key points of contrast in summary are:

- In Portugal, the fee reform of 2003 caused a one-time hike in private revenues of about 330 euros. Private income stabilised at the level reached after the reform in subsequent years. Revenue from public sources remained unaffected by this event. As a result, the fee reform led to a net increase in total per-student revenue. Judging from the timeframe chosen above for the analysis, Portugal appears to be a neat example of a country verifying Hypothesis A. However, as will be shown in the next section, there is evidence that HEI funding began to decrease again several years after the reform.
- In Germany, the situation is more ambiguous: The introduction of fees in several *Länder* in 2006/2007 initially caused higher per-student income, but in the time after the reform both public and private revenues were less steady, and by 2011, the initial increase in per-student income was almost neutralised. Whether the German case verifies Hypothesis A is therefore difficult to say based on the data presented above. Institutional and national experts interviewed about the effects of the introduction of tuition fees in Germany agreed however that fee income was additional, i.e. governments did not reduce their subsidies in response to the introduction of fees.
- In Austria, the introduction of fees in 2001 was accompanied by cuts in public subsidies according to expert opinion. This would mean that Hypothesis A is falsified by this particular case. Reversing the implication proposed by Hypothesis A, one would expect that the abolition of fees, i.e. a decrease in private revenue, will not affect income from public sources. This expectation is not borne out, though, because per-student funding from public sources increased after the abolition of fees due to the Austrian government granting compensations for lost fees over several years now.
- In England, the first fee reform in 1998 did not have serious immediate effects on either public or private revenues of institutions. The second reform in 2006 started a pattern that is not observable in any of the other cases analysed above: A steady annual growth in private income started after 2006. This type of pattern is typical of jurisdictions with a long-standing fee tradition in which fees tend to rise continually over time. Examples from the case study set would be Canada or South Korea.

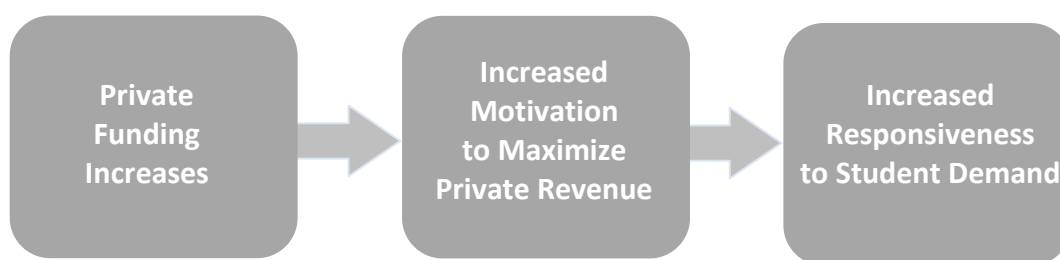
In conclusion, it appears that the reforms in Portugal, Germany and Austria were aimed at realising increases (or preventing decreases) in total per-student funding, a mission which succeeded in Portugal and failed for political reasons in Germany and Austria. In England, on the other hand, the 1998 reforms, though unimposing in purely statistical terms, paved the way for what can be considered a profound re-engineering of the system. This took full effect in the 2006 and 2012 reforms, through which the public-private balance has undergone an extensive shift towards an ever-greater role of private contributions. What the income-perspective adopted in this discussion does not show is that although the 2006 and 2012 reforms have significantly transferred the costs of higher education onto the private user and away from the state, the latter continues to be heavily involved in higher education funding through student lending: In the wake of the 2006 and 2012 reforms, access to student loans has been facilitated for various student groups, including part-time students, and is made use of on a large scale by

students.¹⁰ Even so, the long-term goal of the English system is clearly to privatise a considerable share of higher education funding – an objective which is not discernible in any of the other European countries considered in this study.

3.3 How institutions react

While the previous section was essentially about the behaviour of governments (How do public budget appropriations change in the face of changes in cost-sharing? What are the effects of reforms aimed at increasing cost-sharing?), the present section will be about the behaviour of institutions. The hypothesis heading this part of the research, Hypothesis B, states that as private revenues increase, institutions become more responsive towards user demand. The hypothesised causal linkage, introduced in Chapter 1, is repeated below.

Hypothesis B: As the incentives to earn private funding increase, institutions become more responsive to student demand



The key assumption at work in Hypothesis B is that institutions will gear their actions towards the requirements imposed by their most important providers. What complicates investigations into this issue in the case of higher education is that HEIs normally have a multitude of providers from both the public and the private realm. Although as the data presented in this and the previous chapter show, private funding sources have grown in importance in the period of investigation, public funding is still prevalent. This implies that the behaviour changes focussed on in this section should not be expected to be abrupt and radical, but rather slow and gradual in nature. Moreover, becoming responsive towards user demand presupposes a certain degree of autonomy on the part of institutions, a premise which is also worth examining in some detail.

The term 'responsiveness' used in Hypothesis B subsumes any kind of behaviour that can be understood as a (re)action to satisfy actual or anticipated user demand or to actively produce such demand. Several aspects of such behaviour were investigated in this study: The mix of disciplines institutions offer, diversity of provision, diversity in the modes of study, the focus on certain, particularly gainful user groups, outreach activities and efforts to increase quality and relevance of instruction. As with most of the research conducted for this study, the analysis was based on a mix of qualitative and quantitative data.

The notion that fees make institutions more susceptible to changes in demand are at base rooted in the idea that the financial rewards on offer from fees are sufficient to induce the institution to educate the student. When a country introduces tuition fees, it imposes a fee on all (or at least most) students, and thus creates a large pool of money which can be used to increase capacity; however, it does not necessarily create an

¹⁰ According to the UK's Student Loans Company statistics, 85.4% of students took up a tuition fee loan in 2011/2012.

ongoing incentive to create more places. Imagine, for instance, a country with 100,000 students which imposes a 500 euro fee. Consequently, 50 million euros are available to expand capacity. After that, however, each marginal student brings in only another 500 euros in fee income, which is unlikely to cover his/her costs. As a result, institutions will be unlikely to increase capacity on an ongoing basis unless they have other incentives to do so (for instance, provisions of additional money or threats of sanctions from government). When determining whether or not fees may be influencing institutional decisions, it is therefore important to consider the full range of incentives – both from private and public funds – facing an institution.

In a nutshell, the outcomes of the case study analyses were mainly negative, i.e. not many changes in institutional behaviour in the dimensions named above could be determined. Particularly few changes were observable with regard to shifts in educational profiles. Where matters of educational diversity as well as outreach are concerned, a slightly more dynamic picture emerged.

Based on the set of evaluation questions brought to bear in the country studies, the present chapter will summarise and compare results.

3.3.1 Changes in academic programming

This section discusses changes in institutions' disciplinary profile as well as in modes of study and in the number and diversity of programmes offered. Underlying all of these points is the question whether institutions are liable to change their academic profile in order to better respond to user demands, thereby enhancing their opportunities to generate private income. The most important income stream in this regard is certainly tuition fees, but an institution might also profit more from other private funds by changing its profile, e.g. by becoming more oriented towards commercial exploitation of research. While this latter issue is touched on in most of the case study reports, the present report will keep its focus on students as the most important and most reliable private user group of HEIs.

The background: Levels of autonomy

A restriction that applies in the context of academic programming is whether in order to increase their income institutions are actually free to introduce and terminate programmes as they see fit, and, related to this, how many students they can admit in such programmes. Table 3.1 gives an overview of the state of affairs in these matters.

Table 3.1: Countries' autonomy in programme setting and enrolment regulation

| | Austria | Canada | England | Germany | Finland | Hungary | Poland | Portugal | South Korea |
|---|--|--|--|---|---|--|--|---|---|
| Autonomy to introduce programmes | High (but funding settled in performance agreements with the ministry) | Mostly intermediate (accreditation, funding for new programmes negotiated with the ministry) | High | Mostly intermediate (obligatory accreditation, often additional approval by ministry) | Intermediate (new programmes must be within the institution's educational remit as defined by the ministry) | Low | Intermediate (limited to a list of programmes defined by the ministry, otherwise only if approved by the Central Council for higher ed.) | Low (must be accredited by national agency) | High (programme accredited introduced 2008) |
| Autonomy to terminate programmes | Intermediate (negotiation with the ministry) | High | High | See above | Intermediate | High | High | High | High |
| Autonomy to choose number of students admitted | Low in most programmes (free admission) | High | Intermediate (overall student numbers negotiated with Funding Council) | Low in most programmes | Intermediate | Intermediate (number of state-funded places is regulated externally) | High | Intermediate (negotiated with the ministry) | High |

Source: European University Association (n.d.) / case study research.

In the case studies, systems in which HEIs are entirely autonomous in terms of academic programming and student admission are a minority. In most jurisdictions, both the introduction/termination of study programmes and the determination of numbers of students admitted in the programmes is a matter of negotiation between the institution and a central authority (usually the responsible ministry). In these cases it is difficult to assess the level of autonomy institutions have *de facto*: The outcome of a negotiation is not least determined by the ratio of power between the negotiating parties, which naturally is difficult to assess from outside. There are also cases in which new programmes must be approved by an external authority. In such cases much depends on whether the authority actually evaluates the proposals or simply 'rubber-stamps' them. This could not be determined on the basis of the available data, either.

Based on the information displayed in Table 3.1 one can distinguish three groups regarding degrees of autonomy in academic programming:

- Systems with high institutional autonomy in academic programming: England, South Korea: HEIs in England appear to be subject to few if any restrictions concerning the establishment and termination of programmes at both the Bachelor and Master levels. In South Korea, accreditation of new programmes was absent until 2008, thus institutions were free to offer programmes as they saw fit for most of the period of investigation.
- Systems with intermediate institutional autonomy in academic programming: Austria, Canada, Germany, Finland, Poland. Austria has far-reaching autonomy in establishing new programmes, but matters of funding must be negotiated with the ministry. In Finland, an institution can establish new programmes if they are in accord with the institution's educational mission, which is defined by the ministry. In Poland institutions can only open new programmes from a list of about one hundred programmes defined by the ministry. In Germany, recent reforms have given institutions more autonomy in academic programming, but accreditations must be undergone, and financing is usually conditional on consent of the ministry. Similarly, in Canada new programmes must mostly be accredited and approved of by the ministry in order to receive funding.
- Systems with low institutional autonomy in academic programming: Hungary, Portugal. In Hungary and Portugal all new programmes at Bachelor and Master level must strictly be approved of by a national accreditation agency, leaving HEIs little room to change their profile quickly and on the basis of their own criteria.

The second important restriction applying to institutions' responsiveness is autonomy with respect to admission. A new, potentially profitable programme may not be very valuable for an HEI if admission to it is heavily restricted by an external authority. Using the same classification grid as before, the following three country groups result:

- Systems with high institutional autonomy in admission policies: Canada, Poland, South Korea. Institutions decide independently on how many study places they want to offer in these systems. It is important to see that these are the two systems with the highest share of students enrolled in private institutions (40% in Poland and 75% in South Korea). It is likely that these institutions are less restricted in their admission than public institutions to begin with. Admission to public institutions appears to have been aligned with private institutions in these systems.
- Systems with intermediate institutional autonomy in admission policies: Germany, Finland, Hungary, South Korea, Portugal, England. In these countries the number of study places in most programmes is determined by way of negotiation between the institution and the central authority. Hungary was classified in this group although the ministry determines the number of state-funded places per institution because

HEIs still have the opportunity to admit more students as long as the incurred costs are covered by tuition fees.

- Systems with low institutional autonomy in admission policies: Austria. In Austria the principle of free admission applies in the university sector, i.e. universities are required to accept every applicant in possession of a suitable university entrance qualification in all but few programmes. The situation is different in *Fachhochschulen*: In this sector, predefined limits to the number of state-funded study places per programme apply, and institutions can enrol students beyond those limits if they provide the funds (although the tuition fee limits defined by law must be adhered to, i.e. charging higher fees from additional students is not an option).

The country characteristics at a glance are shown in Table 3.2 below with the level of autonomy in academic programming and admission of students as classifying criteria.

Table 3.2: HEI autonomy in programme setting and enrolment regulation

| | autonomy in academic programming | | | |
|-------------------------------|----------------------------------|-------------|------------------|-------------------|
| | | <i>high</i> | <i>medium</i> | <i>low</i> |
| autonomy in student admission | <i>high</i> | South Korea | Canada, Poland | |
| | <i>medium</i> | England | Germany, Finland | Hungary, Portugal |
| | <i>low</i> | | Austria | |

Source: European University Association (n.d.) / Case study research.

With these qualifications as a backdrop, the following sub-sections discuss behavioural effects related to institutional responsiveness. Jurisdictions with a medium or high ranking in Table 3.2 above will be the more insightful ones to consider.

Changes in discipline profile

The best indicator for aggregate discipline profiles of HEIs would be the number of study places per discipline. Since it was impossible to get data on study places for all case study countries, enrolments were used instead. On the assumption that institutions will seek to harmonise their offer of study places with students' enrolment behaviour over time, this appears to be an appropriate proxy. What this indicator cannot show is how much of any given change is due to changes in demand, and how much is due to institutions (or the authorities steering them) actively changing supply patterns in order to induce new demand.

From a bird's eye perspective, the case studies provided virtually no indications of systems shifting their discipline profile to significant degrees in an attempt to maximise private revenues. The shifts that one does see are most plausibly driven by factors other than cost-sharing. Pertinent examples would be the decline in educational science observable in Canada and Portugal, which in both cases is most probably a consequence of a receding demand for teachers due to demographic changes. Thus this evaluation question does not corroborate Hypothesis B.

Changes might have been expected in countries in which two preconditions hold: a) institutions rely on private income to a significant degree, so that changes in programming might lead to increasing revenues and b) institutions have sufficient autonomy to change their instructional offers. The first precondition applies to South Korea, England, Poland and to a lesser degree Canada and Portugal. The second condition applies to England and South Korea and, to a lesser extent, the other case study countries except Hungary and Portugal (see Table 3.2). England would seem

particularly interesting because of the reforms (1998 and 2006) that made tuition fee income more important for HEIs. But even in this case few changes were found on the system level. An episodic piece of evidence concerns the subject of chemistry in English universities: In the decade between about 1995 and 2005, about 30 of 70 existing chemistry departments in English departments were closed, mostly due to financial reasons. This phenomenon was apparently caused both by a lack in demand from the student side – which would make this an instance of responsiveness in the sense this section is concerned with – and by insufficient government funding. When the Higher Education Funding Council for England (HEFCE) decided to provide special funds for the promotion of ‘vulnerable’ subjects, including chemistry, a number of universities (ten between 2005 and 2013) re-opened their chemistry departments (see Scott, 2013).

One thing that the data do show is a difference in discipline profiles between public and private institutions: Private institutions, being dependent on cost efficiency for their economic survival, tend to offer more programmes with lower educational costs across countries. A case in which this can be seen clearly in the temporal dimension is Poland in the late 1990s and early 2000s. An increase in private HEIs and tuition-generating programmes in public HEIs resulted in a spike in enrolments in the subjects of social sciences, law and business studies: The share of students in those fields rose from 30% to 40% to 50% from 1994 to 1998 to 2002. This was thus not so much a case of institutions shifting their educational profiles, but rather of newly established institutions choosing a certain profitable focus for themselves. The reverse case is observable in Hungary: When the number of entrants to private institutions dropped in the 2000s, the share of entrants in economics in the Hungarian system also dropped, from 30% in 2001 to 17% in 2011. It is uncertain whether the developments in Poland and Hungary are actually examples of institutional responsiveness or rather cases of users adapting to given supply patterns. Anyhow, the Polish case shows that the public-private funding balance can be critical for a system’s overall disciplinary profile.

A related question investigated in this research was whether the number of programmes available to students changes as private funding becomes more important. The same restrictions about reliance on private revenues and autonomy in academic profiling mentioned at the beginning of this section apply: Using changes in the number of programmes as an indicator of responsiveness implies that institutions can (or must) earn income through tuition fees, and have sufficient organisational independence to establish new programmes. Even though both restrictions are respected to a certain degree in a number of case study countries – see Table 3.1 –, no clear indications were found that the overall number of programmes increased as a consequence of opportunities to generate income from tuition fees. This result is partly due to data collection problems: National statistics on the number of programmes were rarely available for the entire period of investigation. In England, where such data were available, the number of programmes even decreased from over 39,000 to about 34,000 between 2007 and 2011. This might be taken to suggest that changing financial sensitivities incentivised by the reforms in England led to results that go against user responsiveness rather than in favour of it; but it could also be interpreted as an effect of HEIs discharging themselves of programmes for which there was insufficient user response and which were thus, by the logic of the system, unsustainable for the institutions.

Changes in mode of study

The case studies also investigated whether institutions diversify the modes of study in order to better respond to user demand. The paradigmatic case would be an increase in part-time study places to accommodate students unable or unwilling to study full-time, thereby increasing tuition fee revenues. In addition, part-time study

programmes frequently target persons in jobs, who are often better able to pay fees than secondary-school graduates and hence particularly interesting as sources of revenue for institutions.

As before, the evidential value of changes in mode of study depends on the degree of autonomy with which institutions can adapt their programmes to (prospective or experienced) user demand. Table 3.1, line 1 can be consulted in this matter, although to be more precise it would have been necessary to investigate whether turning a full-time study programme into a part-time programme is subject to the same regulations as the introduction of a new programme, which was not undertaken in this research.

Whether institutions have an economic incentive to establish (more) part-time programmes depends on the amount of tuition fees they can charge. Not considering cases in which all or almost all programmes are tuition-free (Finland, most German *Länder*, Austria pre-2001 and post-2009), two cases can be distinguished: those in which institutions may charge the same amount per instructional unit as in full-time programmes, and those in which they may charge more per unit than in full-time studies. The latter may provide a strong incentive to offer part-time studies, the former within limits, e.g. if it allows to reach target groups that would otherwise not have studied at the institution in question.

In the case studies, two countries were identified in which institutions may charge higher fees from part-time than from full-time students: Hungary and Poland. Germany as a country in which fees may vary according to the type of Master programme offered is also in this group.

In Poland, studying at public HEIs is tuition-free for full-time students but fee-paying for part-time students. In Hungary, part-time students pay the same amount per semester as full-time students, effectively making part-time studies more lucrative for institutions. In the case of Poland it could be observed that the share of part-time students increased in the second half of the 1990s (from 36% in 1994 to 54% in 2000) before levelling off in the subsequent years (2011: 45%). This pattern was visible in both the public and private sector. A conclusion to be drawn from this is that institutions in Poland did respond to an increasing demand for part-time study places, which were sought-after mostly by persons who had not been able to realise their intention to study while the country was part of the Eastern Bloc, and were looking for a way to study without giving up their employment

In Hungary, the share of part-time students reached its peak in 2003 (44% of all students in basic degree programmes) and decreased continuously in the years after. In 2011, the share had gone down to 29%. Enrolment data show that the decrease of the share of part-time students coincided with a decrease in overall demand. The explanation for this is that in Hungary the number of state-funded places is limited and only accessible to full-time students. As long as state-funded places were scarce, students accepted part-time study places; when overall demand decreased and more state-funded places were available per applicant, the share of fee-paying part-time students decreased. Thus it appears that the state regulation of study places overbalanced the attractiveness of part-time students for institutions. Another case in which different modes of study are connected to different opportunities to increase private revenues is found in Germany. In the German system, a distinction is made between 'consecutive' and a 'non-consecutive' Master programmes. In broad strokes, the first are for students who enrol in a Master programme directly after obtaining a Bachelor degree, while the second are for persons having gathered work experience after completing a basic degree and returning to university. In the latter type of programme, public HEIs are allowed to charge fees at a cost-covering level (which is inevitably higher than the standard tuition fee of 500 euros per semester some *Länder* used to charge). The analysis shows that the share of such non-consecutive Master programmes has been increasing in both the public and the private sector, but that

overall the private sector is rather more focused on those programmes than the public sector: Almost one in three Master programmes offered by the private sector is non-consecutive, whereas the share is below 10% in the public sector. Overall, the public sector in Germany does not (yet?) seem to be too eager to tap into this source of private revenue.¹¹

In all other case study countries institutions may charge fees for part-time study programmes, but the fees are proportionally lower than what could be charged from full-time students, providing no strong stimulus to expand the provision of part-time study programmes. In England, the share of part-time students even plummeted after the tuition fee reform in 2006, and a possible explanation of this, advanced in the case study, is that the country's study aid system was not open to part-time students at the time, thus deflecting potential part-time students for financial reasons.

Changes in institutional landscape

The associated evaluation question was whether in the period of investigation there were changes in the number of institutions, particularly private institutions. Whereas the establishment and termination of public institutions is state-initiated, the establishment of private institutions is more likely a consequence of new opportunities to attract private revenues. Importantly, this evaluation question is not about responsiveness of individual institutions, but rather about responsiveness of the entire higher education sector.

The key assumption of this evaluative question is that an increase in private institutions is indicative of a stronger user orientation at the system level. This is because user responsiveness is a key functional principle of private institutions: They rely on a constant and adequate stream of user contributions to survive.

In general, one can assume that systems in which (most) public institutions collect tuition fees offer more favourable living conditions for private institutions than systems in which public higher education is free. Nonetheless, two countries in which public institutions charge comparatively high fees, namely Canada and England, did not see a noticeable rise in private institutions in the period of investigation. In both of these cases it can be argued that during our period of investigation, the prevailing political framework did not consider privately organised higher education as a necessary or desirable part of the national higher education landscape. A well-developed and highly differentiated network of public institutions left little space for private institutions to enter the market (and market entry barriers are considerable in higher education). In addition, legal regulations concerning the types of programmes a private institution may offer (in Canada) or the minimum size of the institution (in England) made it difficult for private entrepreneurs to establish themselves in higher education.

While a few private institutions have managed to establish themselves in Canada and England in recent years, the situation is completely different in Poland, which is also marked by comparatively high fee levels: After the breakdown of the Communist system, a large number of private institutions were founded, absorbing part of the hitherto unsatisfied demand for higher education. Between 1994 and 2000, the share of students enrolled in private HEIs rose from 7% to 30%, and has remained at around 30% in the years since then. The number of private HEIs jumped from 12 in 1991 to 114 in 1996 and on to 221 in 2001 (2011: 318). Private institutions apparently filled a void unoccupied by public providers of higher education. However, most of these private institutions are strongly focussed on economics, business, law and social sciences, meaning that while the higher education landscape as such has become more diverse, the provision of programmes has not.

¹¹ Several possible reasons for this are discussed in the case study on Germany, Section 3.2.

South Korea, with its dominant private sector in higher education, would also appear to be a favourable environment for new institutions to emerge. Indeed, the case study shows that during the 1990s, when demand for higher education was increasing massively, the number of private institutions also increased (from 195 in 1991 to 290 in 2001), and when demand started to level off in the 2000s, remained quite constant. The development that took place in South Korea thus seems to be comparable to what happened in Poland.

The key factors for diversification as measured by the number of private institutions appears to be a mixture of political framework conditions favouring the establishment of private institutions and/or a critical amount of demand. An interesting case of a country in which a private sector has managed to establish itself despite rather difficult operating conditions is Germany: Although there is a great number of public HEIs offering state-funded study places, the number of private institutions has increased rapidly in the period of investigation, from 30 in 1995 to 90 in 2009, and the share of students enrolled at private HEIs increased equally from below 2% to almost 5%. According to Stannek and Ziegele (2005), the success of private institutions in Germany lies in the fact that they offer educational services that are in demand but not focussed on by the public sector: “[T]he programmes offered by private institutions are a reaction to an imperfect adaption of public institutions to demand structures” (Stannek & Ziegele, 2005. p. 65). Again, the development in Germany is not so much a result of political decisions in favour of privatisation, but of sufficient incentives for some private HEIs to enter this niche market.

3.3.2 Changes in enrolment composition

Enrolment composition is relevant to Hypothesis B inasmuch as HEIs might be able to maximise their private revenues by focusing on certain student groups from which they may charge higher fees than from others. In the case study countries, it turned out that this concerns almost exclusively the group of international students, i.e. students whose nationality differs from the one in which the hosting HEI is located. In the European context, international students from EU/EEA countries are treated the same as domestic students, so that the most relevant target group would be non-EU/EEA students. This does not apply to Finland, Germany, Poland and Portugal, where tuition fees for *all* international students are the same as for domestic students, giving institutions no *prima facie* financial incentive to increase international enrolments even from non-EU/EEA countries (the same goes for South Korea).¹² In contrast, in Austria, Hungary and England, students from outside the EU/EEA region may be charged higher fees, and in Canada, institutions may collect higher fees from all international students than they may from domestic students, thus providing a direct incentive to enrol international students.

The analysis revealed that South Korea and England were the countries in which numbers of international enrolments could clearly be linked to the maximization of revenues. In England, HEIs profit from the fact that no caps apply to international student fees, unlike to fees collected from national students. Consequently, institutions took advantage of the persistent external demand for study places in England both by increasing fees for international students, from about 7,500 pounds on average in 2002 to about 11,000 pounds in 2011 (constant prices); and by increasing the share of international enrolments, from 11% in 1995 to 17% in 2011.

On a more general level, the share of international students increased in all case study countries in the period of investigation, even in the countries in which there are no

¹² In Poland, HEIs may charge higher fees in programmes taught in English. Since international students are overrepresented in these programmes, they actually bring more revenues to institutions.

immediate financial reasons for HEIs to attract international students. Two examples are Finland or Germany, where study places for international students are state-financed, and where one could ask what the rationale behind investing public funds in the instruction of non-domestic students should be. Nevertheless both the Finnish and the German authorities reward increasing shares of international students in their performance-based funding schemes. This indicates that internationalisation of the student population has become a goal of higher education policies even beyond immediate earnings expectations.

3.3.3 Changes in outreach practices

One posited consequence of increased privatisation is that it changes institutional incentives in terms of 'outreach' – especially to youth (potential students) and business (potential partners/clients/philanthropic donors), as these groups become more important as suppliers of funds. The information gathered for this sub-hypothesis was almost exclusively qualitative in nature.

Disregarding South Korea and Poland, for which there was insufficient information on all aspects of outreach, the general findings concerning outreach to students via marketing is that there has been a clear intensification of efforts on the side of institutions. However, it is not safe to assume that this development is related to changes in the cost-sharing balance, as it was also observed in jurisdictions in which student contributions are insubstantial or not very important for institutions, e.g. Austria, Finland or Germany. These countries did not see drastic changes in the cost-sharing balance, but what did change was higher education governance: away from close-distance ministerial control towards greater institutional autonomy. Although the underlying reforms may have had limited effects in terms of cost-sharing, they favoured the idea of HEIs being participants in a higher education 'market', responsible to define and promote their own educational profile. Clearly, outreach to prospective students is a major part of this concept.

In England, where tuition fees have been an important source of income for a long time, a reform in 2012 raised the ceiling for chargeable fees from 3,600 euros per annum to 11,500 euros. Consequently, opportunities to acquire private revenues were increased drastically. The country analysis provides evidence that HEIs did increase per-student marketing budgets in period of time framing this reform: A 30% increase in per-student spending on marketing was observed between 2009 and 2013. It is plausible to assume that this change was caused by changes in the cost-sharing incentive structure.

Outreach to students might not only make sense in fee-based higher education systems. In most jurisdictions investigated in this report, state appropriations to HEIs are related to the number of students enrolled in one way or another: The more students an HEI enrolls, the more public funds it receives. This mechanism might make marketing to increase recruitment numbers a worthwhile activity even in the absence of shifts in cost-sharing.

A difficulty in assessing the effectiveness of both fee-income and publicly provided per-student subsidies is that either mechanism only presents an incentive to push enrolment as long as per-student income is sufficient to cover the teaching costs actually incurred. If the tuition fees an institution is able to charge do not match the cost of provision (due to low fee caps or to insufficient student demand for more expensive study places), there are little or no incentives to recruit students; likewise for government schemes using an enrolment-based funding approach. In some German *Länder*, higher education funding was reorganised to include student numbers in the period of investigation, but this did not encourage HEIs to 'chase' students across the board: As expert opinion revealed, many institutions would prefer admitting

fewer students and receiving more per-student funding to offer a higher-quality teaching experience.

Concerning outreach to partners from business and industry or donors with no commercial intent, some experts from various countries reported that ties between the HEI sector and business and industry had solidified during the period of investigation, but it was not always agreed that this development was causally linked to preceding policy incentives. Some experts also held the view that stronger links between the sectors were a 'natural' result of changing societal requirements vis-à-vis HEIs, away from the training of elites and towards profession-oriented transfer of skills for large shares of school-leaving cohorts. It would appear that such a process can be accompanied but not triggered by policy measures.

The financial data examined for this study did not suggest that political incentives for more outreach to business and industry or other non-student private stakeholders had a significant effect on institutions' cost-sharing balance on an aggregate level. It must be added that attracting funds from business and industry is not equally viable for all institutions and disciplines; and that unlike in the case of tuition fees, contributions from private stakeholders such as sponsors or donors can be encouraged but not enforced by political interventions. Some experts from various countries pointed out that their country did not have culture of private donations to HEIs, with the USA as a prominent opposite.

3.3.4 Changes in expenditure

While it has been shown in Section 3.1 that institutional income increases as private income increases, the question of how institutions invest these additional revenues has not been answered yet. Do institutions re-invest (increased) income from private stakeholders in the instructional mission?¹³ Do we see more expenditure per student for teaching, or an increase in the provision of study spaces? This could be taken as evidence for responsiveness to user demand. But new revenues can also be used to supplement spending in non-teaching areas, which would contradict the hypothesis. Unfortunately, it is difficult and in some cases impossible to come by data on how institutions spent their revenues across our period of investigation. This is mostly due to the lack of reporting systems, or to incoherent reporting routines. Previous sections used per-student income as an indicator; but it is worth repeating that this cannot be employed as an indicator for investment in teaching, because it says nothing about how institutions actually spend the funds: For instance, increasing per-student income can be used to finance new research projects, to establish graduate schools or to raise salaries. None of these activities can be directly related to study conditions.

The UOE data set¹⁴ includes annual per-student funding in the tertiary sector as an indicator. Since many HEIs are also involved in tasks of both research and development, this indicator by itself is of limited value when spending on instructional purposes is in question. In 2005 a new indicator was added to the UOE collection, in which spending on research and development is factored out of total per-student spending. The resulting indicator is much more indicative of how education is influenced by institutional budgets. Figure 3.8 below shows the data for 2005 and 2010.

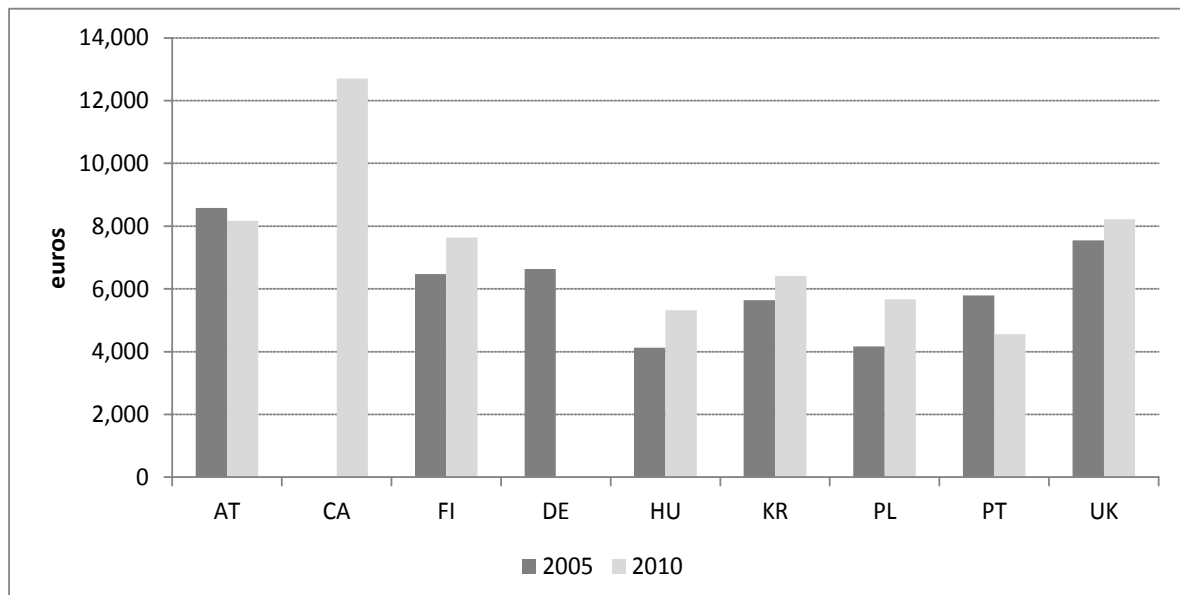
¹³ This sub-question was attached to Hypothesis A in the country studies, but is subsumed here under Hypothesis B for editorial reasons.

¹⁴ This data set is collected annually through the joint efforts of the three international organisations UNESCO, OECD and Eurostat.¹⁵ In Portugal the rationale behind the reform was "to allow institutions to compete (but within a very limited price range and within the context of the numerus clausus system)" according to File (2008, p. 29). One can conclude from this that increasing responsiveness was among the goals of this reform.

As the graph shows, in general per-student expenditure increased in real terms between 2005 and 2010, even to a considerable extent in Poland (+36%) and Poland (+29%). This is as one would expect from the income-related data presented in Section 3.1. Portugal, where Focussing in on our 'discontinuity' countries, we see the following (data for Germany are incomplete):

- In Portugal, per-student expenditure decreased by 20% despite the fee reform of 2003 which brought additional funds into the system. As is pointed out in the case-study on Portugal, the ratio of students per academic staff started to rise after 2005 in public HEIs (it remained constant in private HEIs). The evidence thus suggests that in the long term, the fee reform of 2003 did not lead to higher spending per student, as government expenditures did not balance the enrolment growth in that period (2005-2010: +15%).
- In the UK (including England), per-student expenditure increased by about 9%, which is clearly less than the increase in per-student income in the same period (total income, England: +18%; fee income: +57% – see Figure 3.7). This suggests that the additional income English HEIs secured was only partly used to improve students' educational experience.
- For Austria, the data on expenditure conform to the data on income seen earlier: A slight decrease is observable on both accounts. The decrease on the income-side (-13% per student) was greater than on the expenditure-side (-5% per student). The explanation for this difference is presumably that tuition fees were being spent exclusively on improving studying conditions, mitigating the effect on teaching-related spending.

Figure 3.8: Annual per-student expenditure of HEIs excluding expenditure on research and development (2005, 2010)

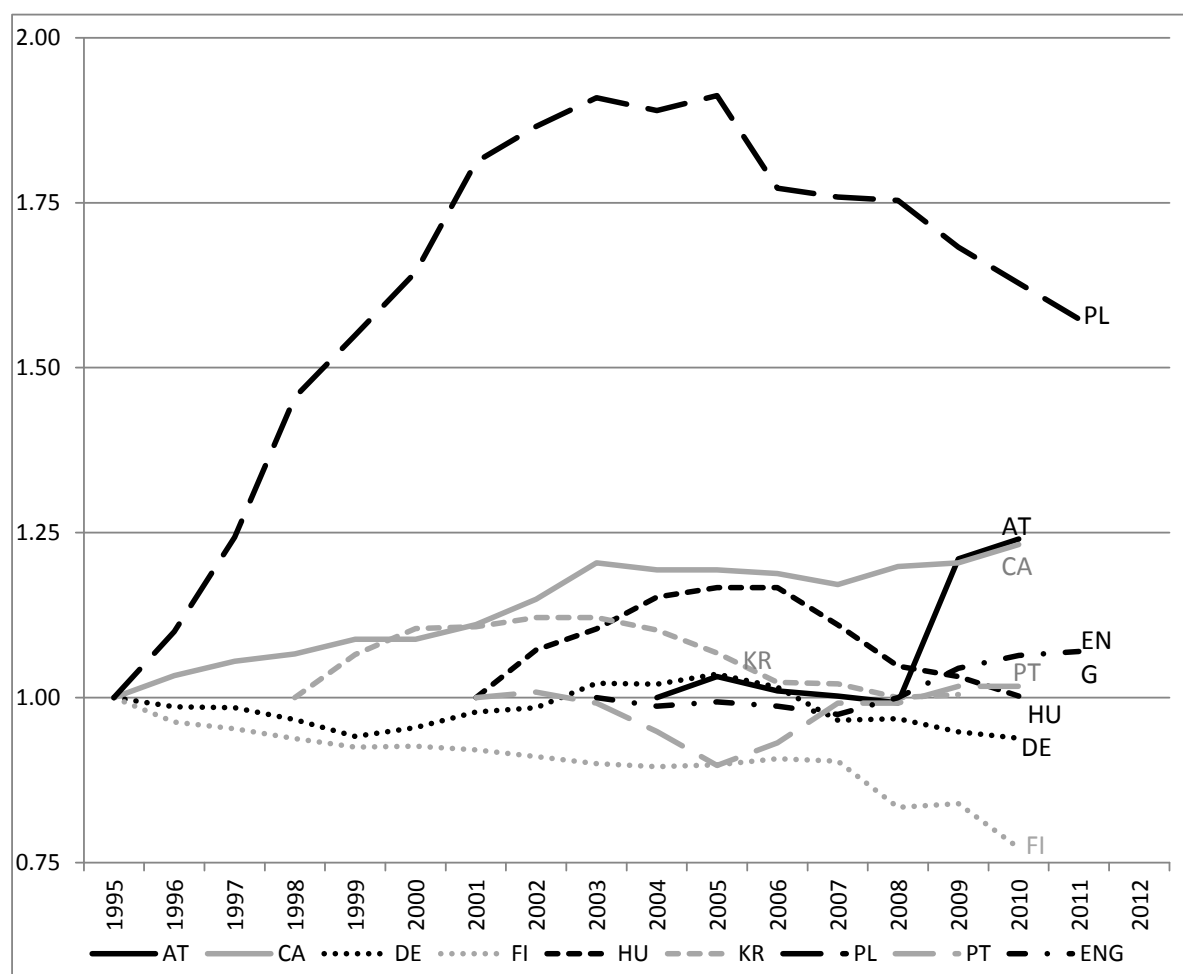


Note: No data for Canada 2005 and Germany 2010 available. Constant prices (2011). Purchasing power adjusted.

Source: UOE data set.

In the present study, students-per-academic staff ratios were calculated as a proxy for investment in teaching. While it is obvious that many aspects of quality in teaching cannot be captured using quantitative indicators, the student-per-academic staff ratio can be assumed to be one key figure indicating commitment to high-quality teaching (see Kokkelenberg, Dillon, & Christy, 2005 and references therein). Figure 3.9 below shows the results for all case-study countries, indexed to the earliest year for which data were available. Certain caveats apply to this indicator as well: On the one hand, the norm in most systems is for academic staff to be involved in research as well as teaching. Therefore, it cannot be determined with certainty whether an increase in academic staff per student actually signals better teaching conditions. Although efforts were made to exclude staff only employed for research, the balance of research to teaching for other academic staff cannot be clearly quantified, so that more personnel may also allow academic staff to spend more time on research and not necessarily improve the teaching provision. Moreover, an increase in per-student staff can be achieved by employing additional but less costly and perhaps less qualified teaching personnel. In such cases, it is not safe to assume that the quality of education benefits from a lower student-per-academic staff ratio, either.

Figure 3.9: Students per academic staff (1995-2012, indexed to earliest year available)



Note: AT: Only public universities. HU: Only public sector. DE: All sixteen *Länder* included. Definitions of 'academic staff' may vary between countries. See case studies, Section 2.2 for further information.

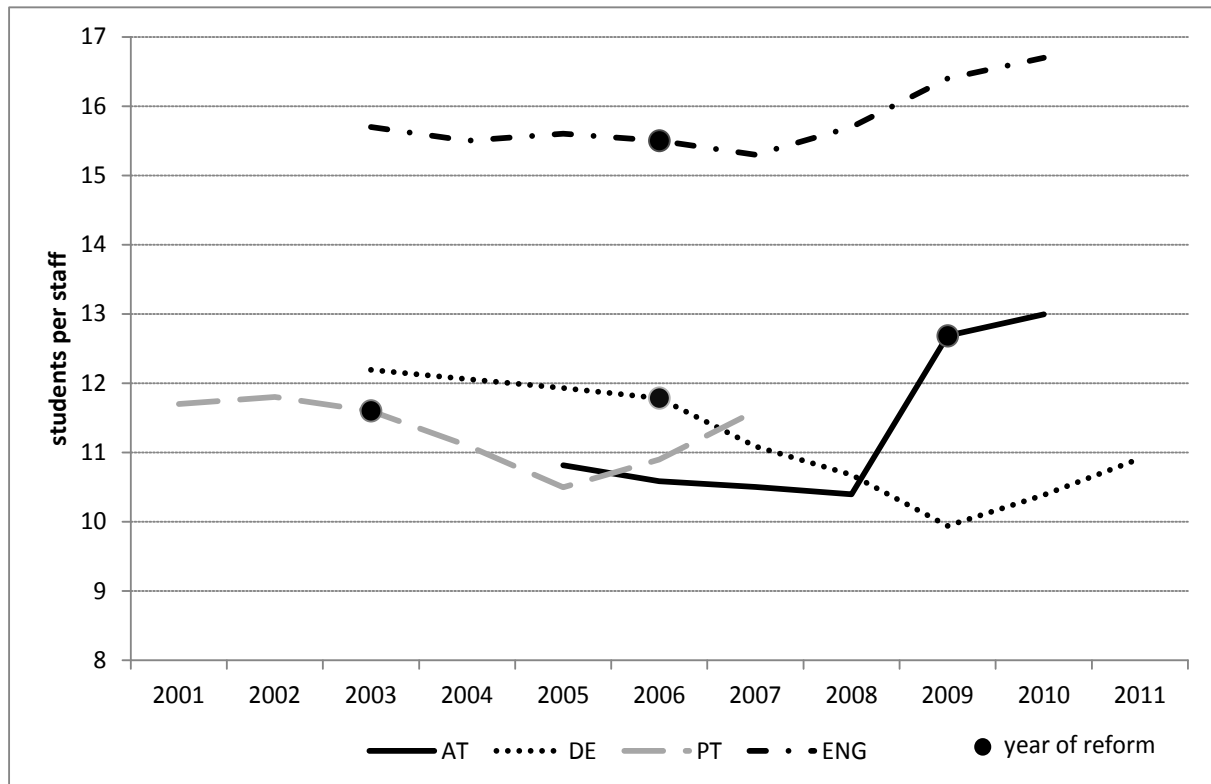
Source: Case study research.

We see that changes to students-per-academic staff ratios were not very major in most countries. The ratios remained fairly stable throughout our period of interest in Austria, Germany and England. A relatively constant increase and subsequent consolidation is visible in Canada. Finland is the only country in the data set in which student-per-academic staff ratios decreased constantly throughout the period of investigation. An upward trend followed by a subsequent decrease is visible in South Korea and Hungary, with a peak in the early 2000s (South Korea) and mid-2000s (Hungary). Poland also followed this path, albeit on a much larger scale: students per academic staff almost doubled between 1995 and 2005 before decreasing again in the late 2000s. This trend is explained to some extent by the changes in enrolment mentioned earlier.

Figure 3.9 can be compared to Figure 3.1 to see how changing per-student income is related to changing student-staff-ratios. One could expect per-student income to be inversely correlated with the students-per-staff ratio: Higher per-student income allows HEIs to employ more staff per student. This expectation is borne out, to varying degrees in the following countries: Poland, Portugal, Austria and Finland. Poland is a particularly clear example. The system was obviously overwhelmed by the massive enrolment growth until mid-2000s, and was only able to normalise once enrolment numbers levelled off. However, there are also cases in which no correlation is observable between the two parameters, e.g. Canada, South Korea and England. In these countries, per-student income increased over time (both fee-income and total income), but in Canada and England, so did the number of students per academic staff. In South Korea, the students-per-staff ratio decreased in the second half of the 2000s, but on a much smaller scale than the enormous growth in income per student would have suggested. In those cases, it must be assumed that additional funds, which were partly generated from tuition fees, were spent on non-instructional purposes. In addition, the case of Finland shows that it is possible to improve students-per-staff ratios in the face of enrolment growth even in the total absence of fees.

To complete the picture, Figure 3.10 below shows students-per-staff ratios for the discontinuity countries, again zooming in on the years around the intervention.

Figure 3.10: Students per academic staff in reforming jurisdictions (2001-2011)



Note: AT: Only public universities. DE: only Baden-Württemberg, Bavaria, Hamburg, Lower Saxony and North Rhine-Westphalia included. Definitions of 'academic staff' may vary between countries. See case studies, Section 2.2 for further information.

Source: Case study research.

The results do not suggest that discontinuities in cost-sharing have an immediate effect on students-per-staff ratios. A certain decrease (i.e. fewer students per academic staff) is visible in the German fee-charging states, in Portugal and England directly after the intervention, but none of these last for longer than two years before the trend starts to reverse. In Austria there are only data for one year after the intervention, making it difficult to assess the influence of the abolition of fees. One external factor that influences whether or not changes in fee levels affect students-per-staff ratios are restrictions on the use of fees. For instance, in Germany HEIs were legally required to spend fees on measures to improve the conditions of teaching and learning, and employing more teaching staff was one obvious and frequently chosen measure of that type. In other jurisdictions, where no such regulations apply, additional fee revenue might be spent on other purposes, such as higher salaries. Poland and England are two case-study examples where this is known to have happened.

To summarise this sub-section, we can say that in most of our case-study countries, per-student spending increased, and in the period 2005-2010 this could even be verified for per-student spending minus expenditure on research and development. However, a link between different degrees of cost-sharing and changes in students-per-academic staff ratios could not be established based on the evidence available. Inferences concerning responsiveness cannot be drawn on this basis.

3.3.5 Changes in quality and relevance

Another hypothesized development related to increased privatisation of higher education is that institutions will aim to increase quality and relevance to users because the consequence of dissatisfaction, i.e. losing (potential) clients, may have more serious effects.

Very few data allowing comparisons over time were available. Relevant studies on the topic are more concerned with the effects of the Bologna reforms on student satisfaction, not with the effects of costs-sharing. For Germany, a small number of studies exist in which the introduction of tuition fees is linked to satisfaction. They find that tuition fees actually help to increase quality from the point of view of students. This is not a surprising result, given that the debate around tuition fees in Germany was inspired by concerns about quality, and that each *Land* introducing fees passed legal regulations stipulating that fee income must be used to improve study conditions (instead of e.g. creating more study places or cross-financing research projects) in all *Länder* in which fees were charged. By way of qualification, it must be said that some German *Länder* in which no tuition fees are charged achieved higher levels of student satisfaction than *those* in which fees used to be charged.

In England, for which satisfaction measure were available for the period 2005-2013, the share of students stating that they are “definitely satisfied” or “mostly satisfied” with the quality of their courses increased from 81% to 85%; fee levels increased at the same time, so that a connection between fee levels and satisfaction levels would at least appear possible. On the other hand, students at Scottish universities constantly reported higher levels of satisfaction, although HEIs in Scotland do not charge tuition fees from domestic students. However, in the case of England tuition fees were not in the main introduced in an attempt to raise quality in the way it was in Germany, but rather in order to stimulate competition between institutions and to turn students into informed ‘customers’ of educational services.

3.4 Conclusion

The focus of this chapter was on two major cost-sharing related issues: changes to the balance of private and public funding streams, and changes in institutional behaviour as a result of increased incentives to maximise private income.

With respect to the first issue, the hypothesis was that as private funding for institutions increases, public revenues do not decrease, bringing about an overall increase in institutional income. The hypothesis was tested using per-student income from public and private sources as a basic indicator. It was found that for most countries and periods of time, the hypothesis is verified. Periods of decreasing public per-student income were found to be phases of either economic crisis or of massive enrolment growth. An instance of the first type is Canada in the 1990s, a time during which public spending on higher education was decreasing whilst private income of HEIs was increasing. An example of the latter type of decrease is Poland in the 1990s and early 2000s, when there was a rapid and outsized enrolment increase which the government was unable to balance in terms of per-student expenditure. In both cases, the decrease in public per-student income does not appear to be the result of deliberate policies to change the cost-sharing balance towards less public funding. Rather, fiscal constraints met with constantly high demand for higher education, resulting in a shift towards more private contributions to higher education. In support of this assumption, we note that public per-student income started increasing again in the 2000s in Canada, although private income also kept increasing; and that in Poland, public revenues of HEIs kept increasing in absolute terms throughout the mentioned period (+42% between 1996 and 2002).

More interesting from a policy-evaluation perspective are cases in which governments become actively engaged in bringing about shifts in the cost-sharing balance. Four countries in which such attempts were made were investigated in Section 3.2: Portugal, Germany, Austria and England. It was shown that from a purely financial point of view, the tuition fee reforms in Portugal and Germany were comparatively modest in scope. Their aim was to provide the system with more funds without thereby touching on the predominance of the public sector in higher education funding. The analysis showed that this objective was achieved in Portugal and to some degree in Germany. A provision applying to Portugal is that the additional funds per student provided by higher tuition fees apparently were not matched by steady government funding in the long term. In Austria, the initial goal of introducing tuition fees was apparently to bring about a net shift in the cost-sharing balance rather than to increase the funds available to the system. Only if this is the correct interpretation of the underlying policy goals can the Austrian reform be considered a (short-lived) success: tuition fees did not lead to an increase in overall funds for institutions. In England, as opposed to the other three 'discontinuous' (i.e. reforming) countries studied here, the tuition fee reforms successively transformed the system into a model in which private contributions serve as a mainstay of HEI funding. This makes England more similar to countries with a longer history of incremental tuition fees, such as Canada or Australia. Importantly, the change in England was accompanied by the development of an extensive student support system, as will be shown in Chapter 4.

The second hypothesis investigated in this chapter was that as institutions receive more funds from private users, they become more responsive to their needs and requirements. This hypothesis was tested using a set of evaluative questions, all of which aimed at substantiating the notion of 'responsiveness'. On the whole, few indications of increased responsiveness were found. Therefore, the majority of our case study countries tend to falsify Hypothesis B in its literal reading. This applies to countries with continuous and discontinuous cost-sharing policies alike. Reasons for this finding can be gathered from this chapter, but it is worth repeating and complementing them in condensed form here.

First of all, despite attempts to increase private contributions witnessed in several case study countries, the public purse remains the most important provider for the higher education sector. This implies that institutions are liable to remain focused on public sources of income, and their requirements, as opposed to private sources. The average tuition fees charged from (public) HEIs in most of our case-study countries cover only a fraction of the actual instructional costs for each student. Consequently, if tuition fees are to serve as a financial incentive for institutions, they must be complemented by large enough public subsidies. However, not all jurisdictions investigated in this study apply a clear-cut enrolment-based funding scheme which would give institutions the certainty that every (additional) student brings, all things considered, a financial gain. In such circumstances, it might be rational for institutions to set other priorities, for example in research. Public research funding in many case study countries has been shifting towards highly competitive modes of allocation, which require investing a lot of time and effort into writing tenders and reports, seeking follow-on financing, etc. (OECD, 2014). This can cause conflicts in the allocation of time for research versus teaching obligations of university staff. Applying the terminology of 'incentives' used in Hypothesis B to the issue of tuition fees, one could say that the financial incentives to become more user-responsive are too weak to produce behaviour changes visible on the macro-level. As a qualification, in Austria and Germany, two of the reforming countries in focus in this chapter, evoking responsiveness was not a major goal of the tuition fee system according to expert opinion. In both countries, the most important motive of introducing fees was to

secure additional funds.¹⁵ A peculiarity in Germany was that these funds had to be used to improve quality in teaching and learning, which can be considered as a form of prescribed (but not incentivised) responsiveness.

In addition, it should be noted that public funding systems are not ignorant to the concept of user responsiveness. On the contrary, in the period of investigation many jurisdictions have implemented funding models whose aim it is to encourage user responsiveness. This is true of target and performance agreements as well as of formula-based funding systems in which some indicators measure aspects such as student satisfaction (as a measure of quality), completion rates (as a measure of efficiency) or the number of students from abroad (as a measure of internationality). It can be said that such funding models stimulate the kind of user responsiveness that proponents of privatisation would hope to get from a de-regulated higher education 'market'. One reason why many jurisdictions should prefer to emulate these market-like mechanisms in their public funding models is that these models make it possible to retain a certain amount of control over HEIs (Orr & Jaeger, 2009).

That the latter is important for governments also became apparent when levels of university autonomy were discussed in Section 3.2.2: As it turns out, many HEIs have limited room for manoeuvre when it comes to deciding how many students to accept in which programmes, and what amounts of fees to charge from students. As a result, even if institutions do have a motivation to increase private income, they may have difficulties in acting accordingly due to countervailing legal restrictions. England stands out from this generalisation, as the English HEIs have high levels of autonomy regarding the introduction and termination of new study programmes. In line with this observation, England was the jurisdiction in which changes in responsiveness were most tangible in our set of case studies.

Another reason for limited responsiveness that was repeatedly mentioned in expert interviews across case studies is that HEIs are not merely entrepreneurs seeking to maximise their income; they are also decentralised organisations characterised by a 'collegial culture' (Bergquist, 1992) whose values are not managerial or economic, but rather focused on concepts such as knowledge, scholarship and inter-academic recognition. Concretely, this might imply that academics give preference to earning and sustaining prestige in their academic community over attracting and servicing as many students as possible; or that they prefer accepting the brightest students instead of those who are able to pay the highest fees.

One more development which may have supported HEIs' reluctance to become more responsive was the development of alternative sectors of higher education in some case study countries. Hypothesis B is basically a hypothesis about the behaviour of individual HEIs which, when exhibited by a large enough number of institutions, will take effect at the system level. However, some case studies have shown that an increase in user-orientation was not so much realised by existing HEIs changing their outlook, but rather by new institutions complementing the existing educational landscape. More specifically, it turned out that educational expansion and the demands connected with it (more study places, more programmes with a shorter, vocationally-oriented profile) has less frequently led to new responses from existing HEIs, especially universities, but rather by a wave of newly established private institutions (e.g. in South Korea and Poland) and/or by an alternative type of public or private institution with an inherent vocational orientation (e.g. polytechnics in Finland or *Fachhochschulen* in Austria). – To some extent, such developments take the

¹⁵ In Portugal the rationale behind the reform was "to allow institutions to compete (but within a very limited price range and within the context of the *numerus clausus* system)" according to File (2008, p. 29). One can conclude from this that increasing responsiveness was among the goals of this reform.

pressure for change off the existing university sector, including change towards more responsiveness.

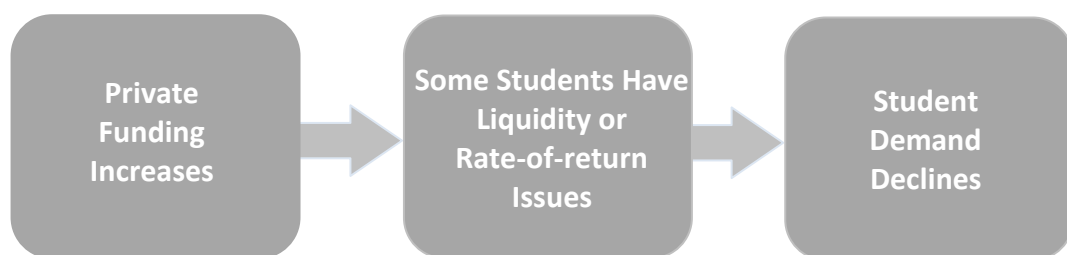
4. Implications at the Student Level

In this chapter we look at Hypotheses C and D, which relate to the effects of changes in cost-sharing on students and how their decision-making changes in the presence of fees. Hypothesis C is central to most of the policy discussions surrounding the introduction of fees, and relates to the expected negative correlation between fees and participation in higher education.

4.1 Changes to student demand

As the schema shows, the assumption underlying this hypothesis is that increases in cost can introduce a new barrier to entry for certain students, either because they reduce the real, or perceived, rate of return for higher education below the point where individuals want to pursue higher education, or because individuals are liquidity-constrained and cannot meet the short-term costs imposed by the fees. These constraints can be expected to have different effects on different students, which means that even if the overall demand stays constant, there may still be an effect on the overall composition of the student body (if, for example, poor students are excluded and replaced by wealthier ones). For those students already participating in higher education, changes in student costs may affect completion rates for the same reasons. For these reasons, this is an issue of equal opportunities (*equity*).

Hypothesis C: Increasing private funding has a negative effect on participation



Four specific evaluative questions were formulated in order to investigate this theme:

- How have increases in private funding changed costs to students (net and gross costs)?
- What effect does an increase in private funding (e.g., introduction of fees or increase in fees) have on transition rates from secondary education and on overall participation rates?
- How have increases in private funding affected the composition of the student body?
- Have increases in private funding affected completion rates and student success?

4.1.1 Changes in student costs

We will begin by looking specifically at how cost-sharing policies changed over time in our nine case-study countries, both in public and private institutions. (Table 2.2 in Chapter 2 presents an overview of these changes.). The grouping into 'continuity countries' and 'discontinuity countries' is explained in Section 2.3.

Discontinuity countries

- In **Germany**, relatively small fees were introduced in selected *Länder* after 2006, though unevenly and in some cases up to a third of students were provided with exemptions from fees. New types of study aid were provided to cover tuition fee cost, but in fact the additional aid package was poorly co-ordinated with the existing study aid system. Because of political opposition, fees were gradually withdrawn between 2011 and 2014.
- In **Austria**, *Fachhochschulen* have been allowed to charge fees since 2001; the decision whether to actually charge fees is left in practice to the discretion of the provider of the *Fachhochschule* (often the state in which they are located). In universities, a flat fee of 363 euros per term was introduced in universities in 2001. In 2009, it was largely abolished through a series of waivers which eliminated fees on domestic students but left them in place for students from outside the EU and for certain students taking extra semesters.
- In **Portugal**, fees at public institutions increased sharply in 2002, from about 450 euros to about 1,000 euros but have remained essentially constant in real terms ever since. At private institutions, they have increased in a slow but steady manner. Grants stayed constant in average size but the percentage of students receiving grants jumped from 10% to 19%. A loans system was introduced in 2007 but few students made use of it.
- In **England**, tuition fees have risen sharply on three separate occasions (from 0 euros to 1,200 euros in 1998, 1,200 euros to 3,600 euros in 2005 and from about 4,000 euros to about 11,500 euros in 2012). In the 1998 reform, full fee waivers were given to students whose parents made less than 24,000 euros and partial ones to students with family income of between 24,000 and 36,000 euros. Maintenance grants were also abolished and student loans made more available. In the 2006 reform, maintenance grants made a return, and student loans were increased to cover the new, higher tuition fees. In the 2012 reform, no significant new grants were made available to students, but the loan maximum was again increased to cover the entirety of the new higher tuition fees. The 2006 reform was accompanied by very large increases in public funding; the 1998 reform left public assistance very much unchanged, while the 2012 reforms were accompanied by a massive decrease in public funding directed to HEIs.

Continuity countries

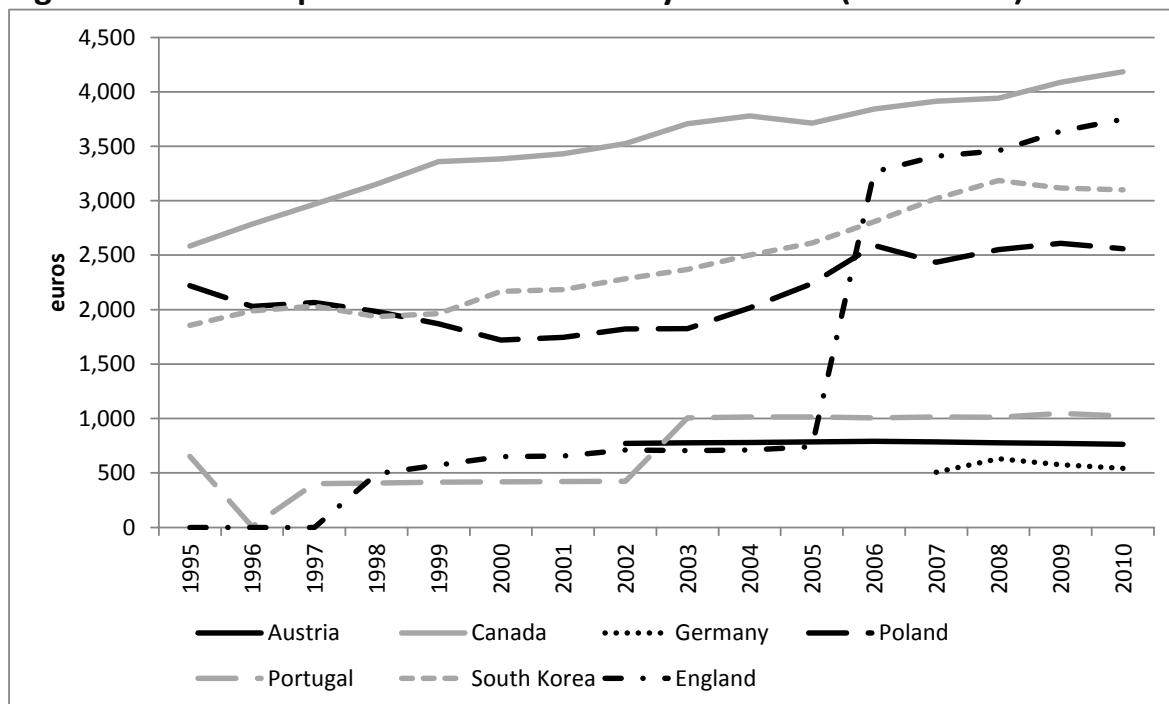
- In **Finland**, which acts as a kind of base-case in this exercise, a zero-fee policy remained in effect throughout our period and student assistance policies remained relatively unchanged. Overall funding grew by close to 70%, though public operating grants grew more slowly, at 59%.
- In **Canada**, where fee policies vary significantly by province and where fees are re-adjusted annually, per-student fees grew by about 75% while overall enrolments in universities grew by about 50% between 1995 and 2010, mostly after 2000. Study aid was increased significantly in this period (albeit in large part through tax credits whose efficacy are widely doubted), and so while 'sticker prices' (i.e. gross tuition costs) increased, long-term net costs did not increase nearly as much. In addition,

government increased its funding of higher education enormously, although an outsized proportion of this money was dedicated to research rather than to operating budgets.

- In **South Korea**, where fees in both public and private fees are adjusted upwards annually, tuition rose annually by on average about 5% after inflation (about 6.5% in public universities and 4.3% in private ones) from 1995 to 2010. These upward movements were relatively consistent apart from the year of the Asian financial crisis (1998-99) and the more global slowdown of 2009-2010, when tuition either stayed constant or fell slightly. The big change in student assistance was an increase in the availability of loans after 2004. The volume of increased loans in this period was sufficiently large to more or less offset the rise in the price of attendance.
- In **Poland**, where fees in both public and private fees are adjusted upwards annually (fees at public universities only apply to the third of students taking so-called 'part-time' studies), tuition trends were somewhat erratic. From 1995 to 2003, fees in public institutions were falling while they rose at private institutions. After that, practices appear to have reversed, as fees at public institutions rose while at private institutions they were more or less unchanged after 2005. Fees at public institutions were at all times higher than at private ones. A loans system was introduced but few students made use of it; grants increased substantially after about 2002.
- In **Hungary**, there is little to no long-term data on fees, but the system's basic features – a small fee-charging private (mostly church-linked) private higher education sector and a large public sector where, as in Poland, higher-achieving secondary school graduates receive state-funded full-time study places and less-successful ones pay for 'part-time' studies – has remained fairly stable over time. Public funding for institutions doubled in real terms over the decade 2000-2010.

Figures 4.1 and 4.2 show changes in fees at public and private institutions, respectively, in the case-study countries for which time-series data is available. Figure 4.2 is restricted to the three case-study countries with a considerable private sector (see Table 2.1).

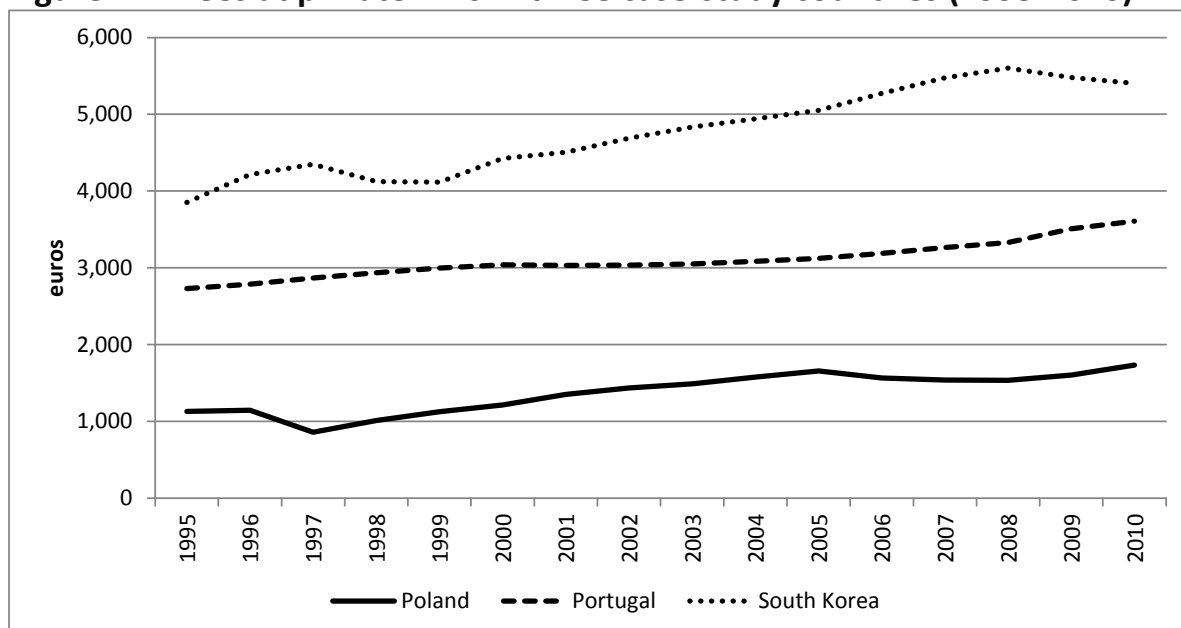
Figure 4.1: Fees at public HEIs in case-study countries (1995-2010)



Note: Data for England include English and Welsh full-time undergraduate students up until 2004, from 2005 onwards only English full-time undergraduate students are included. For Germany average real fees taking account of waivers and discounts. Constant prices (2011).

Source: Case studies.

Figure 4.2: Fees at private HEIs in three case-study countries (1995-2010)



Note: Constant prices (2011).

Source: Case studies.

In most cases investigated, governments also made changes to student assistance. Sometimes, these changes were directly tied to one-time changes in fees (e.g. Austria, England, Germany); other times they were unconnected with any significant changes in fee policy (e.g. Canada, Finland, Poland and South Korea). These changes are described below in Table 4.1.

Table 4.1: Changes in student assistance

| | Type of changes in student assistance | Magnitude |
|----------------|---|---|
| Austria | Introduction of means-tested grant covering tuition fees for needy students. | The tuition fee refunding grant (<i>Stipendium</i>) covered the entire tuition fees (726 euros per year) for all students receiving maintenance grants (<i>Studienbeihilfe</i>), about 18% of students. |
| Canada | Increase in grants, tax expenditures. | In combination, grants and tax expenditure increases offset 75% of the increases in the sticker price of tuition; increase has disproportionately been on tax side. |
| England (1998) | Elimination of maintenance grant, expansion of student loans. | Grants: eliminated. Loans: up by up to 1,200 euros, take-up rate of 80%. |
| England (2006) | Re-introduction of maintenance grants, expansion of student loans. | Grants: restored, average amount 2,800 euros per recipient. Loans: up by up to 3,600 euros, take-up rate of 80%. |
| England (2012) | Expansion of loans. | Loan limit increased to cover all new fees (i.e. up to 11,500 euros), take-up rate of 80%. |
| Finland | Several gradual and minor adjustments. 2005: loan debt can be deducted from tax. | Minor. |
| Germany | <i>Länder</i> that introduced fees also introduced allowing students to borrow above and beyond existing BAföG system. | In theory, new loans fully offset new fees. In practice, co-ordination and take-up low. |
| Hungary | No policy changes. | Grant size increasing, loan numbers falling. |
| Poland | Grant size has trended downwards since 1995, but recipient numbers significantly increases; students from private institutions eligible since 2002. Loans introduced in 1998. | Grants: recipients up from 100,000 to 500,000, average amounts down from 750 euros to 500 euros. Loans: take-up rate below 5% of student-body. |
| Portugal | Grants: value held steady but slow expansion in client numbers (mainly in private institutions). Loans: Introduced 2007. | Grants: percentage of students receiving grant increased from 10% to 19%. Loans: take-up rate only about 2%. |
| South Korea | Grants increase steadily throughout period; loans expand substantially around 2005. | Grants: recipients go from 3% of student body in 1995 to 18% in 2010; average amount up from 350 euros to 1,000 euros. Loans: recipients rise from 3% in mid-90s to about 28% in 2010; avg. amt. up from 1,600 euros to 2,500 euros. |

Source: Case studies.

Relative measurements for fees

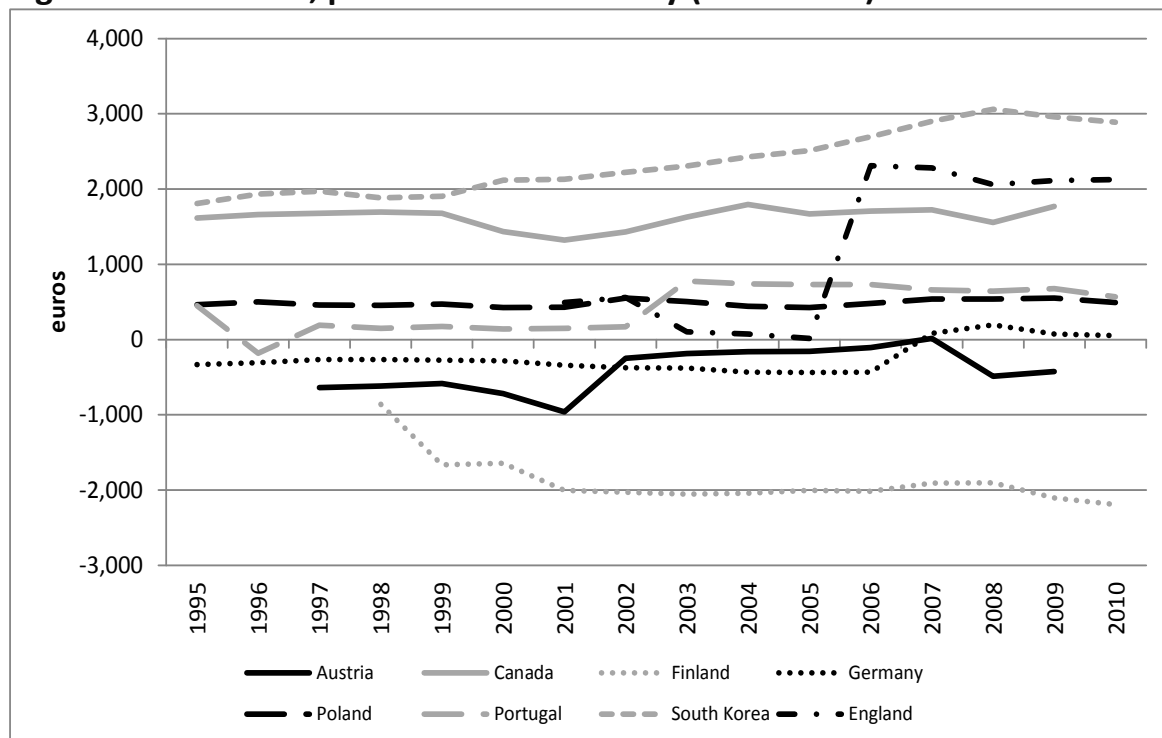
It is important at this point to understand the ways in which policies which affect tuition, grants and loans intersect. Though it is common to focus on the issue of the 'sticker price' of tuition, the existence of repayable and non-repayable aid create two other discounted prices which are important to understanding student price-response. The first is 'net price', which is the sticker price minus whatever grant aid students receive as a result of studying. Thus, a student paying 1,000 euros in fees and receiving 300 euros in grants would be facing a net price of 700 euros. The second is the immediate 'out-of-pocket price', which is the net price minus whatever loan and grant aid a student is receiving. It represents the amount a student must actually come up with in the short term in order to afford the fees and thus be able to pursue their studies. A hypothetical student paying 1,000 euros in fees and receiving 300 euros in grants would, if in receipt of an 800 euros loan, would have a short-term 'out-of-pocket price' of minus 100 euros. This additional support would be expected to be used to cover living costs.

These inter-related policy changes to fees in our case studies would mean that the net effect on students was not always straightforward. In Canada, for instance, increases in tax credits in particular meant that net prices (that is, prices minus non-repayable aid) grew much less quickly than 'sticker prices'. Figure 4.3 shows net tuition fees. This concept, frequently used in this study, is defined as average gross tuition fees *minus* the sum of average non-repayable study aid, direct (grants) and indirect (e.g. child benefits paid to parents of students).^{16,17} We see that net fees barely moved at all despite rapid growth in tuition. The only two countries which showed significant upward movement in net tuition throughout our period are England and South Korea. For most students in most countries, then, the 'net price' was more or less unchanged throughout our period, regardless of what happened to sticker prices.

¹⁶ Net fees become negative whenever the sum of average study aid is greater than the average fees. They are negative in all fee-free jurisdictions offering some kind of study aid.

¹⁷ Variations in the proportions of students paying fees and students receiving support are not taken into account in this concept, as the focus here is on the average student. However, the country case studies include information on how different student sub-populations are treated differently by national study aid systems.

Figure 4.3: Net fees, public institutions only (1995-2010)

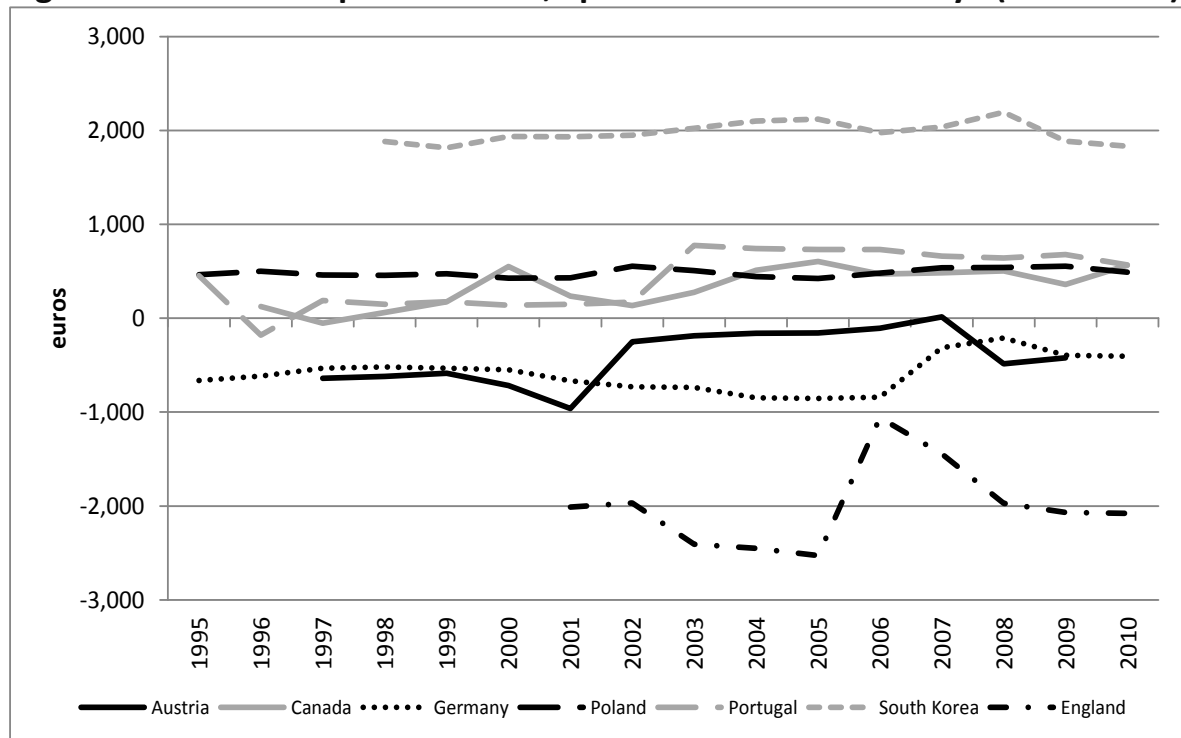


Note: Data for England include English and Welsh full-time undergraduate students up until 2004, from 2005 onwards only English full time undergraduate students are included. Constant prices (2011).

Source: Case studies.

In Figure 4.4 we now add loans to the data to find the immediate 'out-of-pocket' cost to students. A few important changes stand out. The first is that, despite the quite large swings in tuition seen in Figure 4.1, once all aid is accounted for, in no country did out-of-pocket costs rise by more than 450 euros over the 15-year period. South Korea and England – both of which saw substantial increases in tuition, in fact had *lower* out of-pocket costs in 2010 than they did when their respective time-series began. On this measure Canada, which has substantially higher fees than any of the European countries, in fact seems to be no more expensive than Portugal or Poland, largely because the latter two countries have such low take-up rates on their student loan programmes.

Figure 4.4: ‘Out-of-pocket’ fees, public institutions only (1995-2010)



Note: Data for England include English and Welsh full-time undergraduate students up until 2004, from 2005 onwards only English full time undergraduate students are included. Constant prices (2011).

Source: Case studies.

Finally, of course, fees are not the only costs that students face; they also must pay associated living costs. The level and composition of these costs are difficult to compare cross-nationally. Not only does the main component of these costs (housing) vary significantly in price, but for reasons which are as much about national culture as anything else, students in different countries have very different tendencies in terms of choosing to live away from their parents in university. In England it is quite normal for students to live away from home, but less so in South Korea. Data on the question of non-educational costs tend to be more sporadic and harder to come by than the data in the previous table; and it is difficult to compare specific costs because the different national surveys aggregate data in different ways.¹⁸

Table 4.2 shows full-year budgets for students, *including* tuition costs.¹⁹ It is apparent from this that students in different countries face quite different cost structures. In Canada, Austria, Germany and Finland, students all appear to be spending roughly similar amounts of money (8,000-10,000 euros per year), despite one of them having significant amounts of fees. South Korean students spend a bit less than this (7,500 euros), a gap that can likely be explained by the lower percentage of South Korean students living away from home. Portugal, a country both with a low cost of living and a high proportion of students living at home, is cheaper still at 5,000-5,500 euros. In

¹⁸ Continental European countries tend to report these questions similarly, thanks to the efforts of the EUROSTUDENT project. England, Canada and South Korea all use somewhat different instruments and aggregate their data differently.

¹⁹ Because surveys in different countries were sometimes taken in different years, results are grouped together by three-year age groups in order to make presentation easier. In the event that data for more than one year in that three-year period are available, the most recent year is used.

England, where nearly 80% of students live away from home and students pay significant tuition fees, the amount is much higher at almost 16,500 euros.

Table 4.2: Total annual costs to students, in euros

| | 2000-2003 | 2004-2006 | 2007-2009 | 2010-2012 |
|--------------|-----------|-----------|-----------|-----------|
| Austria | 9,321 | 9,342 | 8,370 | 8,328 |
| Canada | 8,896 | 8,600 | 10,436 | 10,251 |
| England | 10,418 | 14,889 | 16,558 | 16,482 |
| Finland | 7,084 | 8,056 | 8,929 | 8,848 |
| Germany | 8,713 | 8,718 | 8,657 | 8,602 |
| Poland | n/a | n/a | n/a | 1,415 |
| Portugal | n/a | 5,332 | n/a | 5,059 |
| South Korea* | n/a | 6,990 | 7,521 | 7,550 |

Note: Not data available for Hungary. *For South Korea, living cost were taken from data from the South Korean Education and Employment Panel, with average tuition added. Constant prices (2011).

Source: Case studies.

This section has shown that there are many legitimate ways to measure 'affordability', and they do not always show a consistent pattern across countries. Simply looking at fees or total costs, one would assume that England is a very expensive place for students. But after factoring in the very high availability and take-up of loans (as in Figure 4.4), one realises that this does not make itself felt for many students during their time at university.

One important contextual factor to note here in discussing the effects of fees are the concomitant changes in other sources of funding which occur at the same time. Rises in student costs may have different effects based on whether or not public funding is falling or rising, since it would affect the amount of funds institutions had available to pursue expansion. Table 4.3 shows changes in funding per-student across our case-study countries. In Canada and the German *Länder* where fees were introduced, the government funding increase was actually larger than that demanded of students on a per-student basis. Elsewhere, per-student rises were smaller, but because governments were dealing with substantial rises in student numbers as well, they do not always seem significant on a per-student scale. In Poland, for instance, government spending more than doubled over 15 years – but because of increases in total student numbers, their spending shrunk slightly in per-student terms. Canada stands out as having had by far the largest increase in overall funding.

Table 4.3: Increases in funding per student, by source, in euros

| | Period | Increase in student numbers | Increase in fees/student | Increase in government funding/student | Increase in total income/student |
|-------------|-----------|-----------------------------|--------------------------|--|----------------------------------|
| Canada | 1995-2010 | 47% | 1800 | 2195 | 6020 |
| Finland | 2000-2010 | 14% | 0 | 1818 | 1818 |
| Germany* | 2005-2010 | 12% | 540 | -100 | 440 |
| Poland | 1995-2010 | 143% | 351 | -5 | 339 |
| Portugal | 1995-2010 | 29% | 460 | 85 | 471 |
| South Korea | 1995-2010 | 47% | 2413 | 442 | 3146 |
| England | 2000-2010 | 41%** | 2270 | 423 | 3020 |

Note: Full-time equivalents where possible. *(Germany): Averaged across fee-charging and non-fee charging *Länder*. **(England) Only full-time students. Constant prices (2011).

Source: Case studies.

The table shows that across our case-study countries, tuition fees rose. But in nearly all cases, this rise was partially offset by an increase in publically funded or subsidised loans, grants, tax-based assistance or some combination of the three, and in nearly all cases, government expenditure on higher education also rose. All of these factors significantly complicate the task of analysing the effects of cost-sharing.

4.1.2 Fees and participation

With respect to the relationship between fees on the one hand and enrolments and participation on the other, the weight of evidence here is that access to higher education is increasing *everywhere* and that actual cost-sharing policies followed have seemingly very little influence on the rate of increase.

Table 4.4 shows changes in enrolments in each case-study countries across the time period under consideration. In all countries, enrolment rose from the beginning of the period to the end, though six of the countries in the study suffered declines at some point in the period under consideration. Only in Austria was the timing of the decline correlated with a change in policy with respect to cost-sharing.

Table 4.4: Total enrolments (1995-2010)

| | 1995 | 2000 | 2005 | 2010 |
|-------------|-----------|-----------|-----------|-----------|
| Austria | 216,820 | 239,691 | 229,180 | 302,594 |
| Canada | 529,121* | 550,968 | 698,548 | 780,233 |
| England | 900,031 | 984,150 | 1,173,550 | 1,382,655 |
| Finland | 147,399 | 247,377 | 283,328 | 282,496 |
| Germany | 1,853,243 | 1,798,863 | 1,985,765 | 2,217,294 |
| Hungary | n/a | 349,301** | 424,161 | 361,347 |
| Poland | 757,421 | 1,489,245 | 1,870,414 | 1,841,251 |
| Portugal | 313,415 | 387,703 | 368,571 | 403,445 |
| South Korea | 2,204,911 | 3,359,688 | 3,490,870 | 3,550,367 |

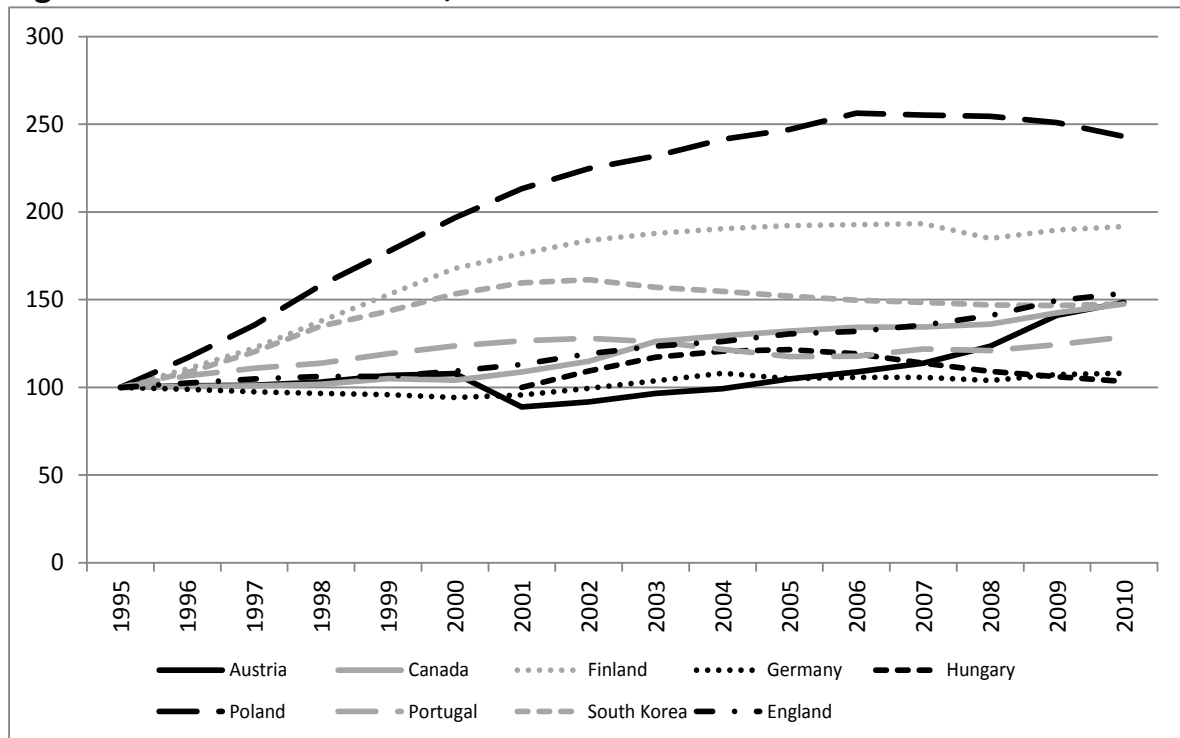
Note: *Counts for Canada are based on Statistics Canada's definition of Full-Time Equivalency (FTE).

**Hungary count for 2000 is actually 2001.

Source: Case studies.

Consider first the base case of Finland. In Finland, where tuition at all institutions remained free throughout the period, there was a substantial increase in student numbers between 1995 and 2010 – just under 92%. However, this was not the largest national enrolment increase among our case-study countries; in Poland, where just over half of all students (100% of students in private universities, 30-40% of students in public ones) pay tuition fees, enrolments rose by 143% between 1995 and 2010. The smallest increase was in Germany, where tuition remained free in most *Länder*, but where a few states did introduce modest fees of around 1,000 euros per year. Figure 4.5 shows relative changes in enrolments between 1995 and 2010.

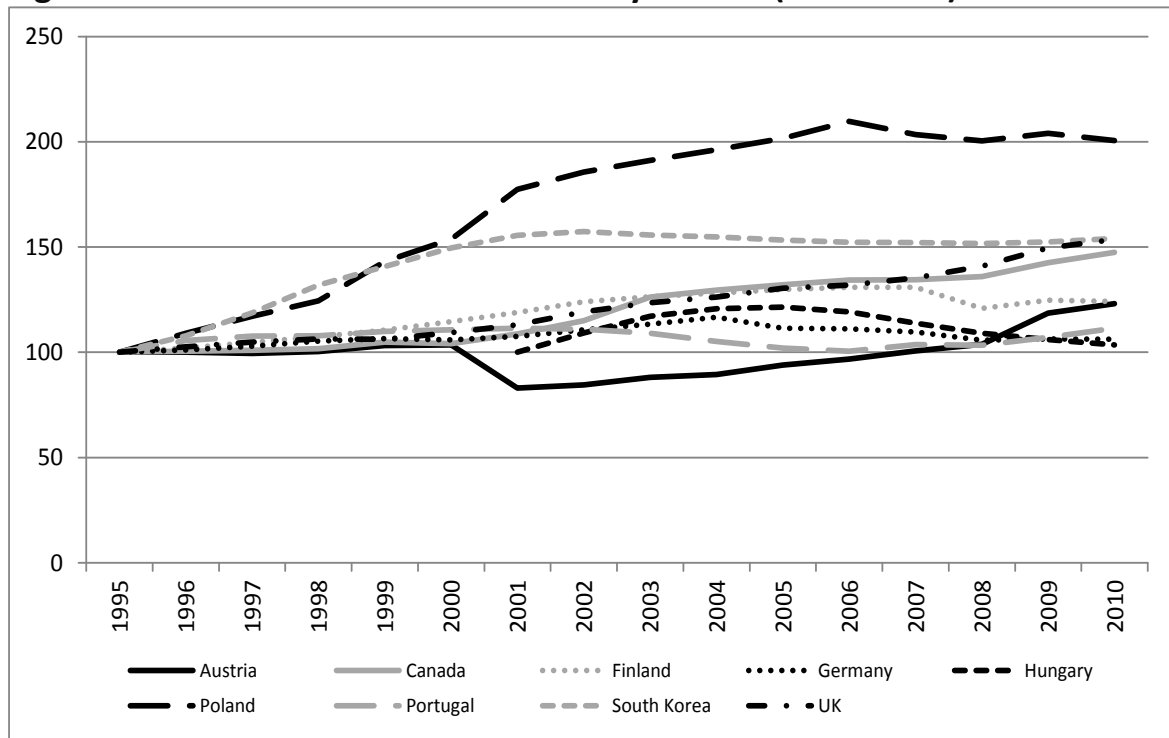
Figure 4.5: Total enrolments, indexed to 1995



Source: Case studies.

Looking strictly at enrolments in university-based programmes, a slightly different picture emerges, since Austria, Finland, Germany and Poland pushed a great deal of their higher education expansion into institutions which are not considered 'full' universities. In Austria and Germany this means *Fachhochschulen* and in Finland polytechnics (*ammattikorkeakoulu*); in Poland, most of the 'non-university' group are in fact universities in everything but name, as Poland legally restricts the definition of university to a small group of 19 institutions, which meet a number of academic criteria beyond the reach of most other (and in particular private) HEIs.

Figure 4.6: Total enrolments in university sectors (1995-2010)



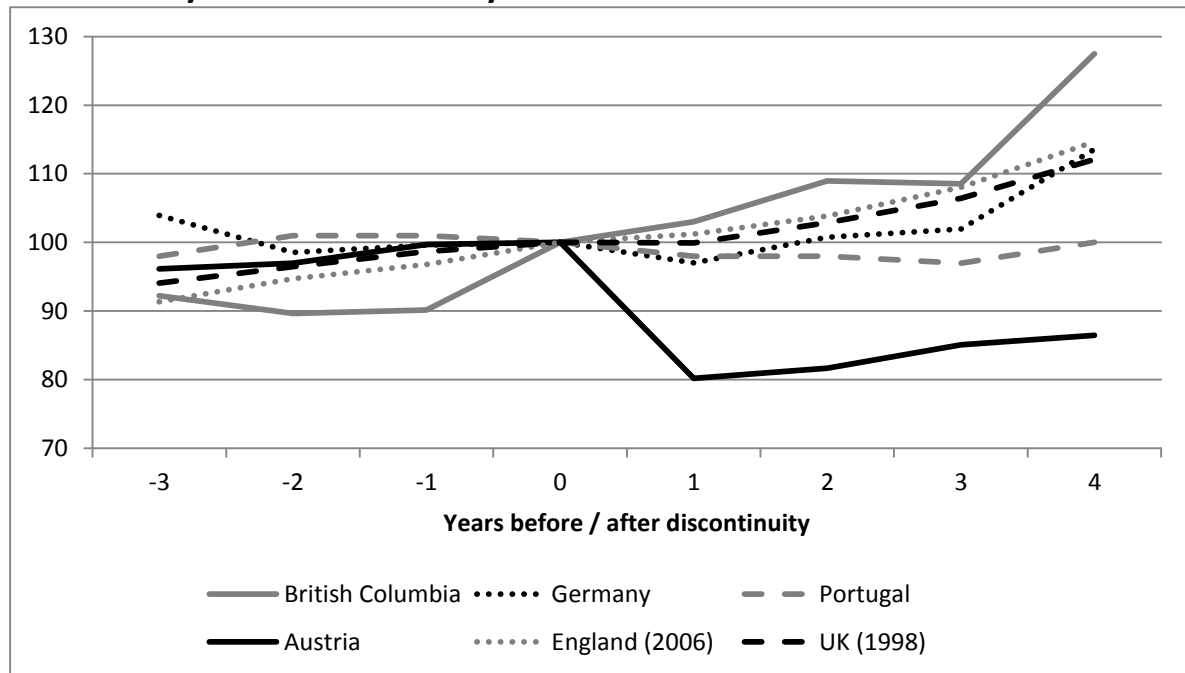
Source: Case studies.

What Figure 4.6 underlines is that in countries where education has remained primarily in the public sector (i.e. Finland, Germany, Austria), by and large the expansion of the last two decades has occurred not in universities but in non-university HEIs, which tend to have lower per-student costs because of the smaller research mandates. In Finland, only 20% of the growth in higher education enrolments took place in universities – the balance took place in polytechnics. In Austria it was 33%, with the balance coming in the new *Fachhochschulen*; in Germany, the university / *Fachhochschule* split was 41-59%. In each country, these increases are presented as being reactions to new labour market demands and the need for practical undergraduate education rather than as being a cost-saving measure; while this may be true, it is also undeniable that each of these countries has expanded at the financial margin by diverting demand for undergraduate education to lower-cost options. Similarly for South Korea, Park (2007) notes that the Korean higher education system is stratified into a high-prestige sector of academically prestigious universities and a lower level of junior colleges and lower-prestige universities, and states that expansion was facilitated by creating and fostering this second-tier system (Park, 2007, p. 97). In England, although the binary system was abolished in 1992, the former polytechnics – the so-called post-1992 universities – accommodated the larger part of the enrolment growth (Scott, 2012).

In order to examine the direct impact of fees, it is beneficial to employ the 'discontinuity approach'; that is, to see what happened to enrolments at the moment of significant large upwards movement in tuition fees. Our case studies provided six examples of such discontinuities: In England in 1998, Austria in 2001 and certain German *Länder* (Baden-Württemberg, Bavaria, Hamburg, Lower Saxony, and North Rhine-Westphalia) in 2006, where tuition was introduced for the first time; England in 2006, when tuition was increased from 1,200 euros to 3,600 euros; in Portugal in 2003, when maximum tuition at public universities was allowed to rise by roughly 500 euros; and in British Columbia, Canada, where tuition was allowed to rise by 55% over

two years starting in the autumn of 2001. Figure 4.7 shows the trends in enrolment in each jurisdiction where the discontinuity took place, in the years prior to and after the change in fee policy.

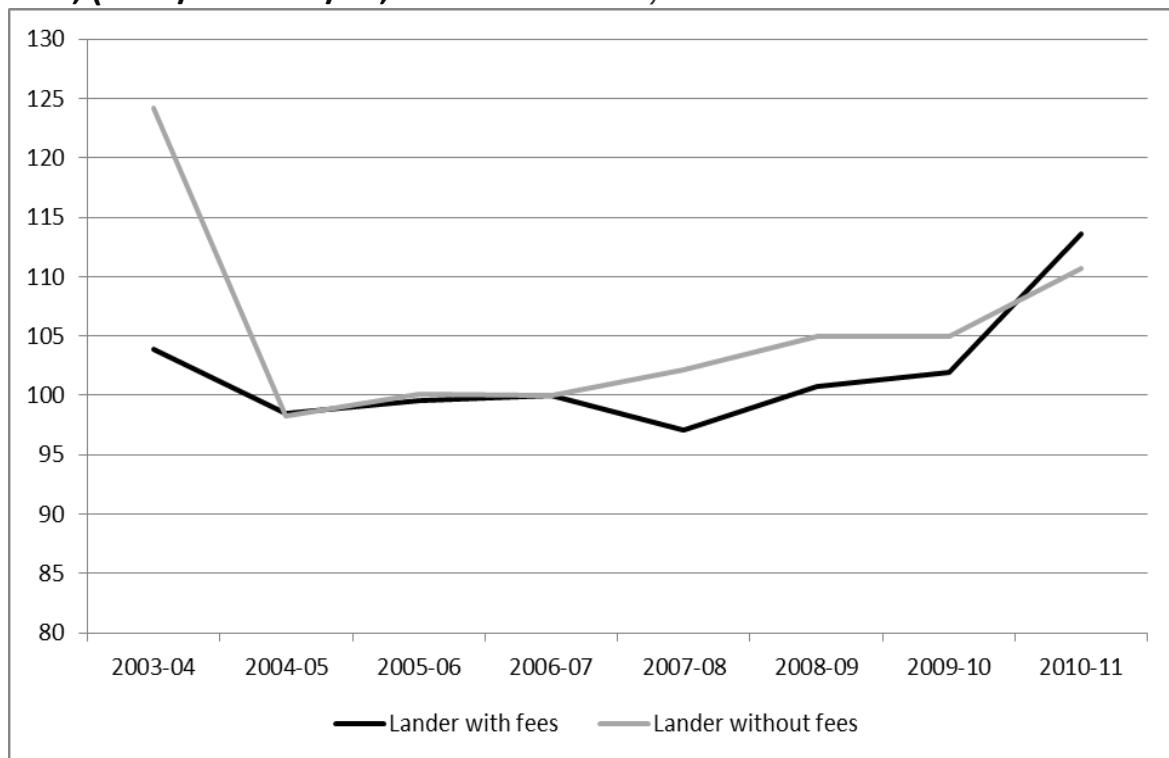
Figure 4.7: Enrolment in jurisdictions with discontinuous rises in tuition, indexed to year of discontinuity



Source: Case studies.

In the case of both England (1998) and England (2006), the long-term trend before the fee policy change was upwards, and the introduction of fees had no apparent effect: that is, enrolments kept rising at precisely the same rate. In British Columbia, enrolments jumped the year before the increase and kept growing at a significant rate thereafter. In the German *Länder* and in Portugal, enrolments were declining slightly prior to the fee-change and continued falling thereafter. Both later recovered their previous highs: in Germany three years after the tuition increase and in Portugal four. In neither case do fees appear to have had a great deal of impact: In Portugal in particular the dip seems to have been demographic, as private institutions (which did not see a similar increase in fees) show the same pattern of decline in this period. In Germany, enrolment growth after 2006 in *Länder* that adopted fees was not very different from *Länder* that did not, as shown below in Figure 4.8.

Figure 4.8: Enrolments in German *Länder* according to presence/absence of fees, (2003/4 – 2010/11, indexed to 2006)



Source: Case study, Germany.

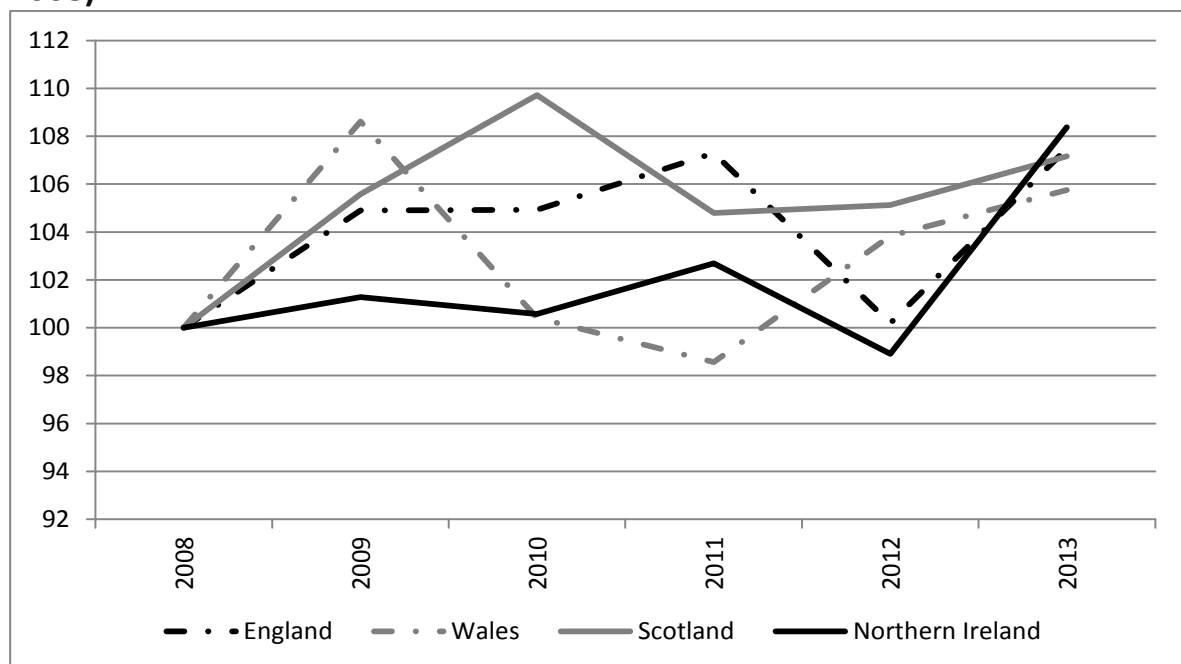
The only jurisdiction where the fee policy change appears to have made a very significant difference is Austria, where numbers fell by 20% in a single year. However, it is important to note here a peculiarity about the way Austria measures enrolment. In most countries, the definition of a student is tied either to payment of fees or attendance of courses; in Austria, the status of student is simply tied to 'registration', which does not necessarily imply either of those things (registration brought with it certain advantages such as subsidised transportation costs, which would have rendered registration without studying advantageous prior to the introduction of fees). Thus, there is considerable ambiguity about the true effects of Austria's experiment with tuition. Certainly, the introduction of fees seems to have caused a significant reduction in the number of registrations: but it is less clear whether it actually led to fewer students attending classes. Interviews with local experts revealed considerable scepticism that fees affected the behaviour of 'real' students.

In countries where there was no sudden policy change, we find even less evidence that enrolments are negatively affected by fees; in fact, what we tend to find is that increases in fees co-occur with increases in participation. In Poland and South Korea, both of which have large private university sectors as well as substantial fees at public institutions, it is probable that without fees there would not have been an expansion of higher education institutions and hence much less of an increase in enrolment. So in these two cases, where growth in enrolments was higher than or comparable to that seen in free-tuition Finland, fees can be described as being positively correlated with participation. In Canada conclusions are harder to draw because increases in tuition were offset by very large increases in both aid and government transfers to universities.

In other words, looking simply at enrolment figures, what we have are multiple cases in the period 1995-2010 where rises in fees – all of 3,000 euros or less and most significantly less than that – seem to have had no effect on aggregate enrolment trends and three where the effect is unclear but probably quite minor if it exists (Germany, Austria, Portugal).

That leaves one last change in tuition that we have not discussed because it is relatively recent and we do not possess a great deal of data about its longer-term effects, and that is the very large (8,000-9,000 euros per year) increase in fees that occurred in England in 2012. Because this increase was on a scale far beyond those in any of our case-study countries (or presumably in any country at any time), one might expect to see very significant changes in participation rates in this case. However, while the effects of the policy were large and obvious enough to be detectable, as shown below in Figure 4.9, they were neither especially large nor enduring. After a single-year dip in accepted applications when the fee policy changed (roughly half of which was caused by students the previous year electing not to defer their studies by a year in order to start their studies before the policy change), enrolments jumped back to their previous high one year later. Acceptances to English universities, one year after the hike, are now at an all-time high.

Figure 4.9: Accepted applications, by country, UK (2008-2013, indexed to 2008)

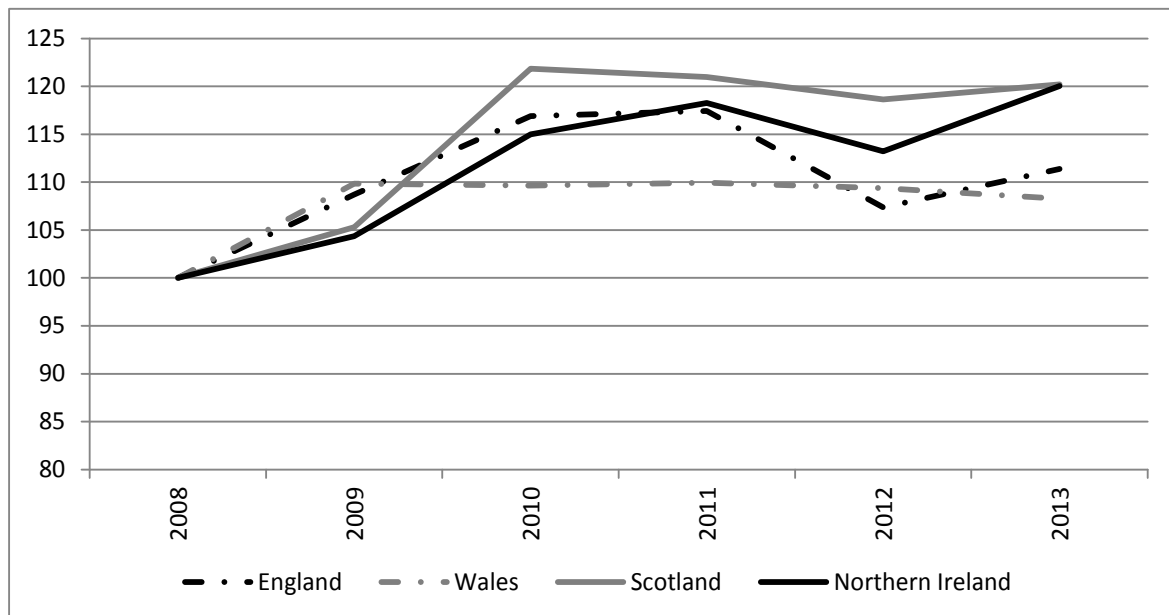


Source: UCAS.

However, the fact that enrolments did not fall does not mean that demand might not have fallen: to the extent that the number of places outstrips supply, a fall in demand can be disguised simply by lowering entrance criteria slightly and admitting a larger portion of applicants. This does seem to some extent be the case in England, as Figure 4.10 shows. There was an 8.6% drop in applications in the year of the fee change; because similar drops were not seen in other UK countries where fee policies were unchanged, we can be reasonably certain that the cause of this drop was the fee increase. The numbers did recover slightly in 2013, but not to the same extent as acceptances, which suggests that the fee change has had a more lasting negative effect on demand. That said, the extent to which demand has declined should not be

exaggerated; even at an average tuition of 10,200 euros, the number of applications from English students in 2013 were the third-highest on record.

Figure 4.10 Applications by country, UK (2008-2013, indexed to 2008)



Source: UCAS.

To this point we have been looking at enrolments. However, as we have seen raw enrolment data risks conflating effects of fees with other trends; notably, demographic ones. Some of our case study countries underwent a major demographic change in the period 1995-2010, with significant drops in the number of youth (see Figure 2.3). In former socialist countries this was offset – at least for part of the time – by the so-called ‘deferred demand’ phenomenon, in which people who had been denied educational opportunities during the socialist period took advantage of the expansion of higher education institutions to enter higher education as mature students. One way of eliminating this confound while still remaining internationally compatible is to look at participation rates of students using the best-four-year approach. This calculates net enrolment rates for those ‘four years where higher education attendance is most common (this period can vary between countries – in England it is 18-21, in Finland 21-24). These are shown below in Table 4.5.

Table 4.5: Participation rates in case study countries, best four years (1995-2010)

| | 1995 | 2000 | 2005 | 2010 |
|-------------|------|-------|------|------|
| Austria | n/a | n/a | 22% | 26% |
| Canada | 19% | 20% | 24% | 30% |
| England | n/a | 27%** | 27% | 31% |
| Finland | n/a | 40% | 42% | 40% |
| Germany | n/a | 21% | 25% | 27% |
| Hungary | n/a | 24%** | 33% | 32% |
| Portugal | n/a | 27%** | 29% | 35% |
| South Korea | 22% | 30% | 41% | 45% |

Note: *Data from Poland not included because only available from 2007 onwards **2001.

Source: Case studies.

Unfortunately, calculating such figures requires that one be able to know the age of each enrolled student, a feature which it appears most national systems did not acquire until about 2001. This limits the usefulness of this tool for cross-country comparisons over time (in Finland, for instance, the fact that data is available only from 2001 onwards means we miss their period of maximum expansion, which was 1995-2000). However, it remains useful for putting some of the trends seen in Table 4.4 into context. So, for instance, the stagnation in raw enrolment numbers in Hungary, South Korea and Portugal after 2000 was largely due to declines in the relevant age population, and hides the fact that the proportion of young people obtaining higher education actually increased rather sharply. Perhaps the most important fact to grasp in Table 4.6 is this: Almost everywhere, participation rates are increasing, regardless of tuition policies. The only places and times where this does not seem to be the case are Hungary in the period 2005-2010, where a dual fee structure was in place but no real change in fees occurred, and Finland in the same period where no fees were payable.

4.1.3 Participation of under-represented groups

The definition of an accessible system of higher education does not simply rest on raw numbers. Accessibility is not just a question of how many people get to attend; it is a question of who gets to attend. It is therefore important to look at how changing patterns of finance might have affected changes in the composition of the student body. Unfortunately, there are significant gaps in many national statistical systems when it comes to measuring this aspect of accessibility. All countries can track changes in students' genders and most can look at age, but students' socio-economic backgrounds and ethnicities are rarely tracked in a systematic way. Such data as were available can be found below in Table 4.6.

Table 4.6: Trends in participation by specific demographics

| | Women | Low-Income or SES | Key Ethnic Minorities | Older students |
|-------------|---------------------------------|----------------------|---|---|
| Austria | Rise | Slight fall | n/a | No change |
| Canada | Rise | No change | Rise | No change |
| England | Rise | Slight increase | No data for 1998 Increase after 2005 tuition rise. Fall after 2012, but smaller than for 'whites' | 1998 – unknown; Post-2005: rise; Post-2011: large fall. |
| Finland | Rise | Little change | n/a | Median age rose 0.5 years |
| Germany | Rise | Conflicting evidence | n/a | Median age fell by 1 year |
| Poland | Rise | Slight increase | n/a | Increase to 2000, then slow decrease |
| Portugal | Fall (1998: 56.7%; 2010: 54.3%) | n.d. | n/a | Median age increased due to legislative changes |
| South Korea | Rise | n.d. | n/a | No change |

Note: Some of the data shown for England actually refer to the UK as a whole (see case study).

Source: Case studies.

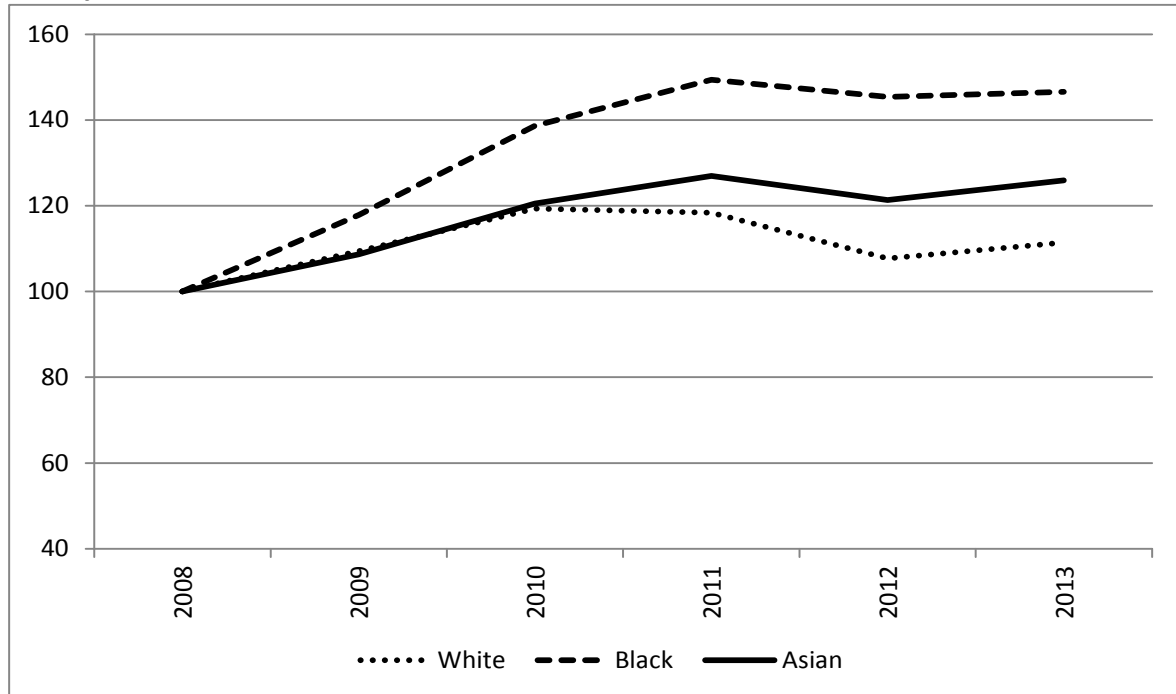
Though it is often hypothesised that rises in fees will have a disproportionate effect on under-represented groups, such scant data as can be amassed from our nine case-study countries tends not to support this. In all nine countries, females gained share as a percentage of the student body. Data on enrolments by ethnicity were really available only in two countries – Canada and England. In Canada, there were small significant rises in participation both for 'visible minorities' and First Nations people²⁰ over the 15 years in question. In England, there was a large and significant rise in non-white participation rates after the 2006 tuition reform. As Figure 4.11 shows, when the fee policy changed in 2012, applications from Blacks and Asians fell by 2.6% and 4.4%, respectively, but Whites' application numbers fell even more sharply, by 9%).²¹ In terms of actual acceptances, the change in fee policy appears to have had negative effects exclusively in the white population (Figure 4.12).²²

²⁰ The First Nations are the various Aboriginal peoples in Canada who are neither Inuit nor Métis. There are currently over 630 recognized First Nations governments or bands spread across Canada, roughly half of which are in the provinces of Ontario and British Columbia. The total population is nearly 700,000 people.

²¹ Figures are for the entire UK rather than just England, but since English students make up 88% of the system and Asian and black populations are disproportionately concentrated in England, changes in union-wide statistics are unlikely to be driven by anything other than trends in England.

²² To be fully conclusive, Figure 4.11 would have to be supplemented with lines for changes in the population of potential applicants by race. Such data were not available. There are however

Figure 4.11: Changes in English applications by race (2008-2013, indexed to 2008)

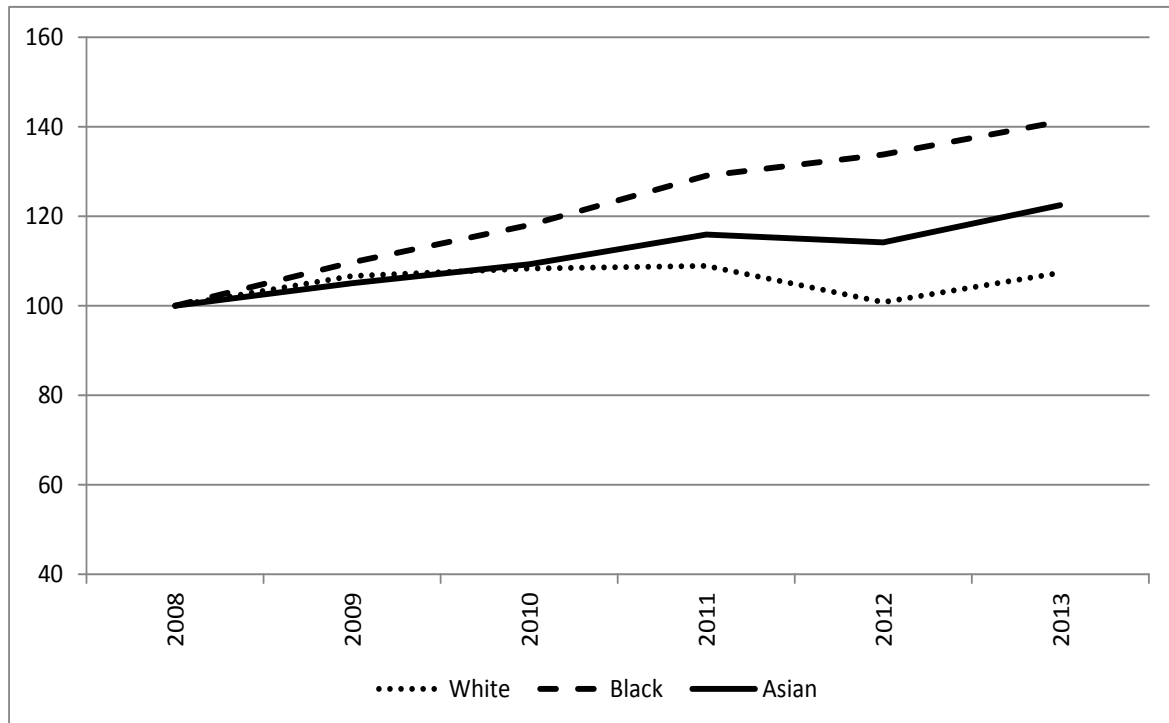


Source: UCAS.

population estimates by ethnicity published by the UK Office for National Statistics which show the following trends 2007-2011: growth of White population 0%; growth of Black/African/Caribbean/Black British population +26%; growth of Asian/Asian British population +25%. Assuming that this is close to population trends among university applicants, it follows that while the growth in the numbers of Asian applicants can be explained by a growth in the basic population, applications from Black youth (+47% between 2008 and 2013) have grown faster than the basic population.

Sources for population statistics: <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/pop-ests/population-estimates-by-ethnic-group/comparison-of-pop-estimates-by-ethnic-group-against-2011-census-estimates.pdf> and <http://www.ons.gov.uk/ons/rel/census/2011-census/key-statistics-and-quick-statistics-for-local-authorities-in-the-united-kingdom---part-1/rft-ks201uk.xls>.

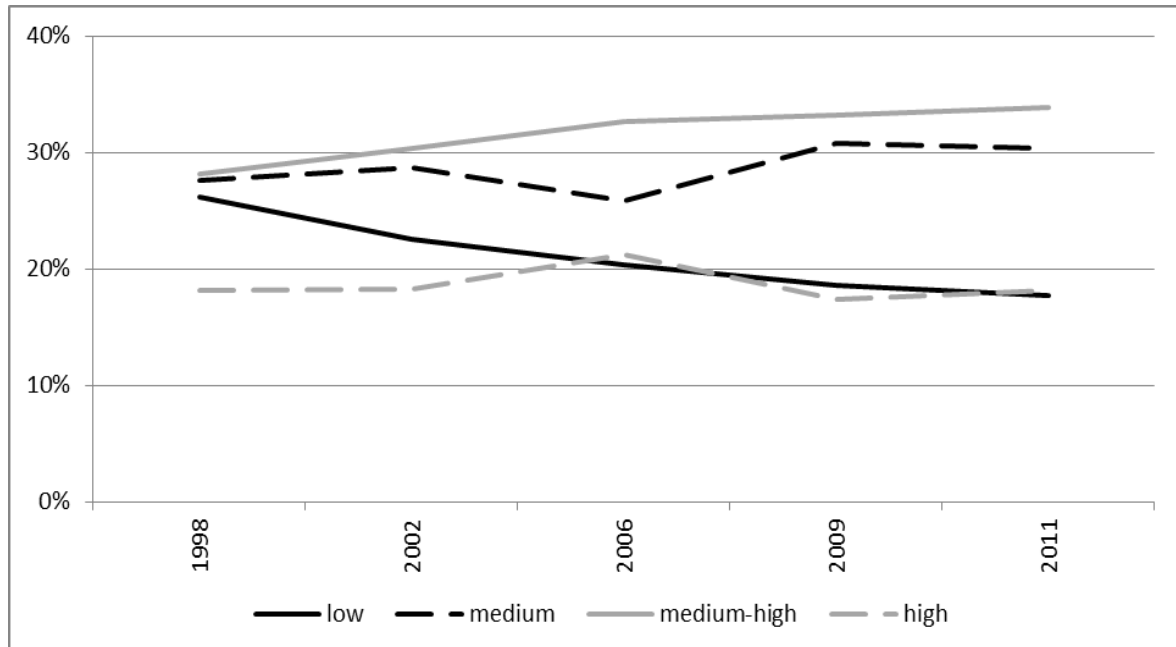
Figure 4.12: Changes in English acceptances by race (2008-2013, indexed to 2008)



Source: UCAS.

The data for students from low social backgrounds are a bit more ambiguous. We have data for two countries which had discontinuous changes in fees: England and Austria. In Austria, tuition fees were introduced in 2001 and then eliminated in 2009. We have data on the social background of students for 1998, 2002, 2006, 2009 and 2011 through the representative Austrian Social Survey. These are shown below in Figure 4.13. There was indeed a drop in the proportion of students coming from low socio-economic class backgrounds after the introduction of fees, but this was a continuation of an earlier trend and there was no return to earlier levels after fees were lifted. The decline may in fact have something to do with the disappearance of the working class in general rather than a change in patterns of attendance: in the absence of being able to calculate actual participation rates by social class, we cannot know for sure.

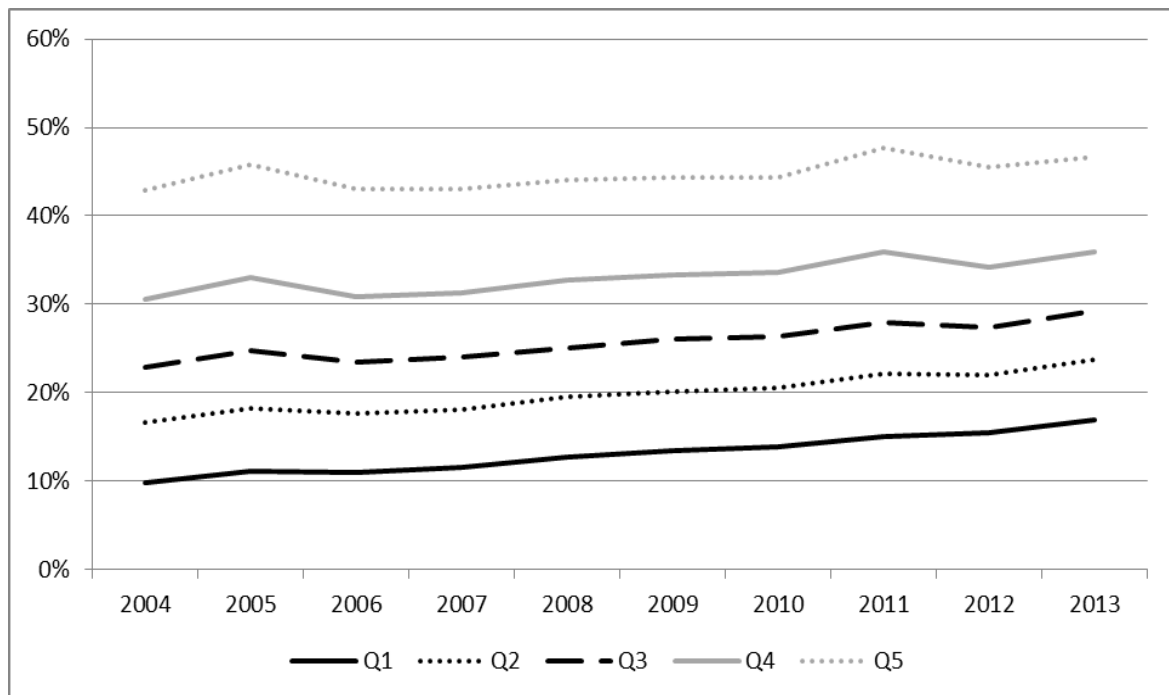
Figure 4.13: Shares of total enrolment by socio-economic status, Austria (1998-2011)



Source: Austrian Student Social Survey.

In England, we see a different pattern. Participation rates across all family income quintiles continued to grow steadily throughout the period, even across two major tuition fee rises in 2006 and 2012. In both cases, the fee changes were preceded by a slight rise in participation rates followed by a brief fall and then a resumption of upwards progress. The bumps are in no small part a result of England government's habit of announcing policy changes eighteen months in advance: in response to this, some students change their plans for deferring their studies for a year after leaving school in order to still enter higher education before the rise takes place. There is no evidence that the fee policy changes have changed patterns of participation in a negative way; if anything, the data in Figure 4.14 show that the participation gap between the top and bottom income quintiles has closed very slightly over the past decade.

Figure 4.14: Entry rates by income quintile, England (2004-2013)

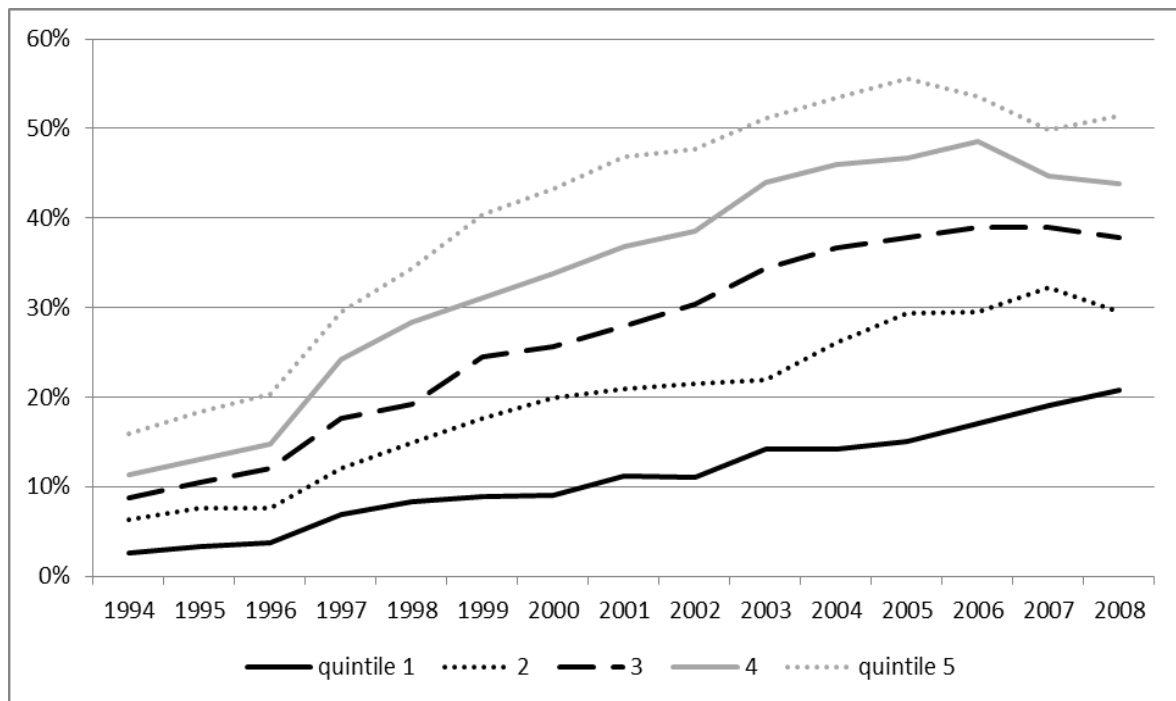


Note: Quintile: A statistical value of a data set that represents 20% of a given population. The first quartile (Q1) represents the lowest fifth of the data (1-20%); the second quartile (Q2) represents the second fifth (21% - 40%) etc.

Source: UCAS.

Among the countries where changes in fees were continuous (i.e. 'non-discontinuous'), the best data on participation by socio-economic backgrounds come from Poland and are shown below in Figure 4.15. Recall that Poland is a country where over half of all students pay fees, either to study in private HEIs or to study 'part-time' in public ones. Because free places are granted based on criteria of merit (i.e. based on the state matura exam), and this merit tends to be positively correlated with family income, it in fact tends to be the poor who pay the most. An argument could be made that access had become worse because the absolute gap in participation rates between the top and bottom income quartile rose from 18 to 31 percentage points. At the same time, however, the participation rate of students from the lowest income quintile rose substantially, from 2% to 20%. Equally, there is an unambiguous drop in the ratio of top-quintile to bottom-quintile students from 9:1 to 2.5:1. So while it is true that the period of fee raises saw greater absolute gains among students from wealthier backgrounds, it is also true that the greatest *relative* gains came at the bottom. And also, as in England, all income quintiles were following similar upward vectors in terms of participation.

Figure 4.15: Change in participation by family income quintile, Poland (1994-2008)

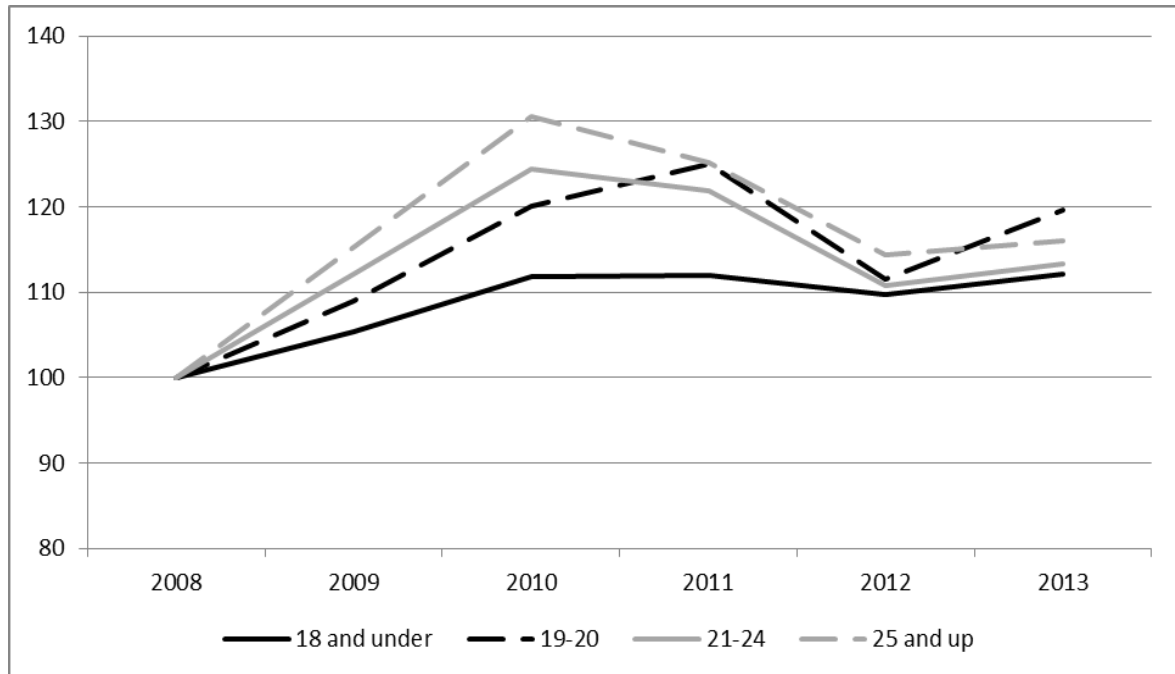


Note: Quintile: A statistical value of a data set that represents 20% of a given population. The first quartile (Q1) represents the lowest fifth of the data (1-20%); the second quartile (Q2) represents the second fifth (21% - 40%) etc.

Source: Herbst and Rok (2011).

In terms of student age, there were few visible patterns across case-study countries, though the sharp decline in older students following the 2012 tuition reform in England suggests that older students may be particularly vulnerable to large, sharp increases in tuition. Figure 4.16 shows that across England, application rates – the best proxy we have for demand – barely moved in 2012 for 17 and 18 year-olds, but fell sharply for all other age groups (albeit from rates that had been growing much faster to begin with).

Figure 4.16: Application rates by age band, England (2008 to 2013, indexed to 2008)



Source: UCAS.

One possible explanation for this differential impact is Human Capital Theory (Becker, 1964). This theory considers education as an economic good whose costs and benefits must have a positive balance for individuals or institutions to make an investment. From the perspective of an individual faced with an educational choice, this means that study costs and foregone earnings are traded off against (increased) future income as a better qualified graduate (see Egerton & Parry, 2001). For older persons faced with a choice to study, the time left to realise (additional) earnings through improving their level of qualification is shorter than for younger students, and, since many of them have been in gainful employment for a certain number of years, their earnings lost while studying would be higher than for students making a direct transition from secondary school. As a consequence, higher education becomes a potentially less attractive option for older persons. If in such circumstances private study costs increase, as was the case after the 2012 tuition fee reform in England, – the costs-benefits balance may become sufficiently negative in the perception of this group that their share of enrolments decreases disproportionately.

However, if Human Capital Theory were the only explanation, the fall in applications should get higher among older students (i.e. the over-25s) than among the younger ones (i.e., the 19-24 year-olds). Figure 4.16 shows that this does not quite appear to be true in the case of England. An additional explanation might be that students who delay attending university might be more academically unsure, and this affects their assessment of returns on their investment. To the extent that this group of delayed-transition students are disproportionately drawn from lower-income strata (Orr, Gwosc, & Netz, 2011), one could view this apparently age-related effect as a kind of 'hidden' socio-economic effect.

Participation by institutional type

- The above considerations pertain to participation as a whole, but such 'aggregate' participation analyses have their limits. They do not look at the stratification of students from different socio-economic backgrounds by the type of institution they attend. In several case study countries, there is evidence that students from lower socio-economic backgrounds tend to be markedly more present in low-prestige institutions than in high-prestige ones. For **England**, Harris (2010) reports that while there has been a 40% increase in participation among the group of disadvantaged students in England since the mid-1990s, relative enrolment of this group in the top third of selective universities has not changed at all; and furthermore, that the most advantaged 20% of the young population were seven times more likely to attend a top-level selective university than the rest of the population in the mid-2000s, compared to six times in the mid-1990s. In a stratified higher education system, the institution from which graduates receive a degree may influence career opportunities.
- In **Germany**, which has a less stratified higher education systems, differences in enrolment behaviour by socio-economic background are observable when the distinction between universities and *Fachhochschulen* is taken into account: The share of students from less well-educated parents in *Fachhochschulen* is greater than in universities. Also, graduates from advantaged social backgrounds are persistently overrepresented in high-prestige courses such as medicine (see Multrus, Ramm, & Bargel, 2010, p. 1).
- Park (2007, pp. 107 ff.) observes that in **South Korea**, the expansion of the higher education system in the 1980s and 1990s was shouldered in large parts by the 'second tier' of junior colleges, not the universities, and shows that for the cohorts of students entering the system during that, the father's higher education had a significant and increasing effect on the child's odds of enrolling in a university instead of a junior college.
- For **Poland**, Herbst and Rok (2011) present data showing that although all social strata have benefited from higher education expansion (see Figure 4.15 above), students from lower-educated families and non-urban regions are more likely to study in part-time programmes, which tend to be associated with poorer quality than full-time programmes; and that students from lower socio-economic backgrounds are more likely to study on fee-funded study places, meaning that they are economically disadvantaged compared to students from higher social strata.
- Based on survey data, (Kiss, 2013) analyses the socio-economic backgrounds of students in different types of bachelor programmes in **Hungarian** HEIs. He finds that students in what he calls "low status Bachelor programmes" (those with the lowest admission thresholds and with less favourable employment opportunities for graduates) are from less wealthy and less educated families than students in other Bachelor programmes.

Although each of these country examples is different, what they all suggest is that regardless of the level of tuition fees, social inequalities may persist even as the student population as a whole becomes more diverse. Only in the UK is there any data to suggest that stratification at top universities has increased as fees have risen, and it is not clear that the relationship is a causal one.

4.1.4 Fees, completion rates and student success

The project plan included investigating whether changes in fees might also affect student success and completion rates. Unfortunately, few countries seem to monitor

this question in a systematic way. The OECD “Education at a Glance” series includes data on completion rates in higher education, but at irregular intervals and based on different data collection methods, making it practically impossible to use the data for longitudinal or cross-country comparisons.

Some insights that were available from the case-study countries are given below.

- In **Canada**, completion rates appear to be increasing over time; finances are an important influencing factor in dropouts, but are not becoming more pronounced as fees rise.
- For the UK (includes **England**), there are data on attrition rates between first and second year back to 2001. Attrition rates have been falling slightly over time.
- In **Finnish** polytechnics, data are available back to 2004. They indicate stable completion rates at about 60%. For universities, data are available back to 2007 and indicate average completion rates of 51%, with a downward trend since 2008.
- For **Germany**, no consistent time-series data are available. Studies suggest i) that rates of drop-out increased in the second half of the 2000s due to Bologna-related changes, and ii) that financial factors are an important influencing factor in drop-outs, but did not become more pronounced after the introduction of fees.

In summary: most countries cannot provide useful information on this question. Where we do have data, there is little indication that fees have had a negative effect on persistence rates. The only country where negative trends can be confirmed is Finland.

4.1.5 Assessment of results

We found little evidence supporting the hypothesis that higher tuition fees impinge on patterns of enrolment. This means that Hypothesis C fails, and this section will provide analytical reasons for this failure. Across our case studies, student numbers generally did not fall when fee increases occurred, and some cases suggest that the expansion of fees facilitated greater participation. Neither was there much evidence that – with the exception of older students – participation by any of the groups most commonly thought of as under-represented were particularly affected by the rise in fees. Based on the evidence amassed above, the following reasons for the lack of noticeable negative effects of fees on student behaviour can be posited.

1. **An increase in fees is not always equal to an increase in price (especially to disadvantaged groups)**

Although there is a tendency to focus on the ‘sticker price’ of tuition fees, in all of the countries we have examined, there are substantial numbers of students who pay less than the actual price of tuition, or who pay nothing at all.

In all countries, we see some form of scholarships or need-based financial aid which reduces the price for some students, and in all countries, government expenditure on these programmes rose substantially over our period. In a few countries where tuition rose, we also see exemptions from payment which absolve some students from paying altogether, as shown below in Table 4.7.

Table 4.7: Examples of fee payment exemptions in case study countries

| | Reasons for payment exemption | Proportion covered by exemption |
|-----------------------|--|--|
| Austria | Need-based. | Around 20% (through reimbursement of fees). |
| England (1998 - 2005) | Students with family income below 24,000 euros paid nothing; between 24,000 and 36,000 euros paid 600 euros. | Roughly 55% of students received some form of discount. |
| Germany | Differing criteria in different <i>Länder</i> , including: social engagement, two or more fee-paying siblings. | Between 5% and 34%, depending on the <i>Land</i> and years considered. |
| Poland | Students who receive high marks on university entrance examination. | 850,000 university students, just over half of total. |

Source: Case studies.

The exact contributions of these measures to reducing the negative effects of tuition are unknown – with the exception of England, none of the countries have the kind of data systems that would be necessary to measure the effect of these subsidies on elasticity of demand. At any rate, in virtually all cases investigated in this research, rising tuition has been accompanied by a series of measures to mitigate these costs in whole or in part for at least some students. Therefore, the actual size of the financial barrier is smaller than the increase in sticker price would imply.

2. An increase in fees is not always perceived as an increase in fees

This relates as much to the issue of political opposition to fees than it does to student responses to them, but it is worth mentioning all the same because we know so little about the dynamics of student behaviour. Simply put: not all student fee increases are perceived in the same way.

Part of it has to do with whether increases in tuition are part of a continuous development or not. In Canada, Hungary, South Korea, Portugal and Poland, tuition increases tend to occur on an annual basis and in consequence tend to be fairly small. By contrast, in Austria, Germany and England the introduction of tuition fees was a major political issue because it was a significant one-time event, a 'discontinuation'. In Canada, the one major incident of political opposition to tuition fees in our period was the 2012 'maple spring' which erupted after a 75% increase in fees (even if from a fairly low level) over five years was announced.²³

There is a second way in which tuition rises can be hidden. In the 2006 England reform, because loans to cover fees were extended to *all* students, government could honestly present the new fee system as meeting the Beveridge test²⁴ of being 'free at

²³ That said, South Korea did go through a major period of student unrest in 2011 when the government refused to make good on President Lee Myung Bak's largely unforced 2008 commitment to reduce tuition by half. The government eventually announced that it was going to honour its pledge and the protests stopped – but in the event nothing actually changed and tuition policy remains the same.

²⁴ William Beveridge, a senior UK civil servant, was charged with writing a report on social insurance and allied services during World War II. His recommendations, which became the

the point of delivery' – that is, students would not have to pay any upfront tuition fees at all in order to register at a university. Moreover, the loans income-contingent structure meant that repayment would only be required in proportion to one's future earnings and that if those earnings remained below a certain level then the loan would effectively never be paid off. From this perspective, this system looks like a graduate tax: no upfront payment, no specified repayment amount. This may have changed the way the fee was perceived and indeed this may have reduced the perceived impact of the rise in cost for first time students.

3. Students have some ability to control price on their own

To some degree, students do have the ability to change their overall cost of attendance. In England, the percentage of students leaving home to study fell slightly after the introduction of fees (though since the start of the trend pre-dated the introduction of tuition it is not clear to what extent this was a reaction to a fall in fees and to what extent it was a continuation of longer-term secular process). In Germany, there is evidence that students living near *Länder* borders became more likely to commute or move to an HEI in a different, fee-free *Land* rather than stay home and pay fees. In Poland and Hungary there is the possibility of waiting a year to re-do the state examination and obtain a free place in that manner (although at least in Poland the number of persons choosing this option is negligible according to expert information).

Also, students can always adjust their consumption habits in order to pay for education. In England, one of the consequences of an increase in educational costs is a decrease in entertainment expense. No doubt students are left 'worse off' in a short-term hedonic sense, but the ability to cut back somewhat on their non-essential consumption habits means students may have more flexibility to afford higher education than is sometimes associated. That increasing financial strains can also affect students' wellbeing in a more fundamental sense is highlighted by National Union of Students UK (2012): Survey data show that only 42% of undergraduate students feel that they can concentrate on their courses without worrying about finances, and that among undergraduates considering leaving their course, financial difficulties are the most common worry (49%). These results suggest that beyond a certain point increasing financial constraints may be difficult to balance simply by changing consumption habits, and may become critical to academic success.

4. Loans work

Even to the extent that net price (the total amount students must pay for education) increases, the short-term out-of-pocket price (the total amount that students must pay upfront in order to access education) may stay the same or actually decrease. As we saw in Figure 4.4, which displayed out-of-pocket costs for all our case-study countries, in England and South Korea especially increases in the availability of loans meant that short-term out-of-pocket costs did not increase at all.

On its own, this does not constitute proof that 'loans work'. Scholarly debate is in fact not settled with respect to which set of prices students actually react to. Do they respond to net price – that is, total cost minus subsidies? Or do they respond to out-of-pocket price – that is, total cost minus subsidies and loans? The former implies that the decision to go or not go is a 'rate of return' issue: do the perceived benefits (which

basis of the country's post-war welfare state, included a proviso that certain services, including health, be 'free at the point of service'. This did not mean free of charge – individuals would still contribute to the health system through an insurance scheme. The phrase, however, reflected a fear that fees at the point of service would reduce use of the system by the poor.

can be misestimated, and may come in non-monetary as well as monetary forms) from attending outweigh the costs of attendance, including foregone income? The latter implies that the main financial barrier to education is liquidity – students might think that a particular course of education will produce a positive rate of return, but may still choose not to enrol if they do not have the means to immediately pay the fees. If one believes the former then loans will be ineffective because they postpone but do not reduce net costs. Only if liquidity is the issue will loans be effective. Non-refundable aid such as grants or tax credits will also improve liquidity, of course, but they are a much more expensive way of providing it than loans. One part of the explanation is that net prices did not rise sufficiently to affect students' rate-of-return calculations. The other explanation is that – in some countries at least – loans played a role in ensuring that liquidity was not a barrier, either.

The evidence here is not absolute: there is no counter-factual in these countries to tell us what would have happened if loans had not been available. One possible rejoinder is that the absence of subsidised loans to offset rises in net costs apparently did not have a material impact on accessibility in either Germany or Portugal. – On the other hand, fee increases in both countries were relatively modest and this in turn may mean that the price rises were not enough to materially change students' rates-of-return calculation, let alone materially affect their cash liquidity. If this is the case, then the worst one could say is that loans were superfluous rather than ineffective.

Another possible rejoinder on the subject of loans is that there are examples of loans simply not being demanded by students, even when they do have costs to meet. Hungary, Poland and Portugal have both introduced student loan programmes, but for reasons which are poorly understood, the take-up rate on these products has been very small (under 5% in both countries). But arguably this is less evidence of the inefficacy of loans than evidence that subsidised loans are not always attractive, especially if they are tied to bureaucratic procedures. However, it may also indicate cultural aversion to borrowing. There is evidence from other countries that not all societies have the same propensity to borrow. For instance, in both Sweden and the Netherlands students are universally eligible for loans. In Sweden, about four in five students avail themselves of this facility; in the Netherlands (where net costs are higher due to tuition fees) it is about one in four. So there may not always be a demand for loans, even if they are 'effective' in the sense of helping those who need and desire them.

In summary, although the deeper reasons for the relative effectiveness of loan systems cannot be examined here, the concepts of net costs and out-of-pocket student costs brought to bear in this study suggest that relatively constant net costs may have offset increases in tuition fee increases to keep participation high. The long-term effects of this type of shift in higher education financing – most notably, rising debt levels at graduation – should not be concealed, but are beyond the remit of this study.

5. Insufficient supply of study places may conceal decreasing demand

In most of the countries examined for this study, enrolments were used as a proxy for demand.²⁵ But this is unsatisfactory because enrolments may only be a fraction of demand. Where supply of places is limited, the number of students enrolled has to be rationed somehow, usually through merit. In such a circumstance, an increase in tuition could reduce demand without there being any reduction in enrolments. If the demand for places exceeded the supply by (say) 100,000 spaces, a rise in tuition could cut demand by 50,000 and unless supply increased by more than 50,000 places,

²⁵ The exception is England, where the existence of the University and College Application Service (UCAS) allows us to measure applications as well as enrolments.

we would have no way of knowing – based on enrolment statistics, at least – that demand had been reduced.

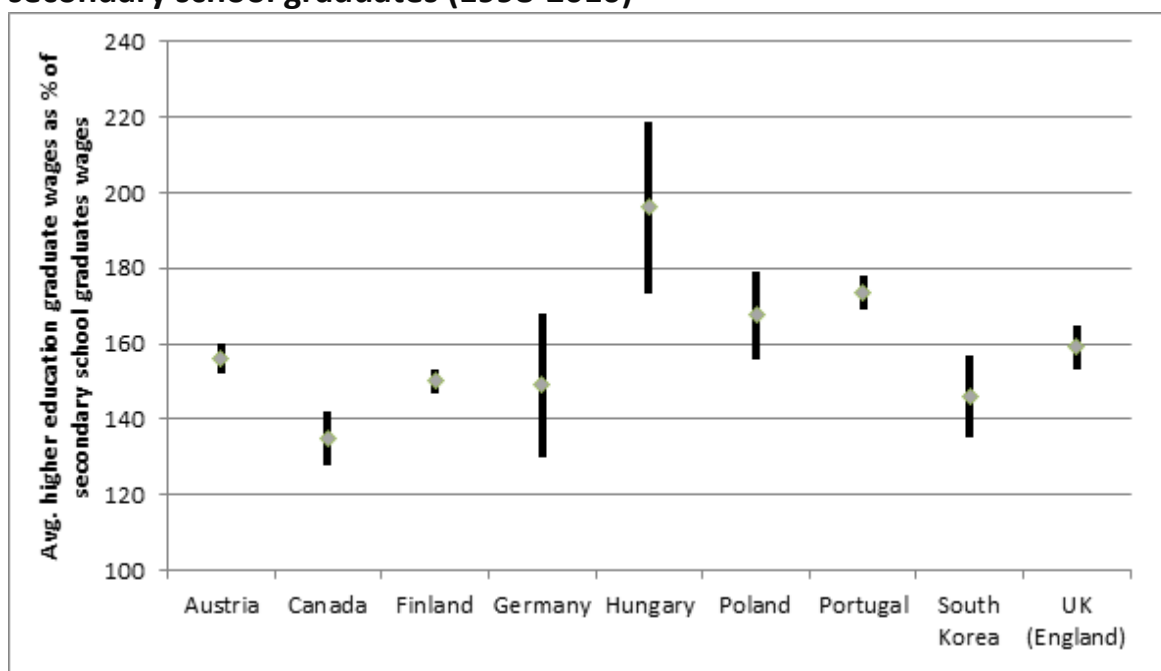
The problem with interpreting enrolment data is that enrolments (and hence participation rates) are a function not simply of demand but also of supply. And supply of spaces is usually constrained because of restricted funds. Where tuition is held below the cost of supplying seats, which is the case for all the public universities in our studies, the supply of seats is going to be a function of the relevant government's willingness to subsidise institutions. While all countries examined in this study increased their subsidies over the period of investigation – some quite significantly –, not all of them did so to the same extent, and in the absence of application data it is generally difficult to tell how well demand is actually satisfied by the supply of study places.

This argument is less forceful in countries with a large private sector. In countries like Poland and South Korea, it is harder to make an argument that the supply of study places is insufficient to satisfy demand because the point of the private systems in these countries is to absorb demand which a cash-constrained public sector cannot meet. It is presumably not by accident that these are the two countries where enrolment growth in the 1990s and 2000s was the highest. An important implication here is that to the extent that the prime determinant of access is the supply of places, tuition fees may *increase* access provided that new funds derived from fees are spent on increasing the number of places.

6. Even at a higher price, higher education is still a very good investment

This is perhaps the most important reason why enrolment rates appear to be unaffected by increased private costs. In all the countries we have looked at, incomes of university graduates have been substantially higher than those of secondary school graduates, as shown in Section 4.1 of the country reports and summarised in Figure 4.17 below.

Figure 4.17: Ranges of ratios of average wages of higher education and secondary school graduates (1998-2010)



Source: OECD 'Education at a Glance', various years.

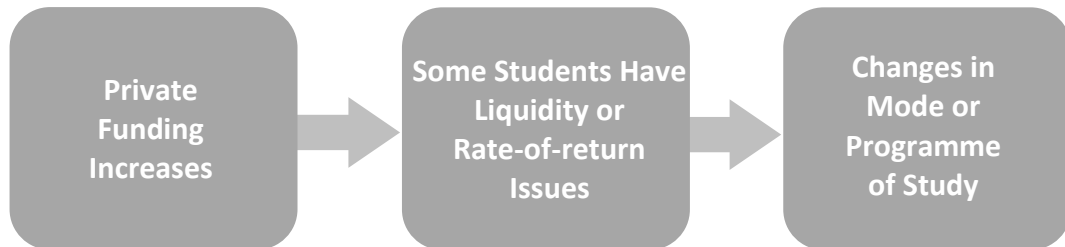
Expressed in absolute terms, in every country we have examined the personal financial benefits of higher education amount to thousands of euros per year. Aggregated across an entire lifetime, and not including any of the non-monetary benefits of higher education (jobs with higher prestige, better health outcomes, etc.), higher education provides, on average, personal net benefits running into the hundreds of thousands of euros. In the face of this evidence, it seems unlikely that fees are materially changing the rate-of-return calculation for a large number of students. It seems much more likely that the effect of fees on participation lies in the challenge they pose to students to come up with the money at the time of registration (i.e. liquidity). But, as we have seen, loans are likely to be effective in dealing with the liquidity challenge.

Summarising the above, possible reasons why rising levels of private funding realised through higher fee levels rarely have negative effects on participation, are: restriction of fees to sub-populations; insignificance in the perception of students; reduction of living costs to balance higher instructional costs; loans to avoid additional up-front payments; restriction of supply below demand, and focus on still-positive rates of return.

4.2 Changes in mode or programme of study

Rather than triggering an absolute effect on the level of participation, liquidity issues may lead to students switching to a different mode of delivery that enables them to study whilst working and earning income, or to secondary school graduates delaying participation to work to save money before entering higher education. Hence trends in the number of students studying part-time, and delays in entry to higher education were examined in this study as these changes may reflect behavioural responses to increase cost-sharing. Care was taken in interpreting the question of part-time studies, as in some countries an increase in part-time study requires not just a change in student behaviour but also a change in institutional policies as well.

Hypothesis D: Increasing private funding affects student choice of how or what to study



The postulated changes to cost-sharing (i.e. increase in private costs) may encourage students and their families to treat higher education as a scarce resource. Requiring fees should lead to prospective students and students acting more responsibly and less wastefully, e.g., less subject changes in the first years of studying and shorter time to study completion. It may also affect the field of study they select, causing them to avoid more expensive fields (reducing liquidity constraints), or to select programmes with a more direct connection to the labour market (improving rate of return). There are two factors that can influence enrolments by programme. Students can select programmes based on expected rates of return, or institutions can offer more spaces in programmes that are less expensive for them to deliver. The latter is more important when differential fees are not charged in relation to cost to deliver: If institutions can charge more for programmes that are more costly to deliver, the incentive to focus exclusively on offering low-cost programmes is smaller, and hence changes in enrolment by field are more likely to be the results of choices made by students.

Four specific evaluative questions were formulated in order to investigate Hypothesis D, each of which will be examined in turn below:

- Have increases in private funding affected how students study (examining factors such as part-time versus full-time study)?
- Have increases in private funding affected where students chose to study?
- Have increases in private funding affected what students study?
- Are increases in private funding making students more efficient (measured by time to completion)?

4.2.1 Fees and changes in study patterns

One question often posed about higher education is whether or not tuition will change students' mode of study – i.e. whether it affects their ability or desire to study full-time or part-time. The problem with looking at cross-national evidence on this is two-fold. First of all, not all countries offer part-time studies, because institutions have a more 'classical' approach to higher education favouring traditional study patterns (e.g. much of southern Europe until the early 2000s). The second is that the financial consequences of studying part-time can differ significantly from one country to another, both for institutions and individuals. In Poland and Hungary, 'part-time' implies fees (whereas 'full-time' implies an absence of fees); contrarily, in Canada tuition fees tend to be proportional to the number of courses taken. As a consequence, in those two countries, the financial incentives to take part-time courses are in opposition. Thus, though we might see effects in both cases, we would expect them to run in different directions.

There is little in the way of a pattern in terms of part-time studies across out case study countries. Among the four 'discontinuity' countries only two have data on the phenomenon, and they show contradictory results. In England, the percentage of students taking part-times studies has decreased, though the timing of the trend suggests this has little to do with fee policy. Among non-discontinuity case studies, two have no available statistics and one (Finland) reports no change in study patterns. The remaining two show opposite patterns of enrolment (falling in the 1990s and rising in the 2000s in Canada, and vice-versa in Poland), but in neither case can a link to changes in fees be easily made.

Table 4.8: Trends in part-time student status

| Country | Trends in part-time studies |
|-------------|--|
| Austria | Part-time student number negligible. |
| Canada | Part-time students fell from 25% in 1992 to 15% in 2003 before rising again to 2010. |
| England | Part-time study numbers rose until 2002, stable through 2008 and fell thereafter; the percentage students studying part-time fell steadily from 2002 onwards. |
| Finland | No formal statistical distinction between full-time and part-time students; based on surveys of student self-assessment of status, no change in distribution of full and part-time. |
| Germany | Part-time student number negligible. |
| Hungary | No statistics available. |
| Poland | 'part-time' studies are equivalent to fee-paying studies. These increased significantly in the 1990s in order to accommodate growing demand and fell in the early 2000s as enrolment numbers stabilized. |
| Portugal | Part-time status not recognized. |
| South Korea | Part-time status not recognized. |

Source: Case studies.

Similarly, when trying to look at changes in the age profile of students, there is no clear pattern among case study countries. Two countries saw no change, four saw a slight decrease in average age, two saw a bi-modal change in age distribution (that is, an increase in proportions of both very young and very old students, with the group in the middle aged around 23-25 years so decreasing), and one saw an increase in average age. Table 4.10 shows this in detail (Scott, 2012).

Table 4.9: Trends in age-profile of the student body

| Country | Trend in age-profile of student body |
|-------------|---|
| Austria | Average age increasing slightly. |
| Canada | Average age decreasing slightly. |
| England | Applicants over age 20 peaked at 28.5% of total in 2010; decline thereafter (now 26.4%) likely due to tuition changes. |
| Finland | Bi-modal distribution: the 'best-four years' group fell slightly in age; also a significant increase in over-40s. |
| Germany | Average age of student body fell in late 1990s, no change since then. |
| Hungary | No change since 2003. |
| Poland | Data on age profile only available since 2007, no significant changes |
| Portugal | Data available from 2000 onwards: median age constant at 22, but bimodal shift – more younger students and more older students (the latter as a result of a deliberate policy shift to allow older students to enter university). |
| South Korea | Slight shift to younger average age, likely related to change in military service patterns. |

Source: Case studies.

4.2.2 Fees and changes in study location

One oft-mooted consequence of higher fees is a change in students' propensity to study away-from-home. If fees rise, so the theory goes, then students will have less money to spend on accommodation and so the tendency will be to have fewer students living away from their parents. Such evidence as we have been able to collect with respect to this question from case-study countries indicates that this was not generally the case. In Canada, for instance, the proportion of students switching provinces did not decrease in the face of higher fees.

Only in two countries were any significant changes with respect to the location of study noted. In England, there was a significant fall in the number of people leaving home to study in the 1990s, though this trend began some years before the introduction fees and did not change in intensity after their introduction. Perhaps significantly, no similar trend was evident around the times of the 2006 and 2012 policy changes, which suggests that this trend was neither the result of, nor affected by, a change in fee policy. In Germany, one study has noted a very small but significant effect whereby students in border regions of states with fees choosing to commute to an out-of-Land university (presumably to avoid the fees). Table 4.11 summarises the changes in student location across our nine case-study countries.

Table 4.10: Trends in study location

| Country | Trends in study location |
|-------------|--|
| Austria | No data available. |
| Canada | No data available on changes on study location. Data is available on inter-provincial mobility; this has risen over time from 7.7% in 1992 to 9.4% in 2008. |
| England | Percentage of students studying away from home fell from 88% in 1992 to 77% in 2010. Timing and pace of decline appears unrelated to fee policies. |
| Finland | No data available on internal mobility; international mobility has fallen over time. |
| Germany | A number of studies have been conducted specifically looking at inter-Länder mobility since the introduction of fees; results vary significantly, and there is no consensus in the literature. |
| Hungary | No change since 2005. |
| Poland | No data available. |
| Portugal | Significant decline in the number of students living away from home between 2005 and 2010. |
| South Korea | No data available. |

Source: Case studies.

4.2.3 Fees and time to completion

Although a number of jurisdictions (including e.g. Poland) are setting up national student record systems to monitor time-to-completion as well as track professional path of graduates, at the time this study was conducted very few of the countries in our sample had any time-series data available on students' times-to-completion. Finland was the only country in this study that had a national student record system capable of tracking this over time. In other countries, time-to-completion studies are occasionally done, but not on anything like a systematic basis which would allow a monitoring of changes over time. In England, a proxy for time-to-completion (attrition rates after one year) is available on a time-series basis.

Table 4.11: Trends in time-to-completion patterns

| Country | Evidence of change in time to completion |
|-----------------------|--|
| Austria | One-time acceleration of studies around 2001 to avoid paying fees; no time-series data to indicate long-term trends. |
| Canada | No data available. |
| UK (includes England) | No data available on times-to-completion; first-to-second year attrition rates declining slightly. |
| Finland | From 1998-2010: Polytechnic times-to-completion steady at 4 years, universities varied between 6-7 years. |
| Germany | For universities, data available from 1995-2010: slight upward trend in average length of studies, but none since the introduction of fees. For <i>Fachhochschulen</i> , data available from 2002, no change in average length of studies. |
| Hungary | No data available. |
| Poland | No change since mid-2000s; no data available for earlier period.. |
| Portugal | No data available. |
| South Korea | No data available. |

Source: Case studies.

4.2.4 Fees and field of study

Finally, when looking at field of study, there are sometimes suggestions that a shift to tuition fees would move students towards fields with higher rates of return. Yet, as we have already noted above in Chapter 3, there is little evidence of much movement of any sort in the distribution of enrolments across disciplines, regardless of fee policy.

4.3 Conclusion

The central conclusion of this study with respect to the effects of cost-sharing on student behaviour is that their effects are smaller than is commonly assumed.

The view that fees have immediate and negative effects on access rests essentially on a belief that the demand for education is relatively elastic; if demand for a good is elastic and supply and demand are in equilibrium, then a rise in price will, *ceteris paribus*, reduce demand. But this does not appear to be the case for higher education. The evidence drawn from the case studies suggests that demand is either inelastic, or that demand for higher education is sufficiently greater than the supply of places, so that changes in price can occur without the number of applications falling below supply. This result is in line with much of the literature on higher education cost and student demand quoted in Chapter 1.

It is not that it is impossible to detect negative enrolment effects associated with tuition increases, or positive ones with reductions in tuition. The elimination of tuition fees in Austria in 2008 had a significant effect on enrolment – larger in magnitude, in fact, than did the original increase in fees. De-regulated tuition fees in certain Canadian provinces seem to have driven away the middle-class (though intriguingly not the poor) from high-cost programmes in professions such as law and medicine. In England, the most recent tuition increase (2012) seems to have had an effect on demand overall, and particularly among older students.

That said, it is not clear what we should learn from this. The evidence about an enrolment boom in Austria is fairly clear – but a similar-size drop in fees in the Canadian province of Newfoundland did not show similar effects (or rather, there was a similar-sized increase in enrolments, but it was not differentiable from increases in enrolments in other Canadian jurisdictions where fees were moving in the opposite direction). The evidence from England would appear to show that tuition rises up to 4,000 euros had relatively few if any negative effects – but that some such negative effects, particularly among older students – become clear once tuition has raised again to 11,500 euros. However, these results should not be considered out of context, as the English fee reforms were accompanied by study aid reforms in the form of expanding loans.

On the face of it, the evidence would seem to imply impacts on aggregate demand only once sudden increases in tuition approach the 8,000 euro level (true both for the 2012 English reform and the Canadian professional fee de-regulation). On the other hand, the hints of negative effects in countries with much smaller fee rises such as Austria (where we cannot rule out effects even though experts think it is unlikely) and Germany (where some but by no means all of the research suggests some new access barriers after 2006/2007), does contradict this interpretation.

5. Policy considerations

The main method of investigation chosen in this study was to use case studies. The case study method made it possible to tease out the effects of unique local institutional and political contexts that major international data sets leave out. Whilst recognising the need for an understanding of specific national contexts to explain the specific outcomes of experiments in cost-sharing, the comparison between cases leads to some generalisations with broader policy relevance. These generalisations will be elaborated below. In sum, it can be assumed that changing the cost-sharing balance between the public purse and private households does affect the behaviour of students and higher education institutions to some extent. However, the available evidence investigated in this study has shown that these effects are not extensive enough on aggregate – national – level to rule out tuition fees as a policy option.

The reservation must be made, however, that the data available to make judgements on the relationship between cost-sharing and individual and institutional behaviour in our nine case-study countries is less than complete. In some jurisdictions – notably Hungary and Poland – even obtaining simple information about institutional income sources is a challenge. Tracking the amount of tuition fees that are actually paid also remains difficult in some countries. With respect to student demographics, there were some remarkable data gaps. Only in England do data exist to provide unambiguous and up-to-date results as to “what happened” with respect to the composition of enrolment by ethnicity and socio-economic background. Some other countries have regular surveys which track characteristics of students in higher education but in some (e.g. Hungary and Poland) these are of fairly recent vintage and are of limited help in evaluating policies implemented more than five or six years ago. Even here, these surveys remain only occasional – every three or four years –, making it difficult to link changes to specific policy interventions. In a few places surveys from private or non-governmental sources can also provide partial information on this subject, and other, broader social surveys, such as panels on labour and income, can occasionally provide relevant data; but the design and content of such sources is often determined by individual scientists’ research interests.

This situation presents a constraint for policy-based research on a national level, but makes studies aiming to provide a robust basis for policy options on a cross-national

level even more challenging. The conclusions drawn from this study must be viewed in the light of this fact.

1. The introduction of tuition fees usually makes the system better-off overall, by increasing the total amount of resources available

On the basis of the analysis of Hypothesis A, we found that, in most situations, an increase in tuition did not result in a withdrawal of public funds from the higher education system and hence did result in additional resources for institutions. That said, there have been certain occasions (e.g. Austria in 2001, England in 2012) where by design tuition fee increases have been meant to replace public funding and not to add resources. Similarly, in the case of the Canadian fee rises of the early 1990s, declines in provincial government funding actually preceded the change in fee policy. Also, it has not always been the case that fee income has been completely additional, and on occasion, governments reverse their practices so that what had looked to be an additional investment at one point no longer was a few years later. But on the whole, in our nine case studies, private funding through fees made higher education institutions (HEIs) richer and more financially sustainable.

Higher fees tend to make institutions better off, but it is not inevitable that they do so. The point is that the extent to which they will make higher education better off is a deliberate policy choice. Sometimes it will, sometimes it will not. Fortunately, in our case study countries at least, there is no record of governments trying to mislead people on this issue: their pronouncements on whether money is additional or not were clear. Most governments have introduced fees specifically in order to enrich HEIs or to expand the number of student spaces available. In this, they succeeded in most cases. When they introduced fees to replace public investment (either temporarily or permanently) they have succeeded in that, too.

At the same time, there is an important qualification to be made here. In many cases, the additional private funding to HEIs through fees has been buffered on the student-side through additional publically funded study aid (see Consideration 10).

2. The resources gained through new fee-derived income are not always invested in ways that would perceptibly improve the student experience

We note that across a number of case studies, the tendency over time was for the ratios of students to academic staff to rise, even when institutional income per student was rising. This is a question of HEI behaviour investigated using Hypothesis B. The most extreme example of this was in Canada, where student-staff ratios rose by 20% even as per-student income rose by 40%. Thus, while it may be true that fees make institutions better off, they do not necessarily make for a better student experience, even when per-student income is rising (i.e. additional funds are not being used for expansion).

There are, essentially, three reasons why this is so. First, in some cases new funds are being dedicated to expansion rather than improvements in quality. Thus, new money is being devoted to giving the same experience to more people rather than providing a better experience to the same number of people. This is a legitimate policy goal, but it can lead to claims that “students are paying more but not getting more” – which would, of course, be true at an individual rather than an aggregate level.

The second reason is external pressure to increase wages of teaching staff. We know from economics that the cost of goods produced in industries with low productivity gains (in practice, labour-intensive ones) tend to rise inexorably relative to the price of goods in industries with higher productivity levels (in practice, capital-intensive ones). Over the long run, the general wage rate in an industry should rise in relation to average productivity gains, but to prevent labour leaving low-productivity industries

for high-productivity ones, low-productivity industries must raise their wages at rates similar to high-productivity ones, and this in turn raises costs.²⁶ Higher education is without a doubt such a labour-intensive industry. Indeed, it is one that often defines quality in terms of *absence* of productivity increases, in the sense that rising student-teacher ratios are evaluated as indicators of decreasing quality. When quality is defined in this way, it is tantamount to saying that productivity increases are actually to be avoided. In such circumstances, wages *must* increase, and this cost is transferred to the purchaser of education services. This cost-inflation contributes significantly to the phenomenon of extra funds not buying perceptible improvements.

In some countries – particularly Canada but also likely England – there is a third factor at work. Research activities have taken on greater importance for both governments and institutions over the past fifteen years or so, partly as a response to economic changes favouring knowledge-intensive sectors, and partly in response to prestige-competition that has emerged with the arrival of the global rankings. In response, governments have made substantial new investments in this area. Undoubtedly, greater investment in these areas is beneficial for faculty, can contribute to scientific advances and may lead to important economic spin-offs. However, to the extent that these greater investments are effectively being subsidised by higher tuition fees, this can be seen as a diversion of resources from what students perceive as the task at hand – namely, educating undergraduates. In this context, it is remarkable that the German system ring-fenced additional income from fees for teaching improvements.

3. Fees give governments more options for dealing with enrolment expansion

All governments face two sets of higher education cost-inflation pressures. The first is from increased student numbers, and the second is from the kind of cost-inflation which stems either from pressure to keep wages high, or from intensification of the research agenda. There are two policy options with which to deal with these problems: to increase the amount of resources; or to forcibly reduce per-student costs – either by paying less money per student to teach students through existing teaching institutions or by creating new institutions with lower-cost production functions. In the context of Hypothesis B, we looked at changes to the institutional profile of national higher education systems with this question in mind.

In countries where there is a significant private sector, the decision on a policy option is somewhat easier for governments: they can stop spending additional money on higher education and allow the private sector to accommodate demand. This is evidently how South Korea has kept its higher education expenditures manageable, and it is also how Poland managed its enormous expansion of higher education. But even if we look exclusively at the five case-study countries where higher education is nearly entirely in the public sector, there is an interesting pattern with respect to the expansion of higher education places since 1995. All five – Austria, Canada, England, Finland and Germany – saw significant increases in enrolments and participation rates over our reference period. In the two systems with tuition fees (Canada and England), more or less all additional demand in higher education was funnelled into the university sector. In the other three countries – which either had no or very low tuition (which in the case of both Austria and Germany was subsequently reversed) – most new demand was channelled into lower-cost higher education options. In Finland, 80% of new enrolments since 1995 ended up in polytechnics. In Austria, roughly two-thirds of the student growth was accommodated by *Fachhochschulen*, while in Germany the figure was 58%.

²⁶ This phenomenon is referred to in the economic literature as ‘Baumol’s cost disease’ or ‘Baumol effect’.

There are reasons other than economy to favour more enrolments in non-universities: often, they are more flexible and more attuned to the labour market in their programme offerings. Therefore such institutions tend to have a more responsive profile than classic universities to begin with (see Consideration 6, below). But it is probably also not a coincidence that they have been taken up most enthusiastically by jurisdictions whose means to fund more higher education have been constrained by a lack of private funding. The additional income provided through fees provides a way of overcoming the policy dilemma of being able to allow growth, but only in the low-cost sectors.

4. HEIs' behaviour is not necessarily affected by the availability of fee income

One common refrain about the effect of fees is that they make universities more responsive to user demand. However, this is likely based on a simplistic view of the value and incentive structures of HEIs and especially universities. According to evidence collated through Hypothesis B, our case studies do not support this assumption – or at least not universally so. The determining factor is not the mere presence of fees, but the structural incentives which surround the fees.

In essence, the likelihood of universities acting 'entrepreneurially' in order to attract new students once fees are introduced depends on the following external factors:

- *The shape of competing financial incentives.* Where institutions are already funded on some kind of a per-student basis, fees are unlikely to change behaviour much, since institutions will already be geared towards attracting students. To the extent that formula-based incentives for students are weighted towards more expensive disciplines and fees are not (in most countries, fees do not vary significantly by field of study), placing increased emphasis on tuition changes will actually push institutions away from providing courses in higher-cost fields of study.
- *The shape of competing prestige incentives.* Many universities are not really income-maximising institutions; rather, they are prestige-maximising institutions (Cyrenne & Grant, 2009). In some countries, those two goals go hand in hand since money can translate into prestige in a number of different ways. In England, Canada and South Korea, for instance, institutions seem quite willing to engage in all sorts of commercial behaviour in order to increase income. But in Germany, where institutions have considerable freedom to raise income through teaching continuing and professional education courses, many have chosen not to do so despite its revenue-enhancing potential because it is in some sense seen as outside of their mission and not prestige-enhancing.
- *The continuity of government policy-making.* In a number of instances in Austria, Germany and Finland, we saw evidence of universities holding off on pursuing major investments to ensure success under new government plans (e.g. in expanded international recruitment in Finland) because the institutions simply did not believe that the policy change was permanent. Because tuition policy in Germany very quickly became a partisan issue, with opposition parties proclaiming the need to eliminate fees, HEIs found it difficult to fully commit to the policy, fearing (correctly, as it turned out) that they would need to reverse it soon afterwards. In 2012, the Austrian Federal Ministry of Science and Research encouraged universities to charge fees again on the grounds that a recent revision of the university law did not explicitly forbid this option. Eight out of 21 universities thus collected general tuition fees in the winter semester of that year, until the Austrian Constitutional Court ruled this to be illegal in the summer of 2013. As a consequence, the fee-charging universities had to refund the fees. It is therefore apparent that such legal and

political framework conditions make it difficult for institutions to embrace sustainable cost-sharing strategies.

In short, if the policy goal is to get institutions to react in a more entrepreneurial fashion, then the simple permission to charge fees from users may be a necessary condition, but it is certainly not a sufficient one.

5. Real responsiveness does not result from putting private into public university systems; it comes from permitting new institutions to evolve.

One interesting finding in this study is how little change one sees over time in enrolment patterns by field of study in traditional universities. This became evident in investigating Hypothesis B. Regardless of country or tuition regime, the discipline profiles remain remarkably consistent, presumably because these institutions build up specific academic profiles over time and tend to offer teaching staff long-term appointments, which in turn means that they have very long-term commitments to teaching a certain number of students in specific fields. But that does not mean that the higher education sector as a whole is inflexible. Rather, in the case study countries changing patterns of enrolment tended to be accommodated through the introduction of new types of institutions.

One can see this clearly with respect to private HEIs in Hungary, Poland and South Korea. All three of these countries witnessed significant fluctuations in enrolments by fields of study, apparently all labour-market driven. This presumably reflects the fact that private HEIs have more freedom to employ staff and, when necessary, terminate contracts relatively quickly. This makes it feasible for private providers to follow sudden shifts in demand in a way that public HEIs with their longer-term employment guarantees and long-term commitments to research and innovation projects cannot.

But introducing private HEIs is not the only way to achieve this kind of responsiveness. In Finland, an entirely new system of polytechnics (*ammattikorkeakoulu*) was introduced in the 1990s. These new institutions taught a very different set of subjects. In Austria, well before the introduction of tuition, *Fachhochschulen* based on the German model were introduced. As in Finland, these institutions offered a different palette of programmes and hence changed the overall profile of higher education. And in Germany, by design, *Fachhochschul*-enrolments grew faster than those of universities, with results similar to those in Austria.

In summary, though it is expected that fees will make HEIs more market-responsive, the case studies found that in a system-level perspective, the main driver of responsiveness is not fee-charging public universities. Rather, it is the establishment of either private universities or new, specific types of public HEIs which seem to make the most difference in this area.

6. Unless the magnitude of change is exceptionally large, rises in fees seemingly have no detectable negative effect on aggregate demand, enrolment or participation

The effect of fees on participation is a central issue for cost-sharing, which was investigated using Hypothesis C. In most of our case studies, rises in tuition were accompanied in the medium-term, if not sooner, by rises in demand and participation. This is not to suggest that the rise in tuition fees caused these rises; merely that there is no evidence that they impeded enrolment growth. In some circumstances, though, where the extra money was used to expand the number of places available, the rises did in fact enable higher participation. The most obvious examples of this were in Poland and South Korea, where the emergence of large, fully privately-funded HEIs permitted the creation of hundreds of thousands of additional spaces which would not otherwise have been funded.

The only clear-cut example where we have seen a tuition fee rise which affected aggregate demand is the 2012 English reform. In this case, an increase in tuition fees of about 8,000 euros resulted in an aggregate change in domestic demand of about 8%, some of which was reversed the following year. This is a significant negative result – but it took an unprecedentedly large fee increase to create it. The strong likelihood is that more moderate rises in fees would not result in detectable changes on demand or participation, particularly if they are accompanied by changes in student assistance.

In Chapter 4, a number of possible reasons why rising tuition fees apparently have so little effect on demand were laid out, all of which play some role in the phenomenon. But likely the most important reason is this: higher education is an excellent investment for most individuals. In all the countries we have examined, the annual take-home pay of higher education graduates is significantly higher than those without it. In the face of this, it seems unlikely that increases in fees measured in the hundreds of euros are likely to have a strong impact on educational choices. Increasing fees may lower the rate of return somewhat, but everywhere, higher education remains on average a very good deal for students, assuming they can access the necessary funds to make the initial investment (see Consideration 10, below).

7. Rises in tuition fees seemingly have no detectable effect on participation by socio-economic backgrounds

Perhaps a more surprising result than the paucity of effects of fees on aggregate demand is the fact that no really clear-cut examples of reductions in access for students from lower social backgrounds were found in our examples (investigated under Hypothesis C). In part, this may be due to the very weak nature of many national statistical systems, which are not built to monitor small sub-populations such as the ones likeliest to face difficulties in the face of fees (see Consideration 1, above); in part, it may be that there are negative effects, but they are too small to be detectable. But where data are available, they provide some interesting insights. In England in 2012, in the face of a massive increase in fees, students from low social backgrounds were not affected disproportionately by the increase (in fact, though their numbers declined, their application and acceptance *rates* were less affected than those of wealthier students). The only country where we have clear evidence of fees being related to an income-related change in enrolment is in the case of professional programmes in certain Canadian provinces, where sudden tuition fee rises on the scale of the English 2012 reform caused a dip in the number of students from middle-income (but not low-income) families.

This is a significant finding, because it means that properly-implemented fee policies do not necessarily cause equity problems (though, see Consideration 9 below, for an important caveat with respect to this). But even in the face of growing participation across all social groups, more equitable access to higher education does not necessarily entail equitable access to quality higher education provision: “If minority and low-income students are disproportionately represented in lower-level programs and schools, it remains questionable whether equitable access has truly been provided” (Bastedo & Gumport, 2003, p. 355). Rises in tuition fees do seem to have negative effects on older student populations

On the rare occasion in these case studies where enrolment effects on specific sub-populations (investigated under Hypothesis C) were observable, they have tended to be age-related rather than income-related. Specifically, rises in fees seem to affect older students proportionately much more than younger ones. The most obvious example of this is the experience of England in 2012 where the 8,000 euro increase in fees reduced applications from 18 year-olds by about 1%, but by 12% for students

over 23. To the extent that late entrants to higher education had lower levels of secondary school achievement and come from more disadvantaged areas, this age-related effect may in fact be a socio-economic barrier in disguise. Grant policies to offset the effects of tuition which take account of social background and age would thus seem to be desirable.

8. Study aid matters

In the context of Hypothesis C, student enrolment in connection with any changes to net costs for students (i.e. tuition fees minus study aid of various forms) was investigated. As has been noted already, increases in fees have had very few effects either on total enrolments or on most 'vulnerable populations' such as low-income students. But with few exceptions, rises in fees tended to be accompanied by rises in offsetting forms of student assistance. In England, for instance, rises in tuition fees were fully offset by loans; in Canada, rises were for the most part offset by changes in grants and tax credits. South Korea and Poland also had significant increases in student assistance (grants in the former, loans in the latter) during the period under consideration.

It is beyond the remit of this work to look at exactly how much and what kinds of aid are best placed to offset increases in fees in an effective and efficient manner. Most countries appear not to have the necessary data systems that would allow for an effective examination of the question anyway. What we can say, though, is the following:

- That there are clear examples where loan-only assistance appears to have been largely successful in offsetting fees. The English tuition reform of 2012 was accomplished with relatively small negative effects. Since the only offsetting aid was loans, one can reasonably infer that loans played a significant role in mitigating the effects of this extraordinary increase. Clearly, English students will pay for the rise in fees after graduation, and their higher debt will have an effect on future asset acquisition (though the English loan system's income-contingent structure limits the extent to which debt can impinge on income in any given year). But it seems that in the short-term, in some cases at least, loans can be remarkably effective as aid instruments.
- That there are places where students are reluctant to take up loans even if they are offered. Loan programmes exist in Hungary, Poland and Portugal but the take-up rates are very low. Possibly, this is because their terms are less attractive than those on offer in England (especially with respect to pay-back period); but local cultural attitudes may also play a role. Outside our case-study countries, both Sweden and the Netherlands have loan programmes which are effectively universal – much like the English system. In Sweden, over 80% of students take up the loan; in the Netherlands the figure is closer to 20%. These differing reactions to similar policy offerings suggest that there is not a universal response to an offer to borrow.
- Non-repayable assistance works but does not alleviate the public purse. The most obvious example of this is in Canada, where fees rose significantly in the 1990s and 2000s but were mostly offset by a mix of grants and tax credits. It seems likely that this offset had much to do with the significant expansion of higher education opportunities in Canada over the same period, but at the same time, it effectively nullified cost-sharing efforts: governments were paying out in assistance almost as much as institutions were taking in from higher fees. It happened in Canada because in effect this was a convoluted (and un-coordinated) way for the federal government to take a larger share of higher education funding; but the general rule is the same: non-repayable aid reduces the value to government of cost-sharing.

9. Cost-sharing strategies call for integrative approaches to institutional funding and student aid

This study made an effort to bring together the institutional and the student side of cost-sharing in higher education. Importantly, each of these components, even when considered separately, is embedded in a structure of interrelated factors conditioning institutional and individual behaviour. Concerning institutions, we have seen that for most HEIs tuition fees are one income stream among many, and that the effectiveness of fees in influencing institutional behaviour is conditioned by the mode and volume of allocation of public subsidies, the regulatory character of higher education governance, the division of labour inside the higher education sector between types of institutions, the availability of funds from third parties, etc. (key concepts: autonomy and incentive structures). On the student side, we have seen that the effects of tuition fee schemes are interwoven in a complex manner with student loans and grant schemes as well as different types of indirect student assistance (concept: net costs), and even cultural attitudes towards borrowing. Few of the cost-sharing systems investigated in this study give the impression of pursuing policies in which these interrelations are fully acknowledged, although this would be necessary not only in order to ensure accountability, but also to be able to understand causes and effects of modifications to cost-sharing. A central consideration for policy development is, therefore, how to draw-up comprehensive cost-sharing strategies, which coordinate the regulative and incentive structures effective for institutions and students (and, ultimately, other stakeholders) in a coherent fashion.

References

- Aghion, P. M., Dewatripont, C., Hoxby, A., Mas-Colell, A., & Sapir, A. (2008). *Higher aspirations: an Agenda for Reforming European Universities*. Bruegel.
- Altbach, P. G. (1999). The logic of mass higher education. *Tertiary Education and Management*, 5(2), 107–124. doi:10.1080/13583883.1999.9966985
- Andrews, L. (1999). *Does HECS Deter? Factors affecting university participation by low SEC Groups*. Department of Education, Training and Youth Affairs.
- Barr, N., & Crawford, I. (1998). The Dearing Report and the government's response : a critique. *Political Quarterly*, 69(1), 72–84.
- Bastedo, M. N., & Gumport, P. J. (2003). Access to what? Mission differentiation and academic stratification in U. S. public higher education. *Higher Education*, 46, 341–359.
- Becker, G. S. (1964). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. Chicago: University of Chicago Press.
- Bergquist, W. H. (1992). *The Four Cultures of the Academy: Insights and Strategies for Improving Leadership in Collegiate Organizations (Jossey Bass Higher and Adult Education)*. San Francisco: Jossey-Bass Inc.
- Brown, N., & Ramsden, B. (2008). *Variable Tuition Fees in England: Assessing the Impact on Students and Higher Education Institutions*. Universities UK. Retrieved from <http://www.universitiesuk.ac.uk/highereducation/Documents/2008/VariableFees3.pdf>
- Callender, C., & Jackson, J. (2005). Does the Fear of Debt Deter Students from Higher Education? *Journal of Social Policy*, 34(4), 509–540.
- Campaigne, D. A., & Hossler, D. (1998). How do loans affect the educational decisions of students? Access, aspirations, college choice, and persistence. In R. Fossey & M. Bateman (Eds.), *Condemning students to debt: College loans and public policy*. New York: Teachers College Press.
- Chapman, B., & Ryan, C. (2003). *The Access Implications of Income Contingent Charges for Higher Education: Lessons from Australia*. Centre for Economic Policy Research, Australian National University.
- Cheps, IOE, & Technopolis. (2009). *Progress in higher education reform across Europe - Funding Reform (Vol. 1)* (Vol. 1, pp. 1–24).
- Clark, B. R. (1997). *Creating Entrepreneurial Universities: Organizational Pathways of Transformation. Issues in Higher Education*. New York: Emerald / IAU Press.
- Cyrenne, P., & Grant, H. (2009). University decision making and prestige: An empirical study. *Economics of Education Review*, 28(2), 237–248. doi:10.1016/j.econedurev.2008.06.001
- De Boer, H., Jongbloed, B., Enders, J., & File, J. (2010). *Progress in higher education reform across Europe - Funding reform, Volume 3: Rates of return survey and funding fiches*. CHEPS. Retrieved from <http://purl.utwente.nl/publications/88694>

- Deloitte Access Economics. (2011). *Higher education teaching and learning costs*. Retrieved from <http://www.innovation.gov.au/highereducation/Policy/BaseFundingReview/Documents/HETeachingandLearningCostsReport.docx>
- Duffy, E. A., & Goldberg, I. (1998). *College admissions and financial aid, 1955-1994*. New Jersey: Princeton University Press.
- Estermann, T., Nokkala, T., & Steinel, M. (2011). *University Autonomy in Europe II: the Scorecard*. Brussels: European University Association. Retrieved from http://www.eua.be/Libraries/Publications/University_Autonomy_in_Europe_II_-_The_Scorecard.sflb.ashx
- Egerton, M., & Parry, G. (2001). Lifelong Debt: Rates of Return to Mature Study. *Higher Education Quarterly*, 55(1), 04–27. doi:10.1111/1468-2273.00171
- Ehrenberg, R. G. (2007). *The economics of tuition and fees in American higher education*.
- Estermann, T., & Nokkala, T. (2009). *University Autonomy in Europe I: Exploratory Study*. Brussels: European University Association.
- Estermann, T., & Pruvot, E. B. (2011). *Financially Sustainable Universities II: European universities diversifying income streams*. European University Association. Retrieved from http://www.eua.be/Pubs/Financially_Sustainable_Universities_II.pdf
- Estermann, T., Pruvot, E. B., & Claeys-Kulik, A.-L. (2013). *Designing strategies for efficient funding of higher education in Europe*.
- EU. (2009). Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training (ET 2020). *Official Journal of the European Union*, C 119/2, 2–10.
- EU. (2011). Council conclusions on the role of education and training in the implementation of the “Europe 2020” strategy. *Official Journal of the European Union*, C70/1, 3–5.
- EUA. (2008). *European Universities’ Charter on Lifelong Learning*. European University Association. Retrieved from http://www.eua.be/fileadmin/user_upload/files/publications/eua_charter_eng_ly.pdf
- European University Association. (n.d.-a). University Autonomy in Europe. Retrieved January 15, 2014, from <http://www.university-autonomy.eu/>
- European University Association. (n.d.-b). University Autonomy in Europe.
- European University Association. (2009). *Looking forward with confidence - Prague Declaration*.
- Eurydice. (2011). *Modernisation of Higher Education in Europe: funding and the social dimension*. Brussels: Education Audiovisual and Culture Executive Agency. Retrieved from http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/131EN.pdf

- File, J. (2008). *Higher education in Portugal. IHEM Country report*. Enschede.
- Finnie, R., & Usher, A. (2006). The Canadian Experiment in Cost-Sharing and its Effects on Access to Higher Education, 1990-2002. In Pedro N. Teixeira, D. Johnstone, M. J. Rosa, & Hans Vossensteyn (Eds.), *Cost-sharing and Accessibility in Higher Education: A Fairer Deal?* (pp. 159–187). Springer.
- Geiger, R. L., & Heller, D. (2011). *Financial Trends in Higher Education in the United States*. Penn State: Center for the Study of Higher Education. Retrieved from <http://www.ed.psu.edu/educ/cshe/working-papers/WP%236>
- Greenaway, D., & Haynes, M. (2003). Funding Higher Education in the UK: The Role of Fees and Loans*. *The Economic Journal*, 113(485), F150–F166. doi:10.1111/1468-0297.00102
- Grünberg, L., & Vlasceanu, L. (Eds.). (2007). *Demographics and Higher Education in Europe - Institutional Perspectives*. UNESCO-CEPES.
- Hanover Research. (n.d.). College Students as Consumers. Washington, DC. Retrieved from <http://www.hanoverresearch.com/insights/college-students-as-consumers/?i=higher-education>
- Harris, M. (2010). *What more can be done to widen access to highly selective universities?* Bristol: Office for Fair Access. Retrieved from <http://www.offa.org.uk/wp-content/uploads/2010/05/Report-on-access-to-highly-selective-universities.pdf>
- Heller, D. (1997). Student price response in higher education: an update to Leslie and Brinkman. *Journal of Higher Education*, 68(6), 624–659.
- Heller, D. (1999). The effects of tuition and state financial aid on public college enrolments. *Review of Higher Education*, 23(1), 65–89.
- Heller, D. (Ed.). (2001). *The States and Public Higher Education Policy: Affordability, Access, and Accountability* (1st ed. Baltimore, MD: The Johns Hopkins University Press.
- Hemelt, S. W., & Marcotte, D. (2008). *Rising Tuition and Enrollment in Public Higher Education* (No. 3827).
- Huang, L. (2005). *Elitism and Equality in Chinese Higher Education (Studies of Student Socio-economic Background, Investment in Education, and Career Aspirations. Studies in Comparative and International Education)*. Stockholm: Institute of International Education, Stockholm University. Retrieved from <http://www.interped.su.se/publications/lihongthesis.pdf>
- Hübner, M. (2009). *Do tuition fees affect enrollment behavior? Evidence from a 'natural experiment' in Germany* (No. 69). University of Mannheim.
- Johnson, D. (2008). *Inter-Provincial Variation in University Tuition and the Decision to Continue to Attend University. Evidence from the Youth in Transition Survey in Canada. Measuring the Effectiveness of Student Aid Research Paper*.
- Johnstone, D. B. (2003). Cost-Sharing in Higher Education: Tuition, Financial Assistance, and Accessibility. *Czech Sociological Review*, 39(3), 351–374.

- Johnstone, D. B. (2014). Tuition Fees, Student Loans, and Other Manifestations of Cost Sharing: Variations and Misconceptions. *The Forefront of International Higher Education*. Retrieved from http://link.springer.com/chapter/10.1007/978-94-007-7085-0_18
- Johnstone, D. B., & Marcucci, P. (2010). *Financing higher education worldwide: Who pays? Who should pay?* John Hopkins University Press.
- Jongbloed, B. (2010). *Funding Higher Education: A View Across Europe*. Brussels: ESMU.
- Junor, S., & Usher, A. (2004). *The Price of Knowledge*. Montreal: Canada Millennium Scholarship Foundation.
- Kaplan, E. (2011). *Student Responses to the Changing Cost of Post-Secondary Education*. University of Pittsburgh. Department of Economics.
- Kim, A., & Young Lee. (2003). *Student Loan Schemes in the Republic of Korea: Review and Recommendations, Policy Research and Dialogue, Student Loan Schemes in Asia* (No. Vol. 1, No. 4) (Vol. 1). Bangkok: UNESCO Asia and Pacific Regional Bureau for Education.
- Kinzie, J., Palmer, M., Hayek, J., Hossler, D., Jacob, S. A., & Cummings, H. (2004). *Fifty Years of College Choice: Social, political and institutional influences on the decision-making process*. Lumina Foundation.
- Kiss, L. (2013). "Low-status" bachelor programmes. In O. Garai & Z. Veroszta (Eds.), *Hungarian Graduates 2011* (pp. 67–92). Budapest: Educatio Public Services Non-profit LLC.
- Kokkelenberg, E., Dillon, M., & Christy, S. (2005). *The effects of class size on student achievement in higher education* (No. 67). Cornell Higher Education Research Institute, Cornell University. Retrieved from http://digitalcommons.ilr.cornell.edu/cheri/24/?utm_source=digitalcommons.ilr.cornell.edu%2Fcheri%2F24&utm_medium=PDF&utm_campaign=PDFCoverPages
- Kwiek, M. (2009). *Creeping Marketisation: Where Polish Public and Private Higher Education Sectors Meet*. Center for Public Policy Studies.
- Lang, T. (2005). *Eine ökonomische Analyse der Auswirkungen von Studiengebühren auf die Zugangsgerechtigkeit in der Hochschulbildung [an economic analysis of the impact of fees on access equity in higher education]*. HIS.
- LaRocque, N. (2003). *Who Should Pay? Tuition Fees and Tertiary Education Financing in New Zealand*. Wellington: Education Forum.
- Leslie, L., & Brinkman, P. (1997). *The Economic Value of Higher Education*. New York: American Council on Education.
- Marginson, S. (1999). Diversity and convergence in Australian higher education. *Australian Universities' Review*, 1.
- Massy, W. (2004). Markets in Higher Education: Do They Promote Internal Efficiency? In P. Teixeira, B. Jongbloed, D. Dill, & A. Amaral (Eds.), *Markets in Higher Education. Rhetoric or Reality?* (pp. 13–36). Dordrecht/Boston/London: Kluwer Academic Publishers.

- McPherson, P., Schapiro, M. O., & Winston, G. C. (1993). *Paying the Piper: Productivity, Incentives and Financing in US Higher Education*. University of Michigan Press.
- McPherson, P., & Shulenburg, D. (2008). *University Tuition, Consumer Choice and College Affordability Strategies for Addressing a Higher Education Affordability Challenge*. National Association of State Universities and Land-Grant Colleges.
- Meggison, W. L., & Netter, J. M. (2001). From State to Market: A Survey of Empirical Studies on Privatization. *Journal of Economic Literature*, 39(2), 321–389.
- Multrus, F., Ramm, M., & Bargel, T. (2010). *Studiensituation und studentische Orientierungen. 11. Studierenden survey an Universitäten und Fachhochschulen*. Berlin: Bundesministerium für Bildung und Forschung. Retrieved from http://www.bmbf.de/pub/studiensituation_studentetische_orientierung_elf.pdf
- Müller, W., Pollak, R., Reimer, D., & Schindler, S. (2011). Hochschulbildung und soziale Ungleichheit. In R. Becker (Ed.), *Lehrbuch der Bildungssoziologie* (2nd ed., pp. 289–327). Wiesbaden: VS Verlag.
- National Union of Students UK. (2012). *The Pound in Your Pocket - Summary Report*. London: National Union for Students.
- OECD. (2001). Glossary of Statistical Terms: Constant Prices. Retrieved March 15, 2014, from <http://stats.oecd.org/glossary/detail.asp?ID=417>
- OECD. (2014). *Promoting Research Excellence - New approaches to funding*. Paris: OECD Publishing.
- Orr, D., Gwosc, C., & Netz, N. (2011). *Social and economic conditions of student life in Europe*. W. Bertelsmann.
- Orr, D., & Jaeger, M. (2009). Governance in German Higher Education: competition versus negotiation of performance. In J. Huisman (Ed.), *International Perspectives on the Governance of Higher Education* (pp. 33–51). London: Routledge.
- Park, H. (2007). South Korea: Educational Expansion and Inequality of Opportunity for Higher Education. In J. Shavit, R. Arum, & A. Gamoran (Eds.), *Stratification in Higher Education. A Comparative Study* (pp. 87–112). Stanford: Stanford University Press.
- Pawson, R., & Tilley, N. (1997). *Realistic evaluations*. Sage.
- Pawson, R., & Tilley, N. (2004). Realist Evaluation. Retrieved from http://www.communitymatters.com.au/RE_chapter.pdf
- Pechar, H. (2004). Tuition Fees and Student Participation: Lessons from Austria. In *International Conference on Accessibility of Higher Education - Challenges for Transition Countries*. Moscow.
- Reisz, R. D., & Stock, M. (2012). Private Higher Education and Economic Development. *European Journal of Education*, 47(2).
- Rolfe, H. (2003). University Strategy in an Age of Uncertainty: The Effect of Higher Education Funding on Old and New Universities. *Higher Education Quarterly*, 57(1), 24–47.

- Sallie Mae. (2012). *How America Pays for College 2012*.
- Schwarzenberger, A. (2008). *Public / private funding Public private funding of of higher education : a social balance*.
- Scott, A. (2013). Chemistry Makes A Comeback in UK Universities, Schools. *Chemical and Engineering News*, 91(11), 79–82.
- Scott, P. (2012, September 3). It's 20 years since polytechnics became universities – and there's no going back | Education | The Guardian. *The Guardian*. Retrieved from <http://www.theguardian.com/education/2012/sep/03/polytechnics-became-universities-1992-differentiation>
- Stange, K. (2012). *The Effect of Differential Tuition on College Major Choice*. University of Michigan.
- Stannek, A., & Ziegele, F. (2005). *Private Higher Education in Europe: A National Report on Germany* (No. 71). Centrum für Hochschulentwicklung. Retrieved from http://heglobal.international.ac.uk/media/6230/studie_privathochschulen_ap71.pdf
- Teixeira, P., Jongbloed, B., Dill, D., & Amaral, A. (2004). Introduction. In P. Teixeira, B. Jongbloed, D. Dill, & A. Amaral (Eds.), *Markets in Higher Education. Rhetoric or Reality?* (pp. 1–12). Dordrecht/Boston/London: Kluwer Academic Publishers.
- UNESCO. (2012). *The Impact of Economic Crisis on Higher Education*. Bangkok: UNESCO.
- Unger, M. (2004). The Introduction of Tuition Fees in Austria: Some Empirical Effects. In *Public Higher Education Under Pressure: 2nd International Workshop on reform of Higher Education in Six Countries*. Vienna, Austria.
- Usher, A. (2009). Ten years back and ten years forward. In *UNESCO Forum on Higher Education in the Europe Region: Access, Values, Quality and Competitiveness*. Bucharest.
- Vossensteyn, H. (2005). *Perceptions of Student Price-Responsiveness. A Behavioral Economics Exploration of the Relationship Between Socio-economic Status, Perceptions of Financial Incentives and Student Choice*. Enschede: CHEPS.
- Vossensteyn, H., & de Jong, U. (2007). Student Financing in the Netherlands: A Behavioural Economic Perspective. In Teixeira P.N., B. D. Johnstone, M. J. Rosa, & J. J. Vossensteyn (Eds.), *Cost-sharing and Accessibility in Higher Education A Fairer Deal?* (p. 372). Springer.

Appendix: Glossary of Terms

| Term | Explanation |
|-----------------|---|
| Academic staff | <p>Unless otherwise specified, academic staff includes:</p> <ul style="list-style-type: none"> • Personnel whose primary assignment is instruction, research, or public service • Personnel who hold an academic rank with such titles as professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of these academic ranks, • Personnel with other titles (e.g. dean, director, associate dean, assistant dean, chair or head of department), if their principal activity is instruction or research. <p>It excludes student teachers, teachers' aides and paraprofessionals.</p> |
| Best four years | In order to make participation rates comparisons across countries, account must be taken of the fact that different countries have different typical entry ages. This indicator calculates the four-year age bracket which has the highest participation in higher education, e.g. in some countries this will be an age bracket 18 to 21 but in others it could be 20-23. This "best four years" can change over time and must therefore be re-calculated for each year observed. |
| Costs of living | Unless otherwise stated, the total of accommodation, food, clothing, toiletries, social and leisure activities, transportation, health, communication and child care. |
| Fees | All charges to students, whether called tuition fees, registration fees or student contributions, with the exception of contributions to student associations or unions. Nearly all higher education systems have some students who pay tuition fees. However, this study focuses on cases in which the largest group of students (e.g. often domestic bachelor students) pays tuition fees. |
| Grant | Non-repayable direct cash public support of students. This includes grants and bursaries from government funding bodies, whether distributed on the basis of need or merit, and regardless of whether they are granted at the time of study or afterwards (such as in the case of loan forgiveness or remission). Scholarships from HEIs or other non-governmental bodies are excluded. |
| Gross costs | The total of all costs covering both living and study-related expenditures. They are specified by period, e.g. monthly gross costs. |
| Loan | Repayable direct cash support paid to student in which the loan authority is a public or quasi-public body or in which the loan is provided by a private bank, but is guaranteed by the state. Student loans are reported on a gross basis, i.e. the value of the loan irrespective of interest subsidies or similar. |
| Net costs | The sum of gross costs minus all non-repayable study aid (grants, family allowance etc.), i.e. excluding loans. |

| Term | Explanation |
|---|---|
| Net out-of-pocket costs | The sum of gross costs minus all forms of study aid (grants, loans, family allowance etc.), i.e. including loans. |
| Public/private HEIs | Unless otherwise specified, an HEI is considered <ul style="list-style-type: none"> • public if it either receives 50 percent or more of its funding from government agencies or its personnel are paid by a government agency; and • private if it receives less than 50 percent of its funding from government agencies and its personnel are not paid by a government agency. |
| Study aid / student support (<i>direct</i>) | Cover term for both grants and loans. |
| Study aid / student support (<i>indirect</i>) | Family allowance, tax deductions and credits and special public subsidies. |
| Tuition fee | A charge paid by students with which they formally and compulsorily contribute to the costs of their higher education. |
| Under-represented groups | Term to capture students who are classified nationally as a student group requiring special support, because they are underrepresented relative to the total national population or considered at-risk. Examples are students from low social-economic backgrounds or from particular ethnic backgrounds. Many countries have their own focus groups such as students from rural areas, students from migrant backgrounds, students of a specific ethnic group or ancestry, students of a certain age group, students living in particular post-code districts etc. |

