



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

Evidence from
nine case studies

VOLUME II:
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AUSTRIA

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1. INTRODUCTION

1.1 Overview of Higher Education in Austria

Austria has a population of about 8.5 million. As a federal state (*Bund*), it consists of nine autonomous states (*Länder*), with the federal state assuming most responsibilities in higher education politics. Austria was chosen for this study as a representative of a Western European country with a dominant public sector and with an economic performance in the upper third of the EU member states.

The present Austrian higher education system consists of three main types of institutions: universities, universities of applied science (hereinafter *Fachhochschulen*) and university colleges of teacher education (*Pädagogische Hochschulen*). The latter were upgraded from post-secondary to tertiary institutions in 2007. In the academic year of 2009/2010 there were a total of 320,000 enrolments in Austrian higher education institutions (HEIs).¹

There are 22 full universities in the public sector of Austrian higher education, in which roughly 274,000 students were enrolled in 2009/2010. Since the early 2000s the approach to regulating the higher education system has changed. In particular, direct public control of universities was replaced by a governance approach based on giving incentives, setting standards and monitoring, while at the same time encouraging universities to make full use of the autonomy granted to them by law in 2002. The state, represented by the Ministry of Science and Research, has retained a statutory supervisory role, while operation is the responsibility of the universities. The Universities Act of 2002 transferred the former governmental accounting system to a commercial accounting system and gave universities the authority to decide on budgetary matters independently, to make investments and to establish companies. In addition, new university staff are no longer civil servants but are employed directly by the university. This is, however, not the case for pre-existing contracts, where the staff remained civil servants and their employment conditions subject to federal law. The Universities Act of 2002 was considered a milestone in the change of the Austrian university system, away from direct ministerial steering and towards a decentralised and deregulated mode of governance (Lanzendorf 2006).

The Universities of Applied Science (*Fachhochschulen*) were established in 1994 and began offering Bachelor and Master courses in 2003. They are not authorized to offer doctoral degree programmes. There are currently 21 institutions offering *Fachhochschul*-study programmes, most of which were founded or supported by their respective *Land* as a regional political measure. Each *Land* has at least one *Fachhochschule*, with the bigger *Länder* having 3 (Tirol), 4 (Lower Austria) and 6 (Vienna), respectively. The total number of students enrolled in Austrian *Fachhochschulen* was 36,900 in 2009/2010, which is around 11% of all students (Statistik Austria, 2011).

¹ The number of students in the system is somewhat smaller because students enrolled in more than one programme are counted several times.

In contrast to universities, degree programmes at *Fachhochschulen* have a stronger regional basis with a more vocational focus. Many of the programmes can also be studied while working at the same time. The official status of *Fachhochschulen* is that of organisations under private law, and they may be run by public or private entities.² Their programmes have been accredited since 2004 by the Austrian *Fachhochschul*-Council (FHR). In 2012, the FHR was merged with the Agency for Quality Assurance and Accreditation Austria, an organisation which is also in charge of accrediting private HEIs.

The *Fachhochschulen* are financed by a mixed system based on federal funding for study places and the funding of capital and other expenses by either the providing body of the HEI or regional entities. Since 2001, *Fachhochschulen* have been allowed to charge tuition fees, but only at the level set by the Federal government. The maximum fee is 363 euros per semester for students with Austrian or other EU citizenship. Five *Fachhochschulen* did not charge tuition fees in 2014. Together they enrol about one third of all Austrian *Fachhochschul*-students. Recently, *Fachhochschulen* have gained access to public research funding. This has caused business representatives to begin lobbying for a new type of HEI, which has a closer focus on vocationally-orientated training.

There are nine public university colleges of teacher education, which focus only on teacher training and are supervised directly by the Ministry of Education, Arts and Culture. Additionally there are five private colleges of teacher education, and three religious institutions which train teachers. In total, 15,783 students were enrolled in university colleges of teacher education in 2009/2010.

Private universities have existed since 2000. In 2012, there were 12 accredited private universities, covering a variety of disciplines such as management, health, psychotherapy, peace studies and the creative industries. Over 6,000 students were enrolled in these HEIs in 2010/2011. Their size varies from 70 students at the European Peace University (accredited in 2010/2011) to 1,500 students at the Private University of Health Sciences, Medical Informatics and Technology (UMIT) in Hall, Tyrol. Private HEIs must be accredited by the independent Agency for Quality Assurance and Accreditation Austria. Private HEIs may not receive federal funding, but can receive public funding from the regional government.

All HEIs are obliged by law to set up an internal quality assurance system: public universities through the Universities Act of 2002; *Fachhochschulen* by the *Fachhochschulen* Studies Act of 1993; private universities by the University Accreditation Act of 1999, and university colleges of teacher education by the Higher Education Act of 2005.

In a study on university autonomy conducted by the European University Association (EUA), Austrian universities are rated as highly autonomous in terms of internal organisation and staffing (EUA, n.d.-a). Concerning admission, the study notes that autonomy is restricted by universities' inability to determine student numbers and admission procedures at Bachelor level.

² Even though *Fachhochschulen* are organisations under private law, they are treated as public HEIs in this report because their funders / providers are overwhelmingly public entities. The same goes for colleges of teacher education: Although some of them are owned by the Catholic church, the main funding body for all of these colleges is the state.

Where financial autonomy is concerned, a sharp difference is observable between autonomy in internal financial management, which is rated high, and autonomy to generate private funds, which is rated low due to the prohibition of tuition fees (EUA, n.d.-a).

Austria is of particular interest to this study insofar as it saw two major discontinuities in cost-sharing policy in the period of investigation: The introduction of general tuition fees in the university sector in 2001, and their withdrawal in 2009. Both of these junctures will be investigated concerning their effects on the institutional and the student dimension of cost-sharing.

1.2 Key Higher Education Stakeholders

The Federal Ministry of Science and Research (*Bundesministerium für Wissenschaft und Forschung*, BMWF) has the oversight over universities and *Fachhochschulen*. Besides legislative responsibility, the BMWF cooperates with the universities compiling individual performance agreements between each university and the ministry, accounting for financial core funding and evaluating the outcomes. In the same vein, the BMWF also supervises *Fachhochschulen*, and establishes regulatory and structural policies in sector plans.³ The BMWF cooperates with the Federal Ministry for Education, the Arts and Culture (*Bundesministerium für Unterricht, Kunst und Kultur*, BMUKK), which supervises secondary education as well as the university colleges of teacher education.

The national chamber of commerce (*Wirtschaftskammer Österreich*, WKÖ) is a corporate body that monitors the actions of the nine autonomous chambers of commerce of the states. The WKÖ is funded through obligatory contributions paid by every company and funds several *Fachhochschulen* in cooperation with regional chambers of commerce. The Vienna Chamber of Commerce and the local Fund of Vienna merchants (*Fonds der Wiener Kaufmannschaft*) cooperate as funders of one of the bigger *Fachhochschulen* in Austria, the *Fachhochschule* of Vienna (2,400 enrolments in 2013). The *Fachhochschule* Salzburg (2,200 enrolments in 2013) is owned by the regional chamber of commerce (of Salzburg) and the chamber of employees (*Arbeiterkammer Salzburg*).

The central authority for quality assurance is the Agency for Quality Assurance and Accreditation Austria, which was established in 2012, integrating the three existing agencies responsible for quality assurance in different sectors: the Austrian Accreditation Council, which was responsible for quality assurance in the private sector; the FH Council, which was responsible for quality assurance in the *Fachhochschul*-sector; and the Austrian Agency for Quality Assurance (AQA), an independent institution for quality assurance, evaluation and certification for the entire higher education sector.

The different sectors are represented by the University Rectors' Conference Universities Austria (uniko), the Association of Universities of Applied Sciences in Austria (FHK), the Rectors'

^{3 3} An example would be the Programme for *Fachhochschulen* 2010/11 - 2012/13 aiming to consolidate the sector and to set general priorities, see Österreichischer Wissenschaftsrat (2012)

Conference of Austrian Universities of Education (RÖPH) and the Austrian Private University Conference (ÖPUK), respectively.

The Austrian Study Support Authority (*Studienbeihilfebehörde*), a service facility of the BMWF, provides study aid based on socio-economic criteria (such as revenues of students' parents, number of siblings and marital status) and students' performance.

The Austrian National Union of Students (*Österreichische Hochschülerinnen- und Hochschülerschaft*, ÖH) represents all students in public universities, *Fachhochschulen* (since 2007) and colleges of teacher education. It is the general students' representative body in Austria and serves as the students' government by federal law. Its function is thus comparable to that of the Austrian Economic Chamber for the Austrian business community. Membership in the ÖH is compulsory for every student in the public higher education sector in Austria, including PhD candidates. The ÖH has the legal responsibility to support aspiring students in choosing a study programme and during the application phase (BMWF, 2011, p.179).

1.3 How Governments Fund Institutions

Universities

Up until the Universities act of 2002 (implemented in 2004), university funding was based on input-oriented line-item budgeting. Since gaining autonomy in 2004, public universities receive three year global grants to cover their main costs, representing around 80% of the public university budget. The budget is allocated based on target and performance agreements between the Ministry for Science and Research and the individual universities. These agreements identify individual targets and determine scopes and deadlines for goal achievement as well as measures to be taken if goals are not achieved. The budget reflects institutions' individual cost structures, which are influenced among other things by the share of staff with pre-existing civil service contracts, and building rental costs, both of which were direct costs to the ministry prior to 2002.

Until 2012, the formula-based part of the budget made up 20% of the federal institutional funding and was allocated based on performance on eleven different indicators in the areas of teaching and learning, research and societal goals. A recent evaluation of the formula-based budget (Unger, Dünser, Thaler, & Laimer, 2011, cit. after Österreichischer Rechnungshof, 2012) judged it to be ineffective as a steering instrument, since the effect of performance on individual indicators to the total budget was lacking in transparency for most universities.

For the budgeting period 2013-2015, the overall budget of Austrian universities was augmented by nearly one billion euros. Approximately one third of these funds are being used to increase institutional core funding, and almost half is allocated based on universities' performance in teaching, and, to a lesser degree, in research. An amount of 63 million euros is set aside to incentivise cooperation among universities and between universities and other organisations, including business and industry. The BMWF acts as a co-funder, contributing up to one third of the cost of cooperative projects.

With the change of government in 2000 the coalition of the Austrian People's Party (*Österreichische Volkspartei*, ÖVP) and the Freedom Party of Austria (*Freiheitliche Partei Österreichs*, FPÖ) introduced tuition fees of 363 euros per semester for universities, with no distinction between study programmes. The regulation of who pays fees was changed in the late 2000s, as described below. Tuition fees were collected by all Austrian universities from 2001 to 2009. *Fachhochschulen* have been allowed to decide autonomously whether to charge tuition fees (of 363 euros per semester) or not since 2001. University colleges of teacher education do not charge fees.

In summary, the reforms to university funding since the early 2000s have had the aim of changing the balance between state supervision and funding, on the one hand, and encouraging 'entrepreneurial' behaviour of universities, on the other. However, this change was tempered by an ongoing state control.

Fachhochschulen

A mixed-funding system applies to *Fachhochschulen*: Normed costs for study places are defined by field of study, and the numbers of study places is negotiated between the *Fachhochschule* and the BMWF. The Federal State then funds 90% of the cost so defined. The remaining funds must be provided from elsewhere. At the outset, business and industry, as the main employers of graduates of *Fachhochschulen*, were envisaged as contributors, but in reality it is mainly the regions and municipalities that provide the additional funding (see Österreichischer Wissenschaftsrat, 2012, p. 34). As a result, the regions and municipalities have established themselves as actors in the Austrian HEI system through their responsibilities for the *Fachhochschul*-sector. *Fachhochschulen* are not limited in the number of students they can accept, but capacities beyond what is negotiated with the BMWF or study programmes without accreditation must be self-financing.

The precise financing structure of *Fachhochschulen* in Austria varies due to regional differences and variation in the cost structures of different study programmes. A report from 2010 by the Austrian Court of Audit (Österreichischer Rechnungshof, 2010, p. 149) showed that the standard study costs for the academic year 2005/2006 covered much less than 90% of the actual costs in many cases, and in all cases for technical study programmes. On the basis of this information, the Austrian Court of Audit recommended an increase to the normed costs for subsequent years. One of the problems, which also affects this report, is that there is no unified financial monitoring system for the *Fachhochschulen*, which leads to incomplete data on their exact costs.

1.4 History of Cost-Sharing

Tuition fee policy

The two main political parties in Austria, the Austrian People's Party (*Österreichische Volkspartei*, ÖVP) and the Social Democratic Party (*Sozialdemokratische Partei Österreichs*, SPÖ), have different positions on tuition fee policy.

With a change of government in 2000 the coalition of the ÖVP and the Freedom Party of Austria (*Freiheitliche Partei Österreichs*, FPÖ) introduced tuition fees of 363 euros per semester for universities with no distinction by study programmes.⁴ This standard tuition fee was doubled for non-EEA students, with exemptions for students from certain countries. The official policy goals were to reduce drop-out rates and time to completion. However, the overriding aim in the first two years was to reduce public expenditures during a time of fiscal restraint; hence the fees collected were passed on to the Federal Ministry of Finance for the first two years. Beginning in 2003, universities retained the fees as part of their total income. The spending procedure specified in the University Act of 2002 determined that the university senate make a list of proposals on how fees should be spent in each academic year, and that subsequently students vote for one proposal. Improvements in teaching and learning conditions were usually among the primary measures chosen.

Following a political change to the leadership of government in 2007, the Social Democratic Party became involved in a debate on the abolition of tuition fees. The result was that the new regulation waived fees for most students (only around 15% of students still paid fees). The groups who were still required to pay fees were students from outside the EU and those who had remained students for longer than the prescribed duration plus two tolerance semesters, unless certain additional criteria (such as exceeding a certain income threshold, supervision of children, illness) were fulfilled. Given the devolution of many responsibilities to the universities, the question of whether the Federal state had the jurisdiction to make and enforce this policy emerged. Therefore, following complaints of unconstitutionality, some universities reintroduced tuition fees of 363 euros per semester in 2013. In July 2013, the Austrian Constitutional Court decided that these ‘autonomous’ fees (as they were called) were unconstitutional. As a consequence, the universities concerned were forced to return these fees to their students.

In contrast to the universities, *Fachhochschulen* could independently decide whether to charge fees subsequent to a resolution of the Austrian National Parliament in 2000. In practice the decision about whether to charge fees is made by the provider, i.e. mostly the states in which the *Fachhochschulen* are located. The abolition of fees in 2008 concerned only universities, not *Fachhochschulen*.

If either universities or *Fachhochschulen* offer continuing education courses in specialist areas (e.g. international mining engineer, generic management or migration management), the costs for these courses must be self-financed. A report by the Austrian Court of Audit showed that participation in such courses had been growing (5% of all students in 2006, 6% in 2010) and that the three universities covered by the audit managed to earn a small surplus for their courses (Österreichischer Rechnungshof, 2011). One expert interviewed for this study on the topic of continuing education commented that although a general trend towards more such programmes was visible in Austria, it was unlikely that any Austrian university was going to invest into this segment in order to generate additional revenues with which to support other activities. According to the expert, a more realistic financial goal for those fee-paying programmes was to organise them in a way that makes them financially self-sustaining.

⁴ Fees had to be paid only once per student, even if he/she was enrolled in several study programmes.

Study aid policy

The financial support provided by the Ministry of Science and Research (BMWF) can be divided in direct and indirect payments. Direct payments are provided to the students themselves and include study grants, travel allowances, support of study periods abroad, and other types of support. The key agency providing direct support is the Austrian Study Support Authority (*Studienbeihilfenbehörde*). Indirect payments, on the other hand, are allocated to students' parents or third parties and cover family allowances, students' health and accident insurance or come in the form of subsidies to university cafeterias and student accommodation. This support system has been in existence since the early 1960s, but has been consolidated and harmonised in the 1990s.

According to the Student Support Act public grants provided by the BMWF can be claimed by all Bachelor, Master and Diploma students at both public and private universities and *Fachhochschulen*. The grants are tax-free. The recipients of study support are selected based on a combination of means testing (parent and student income) and merit (student performance, complying with minimum legal study periods). Applicants generally have to be younger than 30 on commencements of their studies. In 2008/2009, 17.6% of all students received public financial aid or a scholarship from the Federal State.

There were several reforms of the Student Support Act after it was first introduced in 1992. As a first step the Student Support Act increased the individual amount of financial support for the student by about 12%. The following reform aimed to widen the group of recipients of benefits. Both measures led to an increase in financial support for students especially at *Fachhochschulen*. In 2008/2009, those students that received grants at universities received an average amount of 4,281 euros of public support per year; at *Fachhochschulen* the average amount was 4,554 euros.

Another aim of the reformed Student Support Act was to improve the support for students with special needs and with children. Whilst some disabled students received 366 euros of additional support per semester in 2007/2008, the amount rose to 417 euros in 2008/2009, an increase of 13.9%. In the same period of time the additional support handed out to students with children increased by 7.1% from 1,650 to 1,774 euros per semester (BMWF, 2010, p.19).

Students in the final stage of their degree course may apply for an end-of-studies grant of an amount between 600 and 1,040 euros a month for a maximum period of eighteen months, awarded by the Austrian Study Grant Authority. A total of around 300 end-of-studies grants are granted annually.

Students paying tuition fees can apply for a bank loan for which the BMWF covers a part of the interest rate. The loan is only supposed to cover tuition fees and is available to all students who are under 35 years of age before they start their first studies. Take-up was low from the start in 2001.⁵ In 2009, only 437 students benefited from the BMWF taking on a part of the interest rate for such private bank loans (BMWF 2010, p. 14).

⁵ Social Survey 2002 (p. 198) reports that in 2002 only 0.5% of students made use of this option.

Another attempt by the Federal State to lift financial burdens for students is to provide tax benefits to students' parents. If a student leaves his or her home in order to pursue studies in a different location, the parents are entitled to a tax allowance of 110 euros per month (provided that there is no alternative training facility in the vicinity within a radius of 80 kilometres or the time spent traveling in one direction is not more than one hour).

Policies designed to increase private investment in higher education

In the Austrian higher education system, an important change aiming at higher shares of private investments was the establishment of the *Fachhochschul*-sector starting in 1994. *Fachhochschulen* were designed to be funded partly by private business and industry. Equally relevant was the passing of the New Universities Act in 2002, which opened new opportunities for external fundraising and sponsoring in public universities.

Another cost-sharing-related reform was the passing of the Danube University Act (*DUK-Gesetz*) in 2004, making the Danube University Krems, formerly a 'university centre', equal to a full university with the right to appoint professors autonomously. The peculiarity of the Danube University Krems is that it specialises in continuing education, and that all teaching programmes are fully financed through tuition fees – a financing mode completely different from other public universities in Austria.

In the realm of university research, there have been several national funding programmes through which cooperation with private enterprises have been supported during the period of investigation. A particularly active authority in this area is the Austrian Research Promotion Agency (*Österreichische Forschungsfördergesellschaft*, FFG), an organisation supervised by the Federal Ministry for Economic Affairs. The Agency administrates several lines of funding in which cooperative projects between public research institutions and private business and industry are promoted. One important programme in the past was called Kplus (1998-2011). This programme "has played a decisive role in shaping Austria's R&D community in the 1990ies and beyond" according to ERAWATCH (ERAWATCH, n.d.). Its successor, the COMET programme (Competence Centers for Excellence Technologies), was launched in 2012.

A novel type of research institution was founded in 2009: the Institute of Science and Technology Austria (IST Austria) situated north of Vienna. The institute's mission is to conduct internationally excellent research in a variety of subjects, mostly connected to science, technology, engineering, mathematics (STEM) and life sciences. The institute only offers teaching programmes for doctoral candidates. The IST is relevant in terms of cost-sharing because, although its institutional funding is public, it has been performing well in attracting private funds via donations (IST Austria, n.d.).

In 2012, a new programme called 'Higher Education Area Structural Fund' (*Hochschulraumstrukturmittel*) was launched by the federal government. It aims to foster cooperation between HEIs, but also between individual HEIs and the business sector, mostly by providing public matching funds for contributions acquired from private stakeholders (e.g. donors, funders of research projects). The programme has a limited duration (2013-2015).

1.5 History of Enrolment

Regulation of enrolment

The enrolment procedure in Austria's higher education system has been discussed for many years, since its openness makes the size of the system difficult to control. While *Fachhochschulen* and university colleges of teacher education may select students, universities are constitutionally obliged to accept every student having achieved the formal academic qualification from upper secondary schooling called the *Matura*. This applies to Bachelor and Master programmes. It means that, in most cases, aspiring students can simply register for a study programme at the start of the semester. Only a limited number of study programmes are able to set formal capacity constraints to the number of students, which demand an entrance examination from applicants. These programmes tend to be in the fields of arts, sports, medicine or psychology, which often set an entrance examination (Eurydice, 2009).

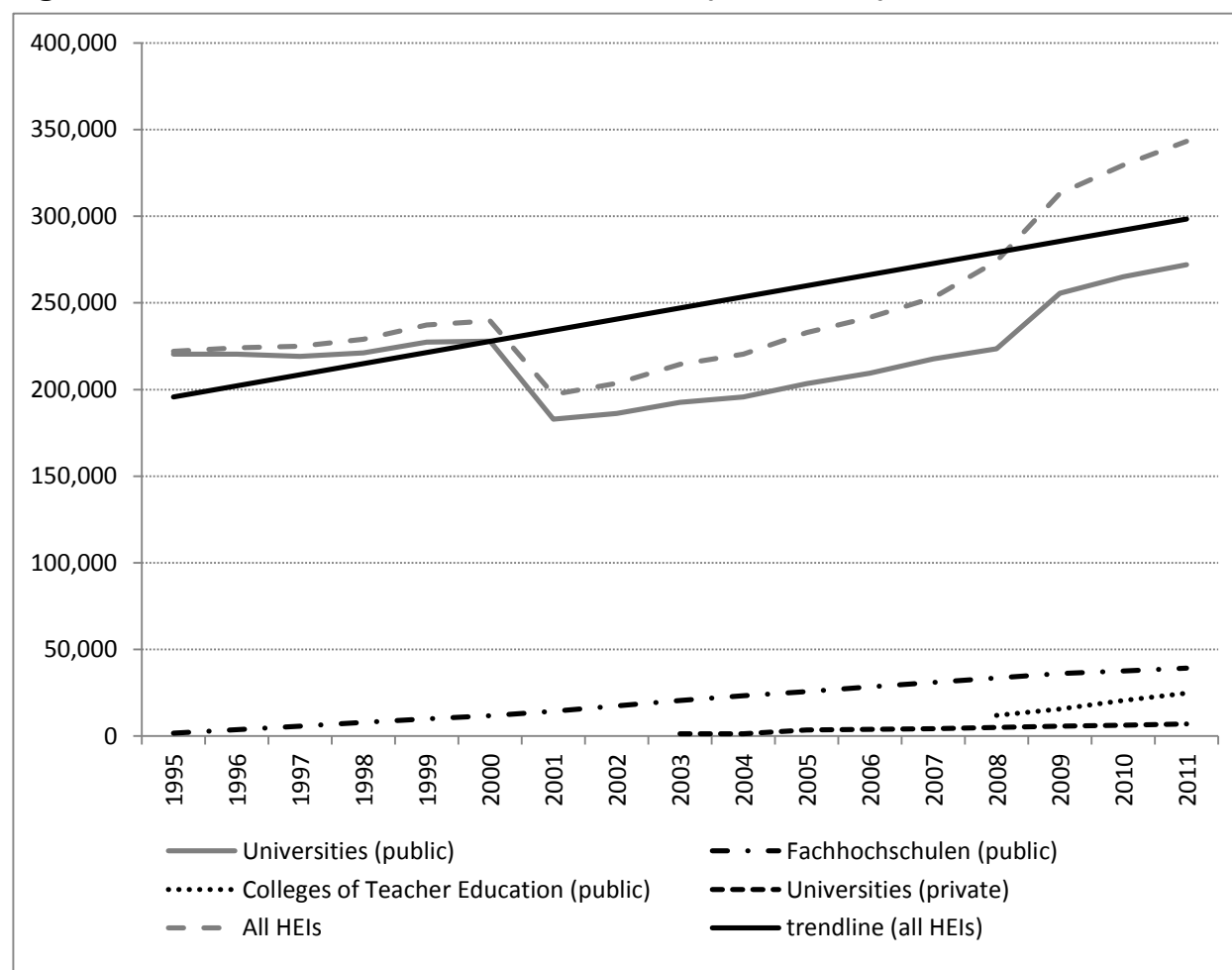
The principle of open access has fuelled a large increase in the number of students and has led to questions of how to maintain quality of provision in such a system (Döbert, Döbrich, von Kopp, & Mitter, 2001).

A recent attempt to regulate the size of the higher education system has been the introduction of an induction and orientation phase in the first year of university studies (STEOP) in 2011. This phase has the purpose of assuring both the motivation and the academic ability of a student. Students that fail to accumulate the relevant credit points in their first year of studies have to leave their programme and cannot re-register for this specific programme at the university again. STEOP has been criticized by student representatives for causing unreasonable stress on students and being an unfair method of selecting students ((Österreichische HochschülerInnenschaft, 2012). In yet another attempt to regulate access, universities were allowed to conduct entrance examinations for some subjects (among them architecture, biology, computer science, pharmacy and business studies) for the first time in the winter semester 2013/2014.

Figure 1.1 shows total enrolment in Austrian HEIs from 1995 to 2011. The overall number of enrolments in Austrian HEIs increased from 216,820 in 1995 to 343,166 in 2011. The majority of students were enrolled in public universities (272,000), and a smaller number were enrolled in *Fachhochschulen* (39,300) and private universities (7,000) in 2011.

Since the first private universities in Austria were accredited in 2000, enrolment in private universities is only recorded from 2003 onwards. University colleges of teacher education were upgraded to become tertiary institutions in 2007.

Figure 1.1 also shows that overall enrollment in Austrian HEIs increased until 2000 but declined to 182,000 in 2001. This was mainly due to a decrease in enrolments in public universities, while the number of enrolment at *Fachhochschulen* and other HEIs remained stable or grew. The drop in enrolment numbers in universities can be linked to the introduction of tuition fees after a change of government in 2000, but it only partially reflects a real decrease in participation (*inter*

Figure 1.1: Total enrolments in Austrian HEIs (1995-2011)

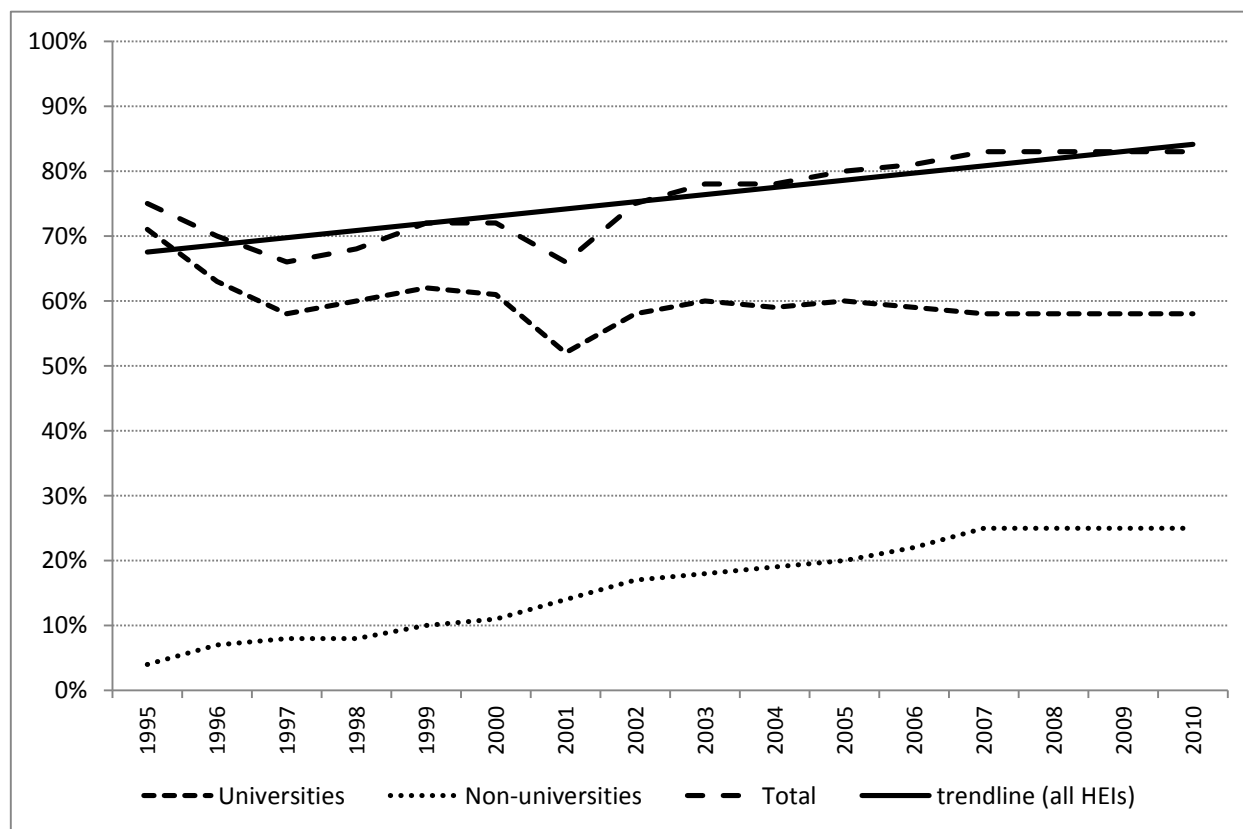
Source: Statistik Austria⁶.

alia this was a purging of inactive students from the statistics – more on this in Chapter 4). Enrolments increased again in the years after 2001.

Paralleling the data from Figure 1.1, Figure 1.2 shows a drop in transition rates from secondary school to public universities from 2000 to 2001, followed by a swift recovery in the year after. In contradistinction to this, *Fachhochschulen* have continuously increased their share of new entrants, and have accommodated the larger part of the enrolment growth observed in our period of investigation.

Across the period of investigation, there is an increase in participation rates among secondary school graduates with HEI entrance qualifications of about 8%. A discontinuous pattern until 2001 is followed by a constant growth.

⁶ Statistical online service, available at http://www.statistik.at/web_en/statistics/index.html.

Figure 1.2: Transition rates from secondary school (1995-2010)

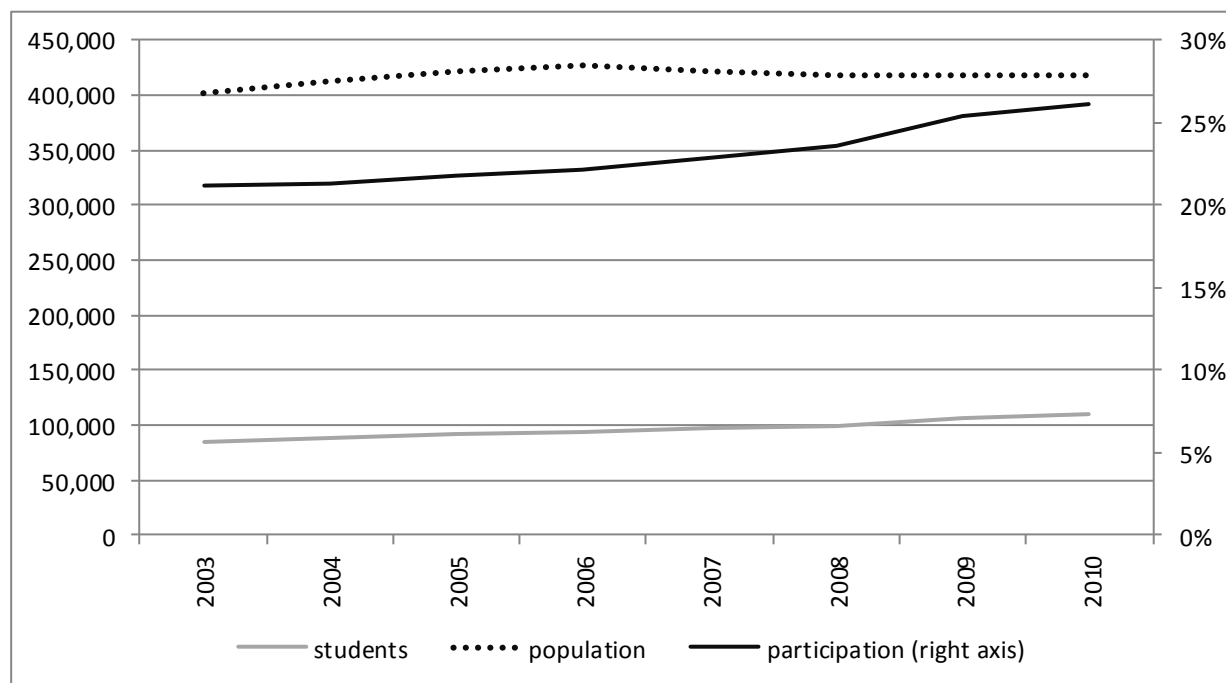
Note: Represents the share of persons of any given cohort of secondary school leavers with the *Matura* who entered higher education at a later point in their lives. Domestic students only. Values for 2008-2010 are predictions.

Source: Landler (2009, p. 19).

Figure 1.3 investigates participation against the background of demographic changes by relating it to the total population in the age group of best-four-years, i.e. all students in the four age-years with the highest participation rates in higher education.

We see that participation increased throughout the years 2003-2010, with a marked increase between 2008 and 2010. While the increase in participation up to 2006 is an actual effect of increased overall participation, the additional increase in the years after 2006 coincides with a decrease in the best-four-years population: Fewer people in Austria could have been studying.

Figure 1.3: Participation in best four years (2003-2010)



Note: Best four years are ages 20-23 in 2003-2004 and 21-24 in 2005-2010.

Source: Statistik Austria / own calculations.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

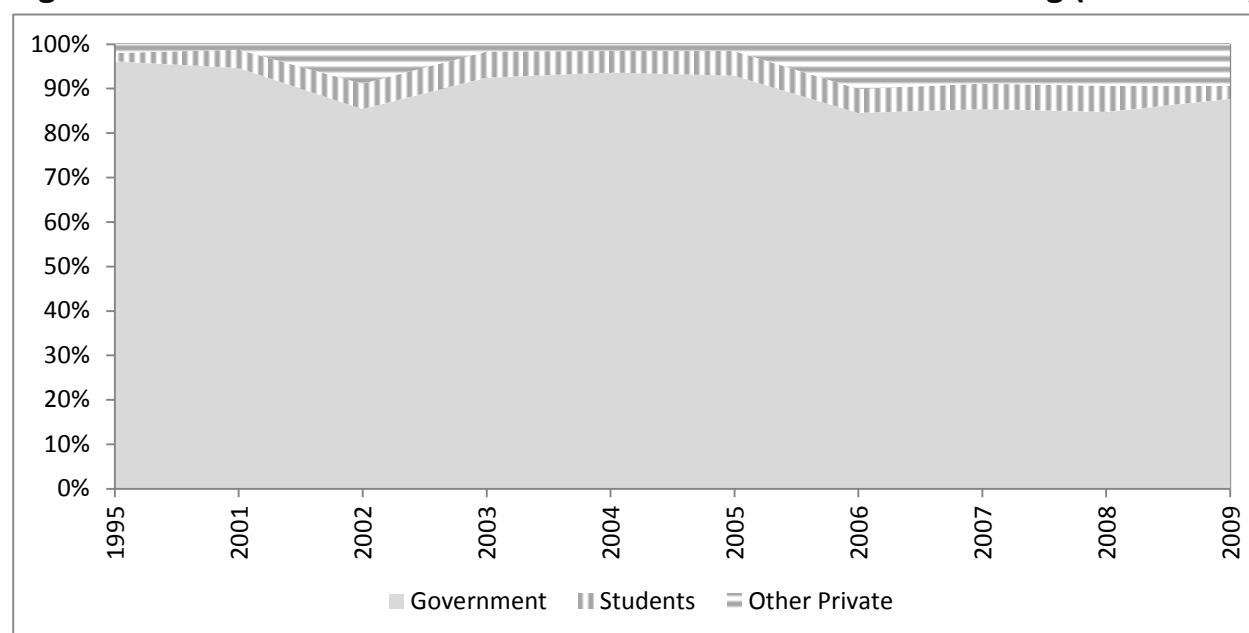
- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

2.1 Changes in Institutional Revenues over Time

Figure 2.1 shows that the government was the main source of funding for HEIs between 1995 and 2009, constantly providing more than 80% of financial support. Nevertheless the portion of public funding decreased from 96.1% in 1995 to 87.7% in 2009. A significant drop in relative funding by the Federal State is visible in 2002 and again in 2006.

Figure 2.1: Share of HEI revenue from three main sources of funding (1995-2009)



Note: "Other private" includes funds from private businesses and non-profit organisations, e.g. religious organisations, charitable organisations and business and labour associations.

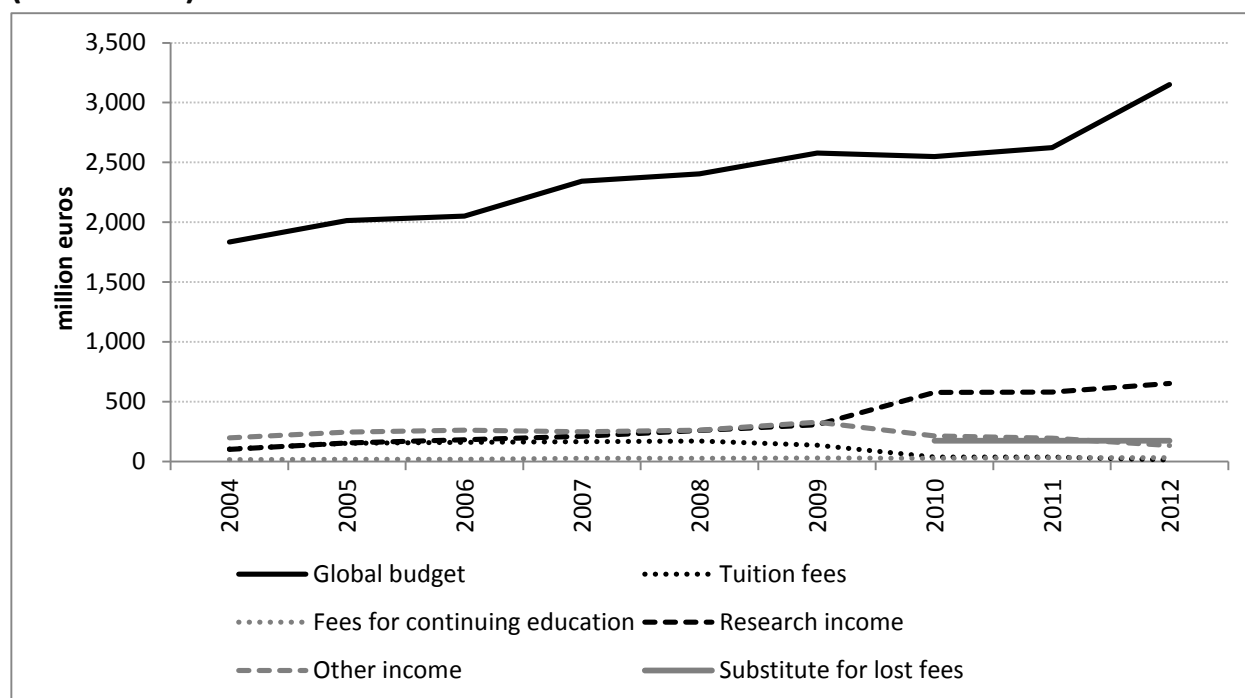
Source: OECD Education at a Glance (2005 - 2012).

The following more detailed account will focus on public HEIs, and will differentiate between public universities and *Fachhochschulen*, the financing structure of the two types of institutions being quite different (see Section 1.2).

Figure 2.2 shows funding for public universities from six different sources between 2004 and 2012. Global budgets were introduced when the new Universities Act came into effect in 2004. Global budgets are provided to public universities in three-year cycles. The smaller amount of formula based funding (see Section 1.4) is included in the global budget in Figure 2.2. Since 2004, global budgets for public universities increased from 1.9 billion euros in 2004 to 3.1 billion euros in 2012.

The graph also reflects the abolition of general tuition fees in 2009 which were substituted by federal funding from 2010 onwards. However, it should be noted that this compensation is set at a fixed level and is not expected to vary according to student numbers. If this arrangement remains in place the source will decline in relative value over time, especially in the event of growing student numbers.

Figure 2.2: Amounts of funding from different sources for public universities (2004-2012)



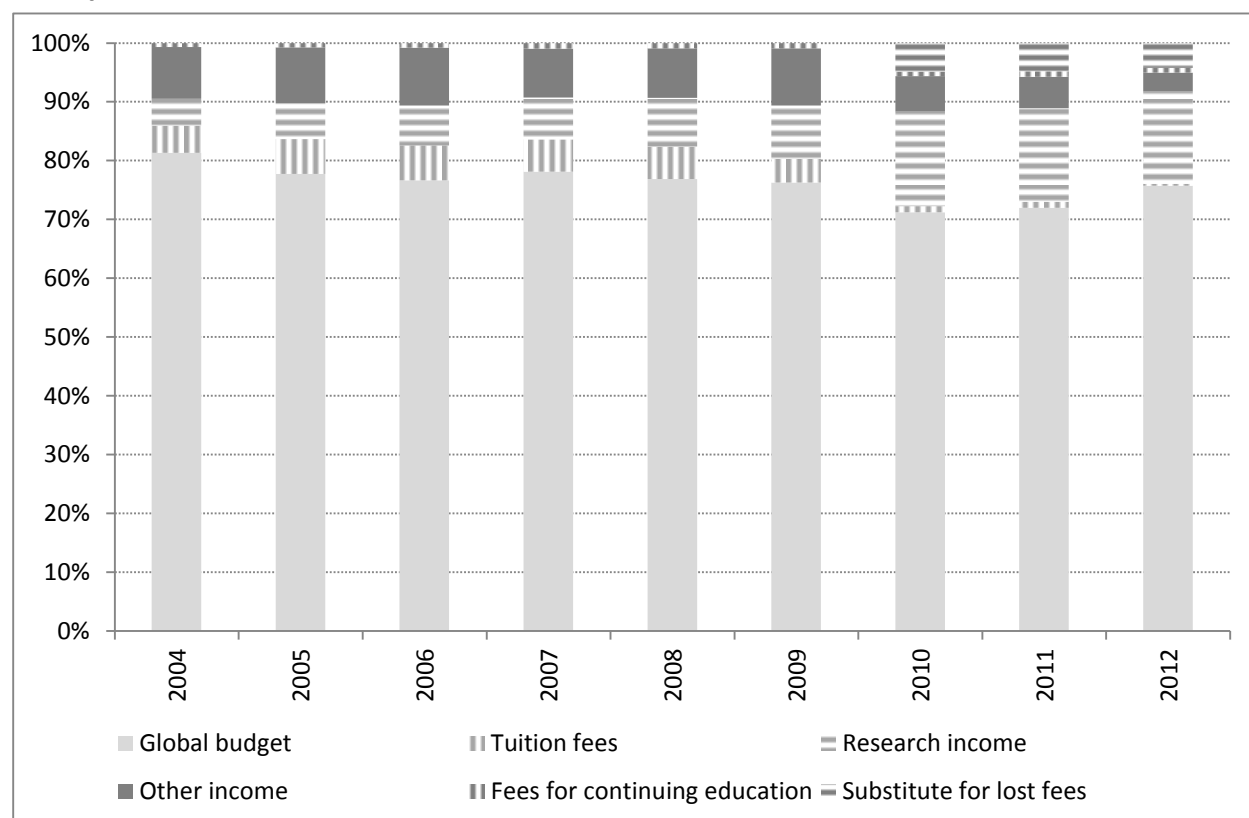
Note: Constant prices (2011).

Source: Accounts of the universities (2004-2012).

The amount of funding through fees for continuing education remained stable from 2004 to 2012. It is the smallest funding source with less than 1% of the overall amount of funding. Figure 2.3 below represents the data from Figure 2.2 in relative amounts.

The figure shows a decline of the share of fees after the abolition of general fees in 2009. The loss of fees appears to have been fully compensated for by the state after 2010. Figure 2.3 also shows that although the debate about tuition fees was very prominent in Austria in the 2000s, the actual contribution of tuition fees to university funding was fairly limited.

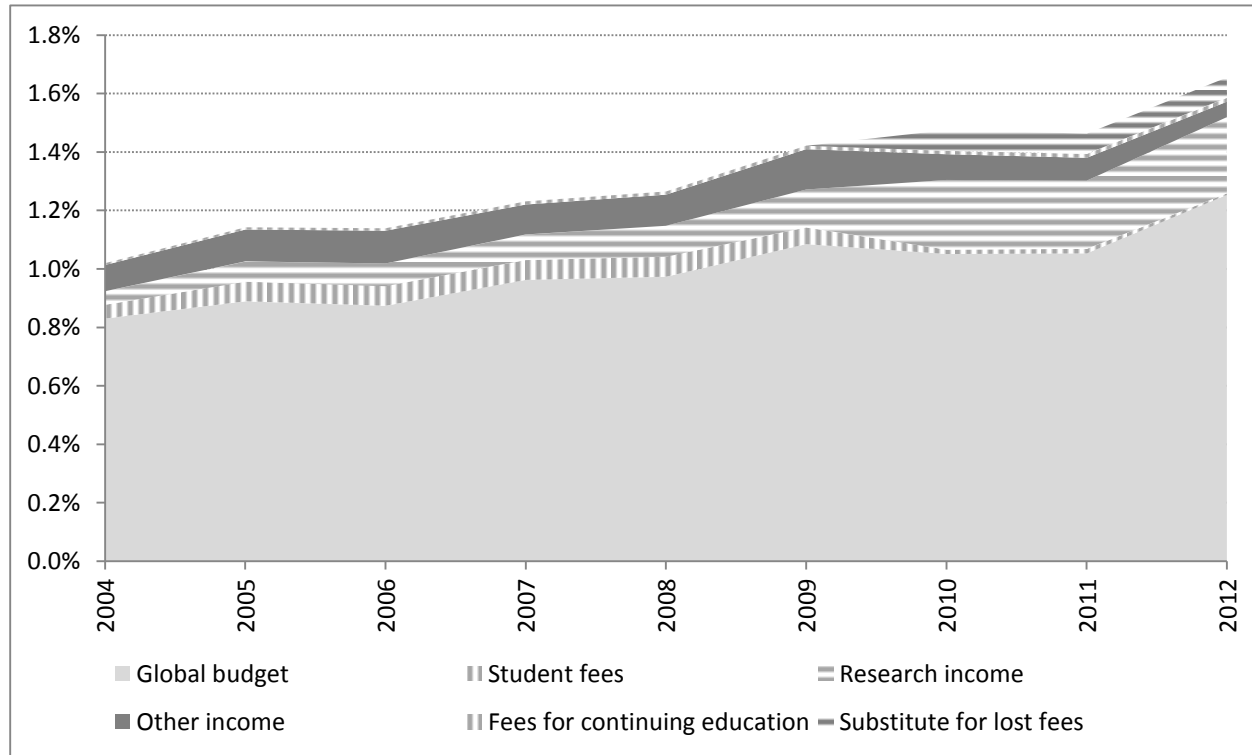
Figure 2.3: Relative amounts of funding of public universities by source (2004-2012)



Source: Accounts of the universities (2004-2012).

Figure 2.4 presents funding to public universities from different sources as a percentage of Austria's GDP. It shows an overall growth in spending per GDP over time, with a peak in 2009, mainly due to a drop in GDP performance in that year, and an increase after 2010 due to growing shares of research income and global budgets.

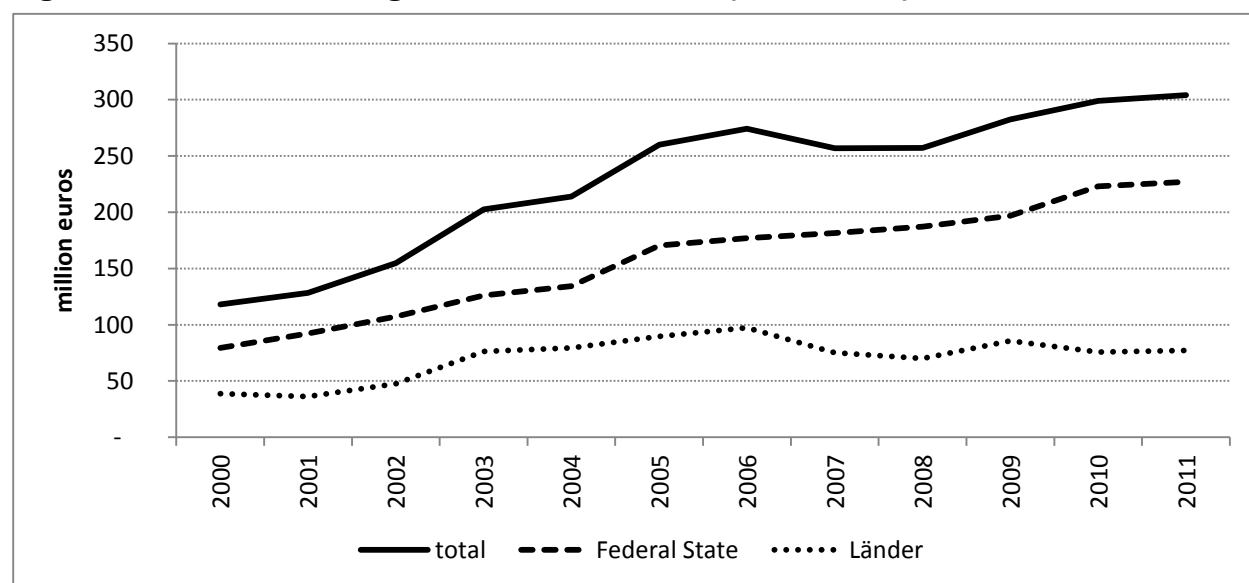
Figure 2.4: Funding of public universities by source as a percentage of GDP (2004-2012)



Source: Accounts of the universities (2004-2012) / OECD (for GDP).

Fachhochschulen

The financial evolution of the *Fachhochschul*-sector as a whole between 2000 and 2011 is represented in Figure 2.5 below. The figure shows increasing federal expenditures and fairly constant contributions by the regions.

Figure 2.5: Public funding to *Fachhochschulen* (2000-2011)

Note: Constant prices (2011).

Source: Statistik Austria (Bildungsausgabenstatistik 2009-2011).

Private contributions to *Fachhochschulen* differ greatly between institutions depending on whether tuition fees are charged and how business and industry are involved. Table 2.1 gives an overview of the shares of private funding to seven *Fachhochschulen* in the academic year 2006/07 (*Fachhochschule* Salzburg: 2005/06). The share of private funding to public *Fachhochschulen* varies between 2% (*Fachhochschule Oberösterreich*) and 20% (*Fachhochschule Wien* of the Economic Chamber of Vienna).

Table 2.1: Private funding to *Fachhochschulen* as shares of total funding (academic year 2006/07)

Institution	Tuition fees	Other private
Oberösterreich	0%	2%
Salzburg	6%	13%
Kärnten	4%	2%
Krems	7%	9%
Wiener Neustadt	7%	7% ⁷
MCI Innsbruck	9%	8%
Wien	11%	9%

Note: Data for *Fachhochschule* Salzburg refer to academic year 2005/06.

Source: Österreichischer Rechnungshof (2010, pp. 154-156) / own calculations.

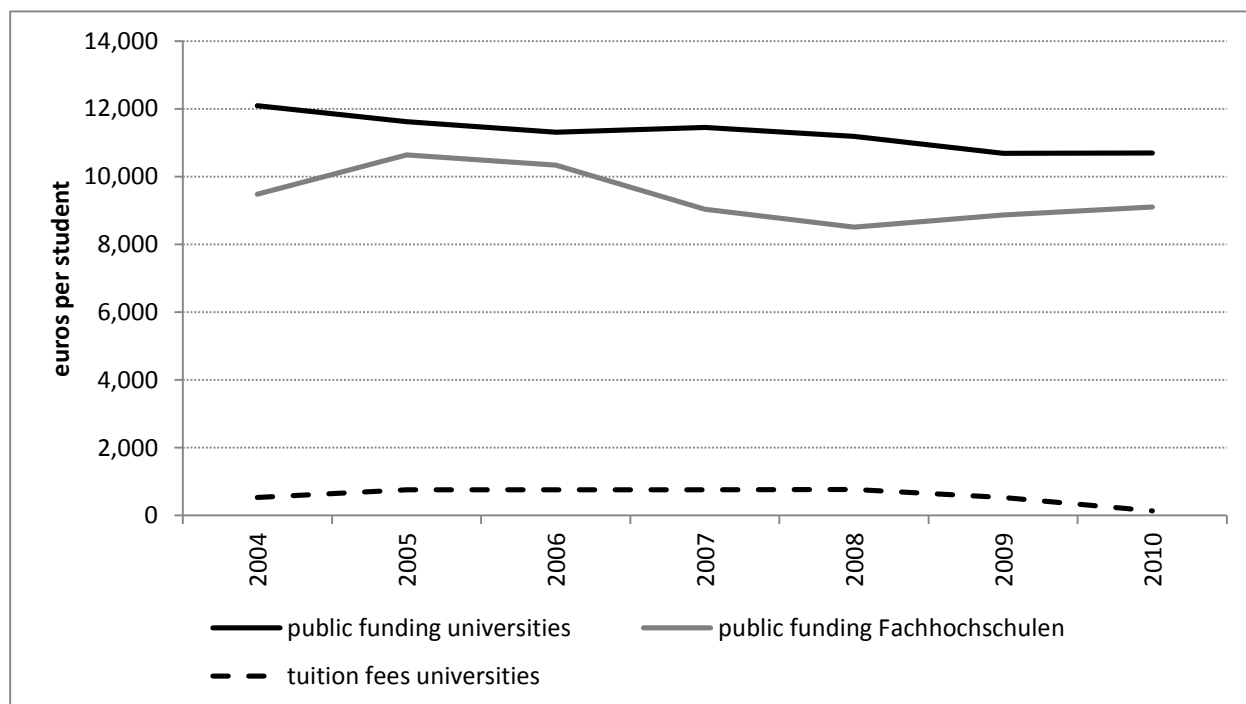
2.2 Institutional Expenditures

Figure 2.6 shows institutions' average income per student from government appropriations and from tuition fees (only universities) over time.

Public per-student funding in universities decreased by about 13% between 2004 and 2010. This downward trend was only stopped in 2009, when special government compensations for lost fees were allocated to universities. It can also be seen that income from tuition fees was minor when compared to income from public sources (about 3%-4% of the total amount). Public per-student income in *Fachhochschulen* is more wavering, with a high in 2005 and a subsequent decrease until 2008 (data on tuition fee income in *Fachhochschulen* was not available).

⁷ The *Fachhochschule* Wiener Neustadt has outsourced its applied research into a subsidiary – the data for other private income are therefore likely to be underestimated.

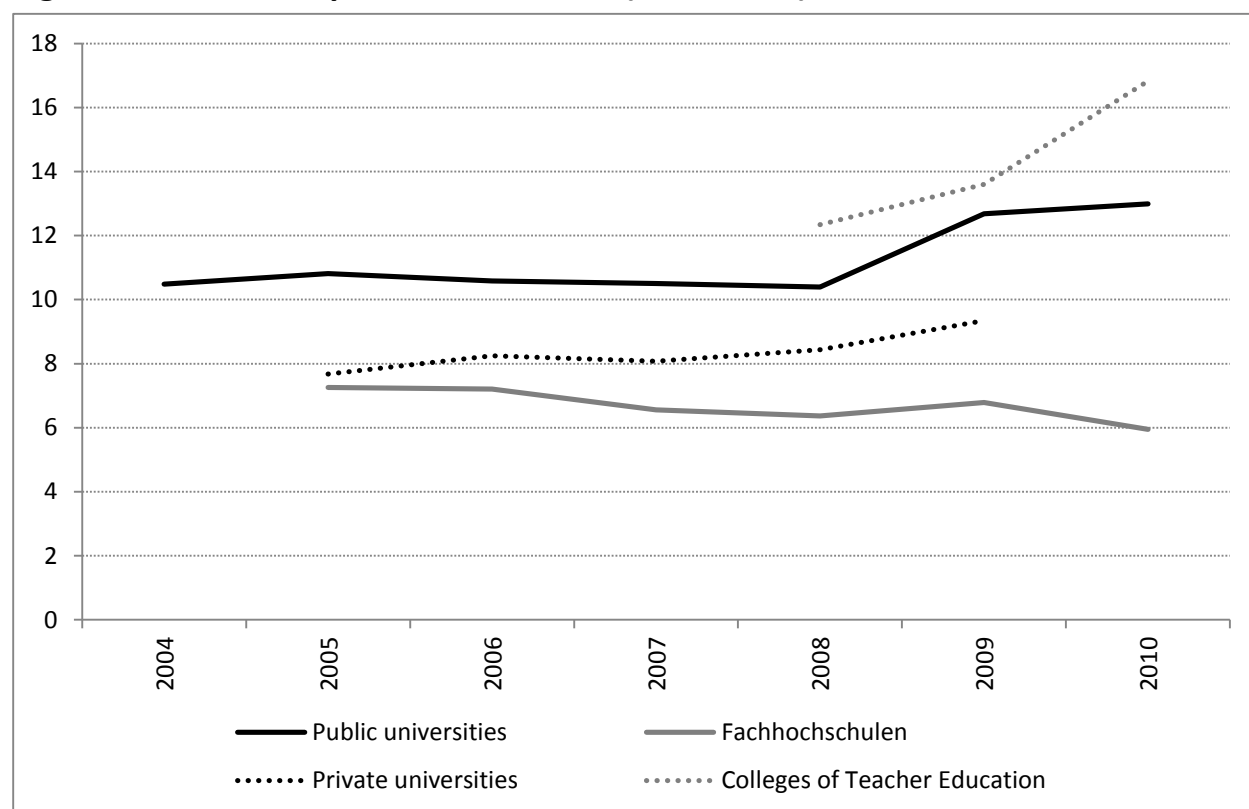
Figure 2.6: Income per student from public funding and fees at public HEIs (2004-2010)



Note: Fee data only available for universities, and only 2004-2010. Constant prices (2011).

Source: Statistik Austria (Hochschulstatistik 1995-2003) / Ministry of Education, Science and Culture (2004-2010) / own calculations.

Figure 2.7 shows the student-staff ratio at public and private universities and *Fachhochschulen* between 2004 and 2010. Public universities show the highest ratio of these three HEI types with a relatively constant number of 10 to 11 students per staff (only the rates in colleges of teacher education are higher, reaching up to 17 students per teacher in 2010).

Figure 2.7: Students per academic staff (2004-2010)

Source: Statistik Austria / own calculations.

Implemented in 2004, the Universities Act of 2002 awarded universities with more autonomy not just in financial matters but also concerning internal affairs and personnel policies. As the Austrian Court of Audit reports, this did not lead to changes in the student-teacher-ratio at two of the country's biggest universities, Vienna University (*Universität Wien*) and Vienna University of Economics and Business (*Wirtschaftsuniversität Wien*) (Österreichischer Rechnungshof, 2010a).

2.3 Evaluation

In the period of investigation, private funding for Austrian universities was mainly discussed in the context of tuition fees, which were introduced in 2001 and abolished and replaced by state compensations in 2009. In the first two years after their introduction, revenues from fees were transferred from the universities to the federal budget, so that there was no direct connection between the amount of fees an HEI secured and its (additional) budget, and not even clarity about whether the fee income was fully reinvested in the higher education sector. Later fees were kept by the universities, and private income of institutions did increase. Several interviewed

experts noted that this change in regulation had been preceded by public budget cuts or freezes. Such behaviour contradicts Hypothesis A, and also provides an interesting contrast with Germany, Austria's neighbouring country, where the introduction of fees did not result in budget cuts. Unfortunately, the available statistical data on HEI funding do not reach back far enough to be able to test the experts' statements to this effect. Data on universities from the years 2004 to 2009 do show that there was a continuing decrease in public funding during the time when tuition fees were being charged. This decrease outsized the additional income through fees on a per-student basis. All in all, the history of tuition fees in Austria does not support Hypothesis A.

A contextual phenomenon with a potential to influence the cost-sharing balance was the development of university autonomy, heralded by the Universities Act 2002. As one interviewed expert commented, this change did result in universities seeking more third-party funds, public as well as private, but these funds are tied to specific research-related purposes and thus do not benefit the institution as a whole. In fact, the expert noted that the increasing focus on third-party funds for research even had negative effects on the area of teaching and learning as the increased concentration on research resulted in teaching becoming less of a priority.

Most *Fachhochschulen* charge fees in the same range as universities did. Few detailed financial data from *Fachhochschulen* are available, making it difficult to test Hypothesis A with respect to this type of HEI. With regard to cost-sharing, it is interesting to note that a mixed public-private financing model was envisaged for *Fachhochschulen* but never came into effect: In most cases, it was local public authorities (municipalities and regions) that assumed financial responsibilities instead of private business. According to one interviewed expert, this was not only due to the reluctance on the part of the business sector, but also to the political will of the regions to ensure their influence on higher education through engagements in the financing of *Fachhochschulen*.

Another expert pointed out that a similar process can be observed with regard to private universities: Private universities were envisaged to be self-sustaining institutions, but now many of them are financially supported by regional bodies to maintain their financial sustainability. The same expert stated that attempts by the Austrian federal state to shift costs towards private contributors had repeatedly led to financial interventions by other (sub-federal) public entities instead of private bodies.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO USER DEMAND

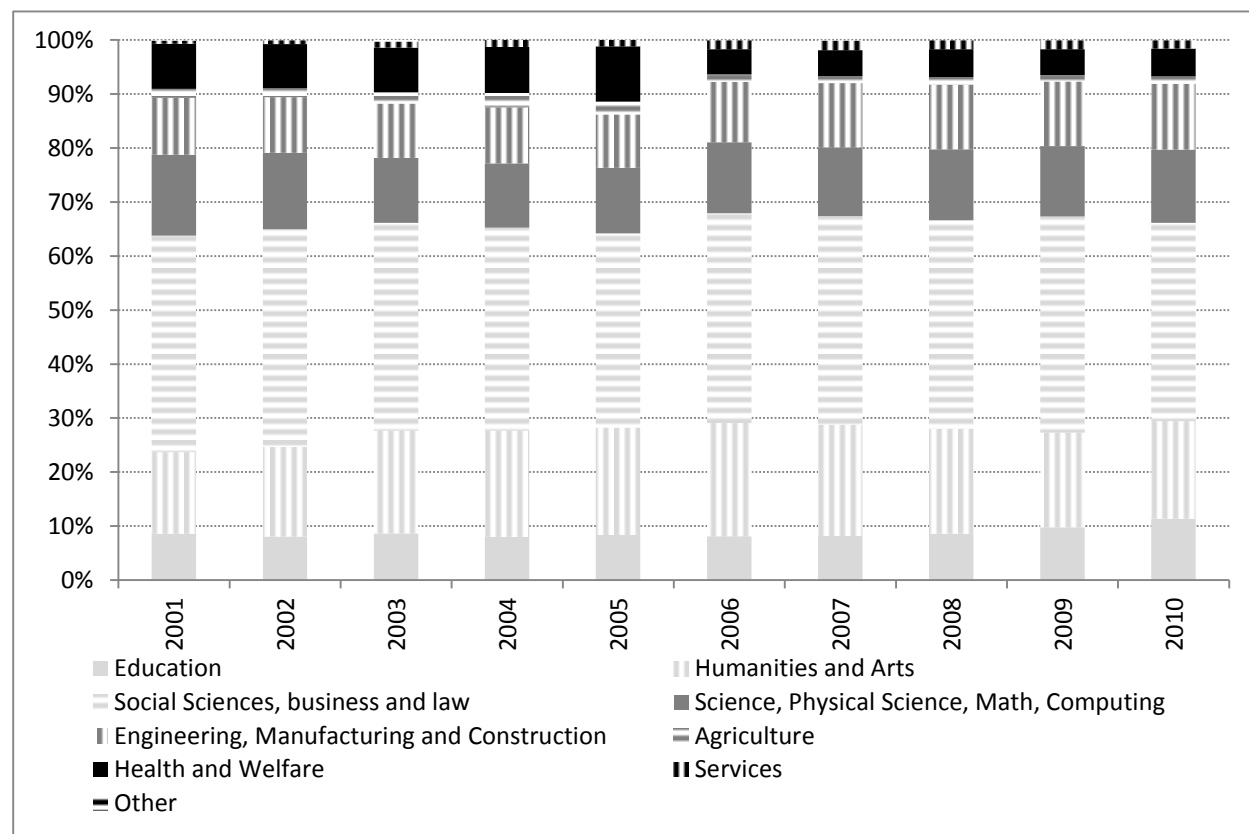
This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

3.1 Enrolment by Discipline

Figure 3.1 below shows relatively stable enrolment patterns at universities, with a slight decrease in health and welfare subjects after 2005 and an increase in educational sciences. The decrease in health and welfare is not due to changes in demand, but to access restrictions in these subjects newly introduced in 2005. The hike in health and welfare in *Fachhochschulen* after 2005 visible in Figure 3.2 is due to the establishment of a number of new programmes for midwifery and medical-technical assistance in the higher education sector.

Figure 3.1: Relative distribution of enrolment by field of study in public universities (2001-2010)

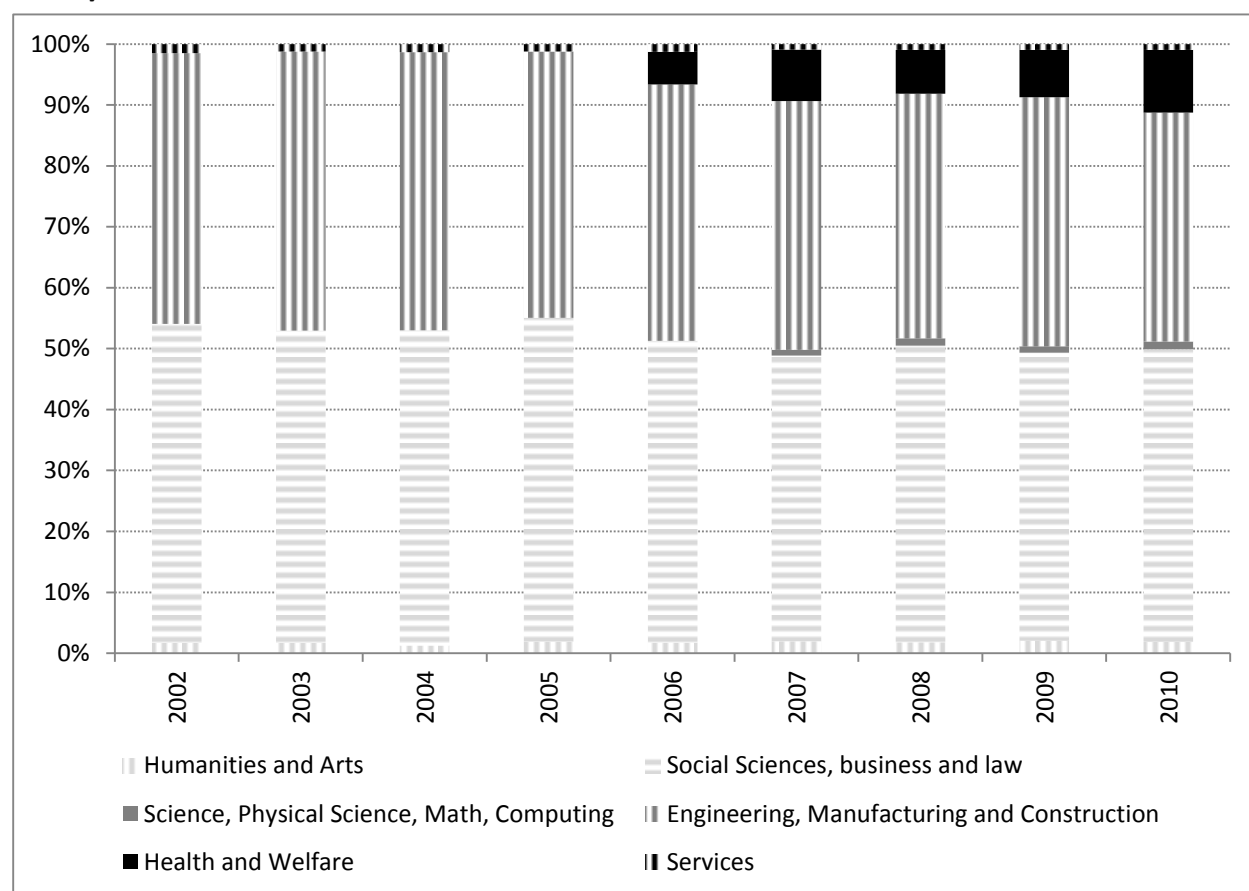


Source: uni:data⁸

While *Fachhochschulen* and universities are similar with respect to enrolment in social science, business and law, other subjects differ more depending the type of HEI: Whereas *Fachhochschulen* feature a high level of enrolment in engineering, manufacturing and construction, universities show higher enrolment rates in humanities, arts and STEM-subjects.

⁸ Higher education data warehouse of the Federal Ministry of Science and Research, available at <http://www.bmwf.gv.at/unidata>.

Figure 3.2: Distribution of enrolment by field of study in *Fachhochschulen* (2002-2010)



Source: uni:data.

3.2 Enrolment Patterns by Mode

Part-time study programmes

No information was available on the distribution and evolution of the number of full- and part-time students in the period of investigation. Austria does not have an official part-time student status. At the same time, a large share of *Fachhochschul*-students study alongside working, meaning that a rise in the number of students in this sector equates to a rise in the number of 'part-time' students.

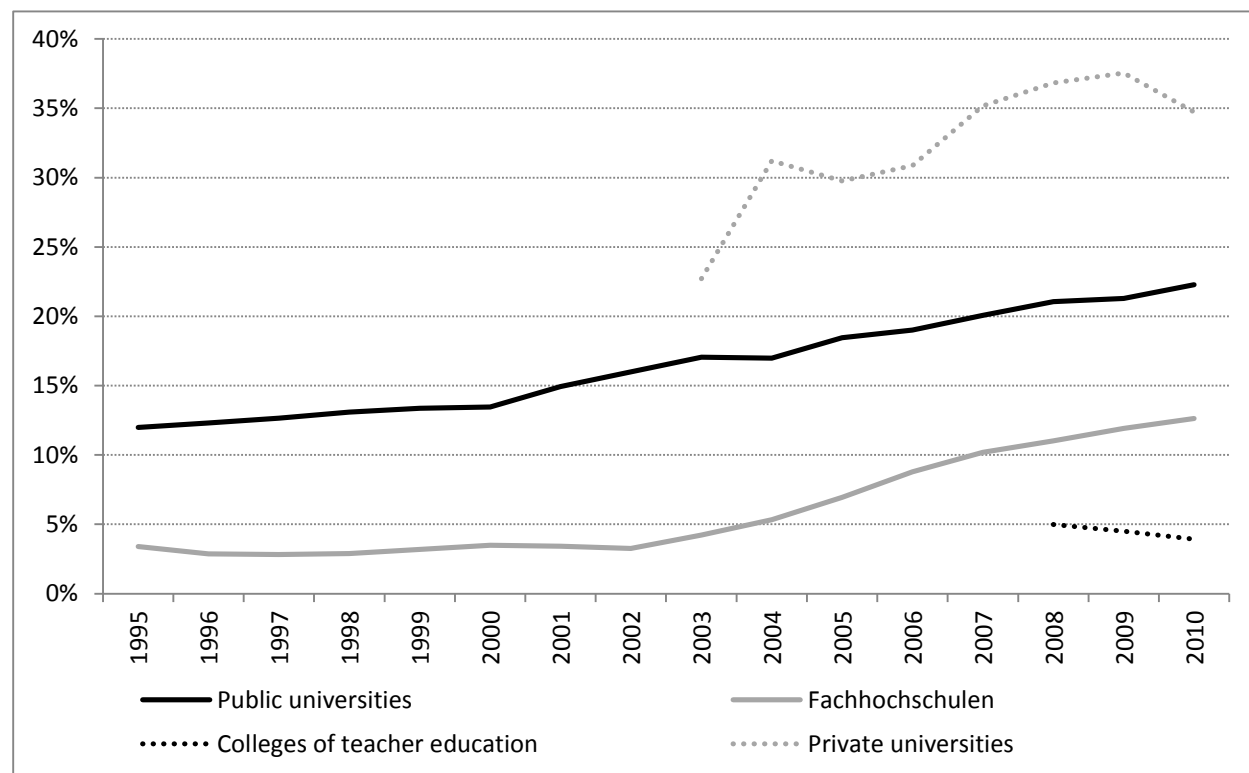
3.3 Enrolment Composition

Since public universities account for the majority of enrolments in absolute terms, the number of international students at universities is naturally higher than at *Fachhochschulen*. In relative terms, 24% of all students enrolled at public universities were not born in Austria in 2011, while *Fachhochschulen* had a share of 9% international students in the same year. Private universities seem to be particularly attractive to international students: This group makes up 30% and more of total enrolments at private universities.

Figure 3.3 shows a more or less linear increase in the enrolment of international students by 10 percentage points between 1995 and 2011 at public universities. This suggests that the introduction of general tuition fees in 2001 did not deter international students from coming to Austria. On the contrary, the years 2001-2003 were the ones with the strongest growth in the shares of international students (note that the number of domestic university students was also on the rise in the same period).

The share of international students at *Fachhochschulen* was 3% in 1995, remaining constant until the early 2000s, when a steady increase began. In 2010, the share of international students at *Fachhochschulen* was 13%. The influence of tuition fees on the inflow of international students cannot be evaluated on the system level, given that some *Fachhochschulen* charge tuition fees while others don't. Overall, though, the trend visible for *Fachhochschulen* in the 2000s does not suggest a major deterrent effect from tuition fees.

Figure 3.3: International student enrolment as a percentage of total headcount per sector (1995-2010)



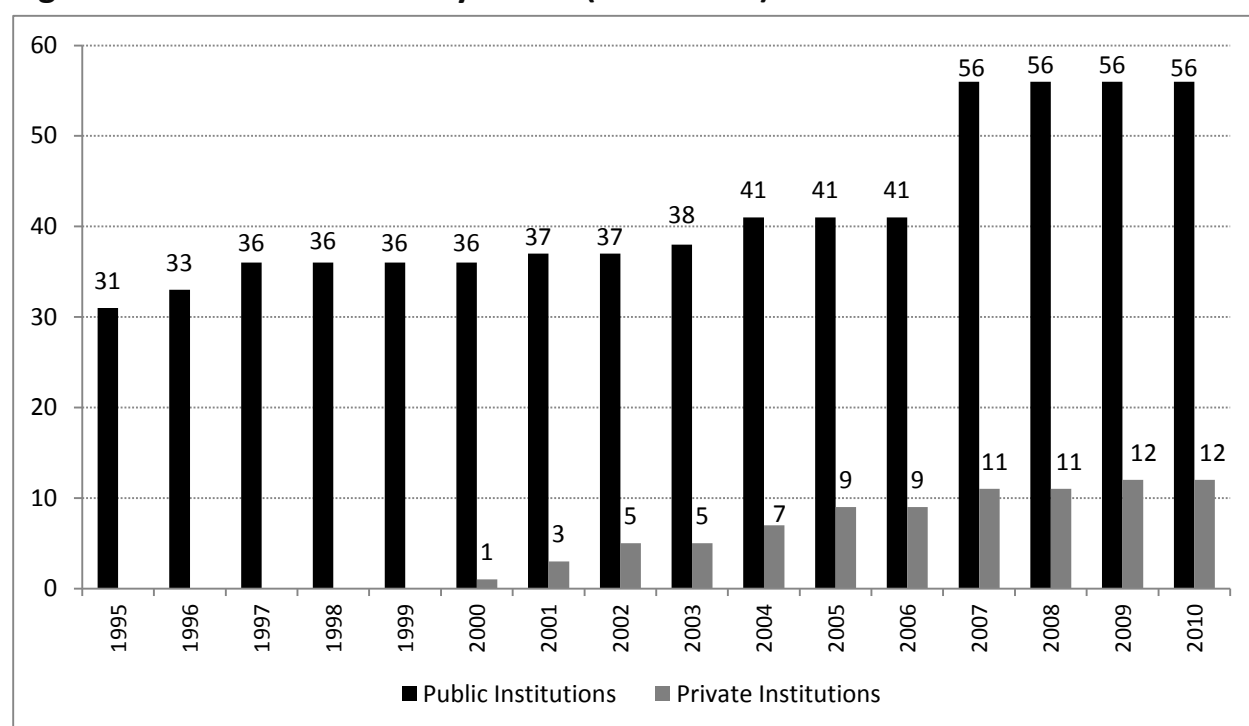
Source: Statistik Austria.

In the academic year 2010/2011, the largest group of international students were German (38%), followed by students from eastern European countries (17%), former Yugoslavia (11%) and from outside the EU (11%) (see Zaussinger, Grabher, Dünser, Laimer, & Unger, 2011, p. 11).

3.4 Diversity of Provision

Changes in the number of HEIs

The expansion of Austrian HEIs between 1995 and 2011 is visible in Figure 3.4. There were 31 public HEIs and no private HEIs in 1995 and 56 public and 12 private HEIs in 2010. The first private HEI, the Catholic-Theological Private University in Linz (*Katholisch-Theologische Privatuniversität Linz*) was accredited in 2000.

Figure 3.4: Number of HEIs by sector (1995-2010)

Source: EUMIDA⁹.

Although the private university sector in Austria has grown consistently since the first private HEI was founded, it must be noted that in terms of student numbers it is still small, serving less than 2% of all students.

Figure 3.4 also shows a disproportional increase of public HEIs between 2006 and 2007, when the number of institutions grew from 41 to 56. This can be linked to the establishment of colleges of teacher education as a new branch of the higher education system in 2007 and a further expansion of the *Fachhochschul*-sector.

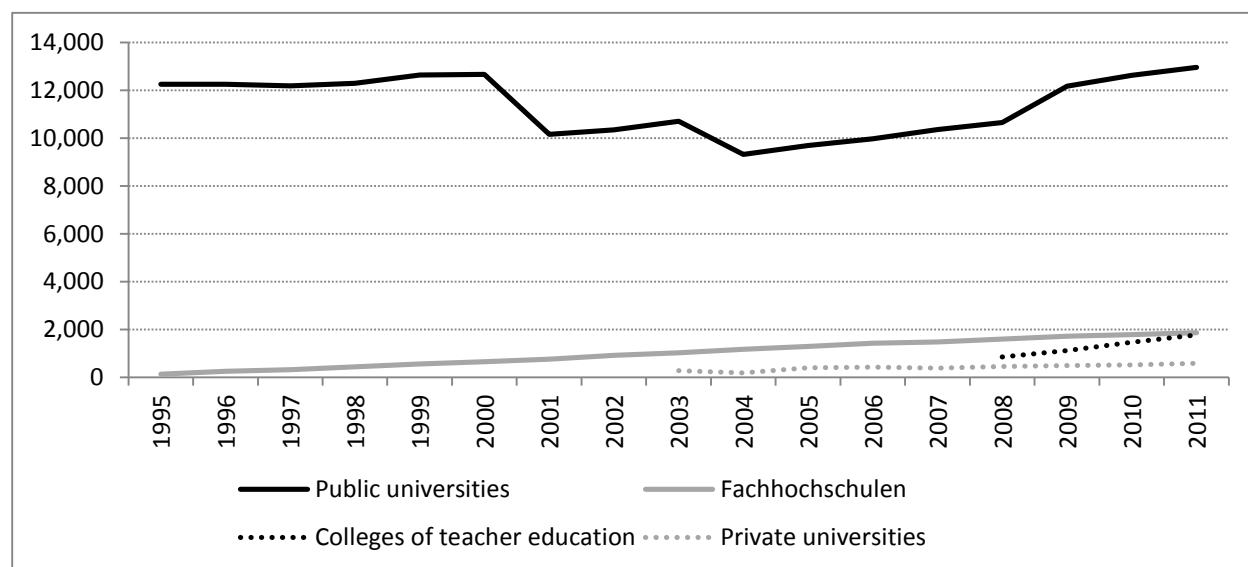
Figure 3.5 shows the size of HEIs based on the number of enrolled students. It shows a rather linear pattern for the size of *Fachhochschulen*, as one would expect in a newly established sector. On average, they enrol 2,000 students. The private HEIs are very much smaller. The pattern in universities is rather discontinuous, with a stepwise decrease in size in the early 2000s. The drop in 2001/2002 is due to a decrease in total student numbers, and likewise the increase since 2004 is due to increasing numbers of students in the system. The decrease in 2004 is due to the outsourcing of medical faculties into medical universities.

The dip in the number of students at public universities at the introduction of tuition fees in 2001– which was exclusively a result of purging non-active students from the records according

⁹ European university data collection, available at <http://datahub.io/dataset/eumida>.

to estimations made by Pechar & Wroblewski (2002, p.19) – resulted in a decrease in average size of public universities and not to the closure of institutions. However, this dip was compensated and the average public university size returned to around 12,000 students.¹⁰

Figure 3.5: Average size of HEIs (number of enrolled students) by type of HEI (1995-2011)



Source: EUMIDA/ own calculations.

3.5 Outreach Practices

Marketing budgets

Concrete figures on the amounts of and changes in HEIs' marketing budgets could not be obtained. According to the experts interviewed, questions of university marketing came to the forefront in the wake of the Universities Act of 2002 with its emphasis on institutional autonomy. Since then universities have made efforts to reach out to potential users more actively than before. As in Germany, which has a system similar to the Austrian one in many respects, it appears that increased marketing efforts are not only an effect of attempts to maximise private income, but also of a changing self-image of HEIs and, in the case of Austria, of a shift in responsibilities: Whereas before 2002 it was mainly the Ministry that was responsible for assuring HEIs' public visibility, this task was transferred to the institutions themselves when they were made autonomous. One interviewed expert observed that marketing in Austrian HEIs plays an important role particularly where fee-based further education study programmes are

¹⁰ The variation in size is considerable, ranging from 1,100 students (University of Arts and Industrial Design Linz) to 88,000 (University of Vienna). 10 of the 21 public universities enrol fewer than 5,000 students.

concerned, which shows that opportunities to generate private revenue can give a boost to marketing activities.

Composition of governance and advisory boards

Since the enactment of the Universities Act 2002, Austrian universities have had university councils consisting exclusively of external stakeholders from science, culture and business. Half of the council members are nominated by the university, the other half by the ministry. The councils have far-reaching competencies in terms of governance according to the law. One expert commented that although each university council is different, the councils usually do not influence a university's funding structure, but rather see themselves as lobbyists for the university.

Relationship with employers

Concerning the relationship between HEIs and employers, one interviewed expert observed that a process of mutual learning has taken place during the period of investigation: While business and industry have come to endorse a new concept of employability based on universal, 'soft' skills typically acquired in higher education, HEIs have become more attentive to the demands of business and industry. This process has affected universities and *Fachhochschulen* alike. As an example of an organisation mediating the demands of HEIs and business and industry, the expert named the chambers of commerce.

Another expert with insights into the *Fachhochschul*-sector described awareness of user demand as a central element of the mission of *Fachhochschulen* specified by the law, stating that private income was not necessary for *Fachhochschulen* to strive for responsiveness towards user demand. In support of this statement, the expert referred to obligatory needs analyses carried out in the preparation of new study programmes as well as to permanent contacts with employers from the business sector, particularly small and medium-size enterprises. A direct influence of cost-sharing on the described developments was not obvious.

Entrance policies

Even though the question of how university entrance should be regulated has been a key issue in higher education politics in Austria, the topic has not been discussed in the context of cost-sharing. The rather modest fee levels at public HEIs would appear too insignificant for HEIs to compete for students because of expected fee income. Quite the opposite, Austrian universities have been seeking ways to limit enrolments to avoid overcrowding - see Section 1.6. In this vein, one national expert commented that public HEIs in Austria are more focussed on establishing effective admission restrictions than on the subject of tuition fees, since their ultimate goal is to provide adequate teaching and learning conditions for the students they serve, and there is little hope among university managers that cost-sharing could be developed in a such a way as to balance the enrolment growth seen in recent years.

3.6 Quality and Relevance

The aim of this section is to investigate whether changes in cost-sharing lead to changes in student, graduate and employer satisfaction. Little such information could be obtained for Austria. One reason why no such studies exist in Austria is presumably the fact that unemployment rates among higher education graduates are very low, indicating that there is a smooth transition from higher education into the labour market and, therefore, little political pressure to monitor graduate or employer satisfaction.

A one-time graduate-survey is the ARUFA study (Schomburg, Flöther, Wolf, Kolb, & Guggenberger, 2010). Persons who graduated from Austrian HEIs between 2004 and 2010 were surveyed for various aspects of their present employment and retrospective evaluation of their educational experience. There is a general tendency of improvement in satisfaction within this seven year span. The share of graduates being (very) satisfied with their studies increased continually from 65% (2004) to 75% (2010) (Schomburg, Flöther, Wolf, Kolb, & Guggenberger, 2010, p. 141). The share of respondents reporting that they would choose the same subject again rose from 71% to 77% in the same period (*ibid.*, p. 141). A positive trend is also visible concerning judgements on practical relevance, although from a low base: 33% of the 2010 graduates agree that the employment-related elements of their studies prepared them well for the labour market, as opposed to 23% in 2004 (*ibid.*, p. 136). Different aspects of counselling and support through teaching staff were also judged increasingly favourable over time, while judgements on equipment and infrastructure improved for all aspects except availability of literature in libraries (*ibid.*, p. 132f.). The possible influence of tuition fees on these judgements is acknowledged in the study (*ibid.*, p. 241 fn. 22) but not investigated any further. The studying period of almost all of the surveyed graduates fell in the period of time during which general fees were charged at Austrian universities at a constant level, making it impossible to draw conclusions regarding the effects of fees on study conditions. The increases we see in different aspects of graduate satisfaction merely show that perceived study conditions did not deteriorate after general fees were introduced in the Austrian system.

3.7 Evaluation

The hypothesis tested in this chapter was that institutions become more responsive to user demand once the incentives to earn private funding increase. The central event with respect to increases in private funding was the introduction of general tuition fees in 2001. Although this was a much-debated decision, student contributions to higher education through fees remained rather low in relative terms, as was demonstrated in Chapter 2. This is true from the institutional point of view relevant to this chapter (but to some degree also from the point of view of individual students, as will be elaborated in the next chapter). It is therefore questionable whether HEIs would have taken fees as a reason to increase their user responsiveness in a significant manner. Accordingly, the available data on provision of programmes and enrolment composition do not point in this direction. In this context, one interviewed expert commented that the introduction of tuition fees in Austria had no other goal than to make up for cuts in government funding, i.e. making institutions more responsive was not a political aim at all. Furthermore, the

expert stated that the very fact that income from fees had to be used to compensate for budgetary cuts was damaging to the notion of universities responding more directly to student demand, because the revenues from fees could not actually be used to implement specific measures to improve study conditions. According to the expert, this makes the situation in Austria different from that in Germany, where income from fees was assigned to the improvement of study conditions and was not accompanied by budget cuts.

In a similar vein, one expert noted that he did not perceive any differences in the degree of user orientation in *Fachhochschulen* with and without tuition fees, stating that user orientation is to a certain extent part of the mission of all *Fachhochschulen* and thus, not tied to the collection of tuition fees. As an illustration of user orientation, the expert explained that every study programme in *Fachhochschulen* is obligatorily accompanied by an analysis of job market-demand for future graduates.

Another interviewed expert took a different view, commenting that the introduction of tuition fees in 2001 did lead to a new perception of students as customers and thus also to a new kind of relationship between teachers, students and the HEI as an organisation. One expert called the very idea of HEIs becoming more responsive as a consequence (or precondition) of increasing private funds into question. From his point of view, HEIs should strive for external sponsoring of activities in which the relation is not that of a direct *quid pro quo* (contract research for private funds, or education for fees), but rather that of philanthropy or image improvements through collaboration.

Another expert addressed responsiveness to user demand in the context of graduate employability, stating that employability of graduates could be ascertained if HEIs developed clear employment profiles for each of their study programmes. Such measures would not depend on cost-sharing for their realisation, but rather on the motivation of the academics concerned with study programme planning and implementation.

A policy change that was not directly cost-sharing related but nevertheless played a role for the topic of this study was the strengthening of university autonomy through the Universities Act 2002. The removal of direct governmental steering and the establishment of autonomy are what gives institutions the freedom to become responsive in the first place. The investigation of changes in outreach practices suggests that as Austrian HEIs received more autonomy, they became more sensitive to user demands, but not as a result of changing financing structures.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

In Section 1.6 it has been shown that the introduction of general tuition fees in 2001 had an effect on both enrolment numbers and transition rates: Enrolment numbers dropped by 17% in the winter semester of 2001/2002, following (and predating) years of constant enrolment growth (see Figure 1.1). Transition rates from secondary school to university dropped by 9% in the same year (Figure 1.2). This suggests that the increase in cost-sharing deterred a significant number of students and university entrance qualification holders from studying. The observations below investigate in more detail the interrelation between student cost, student support and participation.

4.1 Students’ Costs for Higher Education

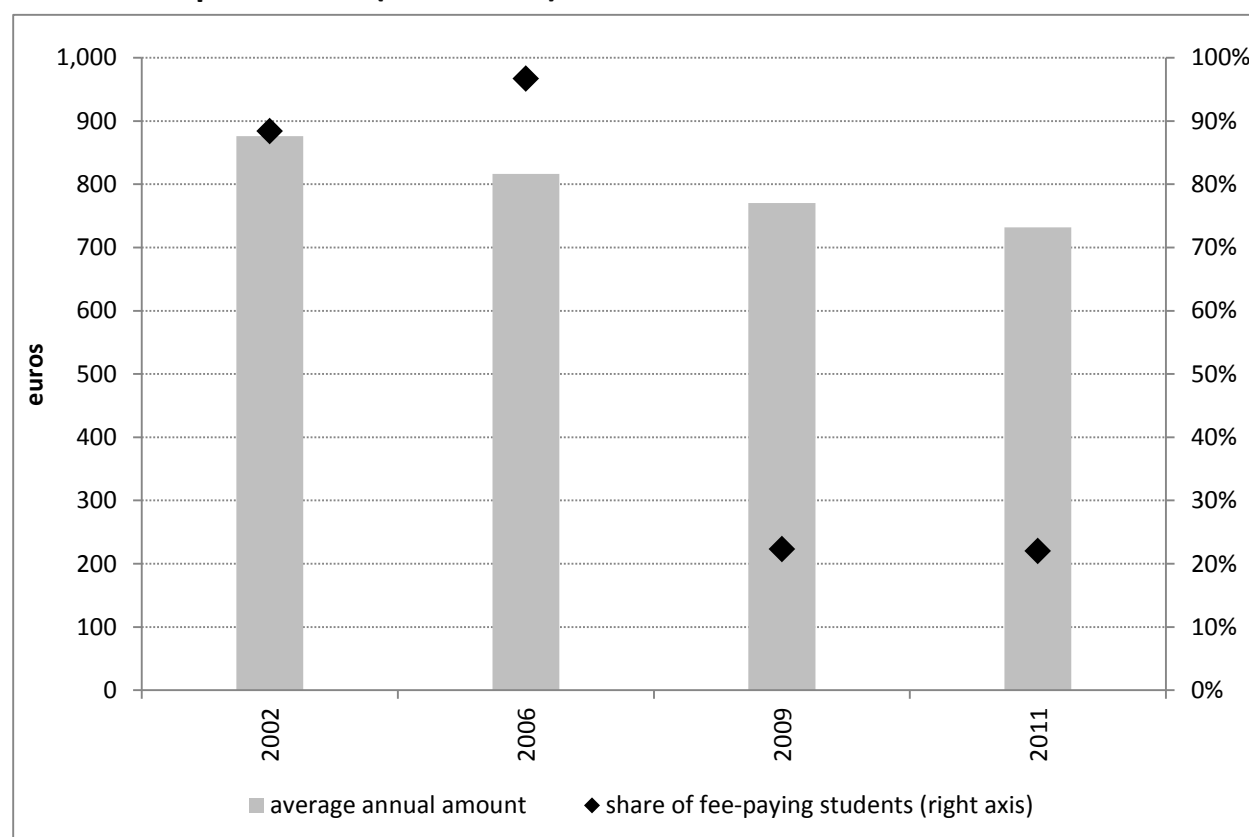
Student fees

This chapter begins with a look at how student fees affect students’ budgets on average. Figure 4.1 represents the incidence of tuition fees as well as the average annual expenditure on tuition fees of fee-paying students. The share of students exempt from paying fees was low during the time in which general fees were charged in Austria – 88.4% of all students were reported to be fee-paying in Social Survey (2002), and 96.7% in Social Survey (2006).¹¹ After the abolition of general fees in 2009, the share of fee-paying students dropped to 22% (Social Survey 2009, likewise in 2011) - these were students at fee-charging *Fachhochschulen*, non EU/EEA international students, and students studying beyond the stipulated period of study.

¹¹ But all students receiving means-tested grants were repaid the fees - see below.

The graph shows that between 2002 and 2011, the average fee level decreases from about 870 to about 730 constant euros. This is solely an effect of inflation: Fees have been kept constant in nominal values since 2001, whereas Figure 4.1 uses constant prices.

Figure 4.1: Average annual amount of student fees and share of fee-paying students at public HEIs (2002-2011)



Note: Average fee levels refer only to the share of fee-paying students. Data for 2009 refer to the summer semester 2009, when fees for most domestic students had been abolished. Constant consumer prices (2011).

Source: Social Survey 2002/2006/2009/2011.

Fees are related to other student costs in Table 4.1. It shows that student costs increased significantly between 1998 and 2002 (plus 15%) and decreased again between 2006 and 2009 (minus 11%). These changes were clearly influenced by the introduction and subsequent abolition of fees (2001/2009). However, fees only accounted for about two thirds of the cost increase: Costs for housing and travel also increased. Similarly, the cost decrease between 2006 and 2009 was not only caused by the abolition of general fees at universities (fees for long-term students and international students remained), but also by all other costs except housing decreasing.

Overall, fees accounted for around 8% of total student cost during the period of general tuition fees.

Table 4.1: Annual student costs (1998-2011)

	Learning material	Housing	Food	Transport	Clothing	Fees	Total
1998	790	2,920	2,580	1,010	790	-	8,090
2002	800	3,320	2,400	1,220	800	780	9,320
2006	1,000	3,440	2,380	1,000	720	790	9,340
2009	850	3,540	2,320	900	640	160	8,410
2011	790	3,550	2,310	950	620	160	8,380

Note: Includes only national students. Constant consumer prices (2011).

Source: Social Survey 2009/2006/2002 / IHS-project reports / own calculations.

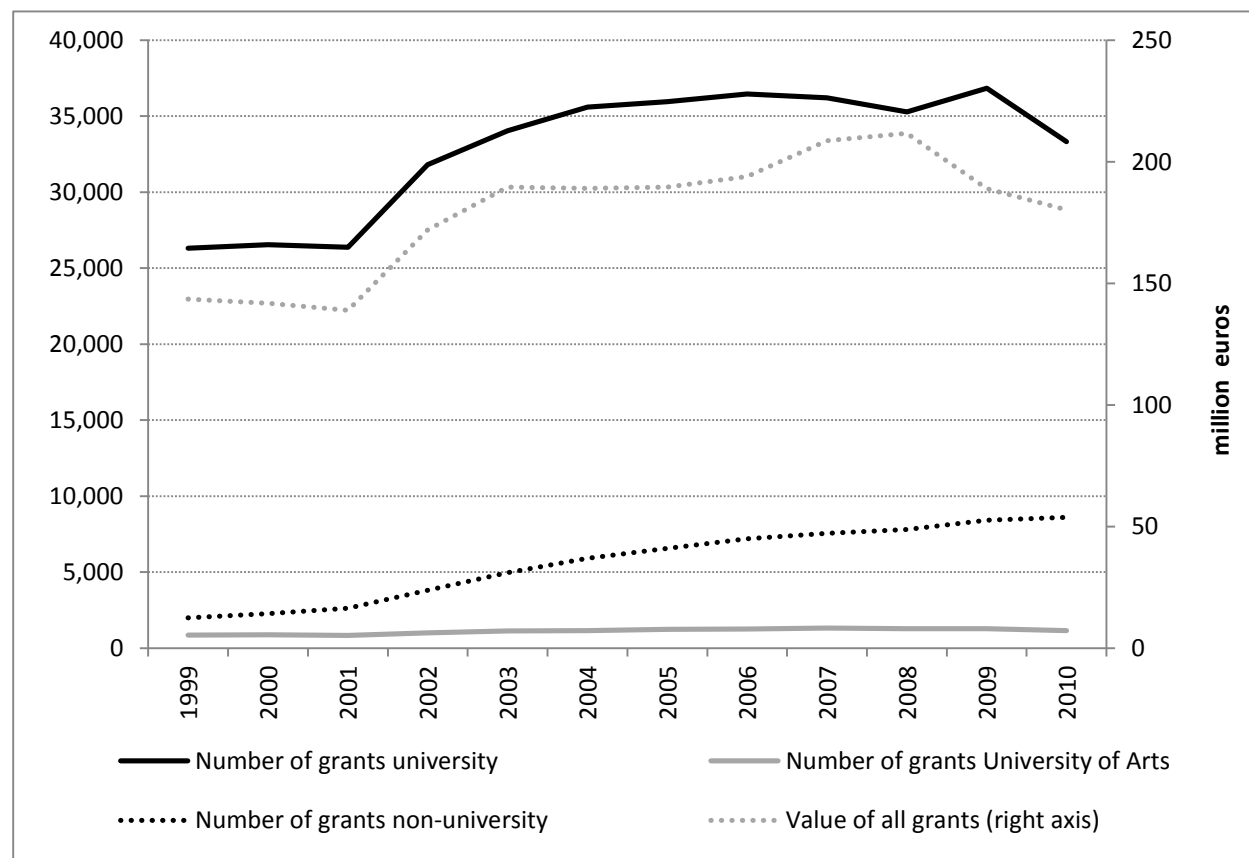
Student grants

In 2008/2009, 17.6% of all students received public financial aid or a scholarship through the Federal State, the average amount being 4,357 euros (BMWF, 2010, p. 18). In 2009 the BMWF spent a total of 190 million euros on public support in form of direct and indirect payments. 2009 marked the first year since 2004 in which expenditure on student support did not increase in comparison to the year before. This is due to the fact that student support in Austria included the refunding of tuition fees (*Studienzuschuss*), and after the abolition of fees at universities in 2008, this type of support was no longer needed for most students.

Figure 4.2 represents both the change of public expenditure on student support and numbers of public study grants issued over time. An upwards trend in the provision of grants to university students is visible starting in 2002, a year after general tuition fees were introduced. This is partly due to the fact that, as mentioned above, the means-tested grants come with the option of having tuition fees refunded (witness also the drop after 2008). At the same time, the general eligibility criteria for study grants were adapted after the introduction of general fees: Parental income thresholds were lowered, resulting in an extended group of grant recipients. According to one national expert, this was a way of making tuition fees palatable to middle class families.

The number of grants provided to students at *Fachhochschulen* increased after 2002, in a more linear fashion. The value of grants issued is roughly parallel to the number of grants to university students (this being by far the largest group of students). It shows that the average value of grants issued to students remained relatively stable throughout the years, except for a discrepant progression in the mid-2000s, when the number of grants was still rising while their overall value went down. The parallel patterns in numbers of grants for university students and value of grants is most likely due to the fact that most students in Austria are university students.

Figure 4.2: Number of study grants by type of HEI and value of all grants (1999-2010)



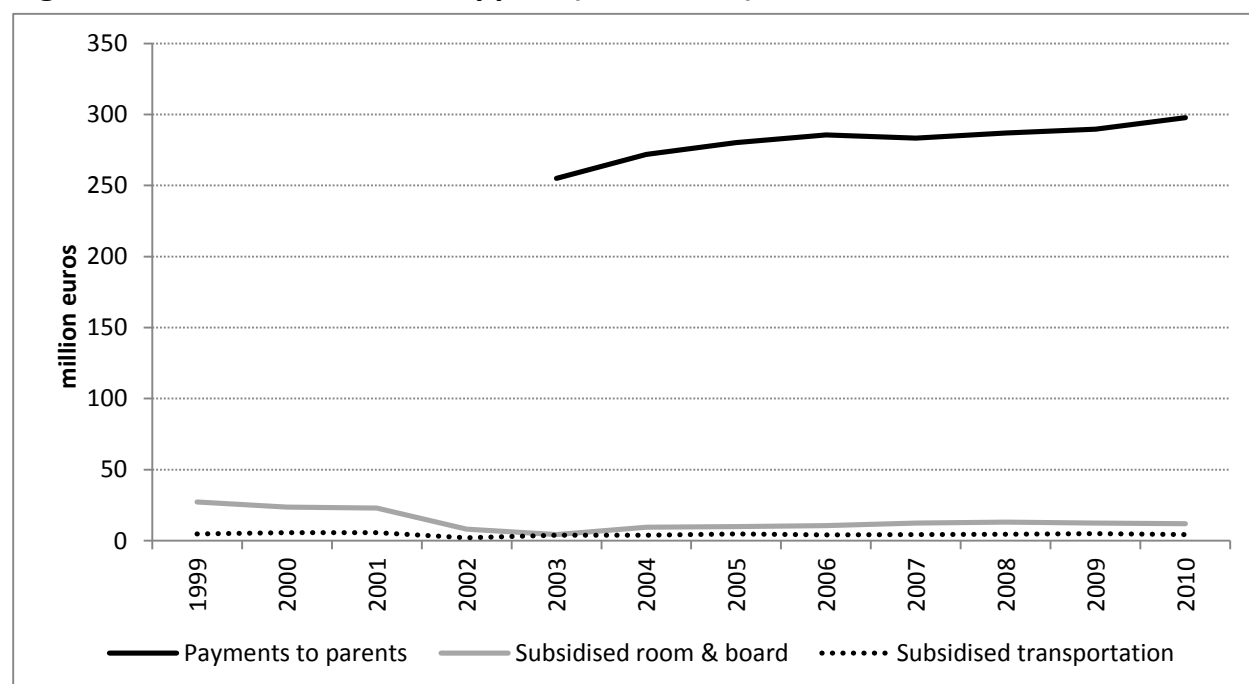
Note: Constant prices (2011).

Source: BMWF / IHS (Materialien zur sozialen Lage der Studierenden 2003/2007/2012).

Indirect assistance

Figure 4.3 below charts student support other than grants, such as payments to parents which come in the form of child benefits for parents of studying children. Since parents are required by law to assure the livelihood of their children as long as they are in education, child benefits are one way of indirect support to students. The graph shows that public expenditure on child benefits for parents of students increased between 2003 and 2010, from 229 to 267 million euros, due to an increase in student numbers. In comparison, subsidies for room, board and transport are less significant. Both declined over time, in particular subsidies for room and board, which dropped significantly between 2001 and 2002.¹²

¹² An indirect subsidy not shown in Figure 4.3 (because it is not surveyed or provided by statistics) is indirect benefits through reductions in health insurance and transport for recipients of child benefits.

Figure 4.3: Indirect student support (1999-2010)

Note: Constant prices (2011).

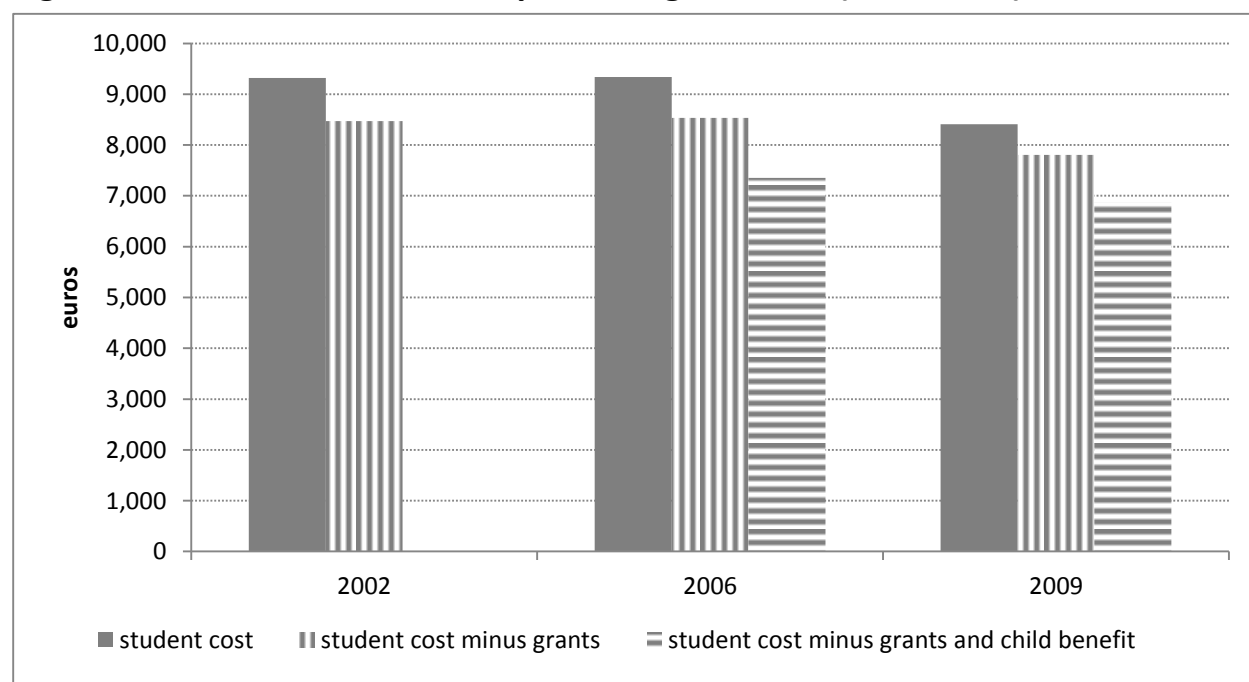
Source: BMWF / IHS (Materialien zur sozialen Lage der Studierenden 2003/2007/2012).

Student loans

Except for a small number of bank loans offered to students under special conditions, there is no student loan system in Austria comparable to what one finds in e.g. England or Canada, neither for living expenses nor for tuition fees.

Total student cost

Figure 4.4 graphs average annual costs for Austrian students between 2002 and 2011. Looking at the average student, we see that payments to parents of studying children in the form of child benefits are more important than grants. The former amount to between 7% and 8% of total student costs of living, whereas the latter amount to between 12% and 13%. Considering student costs minus state grants, it becomes apparent that the change in student grants (average paid per student) parallels that of student cost). Figure 4.4 also shows that on the aggregate level, public support to students is more comprehensive in monetary terms than tuition fees. Overall, though, the student cost of living is predominantly borne by students themselves: Taken together, the two most important sources of state support, grants and child benefit, amount to between 16% and 21% of total student costs in 2006/2009.

Figure 4.4: Annual student costs per average student (2002-2009)

Notes: Student costs include the categories listed in Table 4.1. Data on costs and student support refer to national students only. Constant prices (2011).

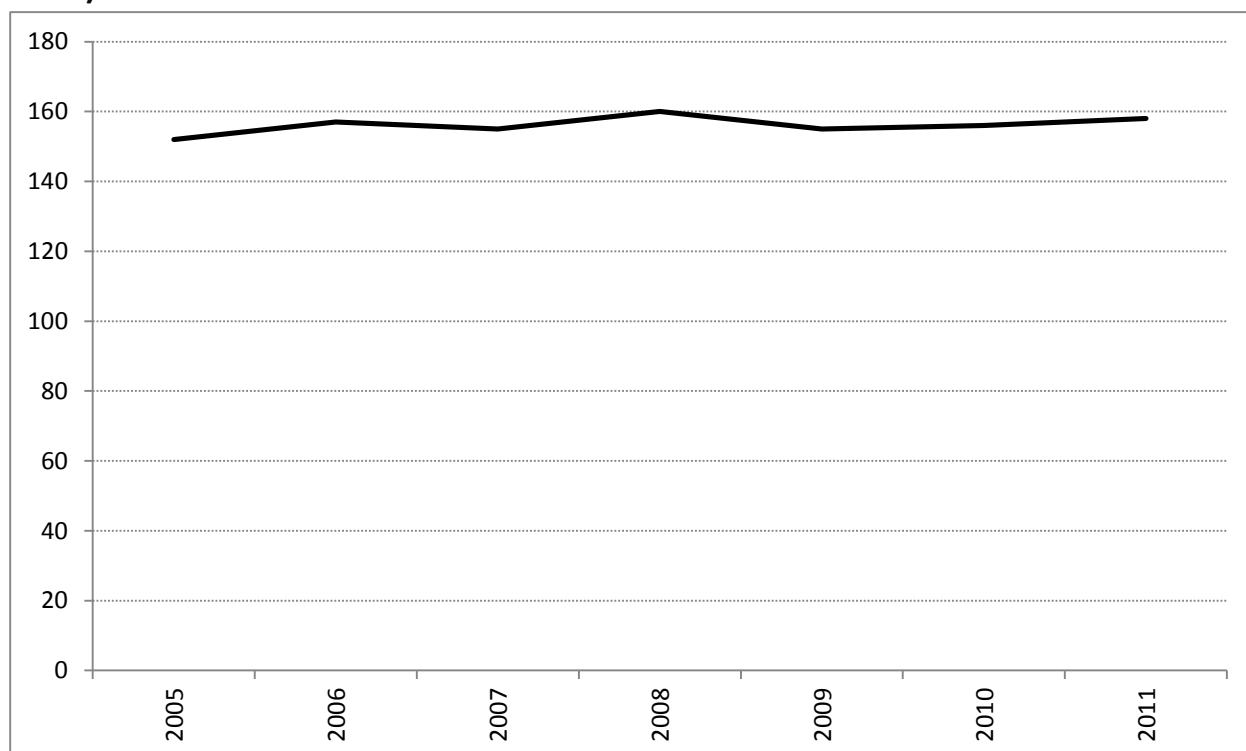
Source: Social Survey 2002/2006/2009 / own calculations.

Relative earnings

To assess whether higher education is a favourable investment in the face of changing private costs, this study uses UOE data to represent relative earnings of persons with a tertiary degree as opposed to the average relative earnings of persons with an upper secondary or post-secondary non-tertiary education, see Figure 4.5.

We see a relatively constant curve with only few oscillations between an indexed 149 (2005) and 159 (2008). Overall, the relative earnings of Austrian graduates are fairly close to the average levels of the EU21 area.

Figure 4.5: Relative earnings of persons with a higher education degree (2005-2011)



Note: Data indexed to earnings of a person with upper secondary and post-secondary, non-tertiary education (=100).

Source: OECD Education at a Glance 2013.

Debt levels

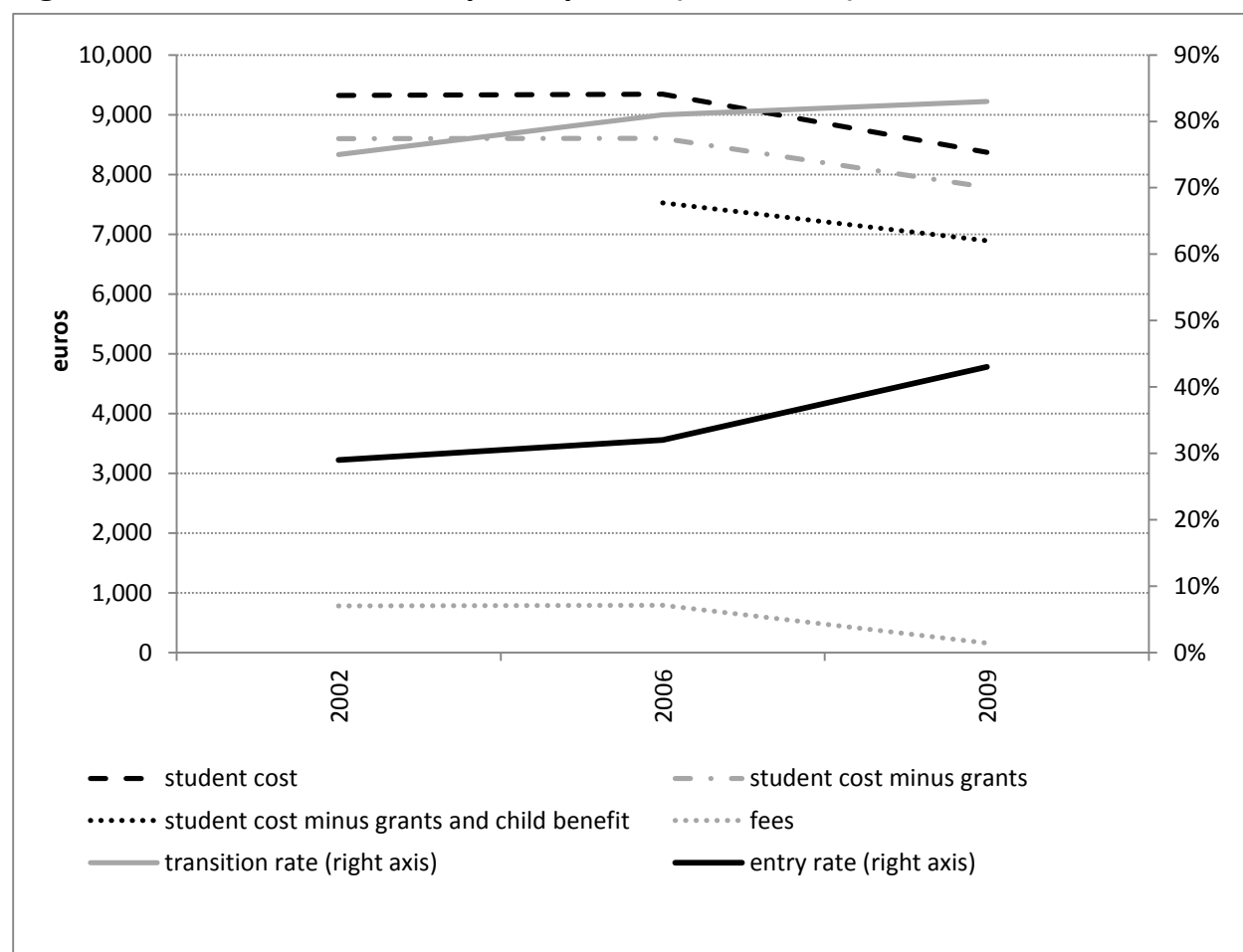
No data on debt levels of Austrian students / graduates were available across the period of investigation. According to a recent survey commissioned by the Austrian Union of Students (Thaler & Unger, 2013, p.7), 16% of Austrian university students are in debt, of which more than half attribute their debts to study-related expenditures.¹³ A common cause of debt are study-related stays abroad. 36.7% of students report to be in financial difficulty (Thaler & Unger, 2013, p. 7).

¹³ This includes international students with loan debts, e.g. German students taking out loans from the public German loan system BAföG. Among national students, the share of students with debt is 14%, 46% of whom attribute their debt to study-related causes.

4.2 Participation Rates

Figure 4.6 shows student costs of living as represented in Figure 4.4 in comparison with entry and transition rates. Tuition fees (as the average across the entire student population) are also included.

We see that entry rates increased from 29% to 43% between 2002 and 2009. In the same period, transition rates from secondary school increased by about 8%. Most of this increase took place between 2002 and 2006. Student costs remained rather constant in that period. In the time during which student costs decreased, partly as a result of the abolition of fees, entry rates continued to grow rapidly, from 32% in 2006 to 43% in 2009. In summary, a correlation between student cost and participation is not observable across the years investigated here.

Figure 4.6: Student costs and participation (2002-2009)

Notes: Student costs as defined in Table 4.1. Fees calculated as the average amount per student across entire student population. Value for 2009 predicted. Entry rate: share of first-year national students to total national population in age group 18-21. Transition rate: share of university entrance qualification holders that enter higher education. Constant prices (2011).

Source: Social Survey 2009/2006/2002 / Statistik Austria / own calculations.

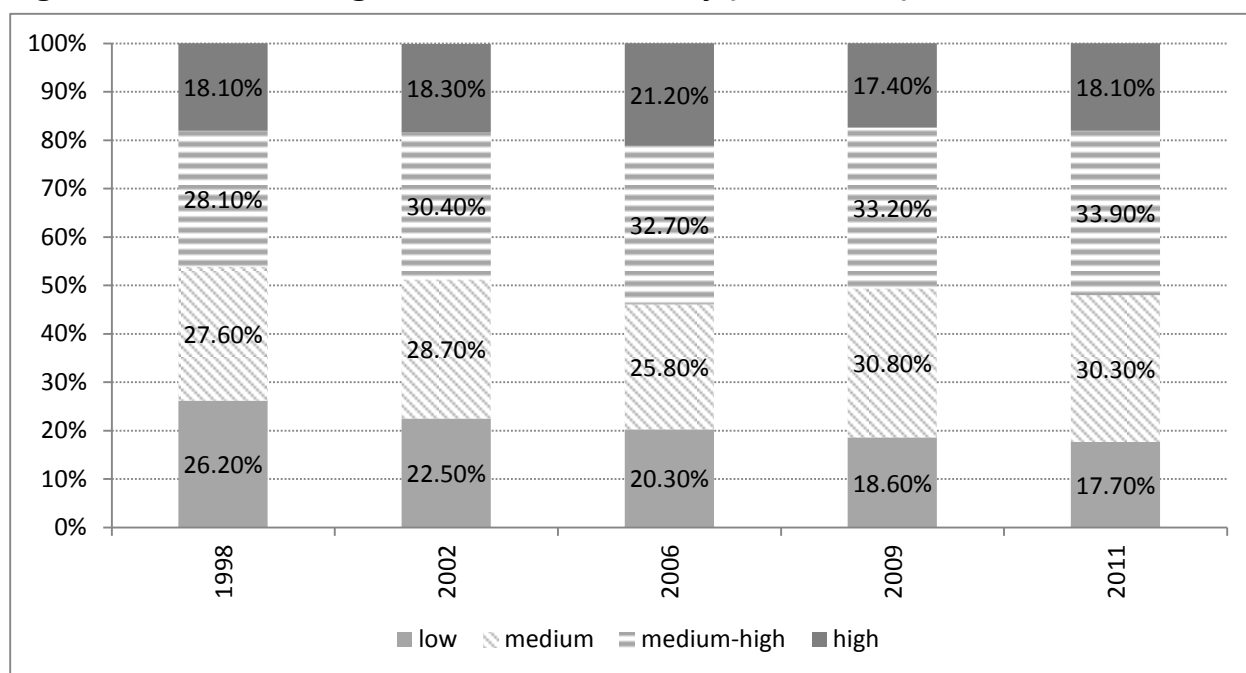
The introduction of general tuition fees in 2001, arguably the central event with respect to cost-sharing in the period considered here, lies before the time when the various data on student costs displayed in Figure 4.6 were available. A study that sheds some light on this episode is Pechar and Wroblewski (2002). The authors compare national enrolment data before and after the winter semester 2001/2002, when general tuition fees were introduced, presuming that any changes can primarily be attributed to the increase in student costs via fees. What complicates matters in the case of Austria is that before the introduction of fees there was an exceedingly high number of enrolled students in the records that were inactive, i.e. they were counted as students but were not actively working towards their final exams. To fix this, Pechar and Wroblewski (2002) relate data on exams gathered from the universities to the decrease in enrolments after the introduction

of fees and conclude that the decrease in enrolments (-21% between the winter semester 2000/2001 and 2001/2002) can be entirely explained by the elimination of inactive students, which they estimate at 25% of total enrolment. If this is correct, then active Austrian students were rather *not* deterred by tuition fees.

4.3 Composition of the Student Body

Figure 4.7 shows the social background of the Austrian student body as specified in the national student survey. The graph shows a constant increase for the group of students from medium-to-high backgrounds (from 28% to 33%), whereas the group of students from high backgrounds remains fairly constant in relative size (around 18%) except for a peak in 2006. The group of students from medium backgrounds is more volatile in size, with a growing trend (26% to 30%) from 2006 to 2011. The clearest trend in Figure 4.6 is the constant decrease in enrolments of students from lower social backgrounds, from 26% in 1998 to below 18% in 2011. Although various sources point out that the introduction of tuition fees might have deterrent effects particularly on students from lower social backgrounds (see literature review of the main report), the constancy with which the proportion of students from lower social backgrounds decreases shown in Figure 4.7 makes it seem unlikely that the introduction of tuition fees in 2001 was a major driver of this trend. Two other possible explanations for the trend the figure shows would be a general bias with respect to access to higher education (not necessarily related to fees or cost-sharing), or the educational / professional upgrading of the parent generation. That the latter had an effect is suggested by Figure 4.8, which shows highest educational attainments of the total population over time. Although the indexes used in Figures 4.7 and 4.8 are not identical (the Social Survey takes into account the occupation of the parents in defining social backgrounds), a shift towards higher educational degrees across the population is evident.

Figure 4.7: Social background of student body (1998-2011)



Note: Social background is defined as a combination of parents' highest educational attainment and current or former profession. Only students whose parents were born in Austria.

Source: Social Survey 2011.

Figure 4.8: Highest educational attainment in total population (1991-2011)

Source: Statistik Austria, population census data.

4.4 Completion Rates

There are no national studies on completion and retention in Austria. The OECD's 'Education at a Glance' includes data on completion / 'survival' rates in tertiary education at irregular intervals. The rates are calculated by dividing the number of graduates by the number of entrants in the typical year of entry. The results are summarised below:

Table 4.2: Completion rates in tertiary education (2000-2008)

'Education at a Glance' issue	year(s) of reference for university entrants	completion rate
2007	not specified	65%
2009	2000-2003	71%
2010	2002-2005	64%
2013	2006-2008	65%

Note: Calculation methods may differ between years.

Source: OECD Education at a Glance.

The informative value of these data was called into question by national Austrian experts on the grounds that the time after entry at which completion is surveyed is inadequately short for the Austrian system: Since many Austrian students study longer than the predetermined period (usually three years), the share of dropouts, defined as the percentage of the cohort not having obtained a degree, is overestimated. Due to these reservations, the above data will not be correlated to financing issues here.

4.5 Evaluation

This chapter investigated whether and how changes in cost-sharing impact participation in higher education. The two key events, the introduction (2001) and abolition (2009) of general tuition fees, were found to have affected participation, showing that changing levels of cost-sharing may influence demand for higher education, even though the effects were only temporary in this case.

Data on both enrolment numbers and transition rates from secondary school show that the introduction of general tuition fees in 2001 was accompanied by an abrupt drop in participation in universities (transition rates: -9%; enrolments: -21%). The significance of these data is difficult to judge given the problem of distinguishing active from non-active students in the statistics (see Section 4.2). While Pechar and Wroblewski (2002) attribute the decrease in participation entirely to the sub-group of inactive students, Landler (2009) takes a slightly different perspective: He observes that the decrease in transition rates to university in 2001 is similar to an earlier drop, which took place between 1995 and 1997 (also visible in Figure 1.2). According to Landler the two events have a common trait which is a preceding increase in private costs to students: by way of cuts in public support to students in the earlier case,¹⁴ and by way of introducing fees in the more recent case. Landler concludes from this that “new entrants to universities react relatively sensitively to social measures” (by which he means changes in cost-sharing in the present terminology). Landler’s conclusion points to a more substantial link

¹⁴ Landler (2009, p. 19) names cuts in transportation subsidies and restrictions in the allocation of child benefits.

between participation and student cost, and would tend to verify Hypothesis C, with the qualifications made. Unfortunately, the data gathered for the present study does not reach back far enough in time to shed more light on this issue.

What is somewhat unexpected on both Pechar and Wroblewski's and Landler's accounts is that in the years after the introduction of tuition fees, transition rates (as well as total enrolments) recovered in a continual manner, and in 2006 enrolments outstripped the numbers of the years before 2001 and have continued to grow ever since. This makes it appear like there was an initial, short-term deterrent effect of tuition fees on secondary school graduates, which then vanished. This pattern might be taken to suggest that the adverse effects on participation could have been mitigated by a smoother preparation and communication strategy on the side of the government. The above investigation of the financial impact on the student purse showed that fees amounted to about 8% of the cost of living for the average student, while state support for national students (direct and indirect) averaged over twice that amount. Tuition fees were reimbursed to students from lower-income backgrounds, and in the wake of the introduction of fees, the needs-based grant system was altered so as to include a larger group of students.

The abolition of general tuition fees in 2009 resulted in an abrupt 14% increase in enrolments. Several interviewed experts reported that numerous students that had dropped out of university during the tuition fee period resumed their studies once fees had been abolished, which would go some way towards explaining this change. Another possible explanation advanced by national experts is the global economic crisis of 2007 onwards, which may have motivated many young people to enrol in university for lack of an immediate employment perspective, particularly in an admission-free and tuition-free system.

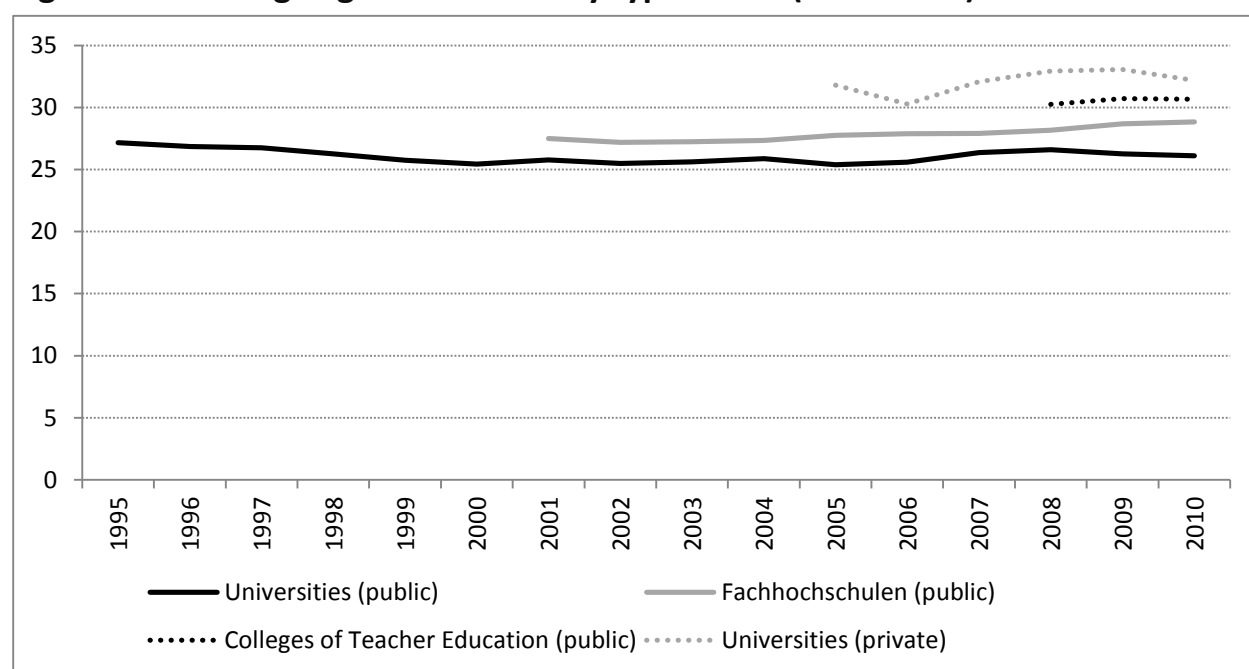
5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study. Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

5.1 Student Study Patterns

This section investigates whether and how study patterns change as a result of changes in cost-sharing. One relevant pattern might be changes in student age. For instance, students might choose to delay higher education to earn savings allowing them to pay for higher costs, or more mature students might enrol due to their more secure financial status. Figure 5.1 gives an overview of student age in Austria over time, differentiated by type of HEI.

Figure 5.1 shows that students at universities tend to be younger than students at *Fachhochschulen*. *Fachhochschulen* enrol more students with a secondary school vocational certificate (*Berufsreifeprüfung*), an HEI entrance qualification acquired while working. In contrast, universities have higher shares of students with the 'regular' maturity certificate (*Reifezeugnis/Matura*), hence the difference in average age. On the other hand, clear shifts in student age which could be related to changes in cost-sharing, such as the introduction of tuition fees in 2001, cannot be deduced from Figure 5.1. After the introduction of fees in 2001, student age tended to increase in universities, while it decreased slightly in *Fachhochschulen*. The latter tendency is most probably due to the fact that policymakers gave the provision of full-time programmes (favoured by younger students) preference over programmes for students who work while studying

Figure 5.1: Average age of students by type of HEI (1995-2010)

Source: Austrian Statistical Central Office (1995-2003) / Ministry of Education, Science and Culture (2004-20010) / Statistik Austria.

5.2 Location of Study

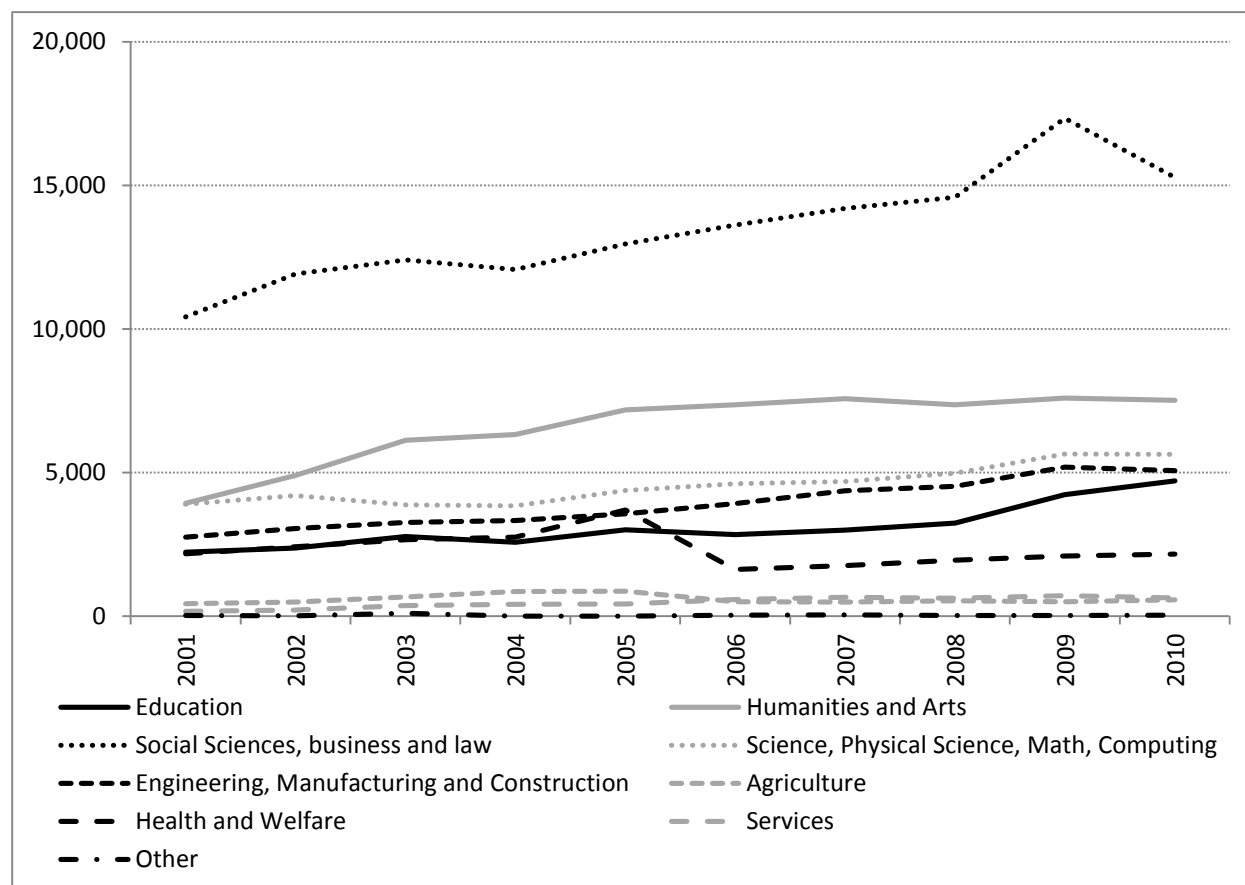
Considering the fact that all public HEIs had the same fee levels (2001-2009), changes in the location of study would not have saved students money, at least not as long as they stayed in Austria to study. In the *Fachhochschul*-sector, there is some variation as certain institutions charge the standard fee of 363 euros per semester while others do not. However, as one expert noted, the range of programmes and the admission criteria are rather diverse across regions, so that tuition fees are unlikely to play an important role in location choice.

5.3 Field of Study

The topic of this section relates to that of Section 3.1, where changes in the provision of programmes were discussed. From the student point of view relevant to the present chapter, changes in field of study or level of education may result from changes in cost-sharing because students are pursuing less expensive programmes or selecting programmes with more direct relevance to employment. Figures 5.2/5.3 give an overview of enrolment numbers in different disciplines.

Both graphs show a strong increase in social sciences, business and law, which turns into a decrease only in universities after 2009. Universities also witnessed a growing number of enrolments in humanities and arts in the first half of the 2000s, which turned into a slight decrease in the beginning of 2010. Moreover, both universities and *Fachhochschulen* saw increases in enrolments in engineering, manufacturing and construction. Figure 5.3 shows that this field has become a clear focus of *Fachhochschulen* besides social sciences, business and law.

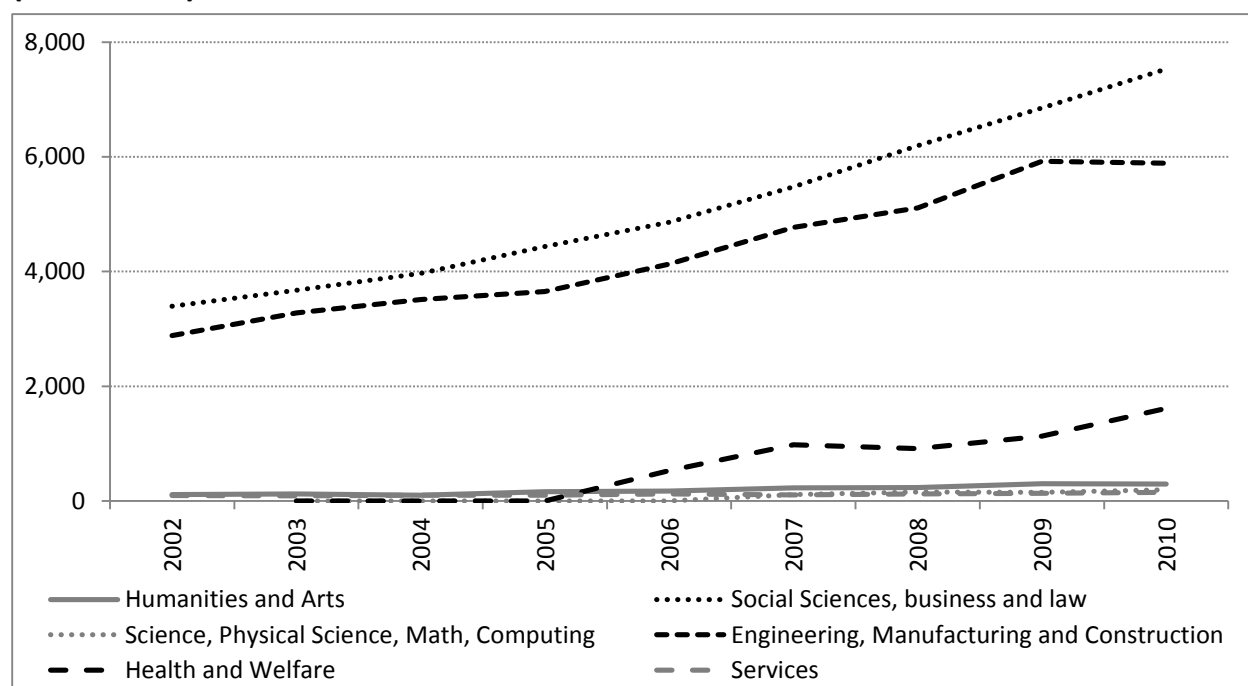
Figure 5.2: Number of new entrants in universities by field of study (2001-2010)



Notes: Students might be enrolled in more than one programme.

Source: uni:data.

Figure 5.3: Number of new entrants in *Fachhochschulen* by field of study (2002-2010)



Source: uni:data.

Unfortunately, no figures were available for the years before 2001, so that a comparison between enrolment behaviour before and after the introduction of tuition fees is impossible. Two experts were interviewed on the question of whether changes in choice of study programmes had been observable as an effect of the introduction of tuition fees, and reported that they were not aware of any such changes, both pointing to the relatively low level of fees in Austria. Pechar and Wroblewski (2002, p. 19f.) investigate enrolment numbers in universities and *Fachhochschulen* and - finding an increase in enrolments in *Fachhochschulen* and in fields of study with a clear professional orientation in universities - suggest that this could be an effect of the introduction of tuition fees. The trend towards increases in enrolments in *Fachhochschulen* is verified for the years after 2002 by Figure 5.3. A trend towards more enrolments in subjects with a direct relationship to the labour market (Pechar and Wroblewski are not explicit about which subjects they have in mind) cannot be verified by Figure 5.2. For instance, both a decrease in engineering, manufacturing and construction (which tends to be more directly linked to the labour market) and an increase in arts and humanities (often less directly linked to the labour market) can be observed. It is true, however, that *Fachhochschulen* are unable to satisfy the demand for study places in this sector: Fachhochschulrat (2011, Appendix 13) shows that there are on average three applicants for every study place at a *Fachhochschule*; in health science, there are 7.7 applicants per place. Consequently, the figures on new entrants in Figure 5.3 reflect supply, not demand. The strong demand for study places in *Fachhochschulen* is not necessarily an effect of cost-sharing, since Fachhochschulrat (2011, Appendix 10) also shows that applicant numbers for study places at *Fachhochschulen* have greatly exceeded supply since as early as 1998, before tuition fees were even introduced into the Austrian system. According to Social Survey (2002, p.

200), 8% of first-year students report to have chosen a study programme with favourable job opportunities because of the existence of tuition fees.

5.4 Time-to-Completion

Since no statistical data were available on time-to-completion, this topic was dealt with in expert interviews. Several experts agreed that the introduction of fees in 2001 caused many students who for various reasons had delayed their final exams to sign in for these exams, obviously to avoid additional costs. Moreover, a certain number of students who were officially enrolled but did not study actively de-registered after fees were introduced. Both of these phenomena led to shorter average times-to-completion in the years after the introduction of fees. A general, long-term effect in terms of shorter duration of studies incentivised by fees cannot be deduced from this.

One expert was more positive that even relatively low fee levels cause students to study more efficiently, benefitting both the individual student and the institution. According to the expert, such effects could be observed in Austria during the period of general tuition fees (2001-2009).

Another expert commented that it must be borne in mind that the introduction of tuition fees in Austria coincided with study reforms aiming at shorter programme durations. Any empirical observations about shorter study times could therefore not simply be interpreted as an outcome of the fee regime.

Social Survey (2002) surveyed students concerning their reaction to the introduction of tuition fees in 2001. 56% reported that they were going to finish their studies as quickly as possible to save costs as a consequence of the obligation to pay fees. This was the most frequently given answer when asked about reactions to the introduction of fees. 28% answered that they were going to attend only classes that were directly relevant to achieving their degree to save time, and 6% answered that they were going to invest less time in paid work to be able to finish their studies more quickly. This shows that a shorter time to completion was a major concern for students after the introduction of tuition fees.

5.5 Evaluation

The aim of this chapter was to investigate whether increasing private funding changes student choice of what or how to study. In Austria, the most tangible event with respect to changing the share of private contributions was the introduction of tuition fees (amounting to around 730 euros per year) in 2001 and their subsequent abolition in 2009. The available data revealed few effects in terms of study behaviour.

One obvious explanation for this result is that tuition fees were simply not high enough to cause students to change their study behaviour. Several interviewed experts took this view. One of them commented that effects of fees on study behaviour as such were conceivable, e.g. in terms of students seeking subjects or programmes with favourable rates of return in professional life,

but that in the case of Austria, fees were not high enough for most students to engage in such considerations. Another expert noted that fees at the level stipulated in Austria may cause students to change the ‘how’, i.e. study more quickly and efficiently, but much less likely the ‘what’ (i.e. choice of programme). This judgement tends to be confirmed by data from the Social Survey (2002) which showed that students were most concerned about shorter times to completion after the introduction of tuition fees, but less with the choice of programme.

6. CONCLUSION

The results of this country report are similar to that of the German report in many ways: In Austria as in Germany, the central event with respect to cost-sharing was the introduction of tuition fees, whereas other types of private contributions to HEI financing turned out to be more difficult to assess. Similar to Germany, tuition fees in Austria were relatively moderate compared to the real cost of higher education, but their introduction was nevertheless accompanied by an intense political debate. The champions and critics of tuition fees were divided into two comprehensive political camps, with the conservatives more in favour of fees and the social-democrats and greens opposing them. In both countries the introduction as well as abolition of tuition fees was brought about by changes in government – a fact which caused several interviewed experts from both countries to comment on the evidential versus party-political basis of the underlying decisions about the implementation and organisation of tuition fee systems.

As was shown in Chapter 2, higher education in Austria is to a very large degree publicly funded. There is evidence that the introduction of fees resulted in a decline in public funding, although this is difficult to show with the available statistical data. Several experts affirmed that there were political intentions to use tuition fees to compensate earlier cuts in public funding. This refutes Hypothesis A: Overall institutional funding does not increase as private funding increases. However, the data also show that although per-student funding from public sources has been waning, the quantitative expansion of the Austrian higher education system is still primarily financed through public funds. Looking at the facts it is hardly conceivable that the fee system in Austria could have developed in such a way as to cover the additional cost caused by this expansion.

Chapter 3 investigated changes in institutional responsiveness targeted by Hypothesis B and found that - again paralleling findings from the case study on Germany - although changes towards more responsiveness can be observed in individual aspects, they do not relate directly to changes in cost-sharing. In Austria, too, the topic of responsiveness to user demand seems to be embedded in the larger context of institutional autonomy, accountability and changing self-images and public images of HEIs, and less in the cost-sharing debate.

The introduction of tuition fees had momentary but clear effects on participation patterns (Hypothesis C). The exact circumstances of this development could not be clarified here, but the Austrian university sector provides evidence that the introduction of tuition fees may have negative effects on participation, and vice versa: participation spiked in 2009, when fees were scrapped for most students. What is intriguing about the Austrian case is that the observed negative effects of the introduction of fees on participation were neutralised very quickly after the intervention. It is difficult to see what conclusion to draw from this.

Few effects on study behaviour could be detected (Hypothesis D), a result which can most plausibly be linked to the comparatively low fee level. It was shown that tuition fees only accounted for 8% of students' total cost on average and, furthermore, that a relatively large

number of students was exempted from paying fees not *de jure* but *de facto* by being returned the fees through the grant system.

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APPENDIX: LIST OF INTERVIEWED EXPERTS

Name	Position / Affiliation	Interviewed
Christoph Badelt	Formerly: President of Austrian rectors' conference (UNIKO) At present: Rector of the Vienna University for Economics and Business	June 2013
Friedrich Faulhammer	Formerly: Secretary general at the Federal Ministry of Science and Research (BMWf) At present: Rector of the Danube University Krems	June 2013
Kurt Koleznik	Secretary general Association of Austrian Universities of Applied Sciences (FHK)	June 2013
Michael Landertshammer	Formerly: Rector of the University of Applied Sciences for Management & Communication (FH Wien) At present: Head of the department on education policy Austrian federal chamber of commerce (WKÖ)	August 2013
Sigrid Maurer	Formerly: President of the Austrian Students' Union (ÖH) At present: Member of federal parliament (<i>Nationalrat</i> , Green Party)	June 2013
Hans Pechar	Director Department 'Higher Education Institutions in the Knowledgebase Society' Institute of Science Communication and Higher Education Research, University of Klagenfurt	June 2013
Kurt Sohm	Formerly: Director Fachhochschulrat (predecessor of AQ Austria) At present: Head of department for quality	June 2013

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	management Fachhochschule Technikum Wien	
Werner Tessmar-Pfohl	Formerly: University council member University of Graz At present: Chairman of the supervisory board Sattler Group	June 2013

CANADA

1. INTRODUCTION

1.1 Overview of Higher Education in Canada

Historically, the Canadian education system has been shaped by the division of the country into a French speaking and an English speaking part, dating back to the time of colonisation. The essence of the bargain which permitted a federal state to come into existence in 1867 was that the English Protestant-dominated colonies would be able to run a federal government provided that education would remain the responsibility of the provincial governments so that French Catholic Quebec could stay in control of its own education system. As a result, Canada has not one system of higher education but ten (thirteen if one counts the tiny, one-institution systems in place in the three northern territories). They are distinguished from one another mainly in the role assigned to the community colleges.

In nine provinces, higher education starts after 12 years (plus kindergarten) of compulsory schooling (i.e. at age 18). At this point, a student may choose between a Bachelor degree programme (mainly but not exclusively delivered at universities) and a set of sub-degree credentials (diplomas or certificates) offered mainly by public community colleges. Quebec operates under a different system; there, 11 years of compulsory schooling is followed by two years at a *College d'Enseignement General et Professionel* (CEGEP), at which one may either obtain a vocational certificate or *Diplome d'Education Collegial* (DEC) which permits access to one of the province's universities. Bachelor's degrees in Quebec are mostly of three-year's duration; in the rest of Canada they are mainly of four years' duration, meaning that across the country 16 years of schooling to a Bachelor degree is the standard.

As noted above, universities deliver most Bachelors – that is, ISCED 5A – degrees. However, over the past two decades, community colleges in the five westernmost provinces have begun issuing degrees as well. In some cases, this has been a prelude to a college being turned into a university (this has occurred in seven institutions in Alberta and British Columbia); more recently, the kinds of degrees being given out are what are called 'applied Bachelor degrees'; that is, more vocationally-oriented 5A certifications reminiscent of what one sees at German *Fachhochschulen* or Finnish polytechnics. But this is the exception rather than the rule; more generally, Canadian community colleges help students obtain short-duration (3 years or less) terminal professional certifications which are classified as 5B under ISCED and which would normally go under the title of 'further education'.

Private higher education in Canada comes in two varieties: the first are what are known as 'career colleges' which tend to offer very short-term (usually one year or less) professional education in a wide variety of areas like office administration, music production, pet grooming etc. These are structurally very similar to for-profit institutions in the United States except they offer much shorter programmes. There are several hundred such institutions in Canada teaching

somewhere between 130,000 and 170,000 students per year, but we do not consider these in this paper. The second are private, non-profit degree-granting institutions, of which there are about a dozen in Canada. With the exception of Quest University in British Columbia, all of these are religiously-affiliated institutions, very few have enrolments over 500 students and their share of national enrolment is less than 2%.¹⁵ By convention, they are not analysed as a separate category and are just lumped with university/Bachelor-level education.

Part of the reason that Canada does not have a larger private sector in education is that various regulatory regimes have essentially prohibited them until quite recently. But mostly, it is simply that Canada's public sector-universities (including the private institutions which have chosen to accept public funding and hence public regulation) and its system of community colleges are by international standards extremely well-funded and are capable of delivering quality education in virtually all fields. In consequence, there has simply never been much of a need or a niche for private higher education. In fact, the reverse is the case – over the course of the twentieth century, many private universities such as McGill, Queen's and Laval began accepting public funding and became indistinguishable from public universities themselves. Around the world, private higher education tends to succeed because it can offer things at a reasonable price that the public sector – usually because of insufficient funding – cannot. In Canada, the public system is sufficiently well-funded that there are very few programmes it cannot provide. As a result, private institutions have almost no niche in which to thrive.

One consequence of having a well-funded, fully public system is that Canada's system of external quality assurance regime lags those of other countries, and not just because it's constitutional set-up prevents it from having a single national regulator. Canadian public universities, which until the late 90s held a monopoly over the granting of degrees in Canada, had an extremely good name both domestically and internationally, even in the absence of any serious external quality assurance. It was the desire of some governments to inject some competition in the system and open the door both to colleges offering Bachelor-level programmes and to private-sector providers (which in the event never really panned out), that created the impetus for the creation of quality assurance agencies as some means was needed to ensure that people believed that these new degrees were 'equal' to degrees offered in existing universities. At the time of writing, eight provinces have some form of external quality assurance.

1.2 Key Higher Education Stakeholders

The Federal Government does not play a direct role in education. However, the department of Employment and Social Development Canada runs the Canada Student Loans Program, which is of importance to institutional funding, and the department of Industry Canada oversees the work

¹⁵ There are a large number of Canadian institutions in the eastern part of the country – Laval, McGill, Queen's, etc. – which are technically private in the sense that they were not created by acts of the legislatures and their Boards of Governors are entirely selected by the university community itself. However, because they accept public funding and the rules that go with them, they are always referred to as 'public' institutions; the OECD's appellation 'publicly-funded private institution' would be more accurate, but it has simply never caught on. By convention, these are included with 'public universities.'

of the three research granting councils (the Social Science and Humanities Research Council, the National Science and Engineering Research Council and the Canadian Institutes of Health Research) as well as the Canada Foundation for Innovation, which funds research infrastructure. A variety of other departments, such as Health, Agriculture, Fisheries and Oceans, etc., also provide some limited science and technology funding to institutions.

At the provincial level, each of the ten provinces has a ministry devoted to higher education. In most provinces, education and higher education are separate ministries; though this can change from time to time (governments can combine or separate these ministries at will). If higher education is separate from education, it is sometimes combined with other portfolios (most often Labour or Employment). Provinces each have their own study aid system; Quebec's study aid system is separate from the federal programme (though it receives compensatory opt-out money), while the other nine provinces have programmes that are integrated - not always comfortably – with the federal programme.

In most provinces, governments fund institutions directly without intermediary bodies (Manitoba and New Brunswick are the exceptions). Ontario has a higher education 'quality council' which 'advises' on funding matters but in practice works more like a government think-tank.

Despite the relatively limited levels of power held by the federal government in Ottawa, most of the 'apex' stakeholder organisations are in this city the Association of Universities and Colleges of Canada (AUCC), the Association of Canadian Community Colleges (ACCC), the Canadian Association of University Teachers (CAUT), the Canadian Federation of Students (CFS) and the Canadian Alliance of Student Associations (CASA). In the larger provinces, these different stakeholder groups will have provincial equivalents, but in many provinces, institutions or student unions simply represent themselves without a federation.

1.3 How Governments Fund Institutions

As noted above, the Government of Canada has no role in funding institutional operations (though it does fund the national military college in Kingston). It does, however, make a variety of transfer payments to the provinces which are more or less unconditional. The first, called 'Equalisation' is a transfer which is given to provinces with below-median levels of income so that they can provide services at a level comparable to those in richer provinces. There are two other major transfers that are made from the federal to provincial governments on the basis of population: the Canada Health Transfer and the Canada Social Transfer. One-quarter of the latter – roughly 3 billion dollars - is considered to be 'for' post-secondary education though there are no formal accountability measures with respect to this money; it simply goes into provincial consolidated revenue funds.

The Government of Canada has two other means of funding higher education. The first is through research; despite the prohibition on being involved in 'education', the government has since the 1950s carved out a niche in terms of funding science. For the most part, this has involved granting councils providing funds to individual researchers through a standard peer-review mechanism. Since 1997, this has been accompanied by a dedicated fund for campus

research infrastructure via an intermediary body known as the Canada Foundation for Innovation. The second is student assistance. In nine provinces and one territory, the federal and provincial governments share responsibility for student assistance; for most students, the eligibility and need criteria are harmonised, meaning that although students receive loans from both federal and provincial government, the process is managed through a single application. In the remaining province (Quebec) and two territories, the province/territory has exclusive jurisdiction and receive compensation from the federal government for having opted-out.

Provincial governments have a variety of ways of funding institutions. In Nova Scotia, Quebec, Ontario, and Alberta, the primary method of delivering funding to institutions is formula funding. The formulas differ from one jurisdiction to another, but in the main, they are enrolment-based, with weights applied for different fields and levels of study. In British Columbia, Manitoba, Prince Edward Island, and Newfoundland and Labrador, governments use what are usually referred to as ‘historical’ funding formulas – that is, a lump sum which is usually a function of what was received the previous year (e.g. previous year’s allocation plus 5%, or minus 2%, etc.). Two provinces – New Brunswick and Saskatchewan – use a mix of the two, though the former is predominantly formula-based and the latter historically-based. Quebec, Ontario and Alberta all have small performance-based funding envelopes, but they account for less than 2% of all spending; Ontario, Saskatchewan, Alberta and British Columbia all reserve a certain portion of funding for implementation of strategic initiatives.

Over the past twenty years there have been very few changes to these models. The biggest change was in Nova Scotia, which in 1999 switched from the historical model to a formula model. Quebec, Ontario and Alberta all added their performance elements in the mid-1990s but these were relatively small. There have occasionally been schemes – particularly in Ontario in the latter half of the 2000s – to increase graduate student enrolments. But for the bulk of the period, for institutions serving a majority of students in the country, the main financial incentive was simply to increase enrolments.

1.4 History of Cost-Sharing

Apart from a brief period in Newfoundland in the 1960s, tuition fees have always been a part of the funding equation in Canadian higher education. With very rare exceptions (primarily relating to professional Masters degrees in business/administration) fees are formally or informally regulated by provincial governments. In general undergraduate programmes, costs will vary slightly from institution to institution and programme to programme; fee variation is more pronounced in graduate and professional programmes. Most governments make decisions on fees on an annual basis. Canadian fee policy is thus characterised by a series of very gradual adjustments rather than episodic, major adjustments on the recent UK model. The exception is where a province has had a long-standing fee-freeze in place, such as British Columbia in 2001, or when a significant increase is proposed after a long period of small increases, as in Quebec in 2012.

During the post-war period, tuition fees were relatively high (that is, close to their current levels, in real dollars). Throughout the late 60s and 70s, average tuition tended to fall in real terms as

nominal tuition was either frozen or increased at below the rate of inflation. Through the 1980s, tuition more or less ran even with inflation.

However, at the start of the 1990s, Canada's federal and provincial governments faced fiscal challenge of the scale of those currently facing Europe. This resulted in a significant contraction of the public sector, including transfers to institutions. To compensate, governments in most provinces allowed institutions to raise tuition significantly. This caused a relatively significant shift in operating grant funding in the 1990s. Initially, student assistance systems expanded their loan portfolios to help students pay for the new tuition fees. In the late 1990s, however, as economic conditions improved and fears grew about the amount of debt students were taking on, more need-based non-repayable funds entered the system. There was also a very significant increase in the amount of tax credits available for education. Since about 2000, average tuition has risen faster than inflation, increases in study aid and tax credits have offset a substantial portion of these increases, meaning the actual increase in net tuition is significantly lower than the increase in the posted price.

Over time, provincial policies on fees have led to an ever-widening spread between the least- and most-expensive provinces. As of 2013, the province with the highest fees (Ontario) has fees approximately three times as high as those in the lowest-fee province (Quebec).

This paper will make use of 'laboratory federalism' and the diversity of provincial policy responses to examine the effects of different tuition policies within the same broad economic and social framework. Specifically, we will be focusing on four specific provinces which have followed quite different fee policies:

- **Ontario**, which has allowed fees to climb steadily throughout the last 20 years.
- **British Columbia**, which saw frozen fees in the late 90s, followed by a large and rapid increase in fees (roughly 55%) in 2001-2003 but kept fees relatively steady in real terms thereafter.
- **Quebec**, which kept fees more or less frozen in real terms after 1992 (the policy varied between a complete freeze and a policy of keeping up with inflation),
- **Newfoundland** allowed fees to rise throughout the 1990s, but then rolled back fees 5% per year for four years in 2000, since which time tuition has been kept frozen in nominal terms.

There have been no real developments or innovations with respect to forms of cost-sharing other than tuition. Universities in Canada have – and have always had – almost complete autonomy over institutional financing, especially with respect to the use of dollars earned through fundraising and other self-financing activities.

Student assistance is another key element of cost-sharing. As noted earlier, it is an area of shared jurisdiction between federal and provincial governments, and so the system looks slightly different in each province. The general principles, however, are the same everywhere: aid is based on 'assessed need', which is equal to 'assessed costs' minus 'assessed resources'. Only about 40% of students receive aid in any given year; over the course of a degree, the figure rises to about 55%. In all provinces, there has always been a mix of loans and grants, though the

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composition of such aid varies by province and over time. Generally speaking, loans are more used than grants. Until about 2005, students in most provinces had to have need of 6,000 dollars or more before they were eligible for grants (the first 6,000 dollars or so being met through loans). The threshold in Quebec was noticeably lower, but the need assessment criteria were also stricter, meaning it was harder to have assessed need.

Due to fiscal pressures, many provincial governments cut back their grant schemes in the early-to-mid-1990s. As this occurred at about the same time that funds to institutions were also cut back and tuition was allowed to rise, debt levels rose quite quickly in this period. By the late 1990s, both levels of governments felt the policy pendulum had swung too far in one direction and began offering more grants through a variety of mechanisms. For most of the 2000s, the ratio of loans issued to non-repayable aid issues was between 2.5 and 3 to 1.

Loan repayment in Canada is usually described as being ‘mortgage-style’ as opposed to income-contingent. And it is certainly true that Canada has not made use of the tax system to collect loans as countries like Australia have done. However, the Canadian system has been adding income-contingent elements for some time, first through its interest relief system, then its income-based repayment system and finally through the Repayment Assistance Plan. Eligibility for post-graduation assistance is based on a complicated and generally badly-communicated formula, but in practice, students with average levels of debt neither pay interest nor principal if their incomes are below about 23,000 dollars per year; above that level, they may pay partial amounts of their loans, with government covering the rest.

Another peculiar aspect of cost-sharing in Canada is the practice of providing educational tax credits. These began in the 1960s as tax deductions, and were seen as a way for the federal government to provide aid to students without crossing the constitutional barrier regarding education (this was prior to the introduction of Canada Student Loans); because of the way the tax system then worked, offering deductions at the federal level also impacted provincial taxes as well, meaning students (or their families, since the benefit was transferable) got a break on both sets of taxes. There were two sets of deductions – one for the value of tuition, and the other an ‘education amount’, a set amount per month of study in respect of general education costs.

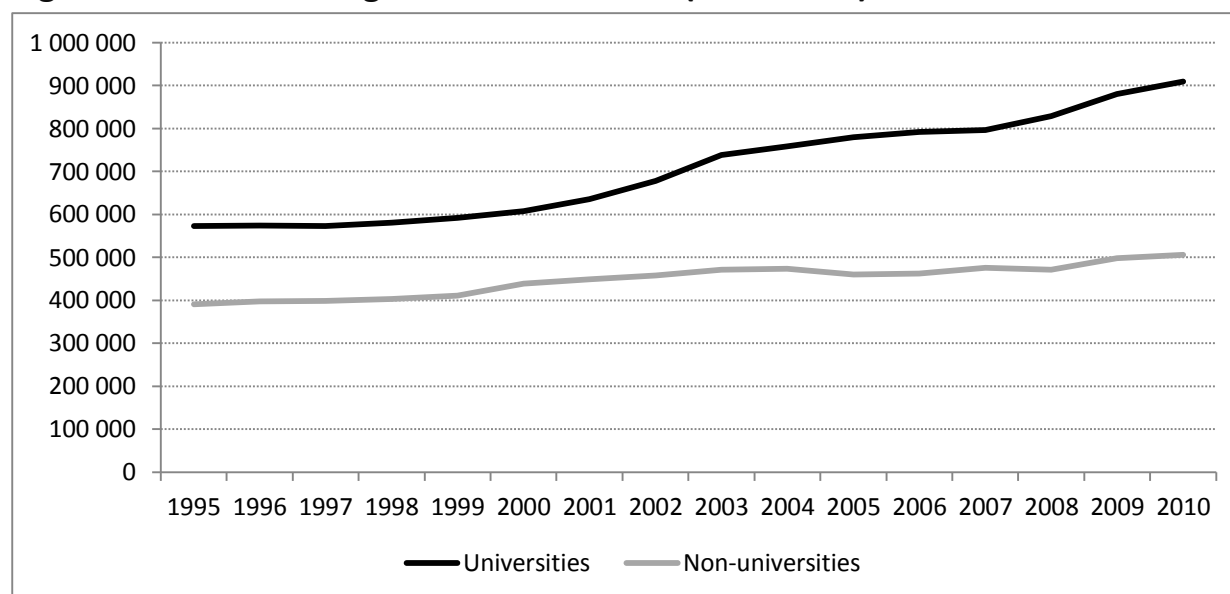
In the early 1990s, the deductions were converted to credits so they were no longer regressive. In the late 1990s, the Government of Canada began increasing the value of both credits significantly; the tuition fee credit was amended to include all ancillary fees and the education amount moved up in size in stages from 60 dollars per month in 1995 to 400 dollars per month in 2000. By this time, provincial tax systems were partially de-coupled from federal ones, so this increase did not entirely carry over to the provincial tax system, though some provinces (notably Ontario and Alberta) actually increased their credits more than did the federal governments. In the early 2000s, some smaller provinces that were increasingly desperate to retain young people began offering graduates rebates on tuition fees already paid through the tax system (i.e. they could offset their taxes with credits for tuition previously paid).

1.5 History of Enrolment

In Canada, students apply directly to the institutions they wish to attend, and institutions have the right to accept or reject whom they wish. Apart from Alberta, there is no secondary school matriculation exam, and there are no national or institutional entrance exams either; admission is based solely on secondary school exams. Depending on their level of prestige (which is usually a function of research-intensiveness), institutions can be more or less selective. At top institutions, it is difficult to obtain entry with secondary school marks below 85%; but as long as one's marks are above 70, there are almost always alternatives nearby which are relatively easy to enter. Below those kinds of marks, community colleges are for the most part open access (that is, they will admit anyone, subject to availability of places), though as demand rises for their Bachelor programmes and certain specialty diploma programmes, selective applications are being introduced in some areas.

As Figure 1.1 shows, Bachelor level enrolment has been rising steadily since about 2000, with total enrolments being roughly 50 per cent higher in 2010 than they were twelve years earlier. Some of the initial rise was thought to have been temporary, as Ontario shifted from a 13-year primary-secondary system to a 12-year one in 2002-3, thus creating a 'double-cohort' of students entering the system. However, enrolments continued increasing even after that one-off event. To a very limited extent, in British Columbia and Alberta, the increases in universities enrolments reflect a change in status of a certain number of institutions from colleges to universities. But as the figure clearly shows, university enrolment growth has not been at the expense of the colleges.

Figure 1.1: Total undergraduate enrolment (1995-2010)



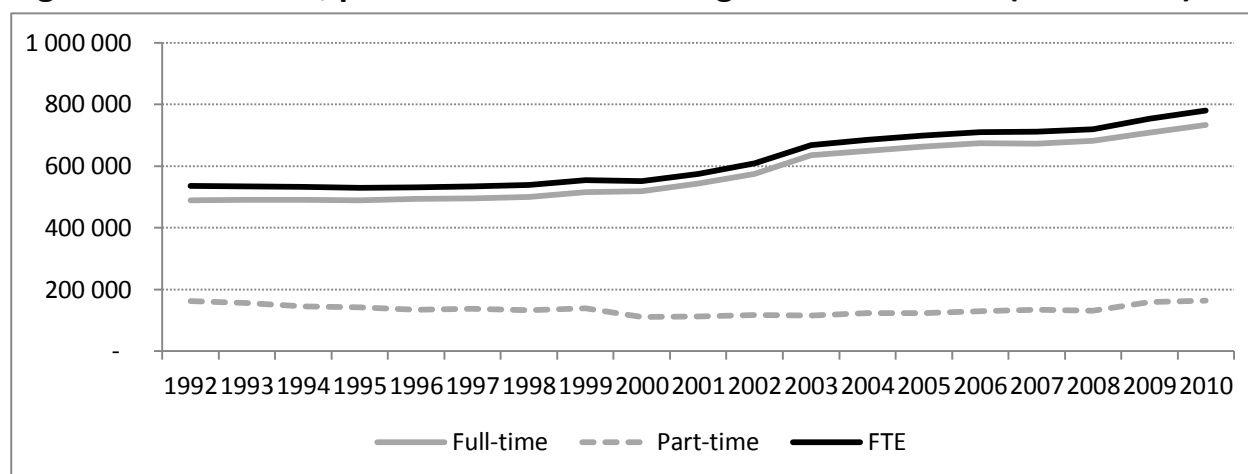
Source: Post-secondary student information system.

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Figures 1.2 and 1.3 deconstruct the university enrolment figures somewhat to provide a more nuanced look at full and part-time enrolments.¹⁶ As Figure 1.2 demonstrates, full-time students make up the bulk of the undergraduate student body, and the trend if anything is towards full-time study. The percentage of the undergraduate student body that was part-time fell from 25% in 1992 (it was actually reached an all-time high of about 30% in the late 1980s) to just 15% in 2003 before recovering slightly at the end of the decade.

A note should be made here with respect to the notion of ‘full-time equivalent’ (FTE) students. There is not a standard definition of full-time equivalency across the country. It tends not to be used by provincial governments for funding formula because they prefer to use actual credit hours as a basis for funding formulae. What is used here is the Statistics Canada definition, which posits that 3.5 part-time students = 1 full-time student. How close this definition is to reality at any given point in time is difficult to say; it is, however, a standard definition which has consistently been used by a major pan-Canadian authority, and so we continue its use here.

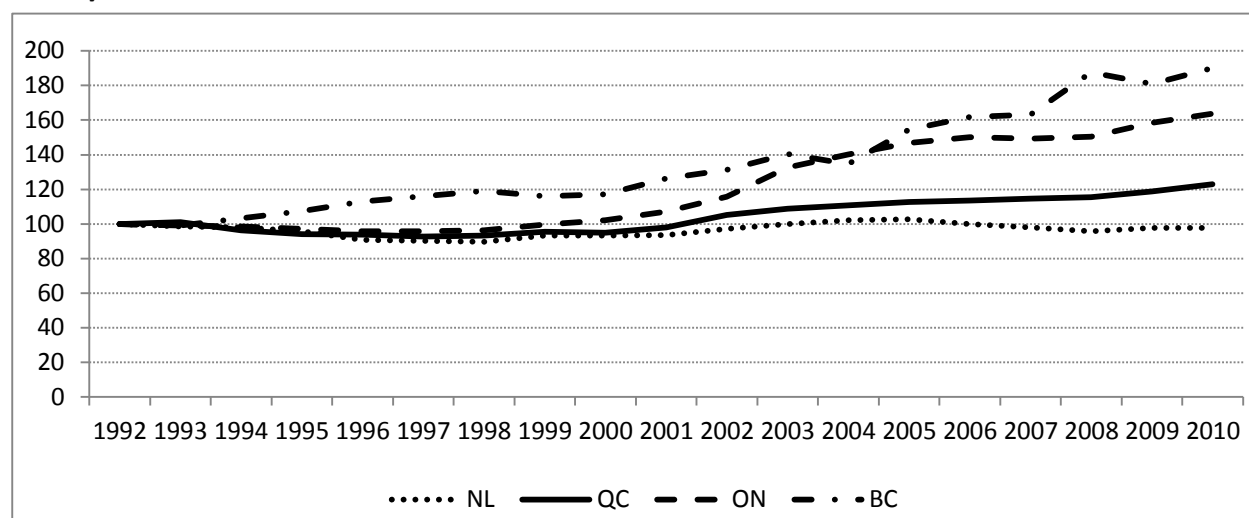
Figure 1.2: Full-time, part-time and FTE undergraduate students (1992-2010)



Source: Post-Secondary Student Information System.

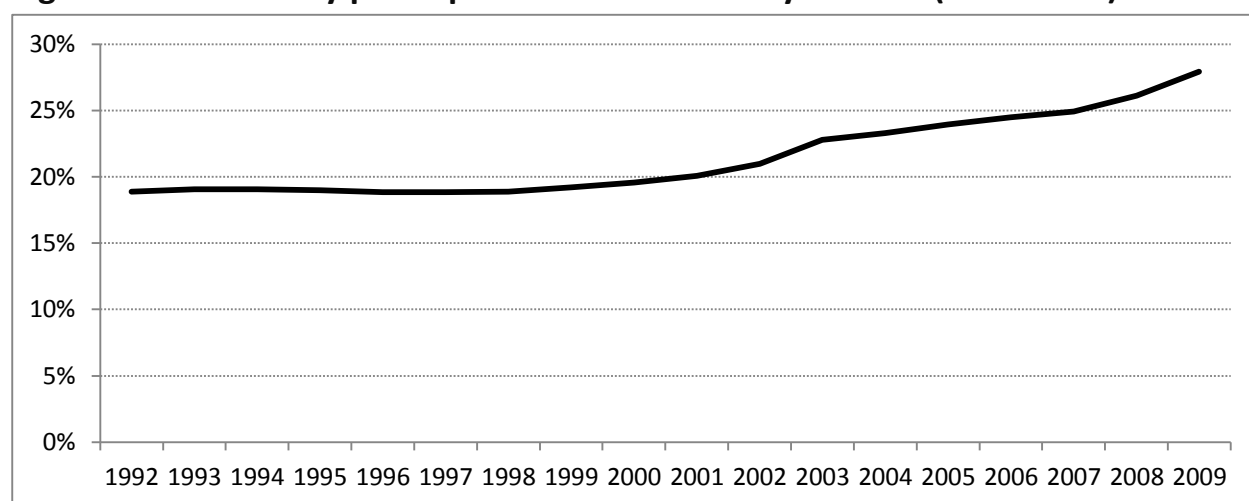
In the previous section it was noted that over the course of this paper we would provide more intensive coverage of changes in four specific provinces selected because of their differing policy choices over the years: British Columbia, Ontario, Quebec and Newfoundland. Figure 1.3 looks at enrolments in these four provinces. The changes are indexed because the vast differences in the size of the provinces in question make it difficult to portray changes in absolute numbers; (Ontario has over 300,000 students; Newfoundland under 20,000). Here, we see that the changes in enrolment were not consistent across provinces. In British Columbia, FTE enrolment grew by 90%, though this in part was due to the conversion of several institutions from college to university status. In Ontario, enrolment was up just over 60%. In the two provinces where tuition was frozen or declined, enrolment gains were much smaller – just 20% in Quebec and 0% in Newfoundland.

¹⁶ The definition of full-time and part-time can vary somewhat from institution to institution and is not a nationally consistent definition. Generally speaking though, ‘full-time’ means 80% or more of a full course load, which usually means 12 or more hours of class/lab-time per week.

Figure 1.3: Indexed change in FTE university enrolment, Select Provinces (1992-2010)

Source: Post-Secondary Student information Systems.

Figure 1.4 shows the participation rate among university students aged 18-21 in Canada. These roughly show the same story as does Figure 1.1: rates were stable through the 1990s, and then increased quickly after 1999.

Figure 1.4: University participation rates of 18-21 year-olds (1992-2010)

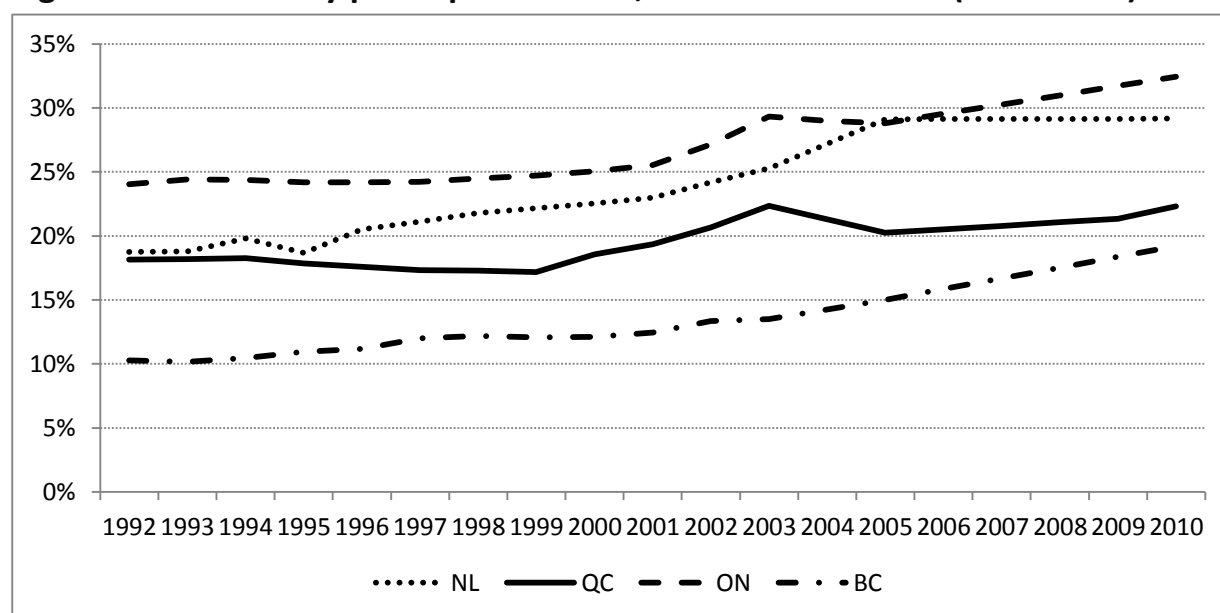
Source: Post-Secondary Student information Systems, Statistics Canada post-censal population estimates.

Figure 1.5 shows the same story for the four sample provinces. Here we use slightly different age ranges in order to ensure effective comparability across provinces because 18-21 was not the ‘best four years’ (that is, the age-years for which they have the highest participation) in all provinces in all years in this period. In Newfoundland and British Columbia, the ‘best four years’ was always 18-21. In Quebec, it was always 19-22 because of the extra year of *College d’Enseignement General et Professionel* (CEGEP) before starting university. In Ontario, the best

four years changed over the course of the period in question as a result of the elimination of Ontario Academic Credits and what was in effect for many students a seventh year of secondary school. Prior to 2004, the best four years were 19-22, after that it became the same 18-21 seen in the rest of the country outside Quebec.

As Figure 1.5 shows, different provinces have very different participation profiles. The gap between Ontario and British Columbia, for example, is thirteen or fourteen percentage points more or less right through the entire period. All provincial participation rates rose, but some went up more than others. British Columbia, Newfoundland and Ontario all saw increases in the 8-10 percentage point range over the period, while Quebec's rose by about 5 percentage points. The rise in Newfoundland is probably the one that needs most explaining, given that Figure 1.2 shows no increase whatsoever in FTE enrolments. Two points explain the discrepancy. The first is that the province saw an enormous decline in its population over the 1990s and 2000s due to adverse economic conditions – so staying level in enrolments in fact represents a substantial improvement in access as a percentage of the youth population. The second is that some of the increase (or maintenance of current enrolment levels, depending on how one chooses to look at) is a substitution effect. For many years, it was quite common for Newfoundland students to go away to Nova Scotia or other maritime provinces for university). By the middle of the 2000s, that flow had mostly dried up as the cost differential between Nova Scotia and Newfoundland became so wide that more and more Newfoundlanders stayed at home. So to some extent, the increasing participation rate is actually an increase in the participation rates of Newfoundland students at Newfoundland institutions, rather than an increase in participation in *any* university-level education.

Figure 1.5: University participation rates, Selected Provinces (1992-2010)



Note: Rates are for the 'best four years', i.e., the ages when entry is highest: NL: 18-21; QC: 19-22; ON: 19-22 prior to 2004, 18-21 thereafter; BC: 18-21.

Source: Post-Secondary Student information Systems, Statistics Canada post-censal population estimates.

Is there a reason why increases in enrolments started around 2000? One key policy factor seems to be the arrival of substantial new money. The 1990s were an era of budget restraint; the 2000s were a period of improving public finances and (as we shall see in Chapter 2) improving university finances. Put simply: money for expansion was there in the 2000s in a way that it was not in the 1990s. Since institutions have control of their own admissions policies, a freeze on new admissions would have been a rational way to contain costs during an era of austerity.

If this were true, one might suspect that there was a lot of unmet demand for university places in the 1990s, and that a lot of the growth in the 2000s was really this demand that had not been fulfilled in the 1990s. Unfortunately, this is not a testable proposition. To test it, one would need data on the number of unduplicated applicants and the number of new enrolments. Canada does not have the former because each institution runs its own application system and there is no way to eliminate duplicate applications; and it does not have the latter because ‘new enrolments’ are not centrally tracked by any authority.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

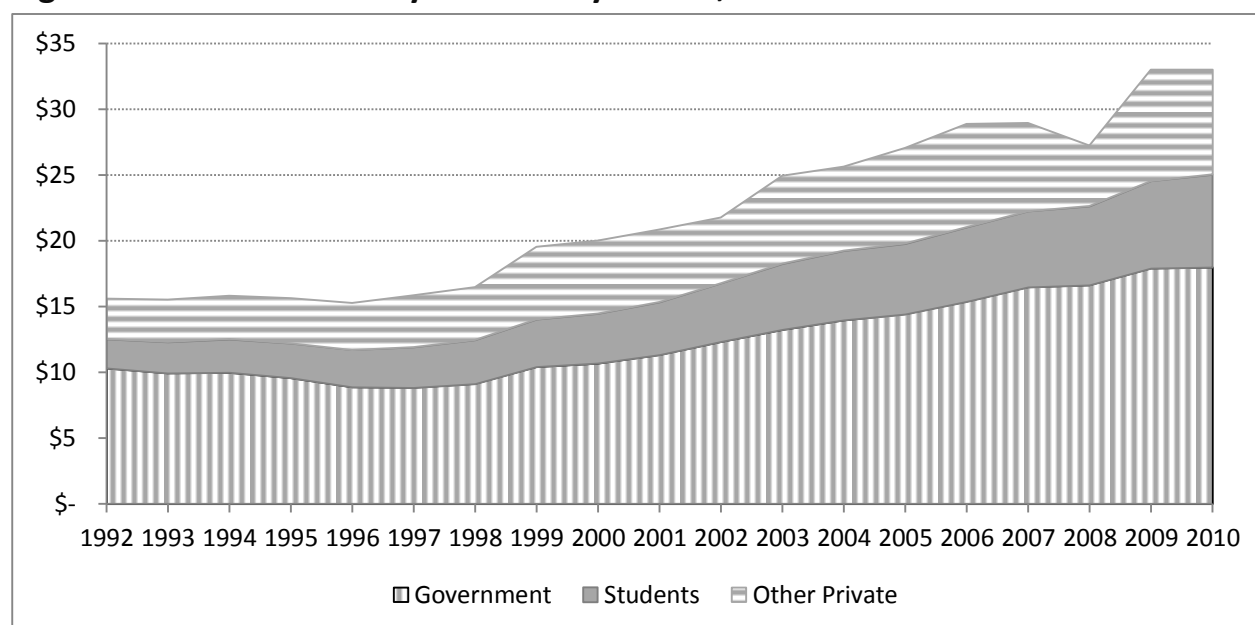
Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

2.1 Changes in Institutional Revenues over Time

Data on university expenditures are easily obtained in Canada. Since the early 1980s, Statistics Canada and the Canadian Association of University Business Officers have conducted an annual survey of institutions on income and expenditure by type and category. This permits an easy examination of trends over time.

As noted above, in the mid-1990s, Canadian universities underwent some difficult times. Revenues from government declined in real dollars; however, tuition fees were permitted to rise substantially to compensate. Between 1992 and 1997, total university revenues stayed more or less constant at around 15 billion dollars in real terms, but the share coming from governments (both federal and provincial, both for operating funds and research) dropped from about 65% to 55%. Income from student fees rose from 14% of the total to 20% over the period, while ‘other income’ – which includes all of institutions’ self-generated income from ancillary enterprises and endowment income – rose from 20% to 25%.

Between 1997 and 2010, university revenues doubled in real dollars, while the distribution of funding by source remained almost exactly as it was thirteen years earlier (54% government, 21% students and 25% ‘other private’). The only significant change in the intervening years was a one-year aberration in 2008 when ‘other’ revenue plummeted as investment returns went sharply negative during the opening phases of the Global Financial Crisis.

Figure 2.1: Total university revenue by source, in billions of dollars¹⁷

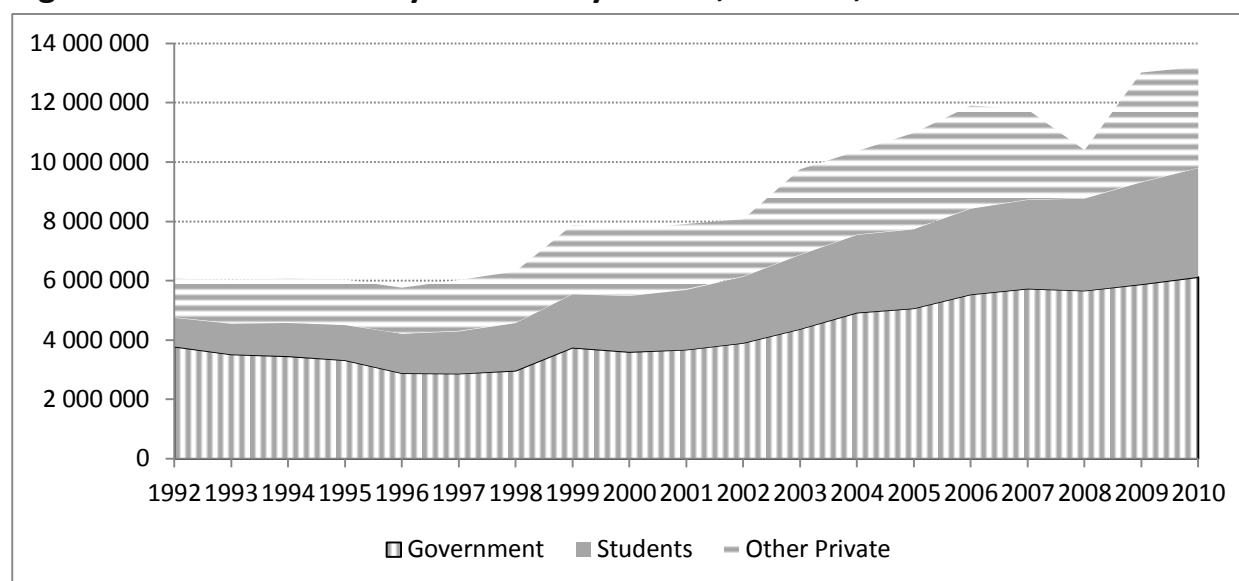
Note: In Canadian dollars. Constant prices (2012).

Source: CAUBO/Statistics Canada Financial Information of Universities and Colleges (FIUC) Survey

Figures 2.2 through 2.5 portray the same data for each of our four test provinces. The stories they tell are not exactly the same. Ontario saw a real decline in government funding in the 1990s which was mostly offset by increases in private funding; this was followed by a decade in which growth came quite evenly from all sources of funding. Newfoundland had a similar experience to Ontario's in the 1990s, but while public funding increased in the 2000s, private funding did not (due to a provincial tuition freeze and a stable student population). Quebec's pattern was similar to Newfoundland's, only with a larger fall in funding in the 1990s, and a much weaker growth in public funding in the 2000s. British Columbia is the outlier, the only province where income from government never fell during the period in question. What is invariably true across all four provinces, is that universities tended to get less money in the 1990s when public finances were in trouble, and got a tremendous amount of new money from about 1999 onwards, when the economy improved.

¹⁷ Note: all figures in this paper are in Canadian dollars. Exchange rates have fluctuated over time, but as of October 2013, the exchange rate is 1 Canadian dollar = 0.713 euros.

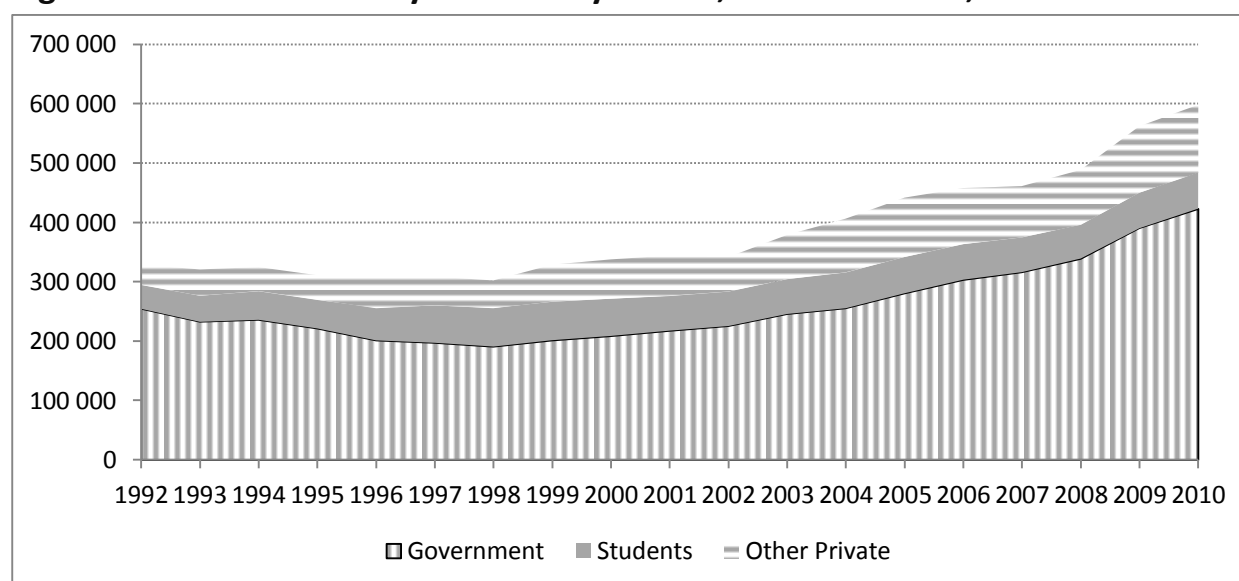
Figure 2.2: Total university revenue by source, Ontario, in dollars



Note: In Canadian dollars. Constant prices (2012).

Source: CAUBO/Statistics Canada Financial Information of Universities and Colleges (FIUC) Survey

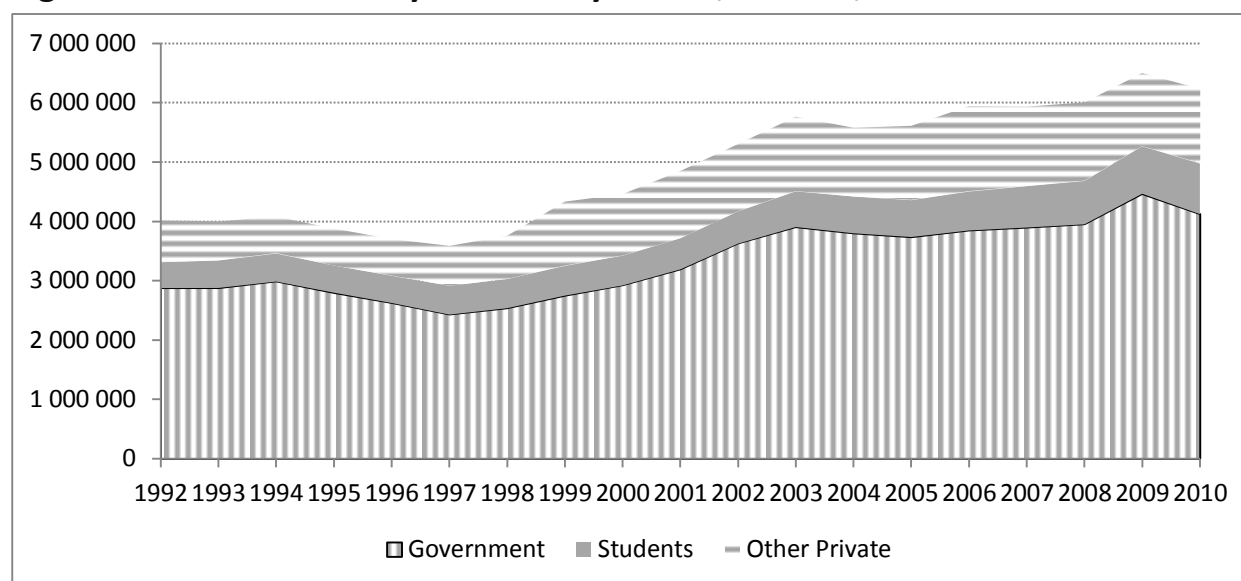
Figure 2.3: Total university revenue by source, Newfoundland, in dollars



Note: In Canadian dollars. Constant prices (2012).

Source: CAUBO/Statistics Canada Financial Information of Universities and Colleges (FIUC) Survey

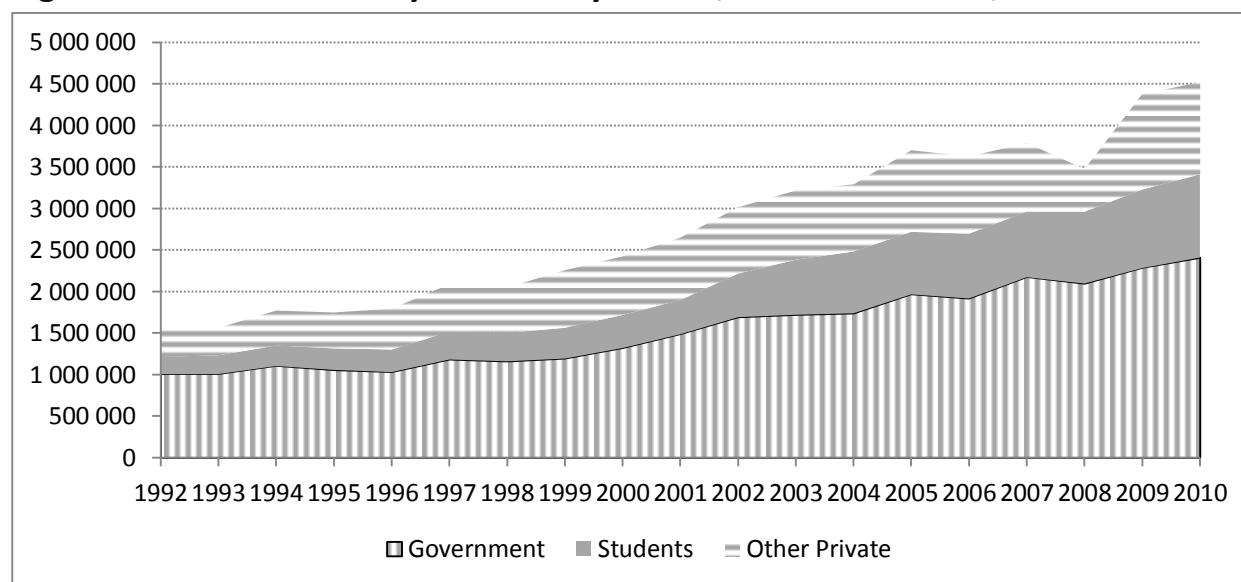
Figure 2.4: Total university revenue by source, Quebec, in dollars



Note: In Canadian dollars. Constant prices (2012).

Source: CAUBO/Statistics Canada Financial Information of Universities and Colleges (FIUC) Survey

Figure 2.5: Total university revenue by source, British Columbia, in dollars



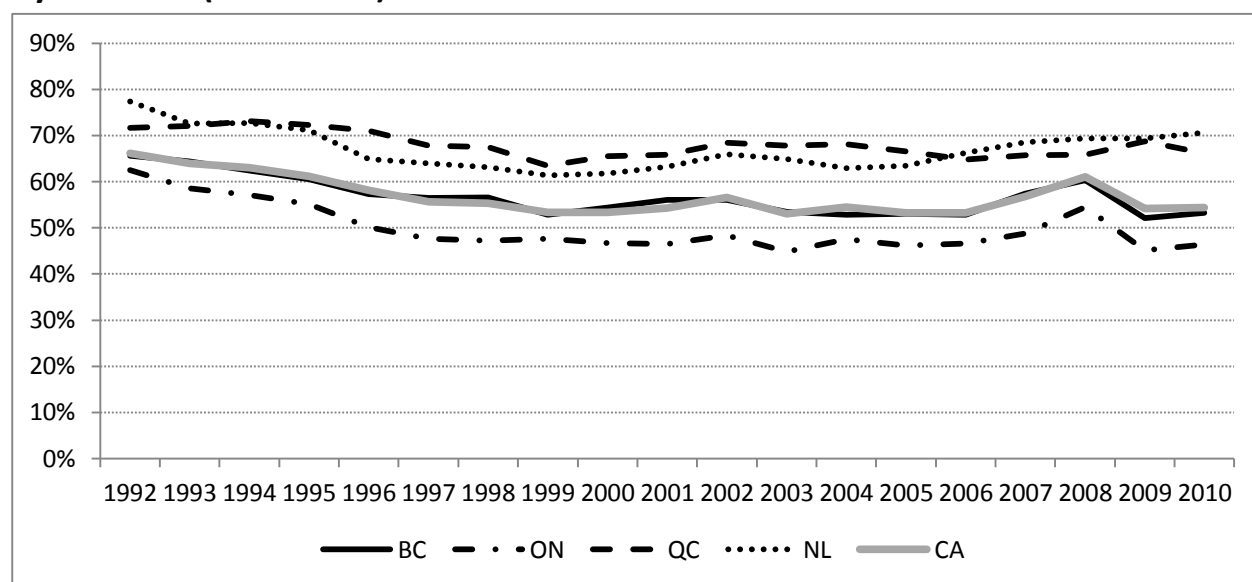
Note: In Canadian dollars. Constant prices (2012).

Source: CAUBO/Statistics Canada Financial Information of Universities and Colleges (FIUC) Survey

Figures 2.6 through 2.8 compare how funding by source changed across each jurisdiction over time. Figure 2.6 examines how income from government changed as a proportion of all spending. In all jurisdictions, the government proportion of total university income fell between 1992 and 1999. In Quebec, it fell only seven percentage points; in Ontario, it fell by 17

percentage points. But since 1999, the share has barely changed in any jurisdiction, even though (as was demonstrated above), public expenditure increased dramatically in this period.

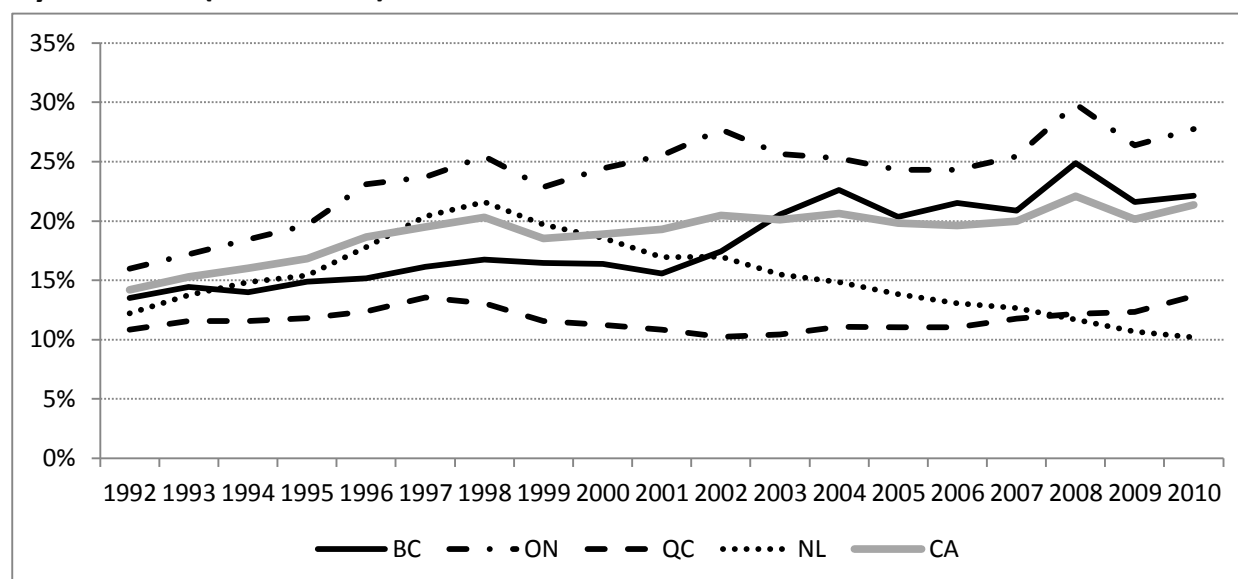
Figure 2.6: Proportion of income from governments as a share of total revenue, by Province (1992-2010)



Source: FIUC.

Figure 2.7 shows how the share of income from student fees changed over time. Nationally, the share of total revenue coming from fees rose from 14 to 21% over the period in question; however, there was significant diversity of policy strategies between provinces. In Ontario, income from student fees rose fairly steadily throughout the period. In Quebec, it stayed relatively flat. In British Columbia, it stayed flat until the 1990s and then rose quickly thereafter, whereas in Newfoundland it rose at rates similar to those in Ontario in the 1990s before plummeting in the period after 2000.

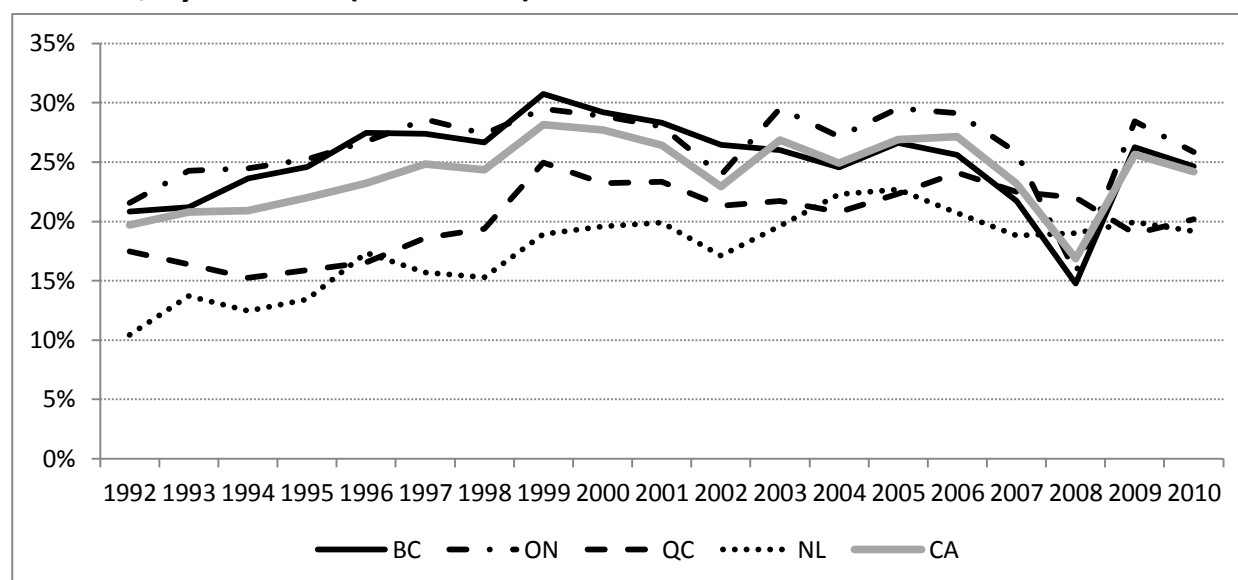
Figure 2.7: Proportion of income from student fees as a share of total revenue, by Province (1992-2010)



Source: FIUC.

Figure 2.8 shows what happened to the revenue from ‘other sources’. Though provinces started from different bases, the share of income from this source rose in the 1990s and stayed more or less constant throughout the 2000s, with the exception of the exceptional 2008 year, when the Global Financial Crisis made investment returns briefly but sharply negative.

Figure 2.8: Proportion of income from other private sources as a share of total revenue, by Province (1992-2010)



Source: FIUC.

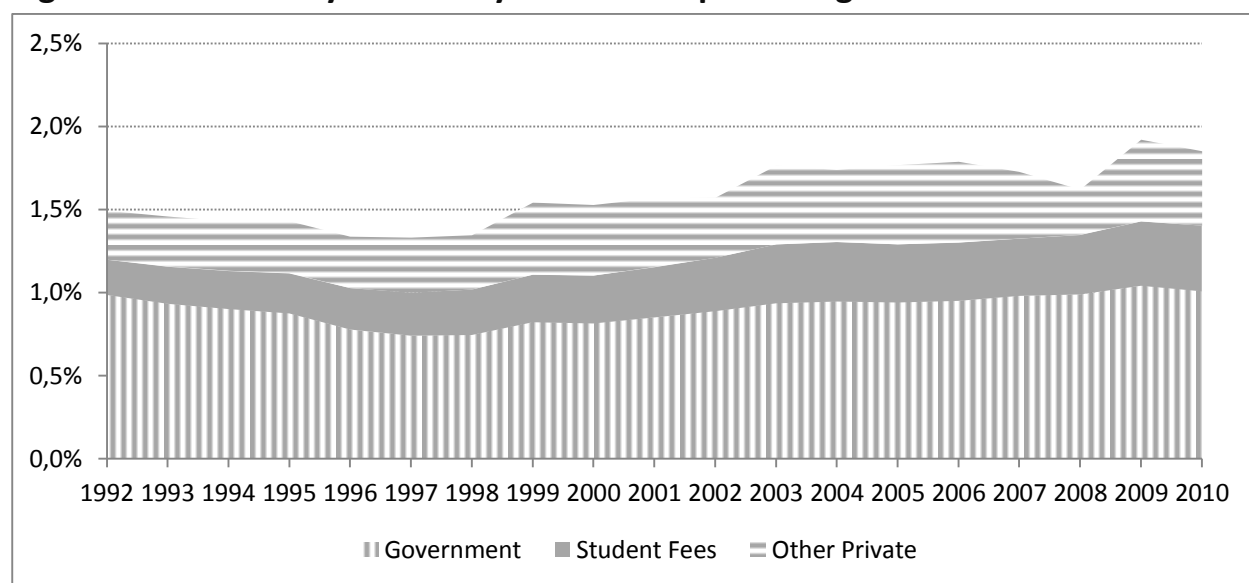
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To date, we have a complex picture. During the 1990s, the amount of money universities were receiving from public and private sources was clearly negatively-correlated. However, in the 2000s, the increases were positively correlated; that is, increases in income from private and public sources went hand-in-hand. So much so, in fact, that the relative shares contributed by the three main sources remained almost unchanged despite total income more or less doubling. Private contributions to universities in Canada have not simply replaced public ones, though there have been times when this was the case.

Another way of examining contributions to education is as a percentage of gross national product. Figure 2.9 shows this at a national level. The graph looks somewhat different to 2.1, which ostensibly is showing the same thing. Here, total spending appears to fall in the mid-90s instead of remain stable; this is because Canada's 1990s fiscal problems were to some degree solved counter-cyclically, with many of the cuts and freezes coming after the worst of the 90-93 recession. Hence, the effects of funding reductions in this period are magnified, with government funding falling from 0.99% of GDP in 1992 to 0.74% of GDP in 1997. Thereafter, government funding slowly recovers until by 2009 it is slightly over 1% of GDP. This is a much smaller increase than one would surmise from simply looking at Figure 2.1; what this means is that most of the increase one sees was due to economic recovery and only part can be explained through an increasing government commitment as a fraction of the overall economy

Meanwhile, income from students and 'other sources' both increase steadily throughout the period, with the former going from 0.21% to 0.40% and the latter going from 0.29% to 0.45%. Aside from the events of 2008, swings of the economic pendulum made very little difference to the size of the contribution made by either of these sources: both increased by roughly 0.01% of GDP per year right through the period.

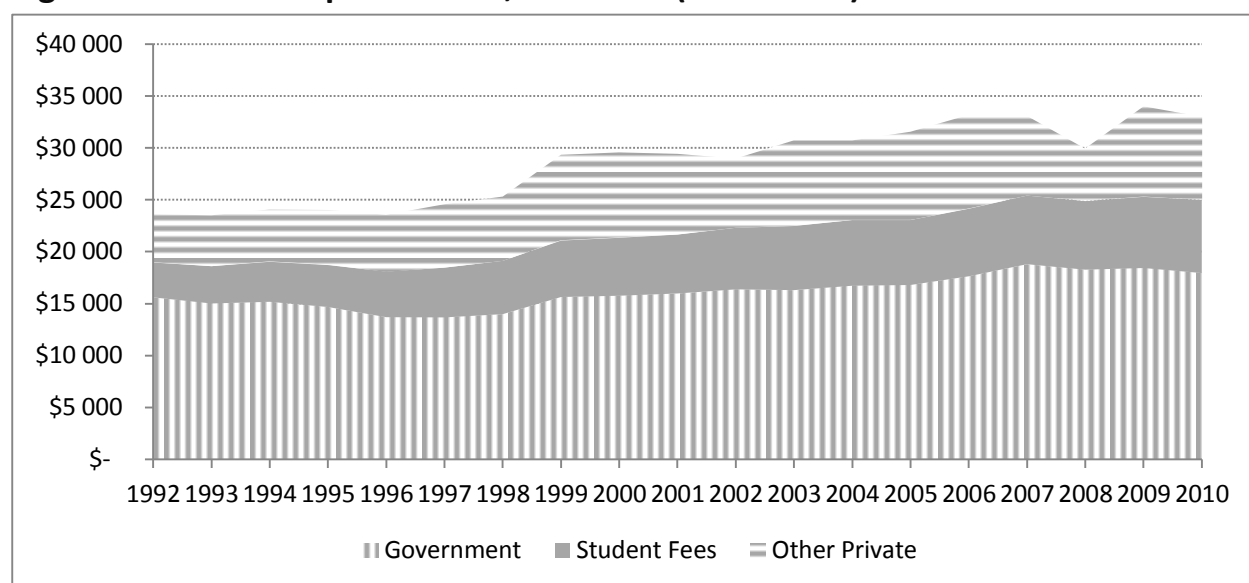
Figure 2.9: University income by source as a percentage of GDP



Source: FIUC.

Finally, we can look at expenditures in terms of income per student. In figure 2.10, we see that the number of dollars per student increased by about 40% over our period, from 23,000 dollars per student to about 34,000 dollars per student (all figures in constant 2012 dollars). As in previous graphs, we see a familiar pattern: income from student fees and other revenue increased steadily throughout the period, while revenues from Government fell in the 1990s before recovering and surpassing previous highs.

Figure 2.10: Income per student, in dollars (1992-2010)



Note: Canadian dollars. . Constant prices (2012).

Source: FIUC.

There can be no doubt there was significantly more money in Canadian universities in 2010 than there was in 1992. Whether we look in nominal dollars, real dollars, real dollars per student or as a percentage of GDP, the answer is the same: income from each of the three principal sources has increased and hence total income has increased dramatically.

2.2 Institutional Expenditures

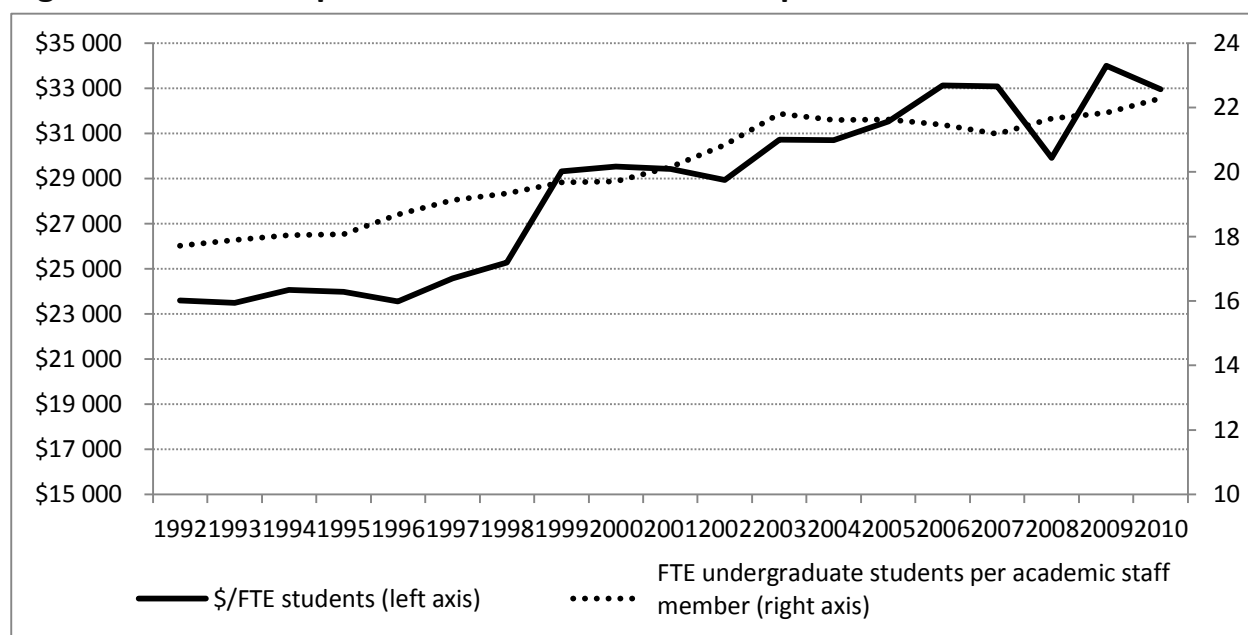
In the previous section we found that institutional income rose. In this section we explore how that revenue was used.

In Figure 2.11, we see both changes in income per FTE student (on the left-hand side) and changes in the students-per-academic staff ratio. Somewhat counter-intuitively, both lines rise over time. The students-per-academic staff ratio rose fairly steadily from 1992 to 2003 from 18:1 to 22:1. In the period to 1998, the rise in the ratio was due to a fall of about 8% in the number of full-time professors (from 37,000 to 33,500)¹⁸ while student numbers stayed constant. One of

¹⁸ There is no centralised count of part-time, casual or adjunct faculty in Canada (and indeed, institutions themselves count these faculty in different ways). The faculty figures shown here are full-time figures only. We have chosen to

the methods used to cope with funding problems in this period was for institutions to freeze hiring and allow staff numbers to fall via attrition. From 1998 to 2003, professor numbers recovered their earlier numbers, but the rise in student numbers was even faster. After 2003, student and professor numbers increased more or less in tandem, resulting in a stabilisation of the students-per-academic staff ratio at around 21.5 to 1.

Figure 2.11: Income per FTE student and students-per-academic staff ratio



Source: FIUC, University and Colleges Academic Staff System.

In the period to 1998, the rise in the students-per-academic staff ratio was accompanied by stable per-student budgets; this was the period of declining government investment and rising private contributions. But from 1998 to 2003, the ratio continued rising even as vast new amounts of money continued pouring into the system; in other words, the number of students per academic staff member is rising even while income per student is rising; from 1998 to 2003, dollars per student increased by 25% (most of this increase occurred from 1998 to 1999, since by 1999 all provinces were now increasing their funding) and students-per-academic staff ratios increased by roughly 10%. After that, while students-per-academic staff ratios more or less stayed constant, income per student continued to rise, albeit at a much slower pace, with the exception of the drop in 2008 when the financial crisis caused a decline in endowment funds, .

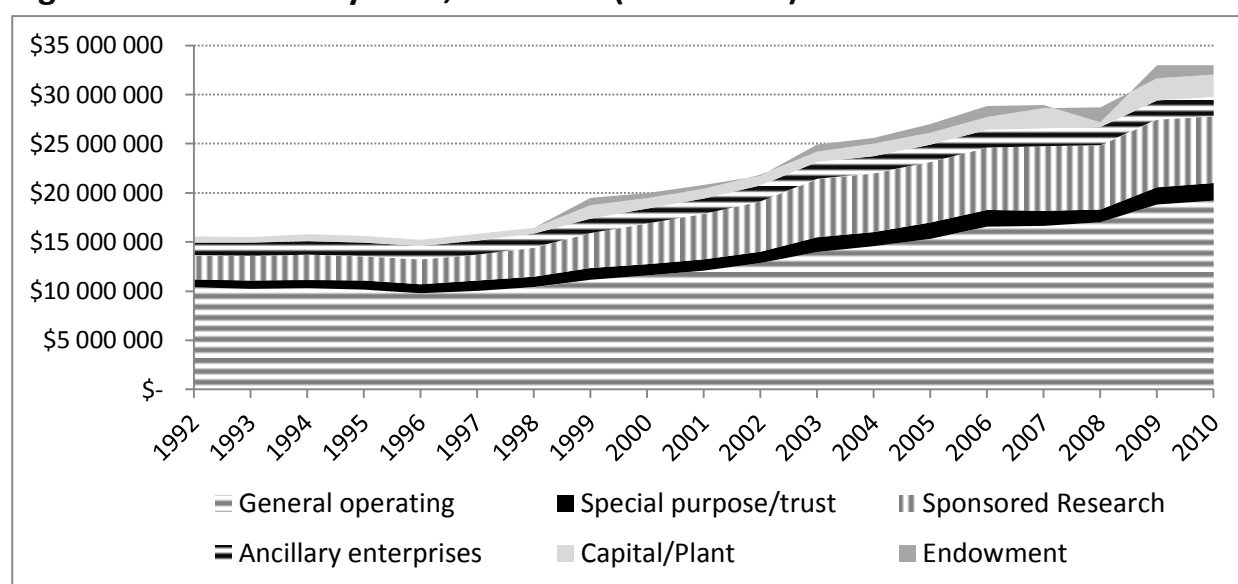
To the extent that low students-per-academic staff ratios are indicative of a quality learning environment, this is an odd result as it implies that learning conditions were getting worse even as income was rising. The explanation for this seems to be that a substantial amount of the new money going into universities were entering for purposes other than teaching. Figure 2.12 shows total university income by fund. The key finding in this graph is the fact that research funds

include faculty with senior administrative duties; some of whom teach (albeit usually with a reduced load) and some of whom do not. As a percentage of the overall teaching population, this group varies from between about 20-25% of the overall professoriate

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increased much more quickly than operating funds, particularly in the period from about 1998 to 2003. Overall, operating funds were up 82% in real dollars, while research funds rose 178% and total funds rose 112%. In other words, the increase in the amount of money available to the teaching enterprise was not quite as large as the headline figure might suggest. Still, the increase in operating funds per FTE student was almost 58% over the period in question; the fact that students-per-academic staff ratios nevertheless increased by 26% over the same period suggests that most of this extra money went to things like increasing capital intensiveness, salary increases and added administration.

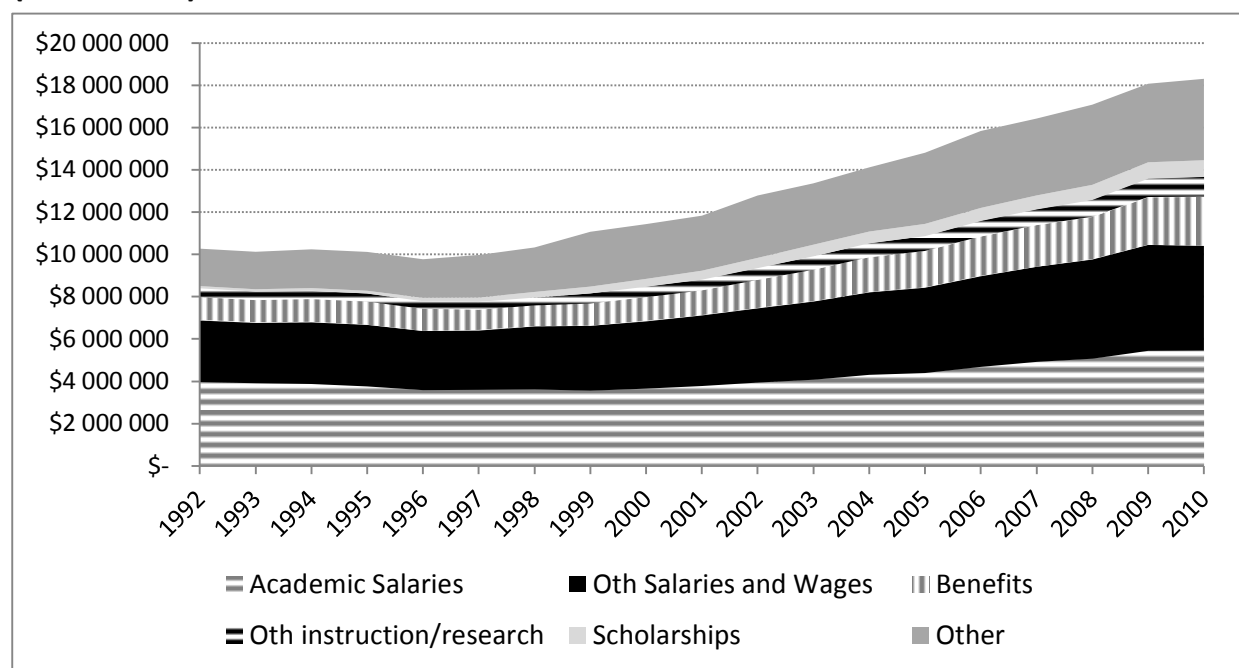
Figure 2.12: Income by fund, in dollars (1992-2010)



Note: Canadian dollars. Constant prices (2012).

Source: FIUC.

Figure 2.12 begs the question: what happened to operating funds? The answer, more or less, is that all the major categories of expenditure increased, but some increased substantially more than others. As Figure 2.13 shows, academic salary stayed constant in real dollars through the 1990s and then began to rise fairly quickly – by 49% overall, in real terms, which is partly a function of greater numbers and partly a function of increased salaries. ‘Other salaries’ – meaning non-academic salaries – grew faster in our period, but not wildly so (56% vs. 49% in the period 2000 – 2010). The really large increases came in two smaller categories – benefits (which double) and scholarships (which increased seven-fold), most of which went towards supporting graduate students.

Figure 2.13: Operating fund expenditures (in thousands of dollars) by type (1992-2010)

Note: Canadian dollars. Constant prices (2012).

Source: FIUC.

For the most part, then, the evidence does not suggest that there was a major system change. It simply suggests that the system became more expensive, more focused on research, and less focused on undergraduate teaching.

2.3 Evaluation

The best way to evaluate the data we have seen here is to divide the period into three eras: one of austerity (1993-1998), one of growth (1998-2005) and one of consolidation (2004-2010).

During the eras of austerity, increased income from private sources was for the most part replacing government money which was being withdrawn from the system. However, in the subsequent two eras, private money continued to flow in even as public investment increased significantly. One might therefore say that flows of private income were independent of flows of public income; they increased regardless of what was happening to public finances. The answer to the question “Has cost-sharing increased total funding?” is yes, with an acknowledgement that this was not consistently the case across the period.

The answer to the question: “how were additional dollars spent”? seems to be: “not primarily on the function of undergraduate teaching”. The most obvious sign of this is that government funds for sponsored research were such a major portion of the new monies. But even allowing for the fact that new money in the periods of growth and consolidation came disproportionately outside

the operating grant, it was certainly possible for universities to have kept students-per-academic staff ratios lower than they did. They could have spent less money on administration, or hired more academic staff at lower cost. That they did not suggests that other functions were simply given higher priority. Undergraduates are now paying more to be a lower priority.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO STUDENT DEMAND

This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

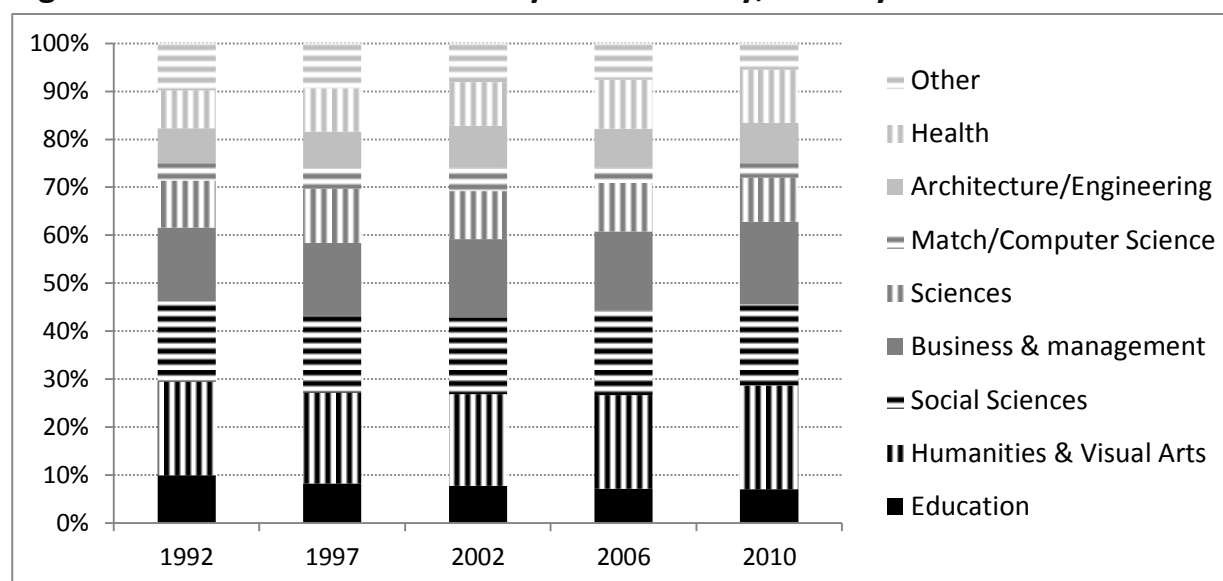
Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

In this section, we look at how institutions have responded to increases in private funding. Generally speaking, Canadian institutions are allowed to be quite entrepreneurial. Apart from controls on undergraduate and graduate tuition fees (as described earlier), there are few governmental restrictions on the actions they may take to raise money for themselves. Many, for instance, are active in continuing education, where fee regulation tends to be less strict. Outside of fee income, there are no circumstances where an attempt to increase private revenue would be clawed back.

3.1 Enrolment by Discipline

One hypothesis about the effects of fees is that they make institutions desirous of increasing revenues by focusing on programmes which are popular or lower-cost courses (these tend to be ‘soft’ disciplines, paper and pencil subject-areas). This may lead to overall changes in the discipline profile of a national higher education system.

The data from Canada do not show much in the way of evidence to confirm such a hypothesis. Enrolment by field of study has stayed fairly consistent over time, even as overall enrolments increased. Only the field of education has seen a significant and permanent decline in its share of enrolment, and this is likely a function of larger demographic trends (primary-secondary enrolments were increasing in the 1990s due to the Baby Boom ‘echo’, but by the 2000s, the primary-secondary population was shrinking and so there was less demand for teachers).

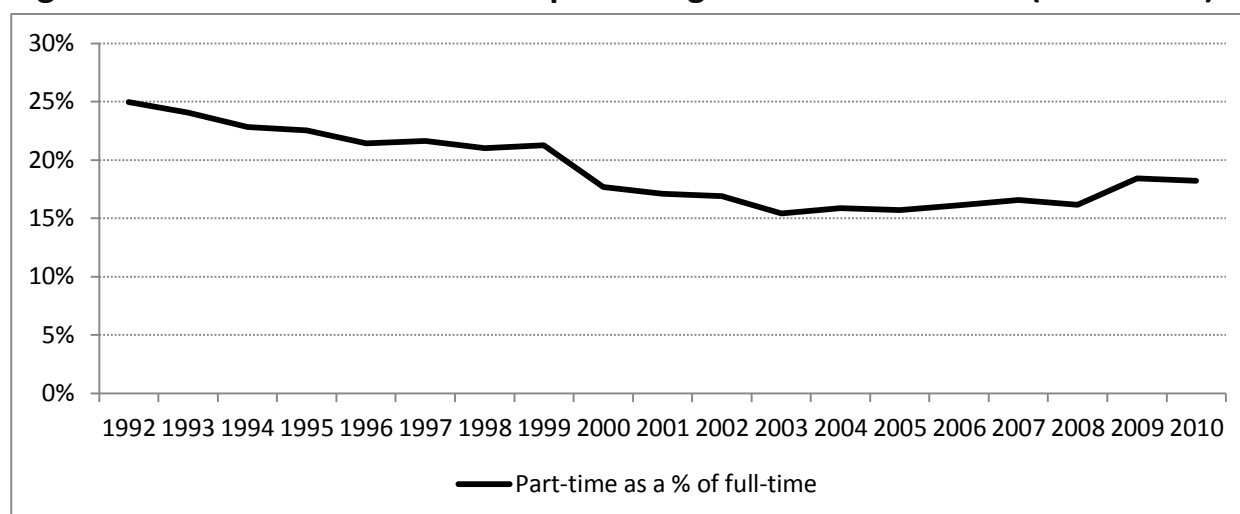
Figure 3.1: Shares of enrolment by field of study, select years

Source: Statistics Canada, PSIS.

3.2 Enrolment Patterns by Mode

As noted earlier in section 1, part-time enrolment fell substantially in the 1990s before recovering somewhat towards the end of the 2000s. The best explanation for this phenomenon comes from O’Heron and Drewes (1999), who noted that the surge in part-time students that lasted into the early 1990s was largely made up of older (35+ women), many of whom were in occupations (e.g. nursing and teaching) that were being professionalised in the 1980s and 1990s and requiring incumbents to upgrade their skills by acquiring bachelor’s degrees if they had not already got them. Once that process played itself out, part-time numbers fell and did not rise again for well over a decade.

Generally speaking, Canadian universities do not have much incentive to enrol part-time students over full-time students. Because fees are usually charged on a per-credit basis, the financial benefit to the institution is roughly the same. Changes in part-time student number are therefore mostly a function of student demand for such provision, rather than a case of institutions ‘chasing dollars’ because more money can be made from them.

Figure 3.2: Part-time students as a percentage of total headcount (1992-2010)

Source: PSIS.

3.3 Enrolment Composition

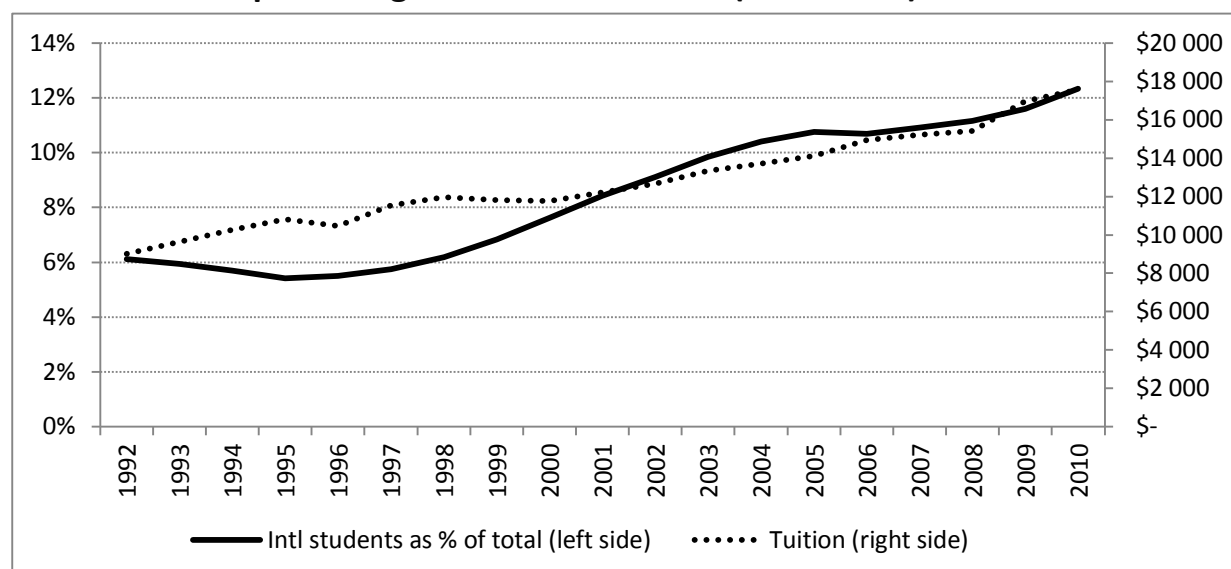
As noted earlier, all students at Canadian public universities are charged fees and for the most part, the fees students pay are roughly proportional to the number of credits they take. Fees do vary among first-entry undergraduate programmes but the more expensive courses (e.g. engineering) also tend to be the ones that are more costly to provide. The real ‘money-making’ programmes tend to be professional masters’ degrees, not first-entry programmes.¹⁹ Among first-entry programmes, the only way institutions can make more money is to enrol a greater number of international students.

International student tuition has always been set at levels between 2-3 times higher than tuition for domestic students. Some programme fees were de-regulated in the late 1990s, though this mostly affected graduate-level programmes which we do not examine here. Throughout our period, tuition for international students rose at a rate substantially higher than inflation, roughly doubling from 9,000 to 18,000 dollars over our period.

During the austerity years of our period (1992-98), international student numbers did not grow at all. It is not clear why this should have been so as presumably these were years in which additional revenue would have been welcomed. However, since 1998, undergraduate numbers have essentially tripled, and international students have now doubled their share of enrolment in Canadian universities from 6 to 12% even as overall enrolment has surged.

¹⁹ As in American universities, there is some cross-subsidization between undergraduate programmes and research graduate programmes. This in effect happens because the former pay fees, which pays for professors’ time, which is very often spent with graduates rather than undergraduates. There is thus an incentive for institutions to take on more undergraduates in order to support more graduate students, at least up to the point where physical constraints mean that marginal costs exceed average ones. Cheap undergraduate programmes in the Arts and Sciences can therefore also be ‘money-making’ programmes, though they tend to do so because of economies of scale rather than because high fees are charged.

Figure 3.3: International undergraduate tuition in dollars and international enrolment as a percentage of total headcount (1992-2010)



Source: Statistics Canada Tuition and Living Accommodation Costs Survey (TLAC), PSIS.

3.4 Diversity of Provision

It is difficult to quantify changes in the diversity of provision of higher education in Canada. There is no centralised count of programmes offered either at the federal or the provincial level. Neither is there a centralised count of institutions – or, for that matter, a consistent pan-Canadian definition of what constitutes either a university or a college. Still, it is possible to examine the issue to some extent.

The closest thing that exists to a nationally-accepted definition of a university is membership in the Association of Universities and Colleges of Canada, since the association requires prospective members to submit to something not unlike an accreditation procedure in order to join. Between 1992 and 2010, 15 institutions joined the association while one institution (the Technical University of Nova Scotia) left as it was absorbed into Dalhousie University. All of the institutions which were accepted into membership had formerly been public community colleges or institutes.

As noted earlier, Canada has no real tradition of private degree-granting universities other than a very small sector of religious colleges. These number only a dozen or so and for the most part have very low enrolments. The largest – Trinity Western University in Fort Langley, British Columbia – has an enrolment of just 3,500. Combined, these institutions enrol fewer than 15,000. There was both some expansion of these institutions in our period – the Mennonite University in Manitoba was added in the 1990s – and some consolidation as Augustana University College ran into financial problems and was absorbed by the University of Alberta. Changes in enrolment in these institutions were roughly in line with those of the country as a whole.

Where there has been some increased diversity of provision has been in the emergence of new ‘polytechnic’ institutions within the public sectors. These are community colleges that have been given the right, on a limited scale, to provide bachelor’s degrees in certain fields. From the European perspective they are best thought of as Universities of Applied Sciences in embryo. These are creatures of provincial experimentation (not all provinces have them), particularly in Ontario, Alberta and British Columbia. Their evolution, however, is not materially connected to changes in fee policies.

In terms of actual private college provision there has been very little. A couple of foreign providers have tried to enter the market with very little success (the American Farleigh Dickinson University tried to establish a school in British Columbia which later folded; the Australian Charles Sturt has had more success providing teacher training in Ontario). A couple of institutions focused specifically on distance education tried to establish themselves in New Brunswick, where regulation was slightly laxer than elsewhere. The most notable of these was Meritus University, a subsidiary of the American Apollo Group (owners of the University of Phoenix), and which tried to establish itself via several major ad campaigns. It began in 2008 but had closed by 2011.

There has been one notable attempt to try to create a private, secular college in Canada on the model of an American liberal arts college, and that is Quest University in British Columbia. It admitted its first class in 2007, but recruitment has proved somewhat slow and in 2010, the school had fewer than 500 students.

3.5 “Outreach” Practices

Key informants’ interviews indicated their belief that institutions were spending more money on advertising and outreach, and cited ‘competition’ as the main reason for doing so. This is not necessarily because they want to attract *more* students (though this may be the case), but rather because they wish to compete for a better type of student. The investment is at least as much for purposes of prestige as it is for revenue.

Another driver of increased expenditure on outreach and advertising is competition. It is a cliché among Canada’s universities to talk about ‘increased competition’, but it is worthwhile being sceptical regarding how generalised this is. Competition – in the sense of institutions genuinely competing for masses of students – is fairly rare in Canada. Nova Scotia has a large number of schools competing for a relatively small population. Southern Ontario has a large number of large institutions (many of them quite research-intensive) which compete for top students if nothing else. As for the rest of the country, institutions are usually operating local monopolies or duopolies. Very few students leave their province of origin in order to study (the proportion has been steady at 8-10% for decades) and the circulation is disproportionately between the three tightly-packed maritime provinces (Nova Scotia, New Brunswick and Prince Edward Island) and between British Columbia and Alberta.

As a result, there are a large number of institutions which aren’t really competing for students in a significant sense. The two universities in Saskatchewan ‘compete’ for students from that

province, but it's easy enough to draw a line through the middle of the province and say that above the line they almost all go to the University of Saskatchewan and below the line they go to the University of Regina; such competition as there is involves persuading the brighter students in their catchment areas not to head west to one of the Alberta universities. To the extent that the arrival of brighter students is correlated with or reflective of prestige, we see again here that much of the domestic 'competition' is really about institutional prestige rather than income.

Where outreach and competition have been more related to income is in areas with problematic demographics. There was a small demographic boom for the 18-21 demographic from about 1997 to 2008 – what is known in Canada as the Baby Boom 'Echo' (i.e. the children of the post-war 'Baby Boom' generation. However, this 'Echo' was not evenly distributed; east of the Ontario-Quebec border, it essentially did not happen and to the west it was concentrated in the urban areas around Toronto, Calgary and Vancouver, in much of the rest of the country the size of the youth population is declining. Thus, for most of our period, Canada has effectively faced two demographic challenges: in certain major urban areas, the challenge has been to accommodate a bulge in the youth population, while in other parts of the country the challenge has been to deal with stable or declining populations. In the latter areas, there have been two coping mechanisms. The first is to try to increase enrolments from the local population; the second is to try to increase enrolments from areas outside the region. In large part, this has meant searching for international students.

One type of outreach which has seen a significant change is outreach to First Nations and other Aboriginal peoples.²⁰ This has increased significantly over the past two decades, and nearly all universities in Northern Ontario and Western Canada have staff members who are dedicated to outreach to Aboriginal communities and young people. Partly, this is concern for simple justice: Aboriginal peoples have long been discriminated against in various ways, gaining access to quality education at all levels has been difficult and their participation rates have been substantially lower than those of mainstream Canadians. But in part, too, this is simple good business sense. In Manitoba and Saskatchewan, between a quarter and a third of the youth population is First Nation or Métis, and elsewhere in the region they make up an increasing portion of the population. Not reaching out to these groups would likely, over the medium-term, lead to significantly lower enrolments.

With respect to entrance policies, it is difficult to tell whether or not standards have changed. It is certainly true that a greater proportion of high school completers are now admitted to higher education; however, because there are no national matriculation exams (and no provincial ones either, apart from in Alberta), it is difficult to tell whether standards are increasing or decreasing. Universities base their entrance decisions on high school grades.

²⁰ A note on nomenclature: First Nations are those people who previously would have been described as 'Indians'. In addition to First Nations, there are the Inuit peoples of Nunavut, the Northwest Territories, Labrador and Quebec, and there are the Métis, people of mixed European-Aboriginal heritage who have their own distinct heritage. Some First Nations peoples are sometimes described in terms of being 'Status' and 'non-Status'; under the Indian Act, only people 'with status' – meaning people who can prove Indian Ancestry – are granted the rights and privileges due to Status Indians under the various treaties with the Crown. They are also sometimes described as being either 'on-reserve' or 'off-reserve', which is a distinction with respect to whether they live in First Nations territory or not. These are overlapping identities; Status Indians are as likely to live off-reserve as on.

On the whole, the evidence of increasing participation rates and declining demographics would lead one to suspect that minimum standards may be trending downwards somewhat, although this cannot be determined from statistics.

Outreach to International Students

Certainly, with respect to international recruitment, outreach expenditures are up enormously as international students are an enormously valuable source of revenue. This is the case virtually across Canadian academia. As noted earlier, international enrolments at Canadian universities essentially tripled between 1998 and 2010. However, not all institutions have done this at the same pace. Institutions in areas of declining demographics have been quicker to embrace international students since they are the only way they can keep their student numbers up. Institutions in major urban areas which still face enrolment pressure due to favourable local demographics have faced less pressure to obtain foreign students. Bluntly, the alternative to a foreign student in the former case is “nothing”. In the latter, the alternative is a domestic student. Even though international students can be charged higher fees, the difference between foreign fees (minus the cost of recruitment) on the one hand and domestic fees plus the public funding that goes with a domestic student on the other is relatively small. Thus, at institutions which have no trouble filling domestic places, one is likelier to find heavier concentrations of international students at the graduate level rather than the undergraduate level (i.e. students who are there to improve research output rather than to improve an institution’s bottom line).

Outreach in Governance

In terms of governance structure, very little in Canada has changed over the past twenty years. Institutions each have their own governing tradition. The most common governance arrangement is a bicameral²¹ one, with a Faculty-dominated body known variously as ‘Senate’ or ‘Academic Council’ or ‘General Faculties Council’ in charge of academic affairs and a Board of Governors charged with maintaining the financial health of the institution. Both Boards and Senate, by law and/or custom, have student representation usually constituting 10-15% of the total membership. Boards by custom or law also have faculty representation, but they always have a majority of their membership drafted from the community ‘at-large’. Depending on the province and institution, the provincial government may or may not have a say in determining at least a portion of the Board’s membership (as a rule of thumb, the older the university, the less likely the government has any say over Board membership). Community Board members are not always from the business community, but Boards tend to prefer to appoint people who can be ‘champions’ for the institution, especially with respect to fund-raising, so businessmen and women are usually fairly prominent on Boards. However, apart from their role in appointing the institution’s President (equivalent to a Vice-Chancellor or Rector), Boards are forbidden to deal with internal academic matters, so this prominence does not really have much effect on educational offerings.

²¹ The second-most common governance arrangement is a tri-cameral one, in which the community-relations and public-facing aspects of the Board are hived-off into a separate organization named ‘University Council’ or (confusingly) ‘Senate’ (in those instances, the academic senate has another name like ‘General Faculty Council’). One institution – the University of Toronto – has a unicameral system, in which a single body of roughly 50 people deals with both academic and business affairs.

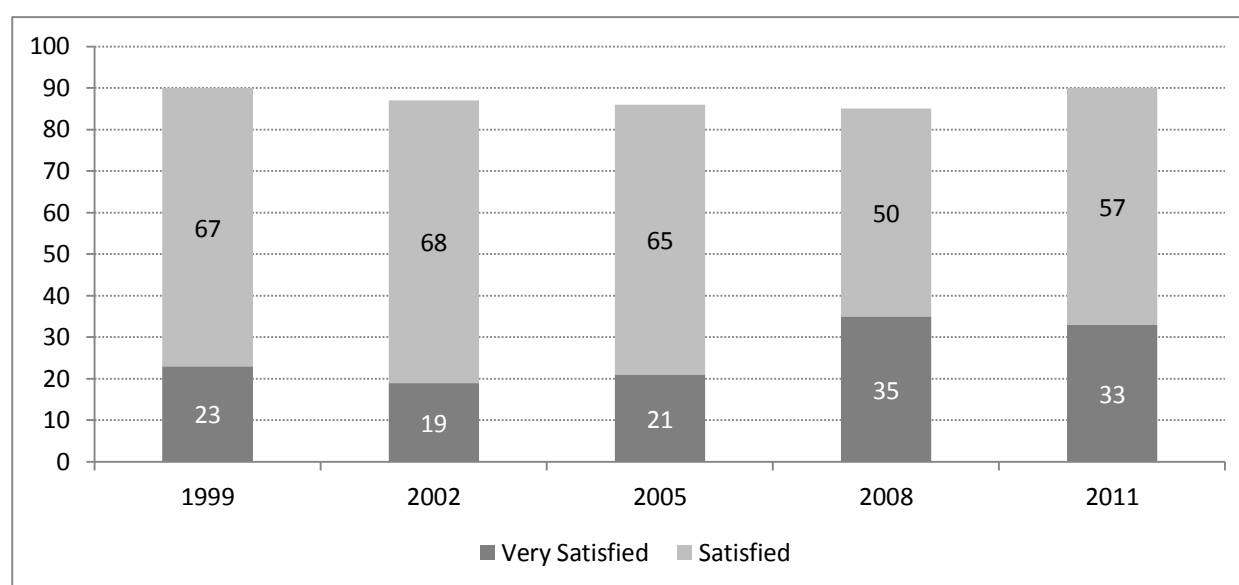
No institution of which we are aware has had a fundamental change in governing structure in that period. Even among new institutions – ones which have shifted to university status from a previous college status – the tendency has been not to create any radical new departures in governance, but to adapt as quickly as possible to existing norms.

3.6 Quality and Relevance

Another posited development related to fees is that institutions will be of higher quality and relevance to students because the consequence of dissatisfaction (losing potential clients) is greater.

One way in which changes in quality and relevance of higher education can be assessed is by using satisfaction measures from students, graduates and employers. In Canada, graduate surveys are numerous, but tend to be run by provincial governments for accountability purposes and have different kinds of questions, making a national examination impossible. Ontario has a survey of graduate employers, but only for graduates of college programmes. There is a national survey of graduates, but it tends to be focused on issues relating to post-graduate activities, employment and income. However, the Canadian Undergraduate Survey Consortium does perform a triennial survey of students which asks a question about overall satisfaction with education received, and the data go back to 1999. The response to that question, as Figure 3.4 shows, has always resulted in 85-90% saying they were satisfied. However, in the late 2000s, there was a major jump in the proportion saying they were ‘very satisfied’. It is unclear what caused this shift.

Figure 3.4: Satisfaction with overall quality of undergraduate education, in Percent



Source: Canadian Undergraduate Survey Consortium.

3.7 Evaluation

The broad hypotheses that we tested in this section was “have institutional strategies changed to maximise revenue from private sources”. We did this by looking at six sub-hypotheses, which we will briefly review here before attempting to assess whether there was an overall effect.

The first sub-hypothesis relates to whether 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) in response to a change in cross-sharing policies. The evidence here appears to be “no”. In fact, despite a considerable increase in fees, there have been no notable shifts in enrolment from one field of study to another.

The second sub-hypothesis relates to whether there has been any change in modes of study, such as an increase in part-time provision, with the aim of increasing private revenue. However, because of the way tuition is normally assessed in Canada, this question does not arise the way it does in other countries in this study. In any case, the trend in part-time studies was downward or stable for most of the period in question, though there has of late been something of a surge in these enrolments.

The third sub-hypothesis has to do with institutions changing in enrolment composition to maximise revenue, such as by recruiting more international (non-domestic) students paying international student fees. Here, fairly clearly, the answer is yes; in some ways, the surprise is why the large increase in enrolment didn’t happen sooner (the rise in international enrolments didn’t occur until after the worst of the funding crunch of the mid/late 90s was over). We have noted, however, that for some institutions, increasing demand for international students has been a function of demographic change as much as simple policy incentives.

The fourth sub-hypothesis was related to any change that had occurred in the degree of diversity in higher education providers, such as more private institutions, or more programmes offered by public institutions. This is a difficult question to address in the Canadian context because the ability of private institutions to operate is highly restricted by legislation and regulation. Most of the increase in diversity in provision came from within the public sector as colleges evolved in various ways. They were responding to market needs in many ways, but they were still public sector actors. Some very limited private sector activity did occur, notably in New Brunswick and at Quest University, but it had little noticeable impact on the sector overall.

The fifth sub-hypothesis had to do with institutions becoming more open-access and market-focused in order to increase income. Informants agreed that considerably more money was being spent on marketing, though in some cases the search for dollars in the short-term was less important than the search for prestige in the long-term. This is not necessarily just a case of chasing *tuition* dollars, though, since in many provinces public dollars also follow enrolments. There is no real evidence of institutions engaging in outreach to the business community via changes in governance structure. And while there is no evidence of institutions deliberately lowering entrance standards, the vast influx of new students since about 1998 makes it unlikely that the median student is as prepared for university as they were in the early 1990s.

The sixth and final sub-hypothesis has to do with quality and relevance. Did students and graduates become more satisfied with the options available to them? Did graduates become satisfied with their employment outcomes? And were employers satisfied with quality of recent graduates? The answer to this question must be tentative because of such a lack of evidence. We have no data whatsoever on employers and the data on graduates are not usable in this context because of inter-provincial differences. Among students, 85-90% consistently report that they are satisfied with the overall quality of their education, but there has been a recent spike in the proportion saying they are very satisfied.

And so, to the summative question: have institutional strategies changed to maximise revenue from private sources? The answer to this is yes, but it is an incomplete answer. The fact is that many of the public sources of money have depended on increased enrolment as well. The likelier interpretation of the data is simply that institutions have become adept at maximizing *all* forms of revenue, not merely private revenue. To the extent this has been occurring at the student level, most of the most notable changes have come through increasing revenue by increasing enrolment of international students; and to a lesser extent, Aboriginal enrolments. Much of what is seen from the outside as ‘competitive’ behaviour is in fact competition for institutional prestige rather than dollars (though over the longer term prestige and income are presumably correlated). And the change in outreach activities did not extend to the issue of governance; here, community and business leaders have always had a major say in the governance of institutions, though this influence tends not to be felt at the level of academic programming.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

4.1 Students’ Costs for Higher Education

This section focuses on the impact an increase in private costs has on students. It will begin with a recap of the key policy changes with respect to student fees and describe trends over time with respect to student fees and other costs. The discussion will then move to the types of assistance available to students and the resulting net costs to students for their education.

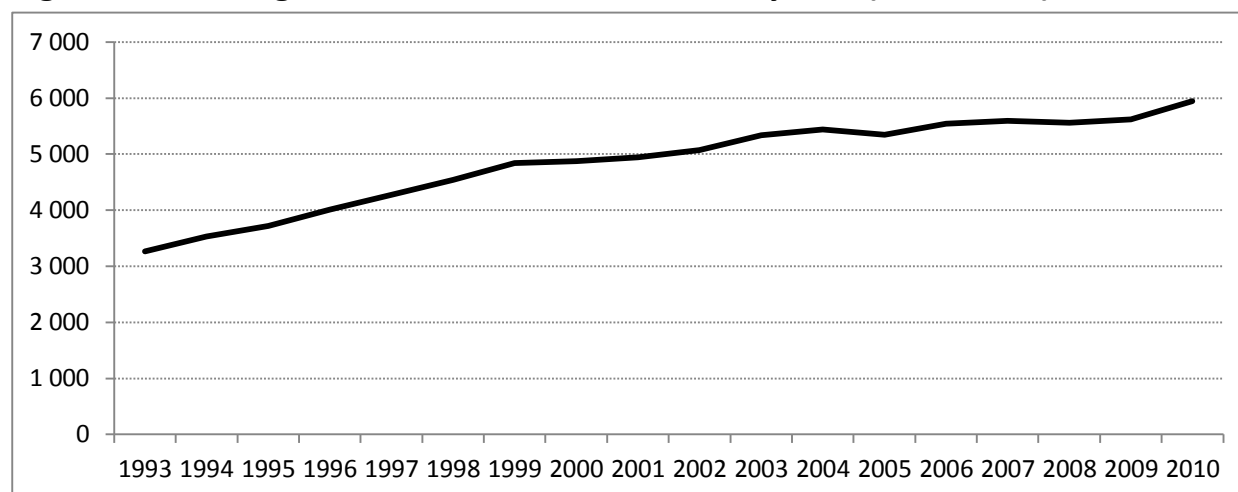
Student Expenditures

Students in Canada pay both tuition fees, which are meant to cover (at least in part) instructional costs, and what are known as ‘ancillary fees’, which include dedicated funds for student services, student union dues, special facilities fees and the like. Since both sets of fees are mandatory, we report both of them together in the charts that follow. This produces a figure which is higher than what is usually claimed for Canadian tuition (ancillary fees have averaged around 500-700 dollars for the past few years, or equal to between 10 and 15% of tuition), but the resulting figure is a more accurate portrayal of student costs. .

As Figure 4.1 shows, during the period of austerity, tuition fees rose by an average of about 7% per year in real terms. However, after the year 2000, the pace of tuition fee increases slowed considerably, to just 2% per year. This was the result of a series of quite deliberate policy moves that occurred in different provinces once the challenge of the austerity years had passed. The Ontario government, which had permitted annual tuition increases of 20% in the late 90s, suddenly limited increases to 2% per year above inflation. Manitoba froze tuition fees. Newfoundland rolled fees back 5% per year for four years and then froze them. British Columbia

was the only province to make decisive moves in the other direction: in 2001, with a change in government, fees, which has been frozen for most of the 1990s under the previous government, were allowed to rise by 55% over two years before bringing them back into line with national practices and allowing increases more in line with inflation. In a more limited way, the same thing happened in Quebec, with a new government allowing modest fee increases after it replaced a pro-freeze government in 2003. Across the country, mandatory tuition and fees rose by 82% in constant dollars over the period in question.

Figure 4.1: Average annual tuition and mandatory fees (1993-2010) , in dollars



Note: In Canadian dollars. Constant prices (2012).

Source: TLAC.

Of course, tuition fees are not the only cost facing students. In addition to these costs are expenses such as books, housing, food, etc. In Canada there is no ‘official’ source for such data. In 2001-2 and 2003-4, the Canada Millennium Scholarship commissioned a market research company (Ekos research) to perform a survey. In the period 2010-2012, Higher Education Strategy Associates asked a less detailed set of annual questions which permit some estimation of the same costs. The results are shown in Table 4.1.

Table 4.1: Total student costs, in dollars (2001-2012)

	2001	2003	2010	2012
Student fees	4,941	5,338	5,941	6,350
Books, etc.	n/a	401	951	1,211
Housing	1,919	2,331	3,276	3,317
Food			1,454	1,262
Travel			760	667
Other	6,394	4,744	3,170	2,468
Total	13,255	12,814	15,551	15,275

Note: In Canadian dollars. Constant prices (2012).

Source: TLAC, EKOS Student Income/Expenditure Surveys (2001, 2003), HESA CanEd Student panel (2010-2012).

The data in table 4.1 shows relative stability. Over a decade, most of the increase in total student costs comes from changes in the fees. The only other change has been in housing; and this is as much due to an increasing percentage of students surveyed living away from home as it is an increasing in the actual housing cost.

Student Assistance in Canada

Canadian study aid is relatively simple in theory but is greatly complicated by the fact that the federal and provincial governments have overlapping jurisdiction and that provincial study aid strategies differ significantly from one another. In this section we will briefly describe both the country's system of need-based assistance and its relatively unique system of non-need-based assistance as well.

Need-Based Aid

Canadian governments collectively provide their students with roughly 4 billion dollars per year in loans and grants, nearly all of which is distributed on the basis of need, where need is defined as 'assessed costs' minus 'assessed resources' (as distinct from a system which is simply based on individual or family income). In nine provinces and Yukon Territory, the federal Canada Student Loans Programme (CSLP) operates in a more-or-less integrated fashion with a provincial student assistance programme; two separate systems provide the student with money, but they mostly work on the same system of need assessment and the student need only fill out a single form in order to obtain aid. Quebec and the Northwest Territories have 'opted out' of the federal system, and offer their own unique integrated programmes while receiving direct federal compensation.

The amount of aid available to students can vary significantly from province to province and depending on one's student status. The amount students receive is based on 'assessed need', which is equal to 'assessed costs' minus 'assessed resources'. Assessed costs include tuition, a set of living expenses adjusted to the costs of living in each province and dependent upon whether the student lives with his/her parents or not, and –if applicable – the costs of supporting

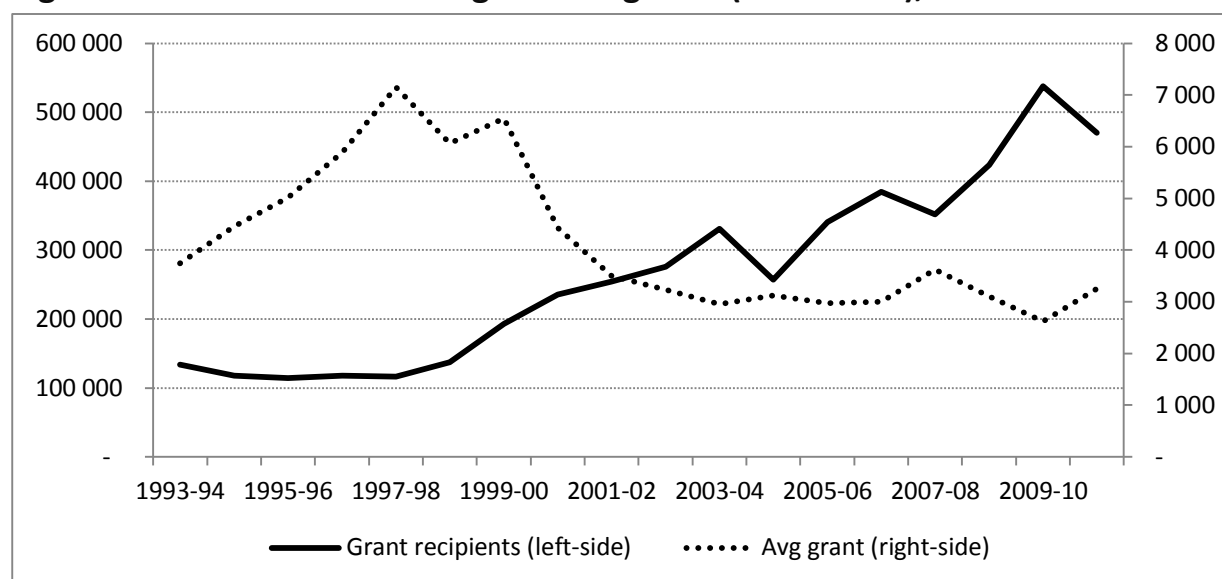
dependent travel. The definition of assessed resources changes slightly depending on the student's situation. For students who are considered 'independent' (which in most provinces means being more than four years out from secondary school or having two years continuous experience in the labour market), it is a simple assessment of the student's own income and assets. If they are married, their deemed contribution will also be a function of their spouse's income. If they are considered dependent, parental income is also assessed. An aid package will be equal to assessed need up to a maximum which may vary according to student category but which is normally 350 dollars per week of study (roughly 12,000 dollars per year), but can be higher if the student has children. The loan/grant mix within that aid package can vary significantly between provinces depending on the generosity and ability of the local government to pay.

In every province, students have access both to loans, which are interest-free during the study period and must be repaid (typically beginning six months after the end of the study period and lasting for 10-15 years), and some form of non-repayable aid. This aid, made up of grants or loan remission payments, works in one of three basic ways: 1) 'Upfront' grants, which are disbursed before loans and any remaining financial need is met with loans up to the aid maximum; 2) Certain provincial grant programmes (e.g., the New Brunswick Bursaries) provide additional support over and above student loan maximums to students with 'unmet need' (i.e. need levels above the 350 dollars/week maximums; and 3) Loan remission (e.g., the Ontario Student Opportunities Grants) which consist of payments made at the end of a successful academic year to reduce the amount a student has already borrowed.

Figure 4.2 shows the evolution of grants in Canada over time.²² The number of grants issued²³ increased enormously between 1999 and 2010. There were a number of reasons for this: the introduction of a federal programme called the Canada Millennium Scholarship Programme (which despite its name was mostly involved in the delivery of need-based aid) was one; increased provincial investment in study aid was another. It was also around this time that the value of the average grant fell precipitously, from around 7,000 to 3,500 dollars. This was partly due to the fact that nearly all the new grants were under 3,000 dollars in value, but it was also due to a shift in the way provinces delivered their loan remission programmes; prior to 1998 or so, they were usually delivered at the end of a degree rather than the end of a year and so the individual amounts were correspondingly larger.

²² Note that these figures include recipients from both universities and colleges.

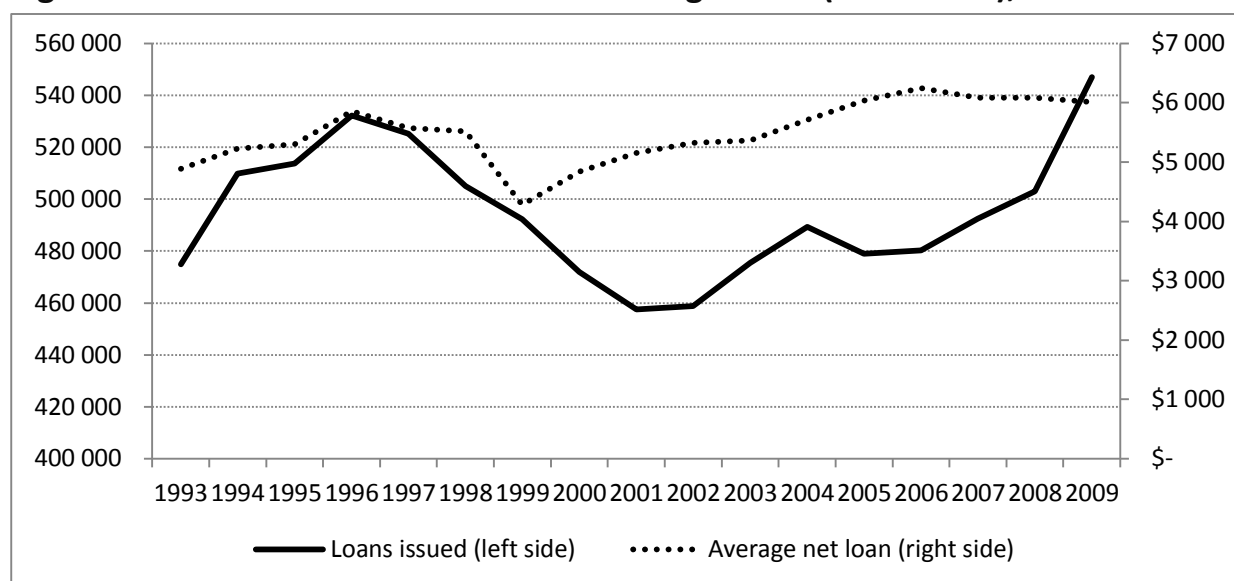
²³ What are reported here are 'grants' rather than 'grant recipients.' It is possible in many provinces to receive more than one grant and there is no way given existing data sources to obtain an unduplicated count of recipients. A best guess for an unduplicated count of recipients would likely be around 350,000.

Figure 4.2: Number and average size of grants (1993-2010), in dollars

Note: In Canadian dollars. Constant prices (2012).

Source: State of Study aid Database.

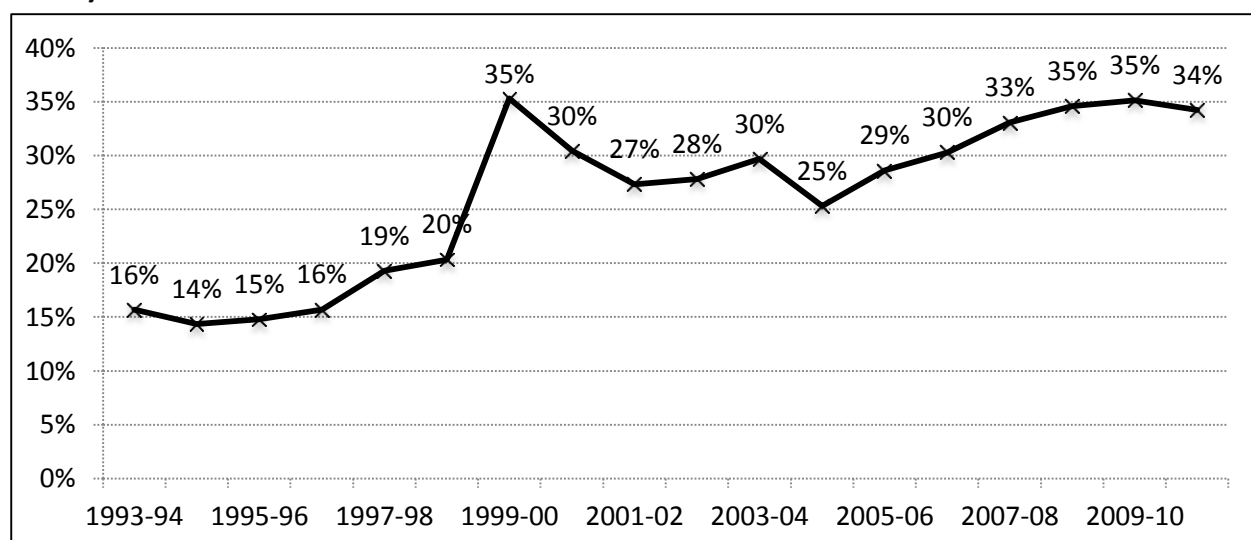
Figure 4.3 shows the evolution of loans to university and college students over time. This graph is somewhat more straightforward than the previous one. The number of loans issued increased significantly during the recession of the mid-90s, then fell off again in the late 90s as improved economic conditions and the effects of new regulations making it more difficult for students at private career colleges to obtain aid took effect. Loan recipient numbers spiked again with the onset of the most recent recession.

Figure 4.3: Total number of loans and average loans (1993-2009), in dollars

Note: Net loan is loan minus loan remission. In Canadian Dollars. Constant prices (2012).

Source: State of Study aid Database.

Figure 4.4 shows the balance of aid between loans and grants over time. The 1999 shift towards more grants shown in Figure 4.2 clearly altered the balance of loans and grants within the Canadian system. Prior to 1999, no more than 20% of aid was ever grant-based; after it, it has never been lower than 25% and recently it seems to have stabilised at between 30 and 35%.

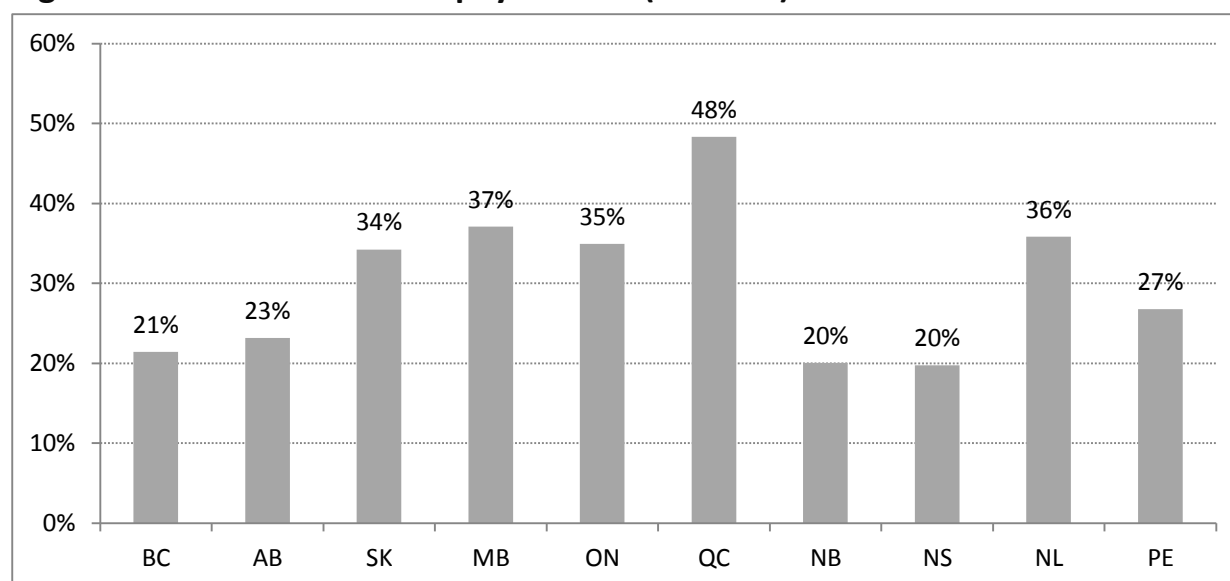
Figure 4.4: Percentage of need-based study aid that is non-repayable (1993-2010)

Source: State of Study aid Database.

National Report for Canada

Of course, as noted above, the loan/grant mix does vary significantly by province. As Figure 4.5 shows, the degree to which aid is repayable can vary widely from one province to another. For 2010-11, in New Brunswick and Nova Scotia, the percentage is a mere 20%; in Quebec, it is 48%.

Figure 4.5: Percent of non-repayable aid (2010-11)



Note: BC = British Columbia; AB = Alberta; SK = Saskatchewan; MB = Manitoba; ON = Ontario; QC = Quebec; NB = New Brunswick; NS = Nova Scotia; NL = Newfoundland and Labrador; PE = Prince Edward Island.

Source: State of Study aid Database.

Non-Need-Based Aid

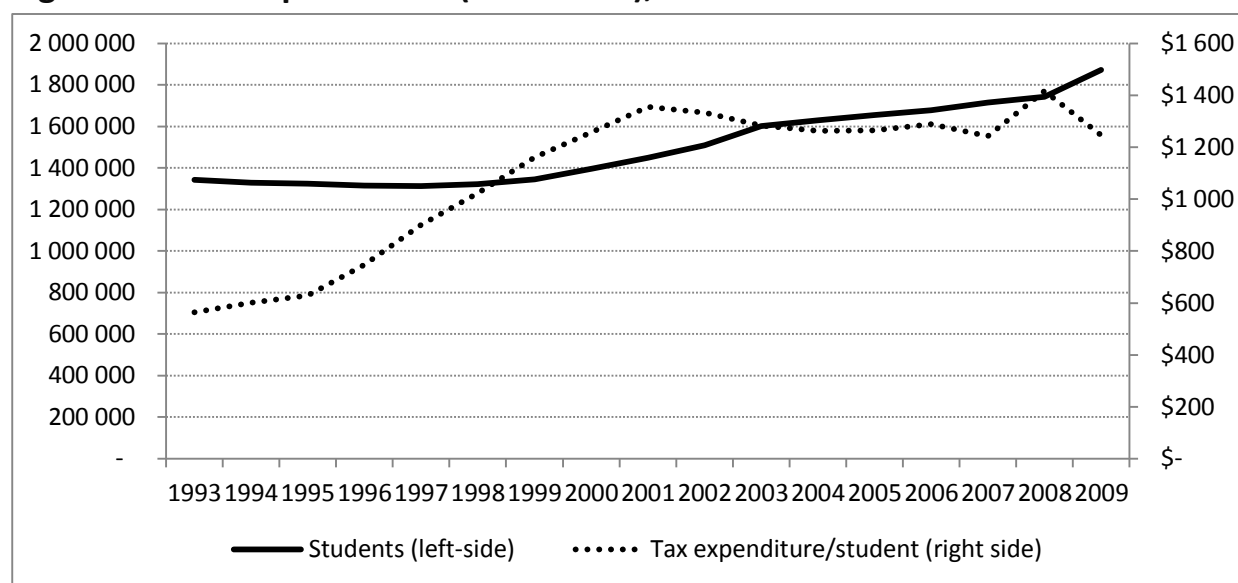
In addition to need-based aid, there are a number of other sources of government aid that are available to all. There is first of all, an extensive series of merit scholarships available, most of which are available to graduate students. Second, there are a series of savings-related instruments, the most important of which are Canada Education Savings Grants (CESG), which provides a payment that matches 20% of a family's contribution to a Registered Education Savings Plan up to 400 dollars per year (additional top-up grants for middle- and low-income families are available). The RESP programme also acts as a kind of a tax shelter, as interest earned on the savings are not taxed until withdrawals are made, they are taxed in the name of the student (who will typically have low earnings and therefore owe little or no tax). The federal government's Canada Learning Bond acts like a CESG worth 500 dollars for low-income families, except it does not require families to make a contribution to a RESP. Payments under both the CESG and the CLB are provided to pre-17-year-old youth, i.e., prior to the study period. As a result, we do not include monies spent on these programmes in our look at affordability; it should simply be borne in mind that these programmes collectively cost government more than a billion dollars a year – almost as much as need-based grants.

National Report for Canada

The largest form of non-need based aid, worth well over 2 billion dollars per year, are various forms of tax assistance. Virtually all tax assistance in Canada comes in the form of non-refundable tax-credits which may be transferred or carried forward from year to year. A tax credit differs from a deduction in that its value is the same for all tax-filers – it increases one's threshold exemption for tax, rather than reducing taxable income (the latter being significantly more valuable to wealthier tax-filers than to poorer ones). They are non-refundable in that they cannot be used to reduce tax burden below zero and create a refund; however, if one's taxable income in a given year is too low to use the value of a credit, it either be carried forward for use in a future year or transferred to a parent or spouse.

In Canada, there are two main types of tax credits. The first is with respect to tuition: students receive a credit for all their tuition and ancillary fees (student union fees excepted). The second is a time-based credit which provides a certain amount of credit per month of study. This amount varies by mode of study: the amount is 465 dollars/month for full-time students and \$140/month for part-time students. Different provinces, which each have their own tax-system, offer a variety of similar time-based tax credits, ranging from 200 to 500 dollars per month for full-time students. The value of these credits is equal to the amount of the credit times the lowest marginal tax rate in each jurisdiction: these range from 21 to 36% across the country: for full-time university students, the effective value of the tax relief is roughly 2,000 dollars. Credits are issued directly to students who can claim them themselves in the current tax year, carry them forward to a future tax year, or pass them on to a parent or spouse.

Governments do not 'spend' on tax assistance; rather, the cost of these measures is calculated in terms of income foregone by government. The technical term for this money not collected by government is 'tax expenditure.' The total amount spent each year by both levels of government is just under 2.4 billion and the average value of this tax relief, across all students (university and college, full-time and part-time) is around 1,300 dollars. The big increase in the value of these credits came in the period from 1996 to 2001. In this very short period, the federal monthly credit for full-time students increased in value from 60 to 400 dollars a month, the credit for part-time students was introduced and ancillary fees were included in the tuition fee credit.

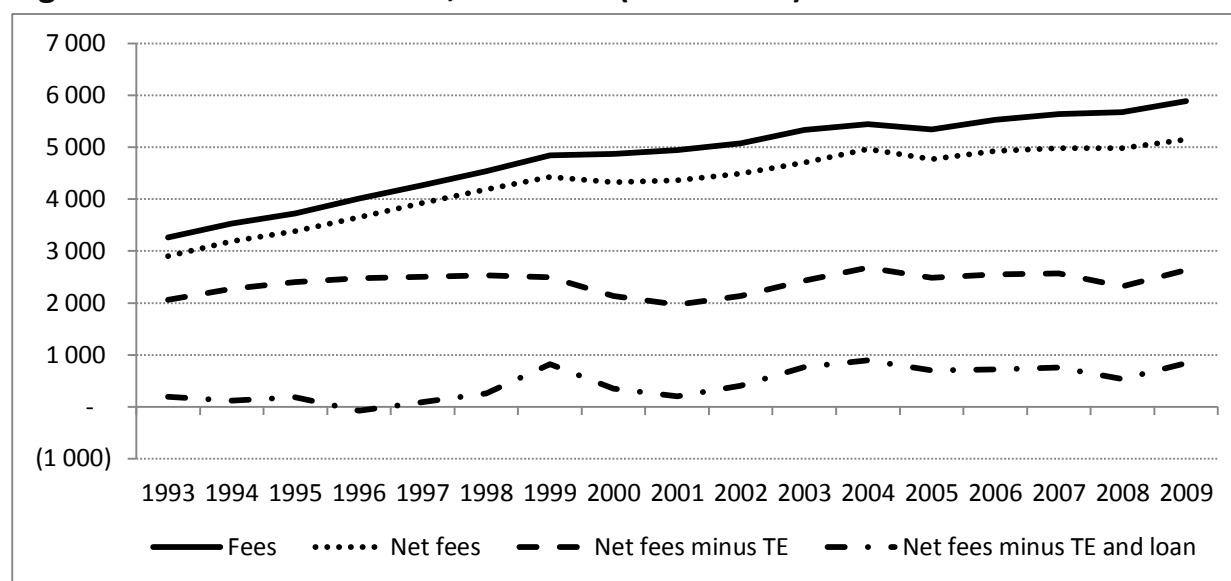
Figure 4.6: Tax expenditures (1993-2009), in dollars

Note: In Canadian dollars. Constant prices (2012).

Source: State of Study aid Database.

Net Costs to Students

As should be evident from the descriptions of various study aid programmes above, the rise in tuition fees over the past two decades has to some considerable degree been offset by increases in various sources of subsidies. Figure 4.7 shows that while average tuition and fees have increased by 2,622 dollars in real dollars since 1993, the net amount actually payable (i.e. average tuition minus average grants and tax expenditures) has increased by just 580 dollars, and that the figure is essentially unchanged since 1999. A similar story exists for the amount students, on average, pay out of their own pockets in the short-term (that is, taking loans into account as well): this is up only 645 dollars since 1993, and most of that change happened in the mid-to-late 1990s.

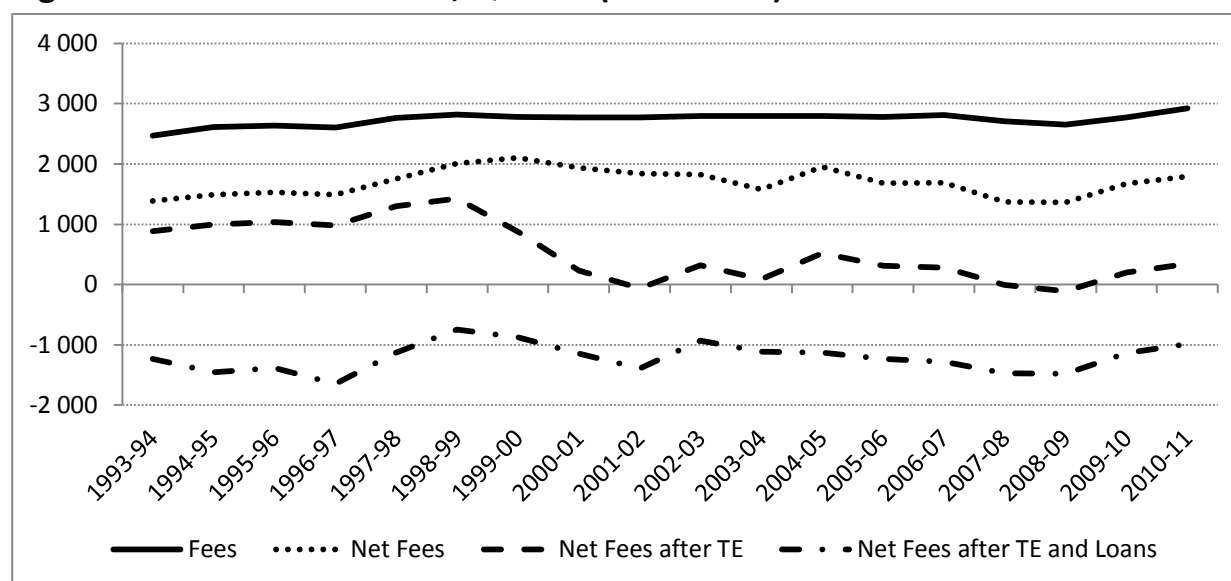
Figure 4.7: Various net costs, in dollars (1993-2009)

Note: Net student fees = student fees minus grants, TE – tax expenditures. In Canadian dollars. Constant prices (2011).

Source: State of Study aid Database

Figures 4.8 through 4.11 portray the same data from the point of view of each of the four provinces we have selected for closer examination. In both Quebec and Newfoundland, average net tuition fees after grants and tax credits are considered essentially zero currently. Quebec's fees have been largely unchanged for the full two-decade period (though net fees after tax expenditures did drop significantly as a result of federal policy innovations) while in Newfoundland there has been a precipitous fall in cost. In Ontario, net fees of all type have essentially been flat since 2000; in British Columbia, the large hike in tuition of 2001-03 has similarly been followed by an era of flat net fees.

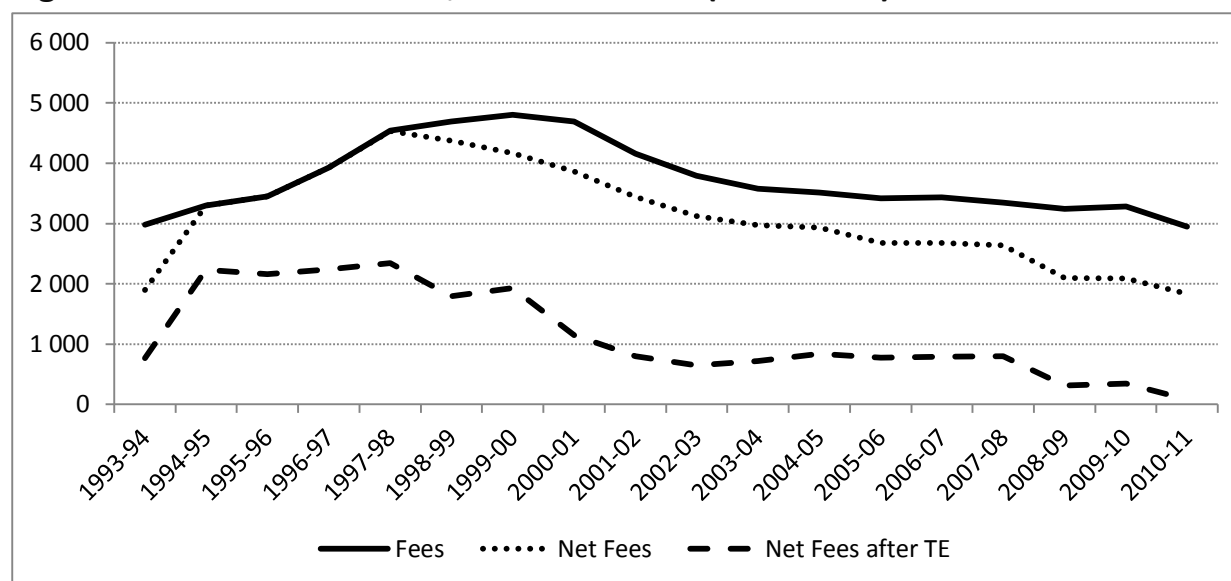
Figure 4.8: Various net Costs, Quebec (1993-2009)



Note: In Canadian dollars. Constant prices (2011).

Source: State of Study aid Database

Figure 4.9: Various net costs, Newfoundland (1993-2009)²⁴

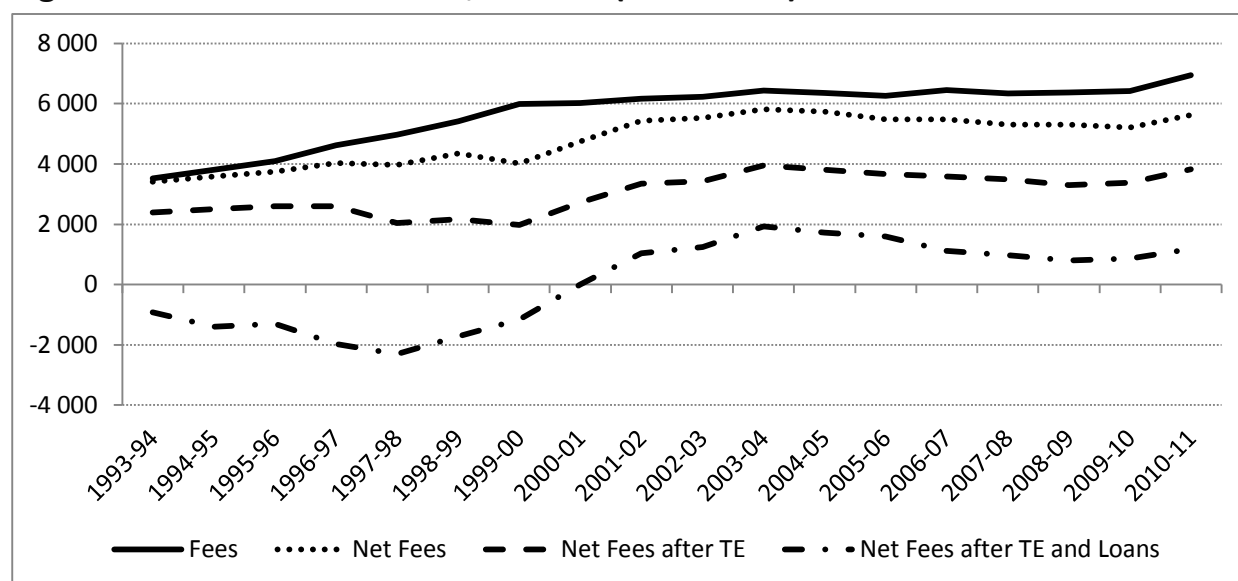


Note: Canadian dollars. Constant prices (2011).

Source: State of Study aid Database

²⁴ Data on loans for university students are not reliable for Newfoundland prior to about 2002. Therefore Net Fees after TE and Loans is not portrayed in this graph.

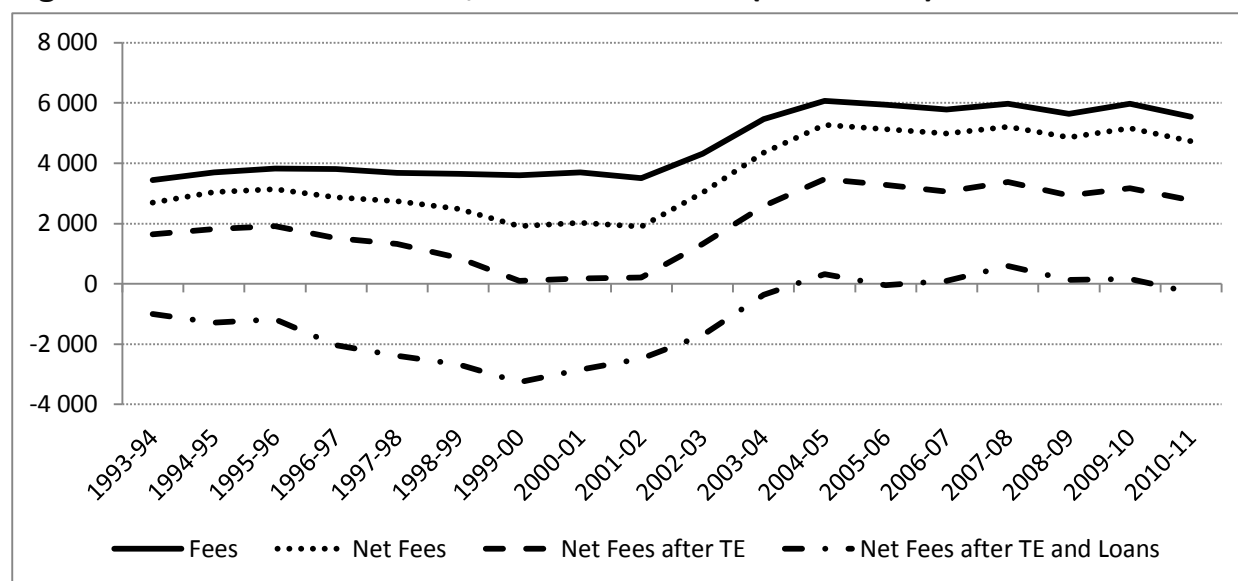
Figure 4.10: Various net costs, Ontario (1993-2009)



Note: Canadian dollars. Constant prices (2011).

Source: State of Study aid Database

Figure 4.11: Various net costs, British Columbia (1993-2009)



Note: Canadian dollars. Constant prices (2011).

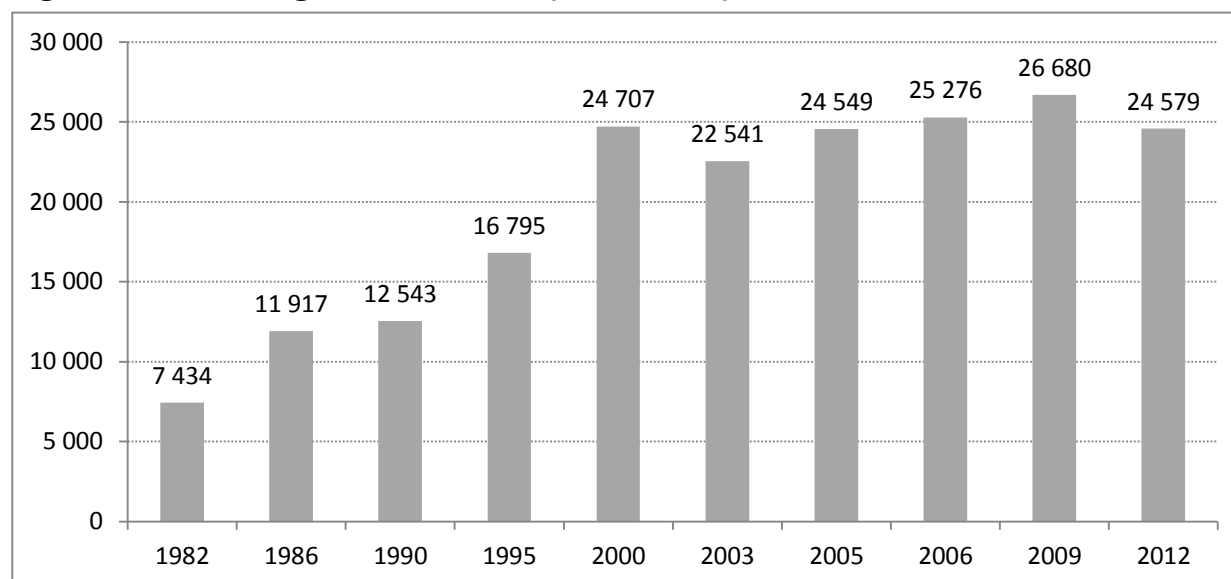
Source: State of Study aid Database

Student Debt

One further measure of affordability that is sometimes used is that of student debt. Average student debt in Canada is somewhat difficult to calculate because loans (even the federal ones) are administered provincially, and not all provinces publish statistics on debt. As a result, the two

most common methods of calculating debt are based on student estimates of their own debt, rather than administrative sources. The first source is the National Graduate Survey, which is conducted every 5-6 years by Statistics Canada and involves interviews with 50,000 or so graduates 24 months after the end of their studies. The second is a triennial survey of students in their final year of study. The former is thought to be significantly more accurate than the latter, but given survey design and processing time it takes almost 48 months for results to come out whereas with the latter the lag is about 6 months.

Figure 4.12: Average student debt (1982-2012)



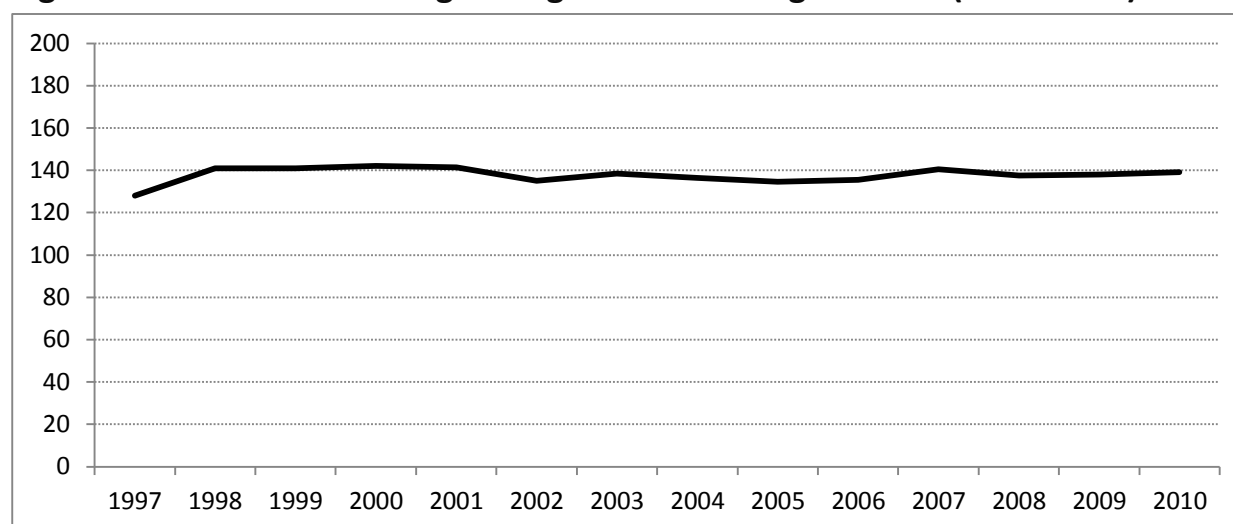
Note: Canadian dollars. Constant prices (2011).

Source: 1982, 1986, 1990, 1995, 2000, 2005 – National Graduates Survey. 2003, 2006, 2009 – Canadian Undergraduate Survey Consortium

What Figure 4.12 shows is more or less a reflection of what we have already seen with respect to study aid. As loan aid ballooned in the mid-1990s, so too did average debt, which more or less doubled in the 90s. However, since then, the rise of various forms of aid (both need-based and non-need based) has stabilised debt levels, which are now essentially exactly where they were in 2000. The fact that the large rises in participation happened *after* the large increase in debt may suggest that debt is not exactly a deterrent in terms of participation.

Return on Investment

A final issue is how changing net costs have affected Return on Investment over time. Figure 4.13 shows the relative earnings of Tertiary graduates relative to secondary school graduates. Canada has long been known as one of the countries with lower levels of returns on investment; however, the level of return has remained very stable over time, meaning that changes in returns are unlikely to have been a major factor in changing enrolment levels.

Figure 4.13: Relative earnings of higher education graduates (1997-2010)

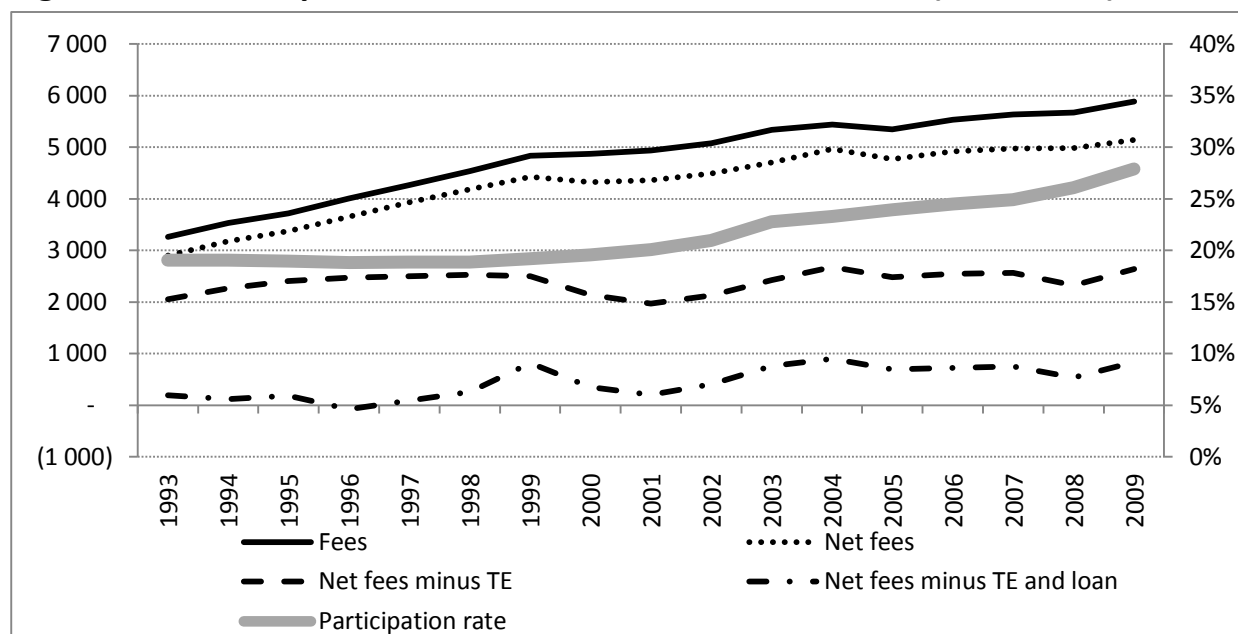
Note: Data indexed to earnings of people with secondary and post-secondary, non-tertiary education =100.

Source: OECD Education at a Glance. Data for 2001 are missing.

4.2 Participation Rates

A key question to address in our research is whether the changes in cost-sharing have had an impact on overall participation rates. This will necessarily be a correlational examination because we do not have access to micro-data that would allow us to look at individual reactions to individual prices.

Figure 4.14 shows that participation rates stayed more or less flat as nominal tuition rose and began to rise rapidly once the rate of increase in nominal tuition started to even out. There seems to be less of a relationship between participation and net tuition minus tax expenditures (either with or without loans) – these were relatively steady throughout the period and so have little to offer in the way of explaining a major increase in participation.

Figure 4.14: Participation vs. various cost indices, in dollars (1993-2009)

Note: In Canadian dollars. Constant prices (2011).

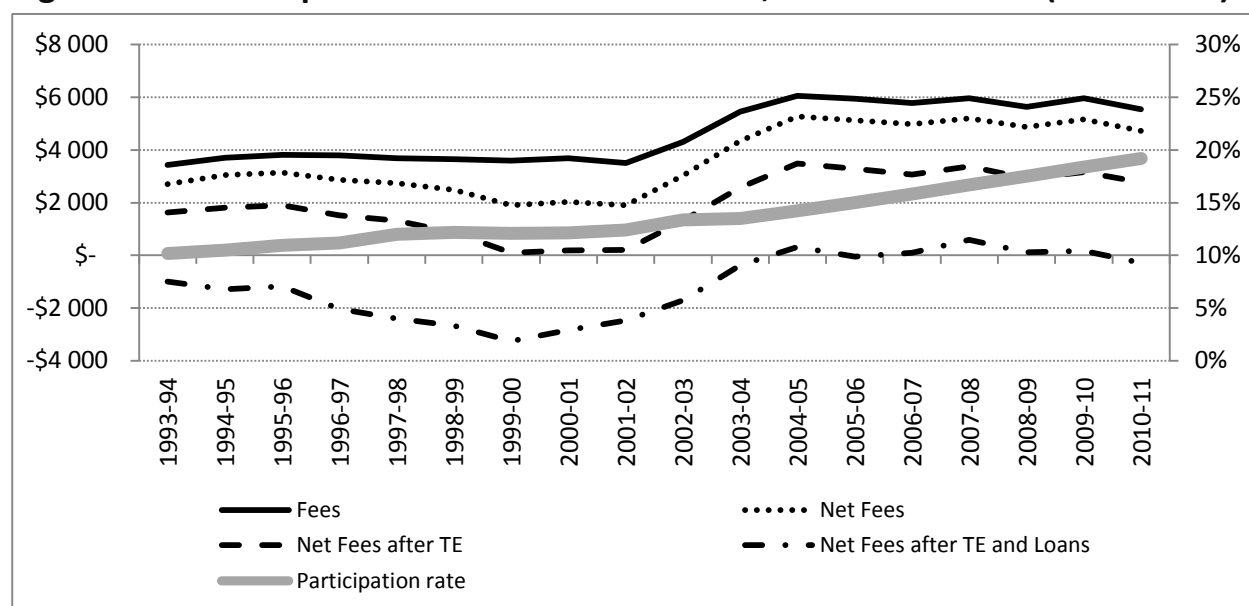
Source: State of Study aid Database, PSIS, Statistics Canada post-censal estimates.

Figure 4.14 could be interpreted as saying that a return of stability in nominal tuition fees drove the increase in participation. This is not, however, the common interpretation in Canada. Recall from earlier sections the periods from 1998 onwards was not just the period when tuition increases started to moderate – it was also the period when operating budgets began to rise sharply. One could therefore equally posit that the increase in operating grants – which in turn permitted the hiring of new professors, acquisition of new space capable of sustaining higher enrolment – was what increased participation.

The other piece of evidence suggesting that it was not nominal tuition that was the prime factor at work is that the results by province tell a slightly different story, as is shown by Figures 4.15 through 4.18. Here we see a significantly less coherent set of stories. In British Columbia, the participation rate moves steadily upward throughout our period regardless of what is happening to costs. In Newfoundland, participation rates rise along with tuition in the 90s, continue rising in the early 2000s as fees fell, and then hit a plateau of 29% as tuition was frozen (but fell in real terms). Participation patterns for Ontario and Quebec are similar – stable in the 1990s followed by a jump in the 2000s – though the two provinces' fee experiences were quite different.

Put simply, what Figures 4.15 through 4.18 tend to show is that all provinces followed relatively similar paths in terms of participation, even though their experiences in terms of both absolute amounts of fees charged and changes in fees charged were quite different.

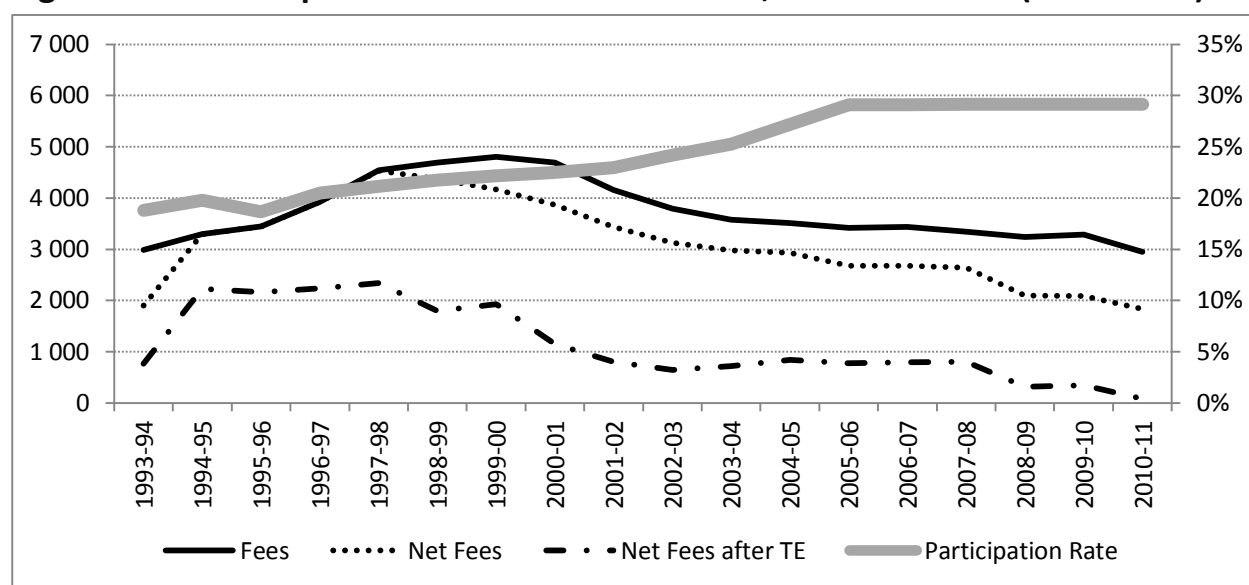
Figure 4.15: Participation vs. various cost indices, British Columbia (1993-2011)



Note: In Canadian dollars. Constant prices (2011).

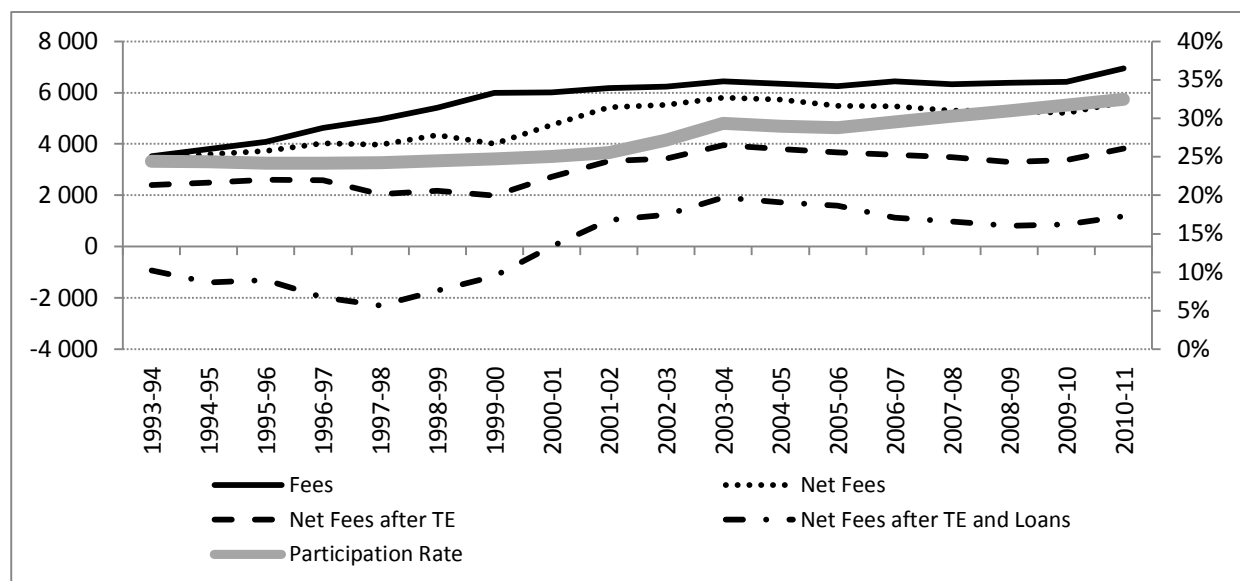
Source: State of Study aid Database, PSIS, Statistics Canada post-censal estimates

Figure 4.16: Participation vs. various cost indices, Newfoundland (1993-2011)



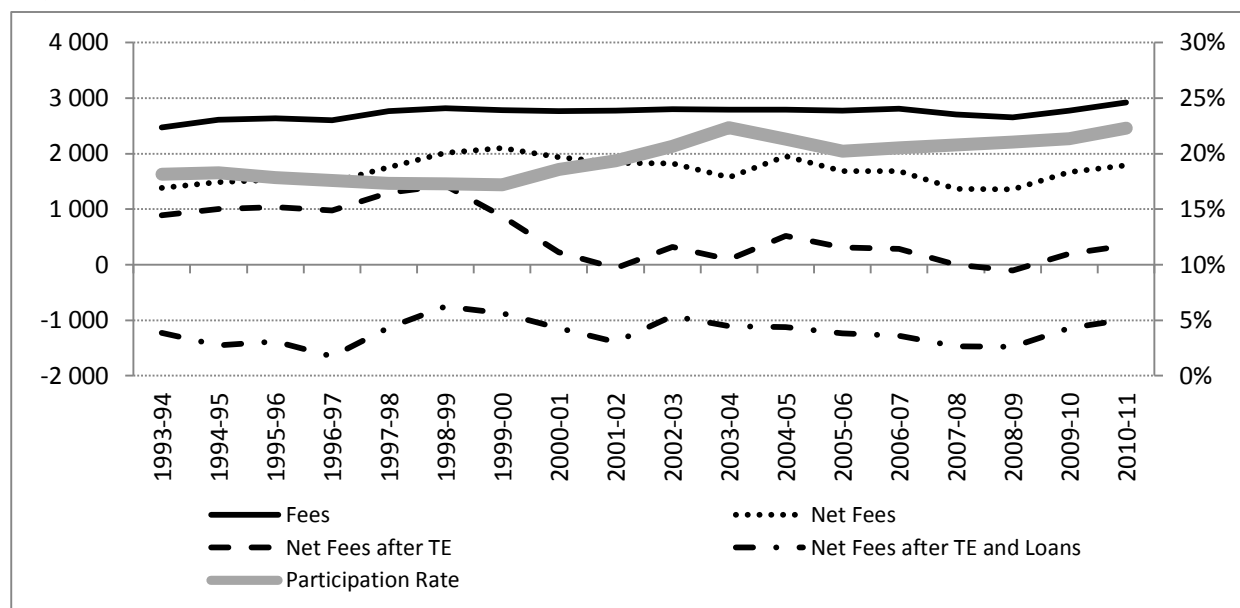
Note: In Canadian dollars. Constant prices (2011).

Source: State of Study aid Database, PSIS, Statistics Canada post-censal estimates.

Figure 4.17: Participation vs. various cost indices, Ontario (1993-2011)

Note: In Canadian dollars. Constant prices (2011).

Source: State of Study aid Database, PSIS, Statistics Canada post-censal estimates.

Figure 4.18: Participation vs. various cost indices, Quebec (1993-2011)

Note: In Canadian dollars. Constant prices (2011).

Source: State of Study aid Database, PSIS, Statistics Canada post-censal estimates.

It is worth examining what some of the literature says at this point. Johnson and Rahman (2005) and Johnson (2008) both used provincial-level tuition fee data to look at changes in enrolment. The latter, which used both changes in tuition and 'tuition minus tax expenditures' as independent variables, found no relationship with either access rates or persistence rates on the students covered by the longitudinal Youth in Transition Survey. The 2005 piece did seem to

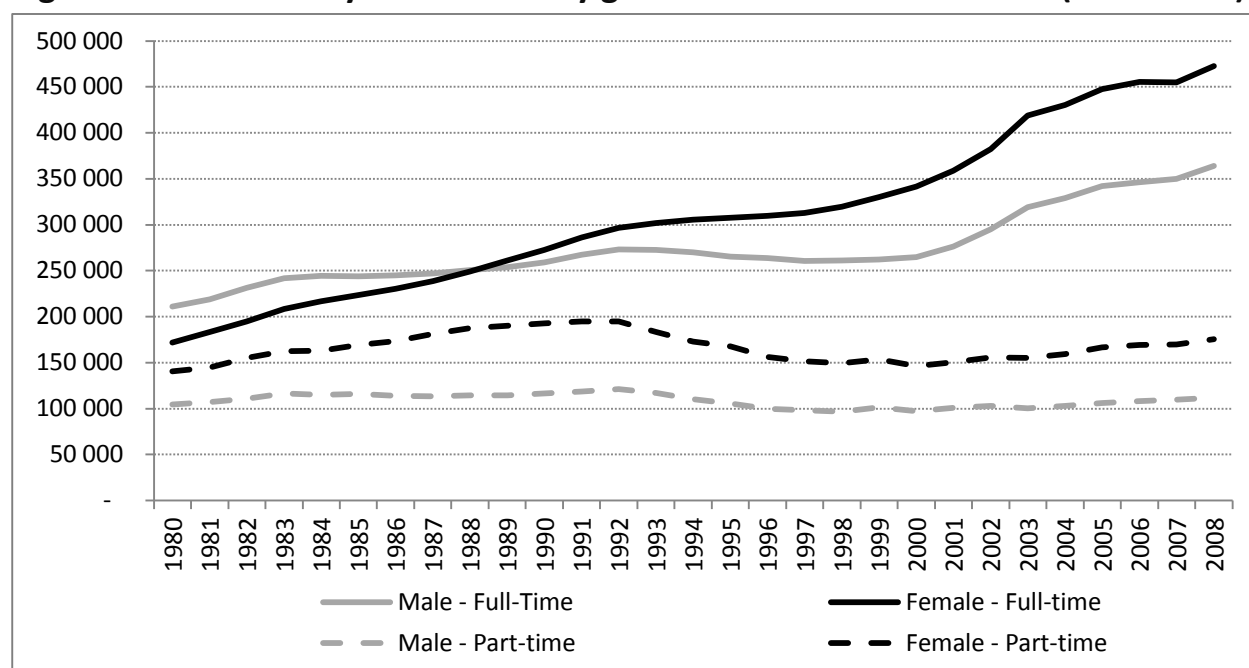
show that higher tuition fees in the 1990s did cause a reduction in enrolment *relative to long-term enrolment trends*, but it did not control for government grants to institutions (which, as we have seen, may be a major confounding variable since tuition increases were often correlated with decreases in public funding during that period).

4.3 Composition of the Student Body

In this section we will look at available data on the composition of the student body over time to see if any changes have occurred that might be linked to changes in cost-sharing.

Gender

In 1981, total female enrolments surpassed male enrolments for the first time and since then the gap has steadily widened. As Figure 4.19 shows, this is due mainly to a very strong and steady increase in full-time female enrolments over the past three decades, from 45% of total enrolments to 1980, to about 58% in 2008. The major change really occurred in the 1980s and 1990s (with full-time female enrolment surpassing full-time male enrolment in 1989); since 2000, male enrolments have been growing at the same pace as female enrolments and so the female share of enrolments has been essentially unchanged since 2001. Among part-time students, women have consistently made up 60% of enrolments since the mid-1980s (although a decline in part-time enrolments starting in 1992 means that this 60% has since represented a lower absolute number of students). These figures hold true more or less across the country, with very little variation from province to province; Prince Edward Island has the highest proportion of female enrolment (64%) while Saskatchewan has the lowest (57%).

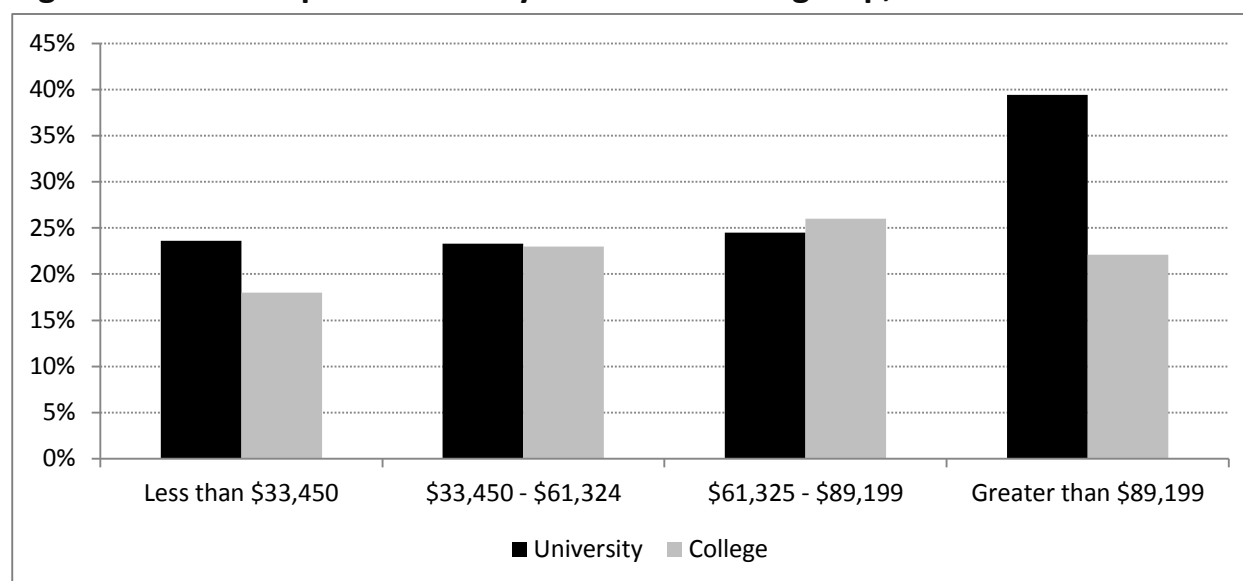
Figure 4.19: University enrolments by gender and enrolment status (1980-2009)

Source: PSIS.

In theory, cost-sharing might be thought to affect women more than men. We know from various Labour Force Surveys that women tend to earn less from summer and part-time jobs than men (Marshall, 2010); they also tend to receive less in transfers from their parents (Junor & Usher, 2004). This makes them more likely to borrow but also slightly less likely to go away for higher education, which drives down costs. However, as the figure above makes plain, this does not seem to have in any way stalled a long-term increase in access rates for women.

Socio-economic Status

Unsurprisingly, participation in Canadian higher education is positively associated with parental income. As portrayed in Figure 4.20, students from the three lowest income quartiles have roughly similar university participation rates (among students 18-21) of between 23 and 25%. However, for the top quartile, the rate jumps to almost 40%. College participation rates work slightly differently, rising steadily from the fourth to the second quartiles before falling again for the top quartile. Overall, post-secondary participation rates among 18-21 year-olds vary from just over 40% among the lowest income quartile to just over 61% in the top income quartile.

Figure 4.20: Participation rates by socio-economic group, 2008

Note: In Canadian dollars. Constant prices (2011).

Source: Access and Support to Education and Training Survey (ASETS), Statistics Canada.

Showing trends over time in participation rates by socio-economic group is somewhat difficult because different researchers have used very different survey techniques to try to get at the question. However, as near as can be said, socio-economic patterns in participation have changed little since the early 1990s. Looking at participation rate data for 18 to 24-year olds from the Survey of Labour and Income Dynamics, Berger, Motte and Parkin (2009) found that post-secondary participation among individuals with family incomes of more than 100,000 dollars per year hovered around three-quarters from 1993 to 2006 (the figure is higher than that shown in figure 4.20 because it includes a slightly larger age-range), while participation from families earnings less than 25,000 dollars has floated around one-half. The gap between the two groups has been about 25 percentage points since the late 1990s. Berger, Motte and Parkin (2008) found that the gap in university participation was particularly pronounced – individuals from families earning 100,000 dollars or more a year were consistently more than twice as likely to go to university as were those from families earning 25,000 dollars or less.

As for the reasons for the disparity, probably the most definitive work is a 2007 study from Marc Frenette entitled *Why Are Youth From Lower Income Families Less Likely to Attend University*, which used the Youth in Transition Survey to try to understand the difference in participation rates by income quartile. According to Frenette, 84% of the differences in participation rates between the top and bottom income quartile can be explained by observable characteristics such as differences in PISA scores at age 15, school marks at age 15, parental influences and school quality. Financial constraints, at most, accounted for 12% of the difference.

Visible Minorities

There is no national system of administrative statistics that captures race or ethnicity of students. However, the Canadian Undergraduate Survey Consortium does ask students if they belong to a

visible minority. Great care needs to be taken in terms of not putting too much weight on changes over time in CUSC data because the institutional membership of the consortium changes from survey to survey and this matters doubly in the case of a question like visible minorities since they are not distributed equally across the country (they are concentrated to a significant degree in a few major cities, most notably Toronto and Vancouver). That said, over the course of the 2000s, the proportion of respondents saying they were visible minorities rose from 14% in 2002 (compared to 16% of all youth 15-24 considered visible minorities by the census) to 24% in 2011 (compared to 21% of the 2011 census population). A significant part of the increase is no doubt due to the influx of international students in recent years; nevertheless, it seems likely that the proportion of domestic students coming from visible minority students has at least kept pace with overall demographic trends.

Many Canadians consider the category of ‘visible minority’ to be of little use when analysing things like participation rates, because of the way it lumps people with very different backgrounds together. Though there is very little solid data in Canada that examines life chances by ethnicity, it is generally believed that certain visible minorities (notably Chinese and Koreans) tend to succeed at a much higher rate than immigrants from the Caribbean. Still, one intriguing survey by Finnie and Mueller (2009) estimated that in fact virtually all immigrant communities had a better chance of attending university than did native-born Canadians. Chinese and other east-Asian immigrants had the highest chances, followed by immigrants from Africa.

Aboriginal Students

Generally speaking, Canadian governments and institutions do not report enrolment statistics on demographic characteristics such as ethnicity, disability or Aboriginal status. Unlike in the United States, Australia, or New Zealand, in Canada it is neither mandatory for institutions in most jurisdictions to collect and report this data, nor are approaches to identifying Aboriginal students standardised across jurisdictions or institutions (Educational Policy Institute, 2008).

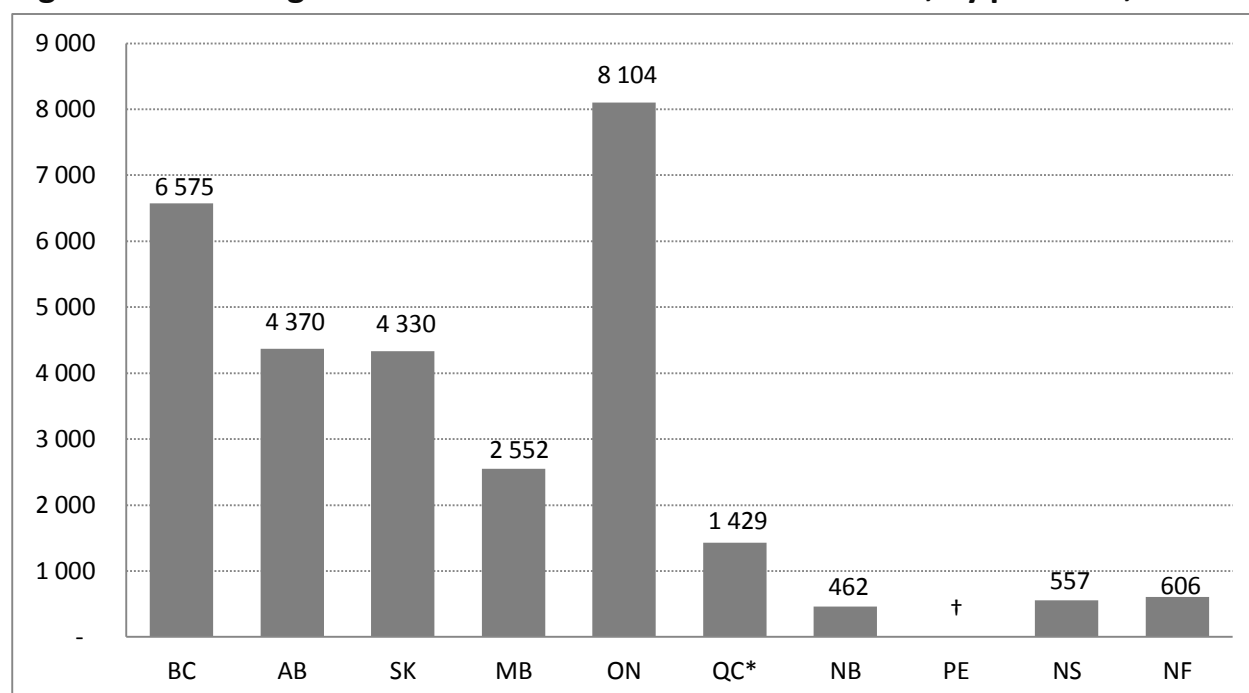
Since institutions generally do not collect data on ethnicity or Aboriginal status at the time of enrolment, we are left with two possible sources of data if we wish to examine the issue of Aboriginal participation in Canadian post-secondary education. The first – surveys of students done *after* enrolment through various means – is somewhat problematic because these kinds of surveys tend not to have terribly high response rates and the potential for survey bias exists. There is also the issue of self-identification; some Aboriginal or First Nations students appear to be reluctant to self-identify in such instruments, meaning that counts from these sources are always somewhat incomplete. The second – administrative data from Indian and Northern Affairs Canada (INAC) on the number of students receiving funding through INAC via their band council – is a consistent source of data but unfortunately an incomplete one, as it excludes the large numbers of Métis, Inuit, and non-Status Indians studying in Canada, as well as Status Indians who do not use INAC funding in order to pursue post-secondary education. Ultimately, many institutions have only a hazy idea of how many Aboriginal students are attending, and there is therefore no comprehensive national data source that tracks Aboriginal enrolments in post-secondary.

In 2011, however, Higher Education Strategy Associates did manage to go institution by institution and obtain relatively good estimates of aboriginal populations for both colleges and

universities²⁵. These are shown below in Figure 4.21. According to these statistics – which, it should be noted are all ultimately based on voluntary self-reporting (or estimates derived from these), we estimate that 32,000 Aboriginal students attended universities in Canada in 2008-2009. For comparison, the total Aboriginal population in Canada in 2006 was just under 1,173,000, while the number of Aboriginals aged 15-25 was 212,010. We do not know – because the institutional statistics on which our estimate is based tend not to display the data in this manner – what proportion of these students are First Nations vs. other Aboriginal, nor do we know whether the students are full-time or part-time.

Not surprisingly, Aboriginal enrolments are concentrated close to the major centres of Aboriginal population – primarily Northern Ontario and the four western provinces. In terms of Aboriginal students as a percentage of the total university population, estimates range from nearly 22% in Saskatchewan to 0% in Prince Edward Island (University of Prince Edward Island being one of the few universities that does not keep track of the number of Aboriginal students on campus). Nationally, the percentage is 3%, which, while not far off Aboriginal peoples' share of the entire population (3.8%), is lower than their share of the population aged 15-25 (5.0%). Figure 4.13 shows the distribution of Aboriginal enrolments by province.

²⁵ Notes about the quality of Aboriginal data: The quality of data and methods of estimation vary greatly from institution to institution. Some institutions have been tracking Aboriginal enrolment numbers for years, and are reasonably confident that most of their Aboriginal population chooses to self-identify. In some cases, an institution's numbers are not based on application data, but rather on voluntary surveys, or on the local Aboriginal student centre's records of the number of students who used its services. While such sources may seem to obviously understate Aboriginal enrolments, some institutions extrapolate from this data to obtain an estimate of their total Aboriginal enrolments which may also lead to an overstatement of Aboriginal students on campus. Many universities also only report their Aboriginal enrolment data as ranges because of the degree of uncertainty that such data collection methods entail. (For the purposes of this exercise, when faced with ranges we have used the midpoint.) A further complication is that different provinces and institutions employ different ways of counting Aboriginal students: some report a snapshot of students registered at a particular date in the fall, others report all enrolments over the course of a full academic year, yet others employ estimation methods that are not quite a snapshot or a year-round count. As an example, for institutions covered by the British Columbia Post-Secondary Central Data Warehouse, for which both types of counts are available, the year-round count yields a number that is 2.3 times as large as the snapshot. Where possible, snapshot-style data has been used; however, as the Aboriginal enrolment estimates presented in this section are based on a variety of methods of counting students, caution should be used when comparing results between provinces.

Figure 4.21: Aboriginal enrolments in Canadian universities, by province, 2008

Note: Note: BC = British Columbia; AB = Alberta; SK = Saskatchewan; MB = Manitoba; ON = Ontario; QC = Quebec; NB = New Brunswick; NS = Nova Scotia; NF = Newfoundland; PE = Prince Edward Island.

* This is only a partial estimate for Quebec as this only includes a subset of institutions.

† Information wasn't available for PEI.

Source: Association of Universities and Colleges of Canada, Higher Education Strategy Associates.

4.4 Completion Rates

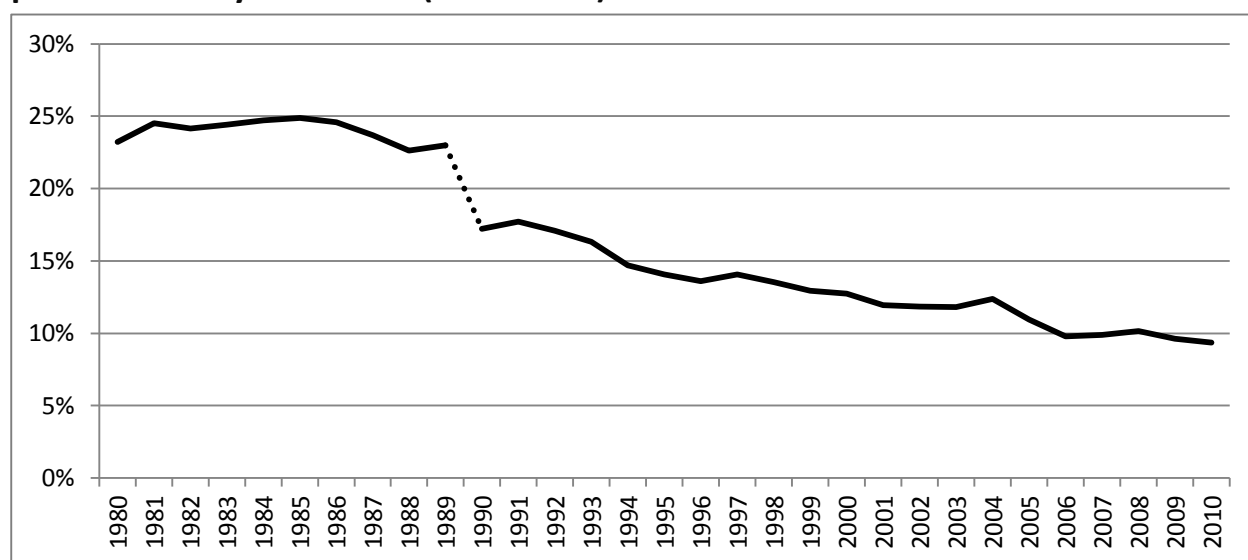
Data on completion is difficult to obtain in Canada because switching programmes and institutions inside a programme is relatively common phenomenon, and therefore calculating participation rates requires cohort data that crosses institutions. In theory the main Canadian student data system, the Post-Secondary Student Information System (PSIS), should be able to do this reasonably easily; however, no real data of this kind has yet been obtained from the system.

However, it is possible to use the Labour Force Survey data to estimate trends in system-wide drop-out rates among recent post-secondary students stretching back to 1980. A general estimate of the percentage of recent post-secondary students who did not complete their postsecondary programme can be obtained by dividing the number of Canadians aged 25 to 34 whose highest level of education was 'some post-secondary education' by the number with some post-secondary education or higher, and excluding anyone who is still currently in school. This avoids issues related to students switching institutions by providing a picture of completion rates for the system as a whole, and somewhat mitigates issues related to stop-outs (that is, students who leave school for a period of time and then recommence) by considering people who are at least seven years older than the typical post-secondary entrance age. The main drawback to this

approach is that because of the way the Labour Force Survey is constructed, one cannot distinguish between levels of completion in the university and non-university systems – they can only be examined at a combined systems level.

The data in figure 4.22 shows that the percentage of former post-secondary students in the 25-34 year old population who dropped out of their course has declined steadily over the past three decades, reaching an all-time low of 9.4% in 2010. This is almost a 50% decline from the 1990 value of 17.1%. While a change in data reporting by Statistics Canada means that pre-1990 data is not directly comparable to post-1990 data (hence the permanent downward shift in the series between 1989 and 1990, indicated by a dotted line in Figure 4.14), it appears that the decline began sometime around 1986 – prior to that date, the drop-out rate hovered fairly steadily at just under 25%.

Figure 4.22: Canadians aged 25-34 in the labour force with an uncompleted post-secondary education (1980-2010)



Source: Statistics Canada, Labour Force Survey.

The reason for this long-term change is unclear. It may be the case that as tuition rises, the phenomenon of ‘sunk costs’ is making it more psychologically costly for them to leave; whereas in an era of cheaper tuition, students might have decided to abandon their studies, now students think they need to protect their investment by ‘sticking it out.’ Another possibility is the job requirements have increased so that a post-secondary education is required more often now than it was in the past. This is mostly speculation; all we can say for certain here is that rising tuition is not being accompanied by rising levels of drop-outs.

4.5 Evaluation

Our evaluation here consists of answering four separate sets of questions.

First, how have increases in private funding changed costs to students? This is not a straightforward question, partly because Canada is a diverse federal country where provincial governments have adopted multiple strategies, and partly because an array of subsidies blunts the effects of tuition fees.

If we look simply at the sticker price of education, it has more or less doubled in real dollars across our period. Most of this increase occurred during the period of austerity in the 1990s, up to about 1999; after that, tuition continued to increase, but at a rate much closer to that of inflation. However, changes in policy to increase the number of grants and to vastly expand the amount of tax credits available to students meant that the effects of these tuition increases were mitigated to some extent; indeed, in some parts of the country, net tuition has not actually increased at all over our period and nationally, after tax expenditures are taken into account, the real increase in fees is less than 25% since 1993. Although few in Canada realise it, the apparent massive change in cost-sharing which has taken place over the last 20 years has in fact mostly been a mirage – what government took with one hand, it mostly gave back with another. To put this another way: although fees have increased, ‘cost-sharing’ has not really changed.

Our second question here is: what effect does an increase in private funding have on participation rates? The answer here, seemingly, is “not very much”. Participation rates were flat in the era of austerity, but rose by roughly 50% in the 2000s. One could try to tell a story from this that rates remain stable when tuition rises and increase when tuition increases are more moderate, but this is not a particularly satisfying explanation. First of all, it assumes that what deters students are rates of increases in tuition rather than its absolute amounts. Second, it ignores the provincial evidence that seems to show increases in participation regardless of provincial strategies on tuition. A more straightforward reading of the data would note the correlation between total funding – regardless of whether it is private or public - and participation rates. When one rose, so did the other, because more money is ultimately how extra spaces are created.

A third question is “how have increases in private funding affected the composition of the student body”? Rigorously, we cannot answer this question very well, since Canadian data systems at the time that tuition was rising quickly were not very well developed. Most of our best data comes from the period when tuition increases were moderating and increasing amounts of subsidies were being put into the system. However, what we can say with some assurance is that increasing costs did not affect gender participation rates (these continued to increasingly favour women over the long term regardless of what was happening to fees), and that the participation gap between the top and bottom income quartiles did not get any worse over our period.

With respect to student success, it would appear that completion rates have been increasing even as tuition rose. It is unclear why this is so. There is no data on which to base any conclusions with respect to time-to-completion.

In sum, tuition increased substantially over our period, mostly in the 1990s. Participation also increased in our period, mostly in the 2000s. As far as can be ascertained, the higher tuition fees that took hold in the 1990s seemingly did not prevent a rise in participation, nor did they change the composition of the student body, nor did they prompt an increase in the rate of drop-outs

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(quite the opposite, actually). However, it should be noted that because of an increase in various subsidies, real net tuition rose considerably more slowly than did 'sticker price' tuition. The best way to summarise this is that i) net tuition increases have been less significant than advertised, and ii) Canada's system of student assistance has been very effective in reducing any disadvantageous effects of such increases as they have happened.

5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study (but not necessarily on the share of students studying). Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

5.1 Student Study Patterns

In this section, we look at whether or not the increase in private funding – specifically, an increase in tuition fees – changes the pattern of studies and specifically whether it changes the mode of study (full-time v. part-time) or the pattern of entry into post-secondary (specifically, whether students delay entry)

We have previously examined the issue of full-time versus part-time students in Canadian higher education (see Figure 1.2, above). The proportion of part-time students fell drastically in the 1990s and stayed low until the later 2000s when their numbers began to rise again.

As noted previously, while the timing of the initial fall in part-time enrolments does coincide somewhat with the onset of much higher tuition fees, the generally-accepted explanation for this had to do with the end of a period where various professional organizations were retroactively requiring their members to obtain bachelor's degrees. There does not appear to have been any change in study patterns (i.e. study full-time vs. study part-time) that can be attributed to changes in tuition fees. Since fees are more or less proportional to course load, there is very little reason to prefer one mode of study over another.

In terms of delayed entry, Canada does not keep statistics on this, for the simple reason that its national statistical system cannot identify first-time students in the system. However, the Canadian Undergraduate Survey Consortium has been publishing a triennial survey of entering students for the past fifteen years or so. In 2001, they began asking a question about the student's activities in the year prior to entering post-secondary education. The answer then was that 25% of entering students had not been enrolled in any kind of school (secondary or CEGEP) in the previous year. In 2010, the most recent year for which data is available, the proportion had fallen to 20%. The CUSC's consortium members change somewhat from year to year, and so this should not be read too definitively as evidence of a fall in the proportion of students taking gap-years. What one can say, though, is that there is no evidence delayed entry to higher education is more common than it used to be..

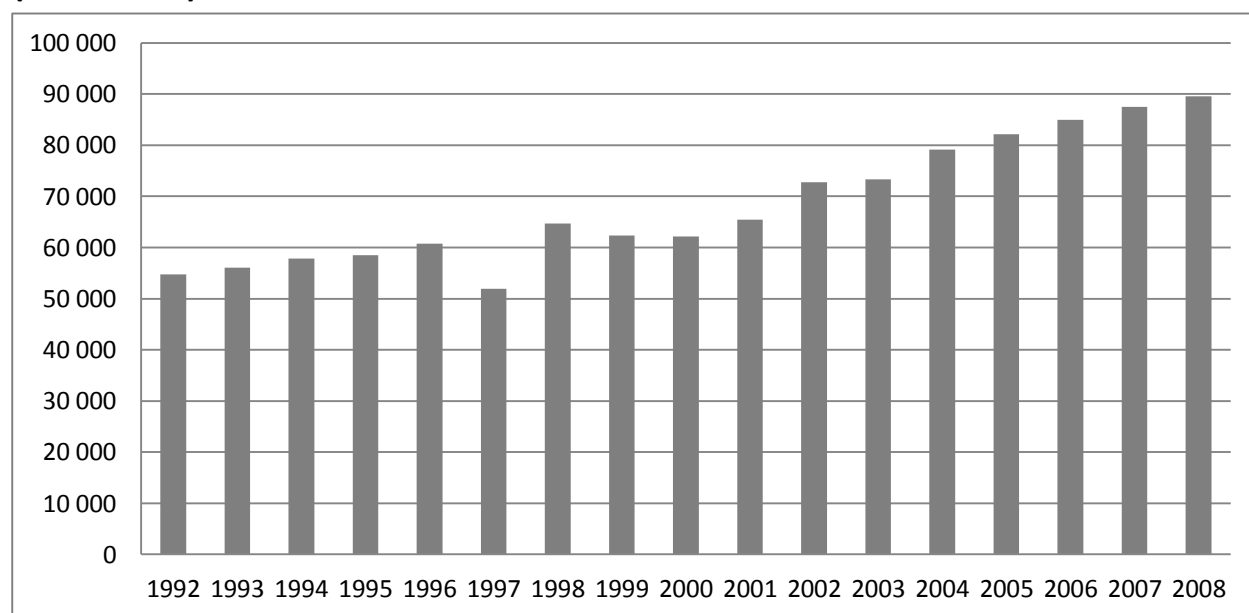
5.2 Location of Study

One hypothesis about the effects of tuition is that they make it more difficult for students to study away from home. As costs rise, so the theory goes, less money is available for other living costs and so students become likelier to stay at home in order to economise.

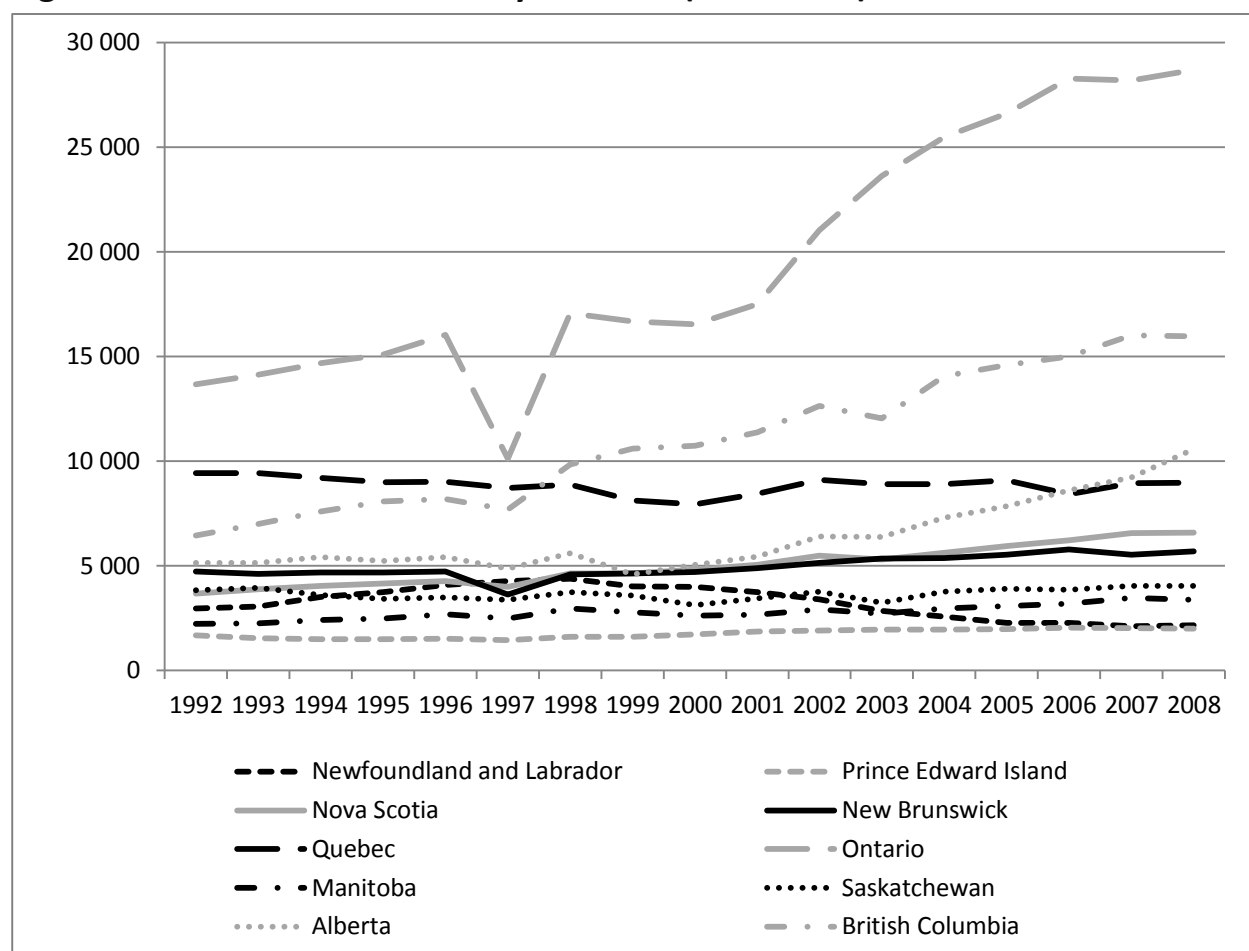
Canada has no time-series data on the proportion of students who live ‘away from home’. There are, however, statistics on students who leave their home province to study elsewhere. These numbers have risen somewhat in recent years. Among domestic students, the proportion studying out-of-province rose from 7.7% to 9.4% between 1992 and 2008.

The reason for this increase is unclear, but it is not a nationwide-phenomenon. Two provinces in particular are driving this phenomenon: Ontario and British Columbia, where outbound mobility has doubled over the course of our period. The former students have tended to leave either for Nova Scotia, Quebec or British Columbia, while the latter have primarily gone to Alberta and Ontario. Among the other eight provinces, only Alberta has seen any rise in outbound mobility – for the other seven, the figures have remained essentially static for the duration of the period.

Figure 5.1: Number of domestic students studying outside their home province (1992-2008)



Source: Statistics Canada, PSIS.

Figure 5.2: Outbound students by Province (1992-2008)

Source: Statistics Canada, PSIS.

As far as changes in international study destinations are concerned, Canada does not keep track of students who leave the country. The only available data for this is data from UNESCO institute of statistics, whose international student counts have been known to suffer somewhat from inconsistent reporting and varying international standards in counting international students. However, just looking at the period from 2000 to 2010, where the reporting is for the most part consistent, it seems that the number of Canadians studying abroad has risen from 29,303 to 44,290, an increase of 51%. The US is by far the number one destination, making up 63% of out-going students in 2010; however, this is down substantially from 74% in 2000. The country that seems to have gained the most in terms of new Canadian students is the United Kingdom, up 60% from 3,000 to 5,000 students. It is unknown how many of these students are studying at the undergraduate level and how many are studying at the graduate level.

5.3 Field of Study

One hypothesis that is frequently advanced about the impact of fees is that to the extent that fees vary across fields of study, they may induce students to move towards ‘cheaper’ subjects and away from (potentially) more valuable subjects that happen to be more expensive.

We have already seen (see Figure 3.1) that there has been very little shifting of students between major fields of study. But since the gap in tuition fees by field of study at the first-degree level has not widened at all in the past twenty years, this should not be considered a surprise.

Where Canada has had particular spikes in tuition at the disciplinary level has been for law and medicine, which for the most part are second-entry programmes.²⁶ In the late 1990s, during a brief experimentation with de-regulation, many provinces allowed fees in these disciplines, along with dentistry degrees and MBAs, to rise sharply to the 15-20,000 dollar range. A number of studies tried to examine the effects of these changes, but most were beset by serious methodological problems.²⁷ The best of these was a paper by then-Statistics Canada analyst Marc Frenette (2005) entitled *The Impact of Tuition Fees on University Access: Evidence From Large-Scale Price De-regulation in Professional Programmes*. It concluded, based on data from the National Graduate Survey showing which graduates went back for further study in law and medicine within two years of finishing an undergraduate degree, that students from both high-income and low-income families had seen their participation rates in de-regulated programmes rise, but those of students from middle-income families had fallen.

Frenette’s explanation for this result was that the increase in grants in the late 1990s (which were ostensibly directed at low-income students) might have levelled the playing field for the poor but not the middle-class. This, however, is unlikely since second-entry students are all considered ‘independent’ and hence parental income is not a factor in their student assistance calculation. We can therefore note that there was a change in participation patterns, but it was not entirely in the expected direction (didn’t affect the poorest) and that the explanation for the change is not clear.

5.4 Time-to-Completion

Time-to-completion is not something that has been of sufficient policy concern to have required tracking over time. Because institution-switching is relatively common, accurate tracking of times-to-completion cannot be done at the institutional level; only system-wide unit-level databases would be able to achieve this. British Columbia, Alberta and Quebec possess such databases, but to our knowledge have never published data on this issue.

²⁶ In Quebec, a certain number of seats in both law and medical school are reserved for students entering directly from CEGEP. Apart from that, entry into most law and medicine are essentially restricted to students who have completed an undergraduate degree although a few exceptionally talented students are accepted each year after just two or three years of undergraduate study.

²⁷ It is significantly more difficult to gather data on social background of students in second-entry programmes than it is for first-entry programme. Things like postal-code data of applicants is much harder to interpret from students in their mid-20s than from students at age 18 (when they are presumably living with their parents).

Some data is available with respect to students who both started and finished their degree at the same institution. According to Junor and Usher (2004), average time to completion for degrees was approximately one year longer than the ‘expected’ time to degree; that is, 4 years for 3-year degrees, 5 years for 4-year degrees and 6 years for 5-year degrees (such as Engineering). There is no reason to believe that this has changed a great deal over time.

5.5 Evaluation

Hypothesis D suggested that rather than having an absolute effect on the level of participation, the liquidity issues that stem from increased tuition levels 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. Specifically, we had four sub-hypotheses about the potential impact of higher tuition, which we now examine:

First, with respect to ‘how’ students study, we have hypothesised that increases in private funding might lead to changes in study mode (part-time versus full-time study) and delays in entry. There is very little evidence to suggest that this is the case. In the case of part-time students, these numbers dropped substantially as tuition was increasing the fastest, and generally remained low for much of our period. In the case of delays of study, we have only a few partial observations but what data there is suggests that students are not delaying participation in higher education in order to work and save money for their studies.

Second, with respect to whether increases in private funding have affected students’ choice of study location either in terms of where within a country they choose to study or whether it has affected plans to study internationally, the evidence suggests few if any effects of tuition. Although no data exists to examine the likelihood of students leaving home to attend school, there does appear to have been an increase in the number of students switching provinces. There also appears to have been an increase in international mobility, though not as a way to avoid high tuition since the main destinations were the US and the UK.

Third, with respect to whether increases in tuition have affected what students study, as we noted earlier, there does not appear to have been many significant changes in the main fields of study enrolment over our period, so it is difficult to conclude that tuition has caused any changes. Where there have been very radical changes in tuition – second entry programmes such as law, medicine and dentistry – there have been increases in participation from both upper- and lower-income families, with middle-income families losing out. The reason for this somewhat counter-intuitive result is not immediately obvious.

Fourth, with respect to increases in fees making students more efficient and taking less time to complete their education, there is no data available on which to test this proposition.

In sum, though the data is admittedly limited, the rise in tuition fees in Canada appear not to have had any adverse effects on study mode, study timing or choice of field of study, at least as far as first-entry programmes are concerned. There is some evidence that tuition de-regulation in

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second-entry programmes has had an adverse effect on middle-income students but not low-income ones. The reason for this counter-intuitive result is something of a mystery.

6. CONCLUSION

Our study of Canada divides itself roughly into two periods. Prior to 1999, public investment was falling, tuition and other private contributions were rising and participation rates were flat. After 1999, public investment rose more quickly, tuition and other private contributions continued to rise, and participation rates jumped sharply.

With respect to Hypothesis A, we can say that cost-sharing most certainly increased total funding, but this was not consistently the case across the period. Moreover, even though significant sums of money came into universities in the years after 1999, much of this was steered towards purposes other than undergraduate instruction and even though funding per student rose significantly, this was not enough to prevent deterioration in students-per-academic staff ratios.

With respect to Hypothesis B, we can say that institutional strategies changed to maximise revenue from private sources, but they also changed to maximise revenue from public sources as well. Perhaps the most significant areas of change occurred in the pursuit of international students; much of what is seen from the outside as ‘competitive’ behaviour between institutions appears to have been competition for prestige rather than dollars (though over the longer term prestige and income are presumably correlated). Changes in governance over our period have been minor to non-existent; in Canada, community and business leaders have always had a major say in the governance of institutions, though this influence tends not to be felt at the level of academic programming.

With respect to Hypothesis C, tuition increased substantially over our period, mostly in the 1990s, while participation also increased, mostly in the 2000s. Higher tuition fees did not prevent a rise in participation, nor did they change the composition of the student body, nor did they prompt an increase in the rate of drop-outs (quite the opposite, actually). However, because of an increase in subsidies, real net tuition rose considerably more slowly than did ‘sticker price’ tuition. An analysis of different provincial systems suggests that there is no obvious relationship between net costs and participation; additionally, it would seem that Canada’s student assistance system played a role in mitigating the negative effects of such changes have happened. The only place where there do seem to have been some effects is in the tuition de-regulation of second-entry programmes; however, the negative effects seem to have been on middle-income students rather than low-income ones.

Finally, with respect to Hypothesis D, though the data is admittedly limited, the rise in tuition fees in Canada appear not to have had an adverse effects on study mode, study timing or choice of field of study, at least as far as first-entry programmes are concerned.

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APPENDIX: LIST OF INTERVIEWED EXPERTS

Name	Position / Affiliation
Ken Norrie	Ex-Dean, University of Alberta Ex-Provost, McMaster University Ex-Director Research Higher Education Quality Council of Ontario
Kathleen Massey	Registrar, McGill University
Robert Clift	Executive Director, Confederation of University Faculty Associations of British Columbia
Herb O'Heron	Director of Research, Association of Universities and Colleges of Canada
Paul Vigneault	Conseil Supérieur de l'Éducation
Tom Traves	Ex-President, Dalhousie University
Jennifer Humphries	Vice-President, Canadian Bureau of International Education

ENGLAND

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1. INTRODUCTION

1.1 Overview of Higher Education in England

England is one of the four countries forming the United Kingdom (UK), the other three being Wales, Scotland and Northern Ireland. According to the 2011 census, the UK's total population is 63 million, of which 53 million live in England, 5 million in Scotland, 3 million in Wales and just under 2 million in Northern Ireland. Though all four countries of the UK share a head of state and send Members of Parliament to Westminster, three of the four countries (Wales, Scotland, and Northern Ireland) also have their own parliaments. Higher Education is one of the policy areas that has been devolved to regional parliaments. Higher Education in Wales, Scotland and Northern Ireland are therefore under the jurisdiction of Cardiff, Edinburgh and Belfast, respectively. England does not have its own Parliament, so policy there is made by the Union government at Westminster.

As a result, the UK in effect has four separate systems of higher education, albeit with many shared characteristics. The largest of these – the English one, which contains about 85% of UK students – has seen some very significant experimentation over the past fifteen years. For that reason, this case study will focus as far as possible on the English portion of the system. On occasion, other countries' systems and their results will be used to highlight the effects of changes in the English system, since in a sense they form natural control groups to the 'experiments' in higher education funding implemented in England (see below).

In England, prior to entering higher education, students flow through a system known as '16-19 secondary education'. After completing their General Certificate of Secondary Education (GCSE) at age 16, students may continue in secondary school, or attend other institutions known as sixth-form colleges or further education colleges. The landscape of providers varies according to local arrangements, but all areas provide young people with a wide choice of programmes leading to general/academic, pre-vocational or vocational qualifications. Qualifications are provided by centrally regulated awarding organisations, external to the school or college within a qualifications system common to England, Wales and Northern Ireland. Students wishing to continue on to higher education must pass a set of exams called the General Certificate of Education, Advanced Level (known as A-levels).

Since the Further and Higher Education Act of 1992 ended the 'binary divide' between universities and polytechnics, England has had a unitary higher education system where professional institutes such as polytechnics and *Fachhochschulen* that are seen on the continent are merged into the university sector. Higher Education Institutions (HEIs) in England are autonomous self-governing bodies. They receive funds from a variety of sources; state funds presently form a very low proportion of overall funds, though this was not always the case. Access to the title of university is controlled by Government on a UK-wide basis. Though individual institutions have wide latitude in developing curriculum, all institutions structure their

programmes along broadly similar lines within a three cycle framework, which conforms to the European Higher Education Area (EHEA) qualifications framework.

In addition to the 130 public HEIs in England, the term university has also been granted to three private institutions that have passed the relevant quality assessment tests as well: the University of Buckingham which is a comprehensive arts and science university dating from the 1980s, and two institutions that specialise in professional (mainly legal) studies: BPP University college and the University of Law. Private providers receive no direct government funding, but their students may be eligible for public financial support. Data for private institutions are not usually collected or reported separately from that of public institutions; therefore, unlike several of the other chapters in this volume, data for the private sector will not be reported separately here.

England was one of the first countries in Europe to introduce substantial fees, first for international students, then professional Master students and finally in 1998 for undergraduates as well. It has followed a punctuated equilibrium model for increasing fees; after their introduction in 1998, they were held constant in nominal value for eight years, and then tripled. Six years later they were essentially tripled again. Since 2012, public universities have had the freedom to increase tuition fees to up to 9000 British pounds²⁸ a year, and a majority of them have raised tuition to this limit. The government does provide certain incentives for institutions to keep tuition below 7000 pounds, but few institutions do.

1.2 Key Higher Education Stakeholders

Since 2009, the Government Ministry responsible for higher education has been the Department of Business, Industry and Skills; prior to that, it was integrated with the Department of Education. There is a Minister of Business Industry and Skills, as well as a more junior minister specifically for Higher Education.

The government does not distribute funds directly to educational institutions. This happens through the Higher Education Funding Council for England (HEFCE), an arms-length body responsible for the distribution of public funds for teaching and research infrastructure across UK institutions. Six other sectoral research councils (Economic and Social Research Council, Arts and Humanities Research Council, Biotechnology and Biological Sciences Research Council, Natural Environment Research Council, Engineering and Physical Sciences Research Council, Medical Research Council) distribute funds on a competitive basis to individual researchers; a seventh, the Science and Technology Facilities Council, distributes funding for scientific infrastructure.

The *Quality Assurance Agency* (QAA) is an independent, non-profit body that oversees standards in higher education in England. It sets out expectations in relation to academic standards, quality, and the provision of information and then reviews institutions periodically to ensure that these standards are being upheld. Its board members are drawn from the university

²⁸ As of April 2014, 1 British pound = 1.21 euros.

sector, and in particular from executive heads. It is not itself an accrediting agency. The government itself retains the power to accredit institutions, but the QAA makes recommendations to the Department on issues relating to the award of degree-granting powers.

The university sector itself has a number of representative bodies. Universities UK (UUK) is the apex body that represents the sector as a whole; however, there are also a number of other representative groupings of institutions based on their profile. The most research-intensive universities (which also tend to be the older universities) are regrouped in the Russell Group of Institutions. A slightly less research-intensive (and generally younger) group of institutions is the '1994 group'. The newest institutions are represented either by 'Million +', or by 'Guild HE' (the latter containing a large number of specialist colleges). Student unions from across the country are collectively represented by the National Union of Students.

1.3 How Governments Fund Institutions

The funding formula for higher education in England since 1986 has been primarily based on a weighed student enrolment formula. That is to say, while there are numerous funding envelopes available to institutions (see below), the majority of the money provided to institutions by government (and delivered through HEFCE) came through a system that provided institutions with cash based on the number of undergraduates they enrolled in various fields of study.

In the HEFCE system, fields of study are divided into four categories. Group A contains clinical medicine, dentistry and veterinary science. Group B contains laboratory-based subjects such as Science, Engineering and Technology. Group C is what is known as 'intensive teaching, studio and fieldwork', which includes Art, Design and Mathematics. And Group D includes Humanities, Social Sciences, Law and Business. At different times, students in each of these groups have been worth a different amount to universities. If we think of Group D as being the base, Group A has usually been worth about 5 times Group D, Group B has been worth twice Group B and Groups C has been worth 1.3 to 1.5 Group D. However, after the changes in 2012/13 and the introduction of much higher fees following the Browne report, students enrolled in groups C and D no longer carry any public subsidy at all, Group C students carry a subsidy of 1,500 pounds and Group A carry a subsidy of 10,000 pounds.

1.4 History of Cost-Sharing²⁹

Prior to the 1990s, funding of higher education in England (which consists almost exclusively of public institutions) was entirely public; domestic undergraduate students were not charged tuition and, if they came from a low-income household, were eligible to receive grants from Government to cover living costs. The Thatcher government introduced non-income-assessed mortgage-style student loans, rather than grants, to provide additional resources to students in 1990, and this initiated an accelerated transition from grant-financing of students' living costs to

²⁹ The main author of this section is Alison Johnston.

loan-financing (Pennell & West, 2005). Nevertheless, tuition fees remained at zero until 1998.³⁰ The transition of the British higher education from an elite sector, where roughly 5% of school leavers entered university in the 1960s, to one where 30% of school leavers entered university by the 1990s placed considerable financial strain on higher education institutions (HEIs). Between 1980/81 and 1999/00, real funding per student was halved due to rising student numbers and insufficient growth in public funding (Greenaway & Haynes, 2003). The merger of 40 polytechnics, which were previously funded through the Polytechnics and Colleges Funding Council, into the university sector in 1992 by the Major government, was a particular shock to a system that had already witnessed steady declines in student funding. Greenaway and Haynes (2003) and Barr (2004) outline that these funding pressures placed strain on student/faculty ratios and remuneration, recruitment and retention of faculty, which threatened the UK's research capacity.

Despite increasing student numbers and declines in funding, universities across England and the United Kingdom were unable to charge tuition fees. The power to levy tuition fees in England ultimately requires an act of Parliament. Given the political unpopularity of levying fees in England and across the UK, where public opinion firmly supported public funding for university education, politicians were wary of introducing fees to a public debate, especially around election periods. Consequently, cost-sharing instruments for domestic students remain largely outside of the hands of British universities, although universities have long had the capacity to charge fees for international students and British post-graduate students in Master courses (see below).

Acknowledging the significant funding problems of British universities, John Major's Conservative government established a National Committee of Inquiry into Higher Education (the Dearing Commission) in 1996 to discuss alternative funding streams. Fearing possible political backlash from the discussion of the introduction of tuition fees – the next general election was to be held in May of 1997 – the Committee was given a broad remit to consider the state of British higher education in general and was scheduled to present its findings in summer 1997, ensuring that higher education finance was off the election agenda (Barr & Crawford, 1998). The report was wide-sweeping, establishing recommendations on widening participation, faculty retention and quality assurance, among other things. Among its most controversial components, however, was a shift in funding towards components that were ruled by 'student choice', or fees, although the Dearing Report specified that student contributions should be income-contingent based on the graduate's salary after leaving university (Dearing Committee, 1997). Realising the political difficulty of introducing fees, even after the election, the report, in line with a growing policy consensus within the country, supported fees only if contributions were supported by income-contingent loans (Barr & Crawford, 1998). This recommendation would shape the political landscape of all future tuition fee rises in England; in 2006 and 2012 when tuition-fee caps for public institutions were increased to 3,000 pounds and 9,000 pounds per annum, respectively, income-contingent loan assistance for tuition fees was matched on a 1-to-1 basis, regardless of a student's household income.

³⁰ For better readability, the term '(tuition) fees' refers to fees for undergraduate domestic students in this section unless otherwise noted.

Tuition fees were introduced in England (and - albeit only for a short period in the case of Scotland - the other countries of the UK) in the 1998 Higher Education Act. Given policy-makers' concern for how fees would influence access, fees were applied on a means-tested basis; incoming-students from households whose annual income was below 20,000 pounds were completely exempt from the 1,000 pound per annum fee, while students from households with annual incomes between 20,000 pounds and 30,000 pounds were subject to a reduced fee (Goodman & Kaplan, 2003). Realising that a conditional 1,000 pounds per annum contribution from undergraduates would not quell funding gaps within the higher education sector, universities continued to lobby Government for an increase in student contributions. After the 2001 general election, the Labour Government launched a White Paper examining the further increase of tuition fees. After a tumultuous vote in the House of Commons, the 2004 Higher Education Act introduced a universal 3,000 pounds fee cap. Unlike the previous system, no student was exempt from the fee level based upon his/her household income. Under the new system, introduced in 2006, universities could charge up to 3,000 pounds per student. All students would be eligible to receive income-contingent student loans from the Student Loans Company to cover tuition and a loan for a portion of living costs from the government. Upon graduation, students' loan repayment was a function of their income; students would repay 9% of income above 15,000 pounds (hence, graduates with low annual earnings paid nothing), were charged a zero real rate of interest on all loans, and had 25 years to repay their loan debt (any remaining debt after 25 years was forgiven by the Treasury) – see Table 1.

Though the 2006 system shifted the funding of higher education onto students, increasing cost-sharing in the English higher education sector in principle, in practice, the state continued to heavily subsidise student borrowing. Estimates of the loan subsidy, stemming from the zero real interest rate and the debt write-off, ranged from 25% to 30%, indicating that roughly a quarter to a third of all lending is not repaid (Johnston & Barr, 2013). In 2007/08, the zero real interest rate and 25-year write-off cost approximately 1 billion pounds, out of total lending to students in England of 3.9 billion pounds, *over a tenth of public spending* (7.24 billion pounds) on English higher education (HEFCE, 2008).

It was agreed that Government would reconsider the level of the fees cap, but a decision on the matter was postponed until after the May, 2010 general election. The Independent Review of Higher Education Funding and Student Finance (the Browne Review) was initiated in late 2009, in order to collect evidence for wide-ranging changes to higher education funding in England, specifically examining the placement of the fees cap and changes to student support and financial assistance. Even before the release of the Browne Review, it was apparent that tuition fees would increase as austerity in government finances began in reaction to the global financial crisis. Government announced in the Treasury's (October) 2010 Spending Review that the overall resource budget for higher education would decline by 40%, from 7.1 billion pounds in 2010 to 4.2 billion pounds by 2014-15, with all of this reduction being achieved in the HEFCE teaching grant (HM Treasury, 2010). Funding of the more expensive science and technology subjects (Groups A and B) was partially preserved, arts, humanities, social sciences and other subjects falling into Groups C and D would witness the complete elimination of their bloc-teaching grants by 2014/15. In order to compensate for this funding short-fall, fees were expected to rise.

In December, 2010, Parliament agreed, by a 323 to 302 vote, to set a maximum cap for university fees of 9,000 pounds per year. Government created a core reduction mechanism whereby universities charging fees over 6,000 pounds would have their student number allocations reduced by up to 8%. One feature of both this reform and the 2006 reform was the idea that setting a maximum tuition fee and allowing institutions freedom to charge what they wished below this level would create a competitive market. In fact, in neither instance did this turn out to be the case. In 2006, 94% of universities in England chose to charge the full 3,000 pounds; as of mid-2013, roughly three-quarters of English Universities were charging the full 9,000 pounds permitted by the new law. As a result of the increase in the tuition fees cap, the UK Government made several important changes to study aid, mostly in the form of student loan design. Three new tuition loan expansions took place in the 2012/13 academic year: i) part-time students became eligible for publically subsidised tuition fee loans, for up to 6,750 pounds per annum; ii) full-time students studying at private institutions witnessed an increase in the annual tuition loan they were eligible for, from a maximum of 3,375 pounds per annum to a maximum of 6,000 pounds per annum, and; iii) full-time students studying at public institutions witnessed an increase in the annual tuition loan they were eligible for, from a maximum of 3,375 pounds per annum to a maximum of 9,000 pounds per annum. Repayment terms for tuition and maintenance loans taken out by students entering university in 2012/13 (or later) have also witnessed changes, relative to the 2006 system (see Table 1). Though the 2012 reforms have significantly transferred the costs of higher education onto the graduate and away from the state, the latter continues to substantially subsidise student lending.

It is worth noticing that the fee regime described here only applies to ‘home’ students (i.e. UK and EU/EEA students). International students are charged much higher fees.

Table 1.1: England's system of federal financial aid for full-time undergraduates

	The 1998 system	The 2006 system	The 2012 system
Tuition Fees for UK and EU students	1,000 pounds p.a. for students with family income above 30,000 pounds. Partially waived for students with household incomes between 20,000-30,000,pounds fully waived below 20,000 pounds	3,000 pounds p.a. maximum No exemptions	9,000 pounds p.a. maximum No exemptions
Loan Amount for fees for UK and EU students	No loans for fees	Up to 3,000 pounds p.a. for (new) full time students	Up to 9,000 pounds p.a. for (new) full time students
Maintenance Grant (UK residence conditions apply)	Up to 1,000 pounds p.a. (grant system was suspended between 1999 and 2004)	Up to 2,900 pounds p.a., contingent on household income	Similar to 2006 system (increasing with inflation)
Maintenance Loan ³¹ (UK residence conditions apply)	Up to 3,905 pounds for maintenance, if low-income	Similar to 1998 system (increasing with inflation)	Similar as the 1998 system (increasing with inflation)
Loan Interest Rate	0% in-study, 0% in repayment	linked to inflation in-study, linked to inflation in repayment	3% in-study, 0-3% in repayment, based on income.
Repayment Threshold ³²	10,000 pounds	15,000 pounds Non-indexed before 2012. Annually with inflation from 2012 25 years	21,000 pounds Annually with earnings from 2016
Repayment Rate (above threshold)	9%	9%	9%
Repayment Period – after which loan is forgiven	Life	25 years	30 years

Source: Chowdry, Dearden, & Wyness, 2010; Goodman & Kaplan, 2003.

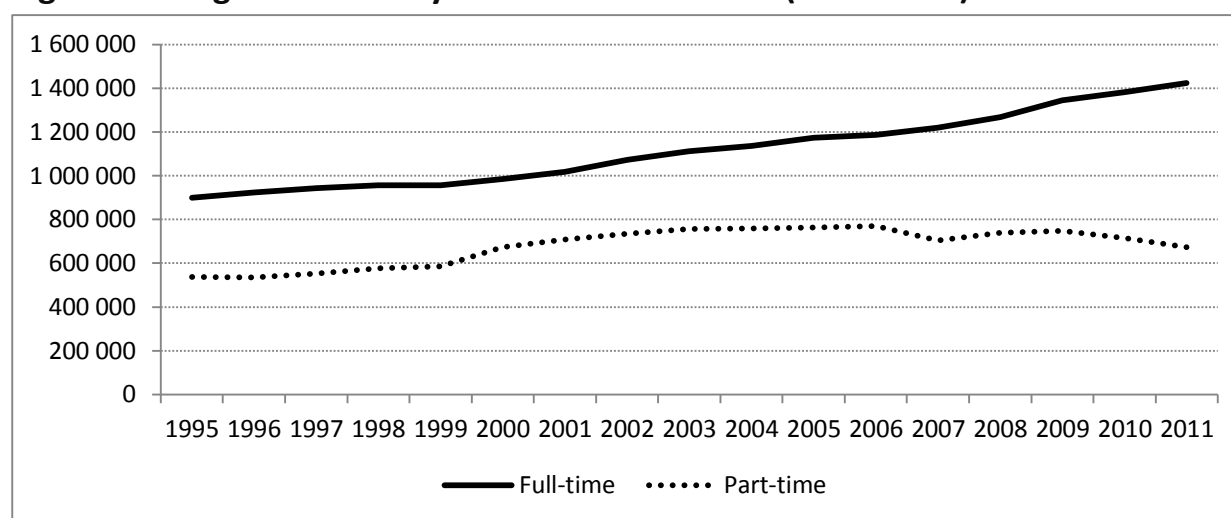
³¹ Amounts depend on whether the student lives away from home or not and whether the student lives in London or not.

³² Graduates only have to start repayment once they have an annual income above this threshold.

1.5 History of Enrolment

Enrolment in English universities has been rising steadily during our period of investigation. Full-time enrolment rose by over 50%, from roughly 900,000 students to 1.4 million. Part-time enrolment rose more slowly, from 550,000 in 1995 to 780,000 in 2006. After the 2006 reforms, part-time enrolment began declining, falling to just under 700,000 in 2011.

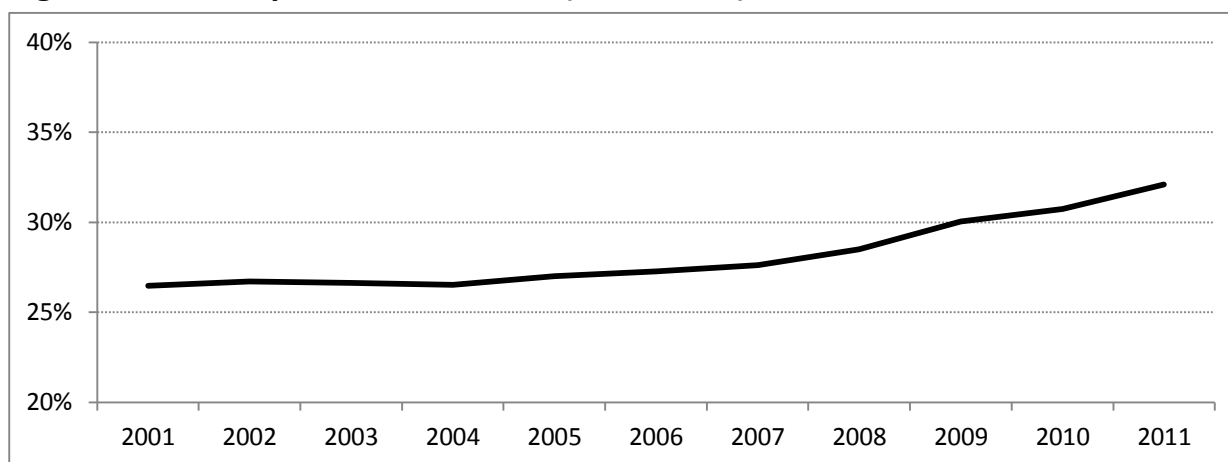
Figure1.1: English university enrolment over time (1995-2011)



Source: Higher Education Statistics Agency.

Figure 1.2 looks at participation by students in the four age-years with the highest participation rates in higher education. This can differ somewhat by country, but in England it is the 18-21 year-old age group, which make up roughly 60% of the entire student population (890,000 in total in 2011-2012). Available data on students by age reach back only to 2001, so the data presented here are for a more limited period than in the previous graph. In the period running up to the 2006 reforms, participation rates were relatively steady at 26-27%. What happened after the 2006 reforms, which substantially increased the cost of education to most students, was that participation began to increase, up to 30% in 2009 and then to 32% in 2011. Some of the increase in 2011 may however have something of a double-cohort effect as students who used to take 'gap years' (that is a year off after finishing school and before entering higher education, usually spent travelling or working) chose to forego it in order to get in a year of higher education before the planned rise in tuition in 2012.

Figure1.2: Participation rates 18-21 (2001-2011)



Source: Higher Education Statistics Agency, Office of National Statistics.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

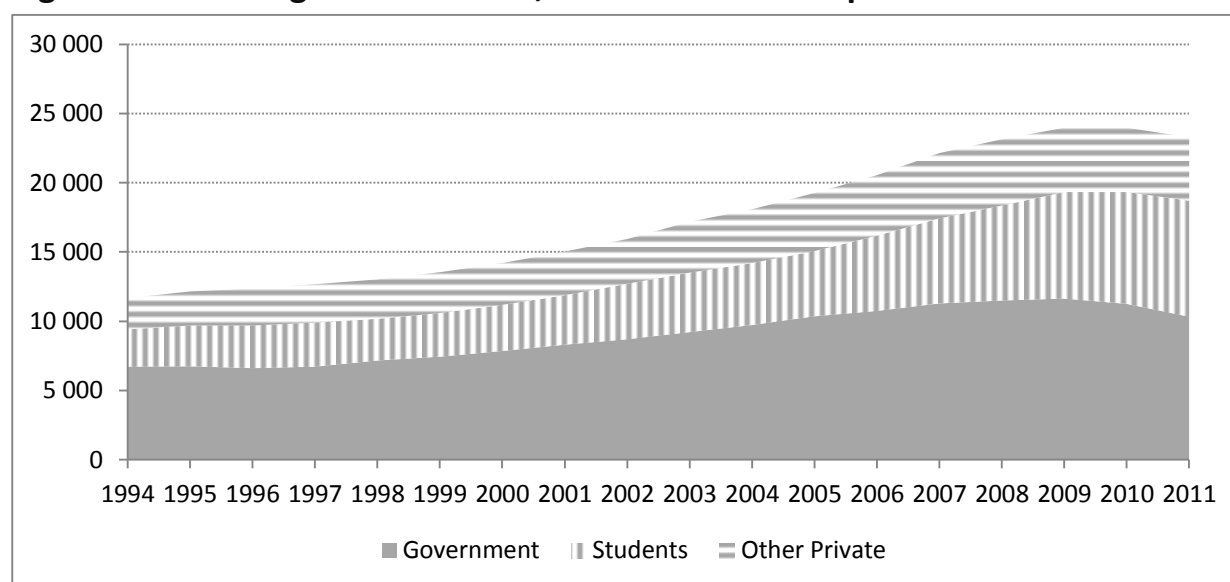
- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

2.1 Changes in Institutional Revenues over Time

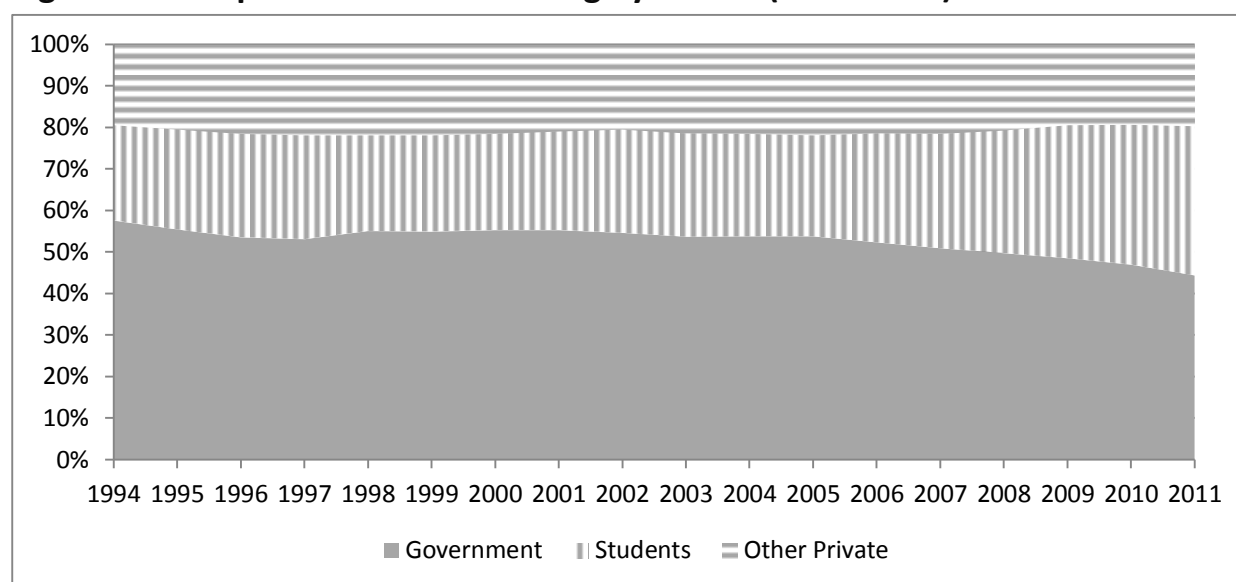
Figure 2.1 portrays the funding to universities by source. Prior to 1995, tuition was free for domestic students. However, this did not mean that – as in Scandinavia – the state was bearing the entire burden of supporting education. Not only did universities earn a substantial portion of their funding from private sources such as the sale of goods and services, they were earning substantial amounts from international student fees and fees associated with professional Master courses. Thus, even when tuition was ‘free’ for domestic students, 23% of total funds still came from students in one way or another.

What is intriguing about Figure 2.1 is the way that the introduction of tuition fees in 1998 appears to have barely affected university income. The trend from 1994 to 2009 was a very gentle increase in income from all sources, from 11.6 billion pounds in 1994 just under 24 billion pounds in 2010, when the public spending review reduced the amount of public money available by about a billion.

Figure 2.1: Funding to universities, in millions of 2011 pounds

Source: Higher Education Statistics Agency.

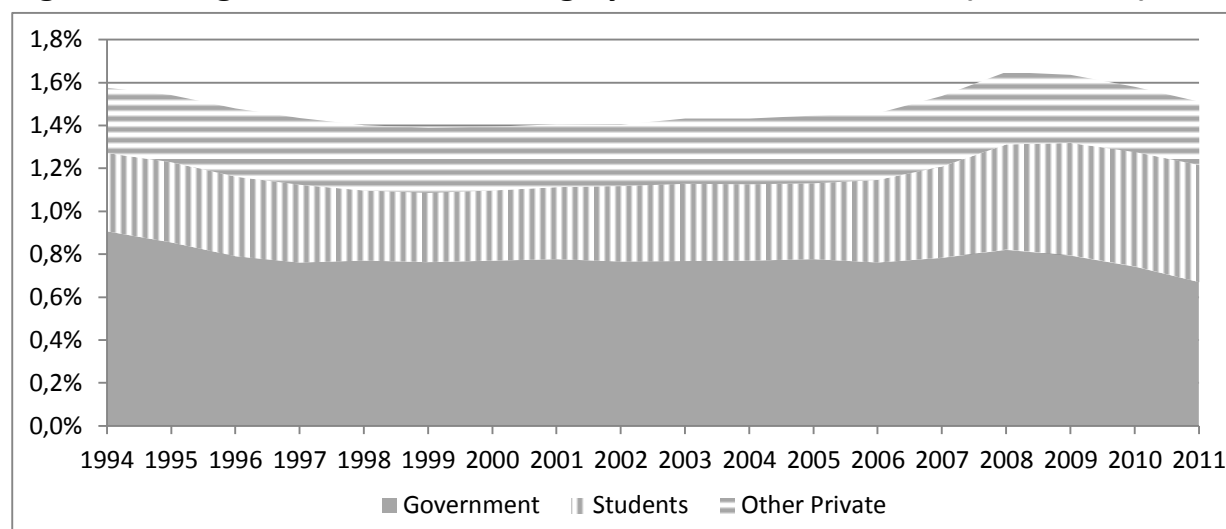
Figure 2.2 shows the proportion of total funding by source and demonstrates how the sources of university income have changes over time. Essentially, prior to 1997, public income was falling gently as a share of total income while ‘other’ income was rising. After 1997, the public share rose again very slightly, mostly at the expense of tuition income (as noted above, this was somewhat remarkable because it occurred at the same time as the introduction of tuition fees). Thereafter, the government share stayed relatively constant at around 55% of total expenditures until 2006 and the second tuition fee reform. From that point on, though the absolute amount that government was spending was growing in real terms, it grew more slowly than fee income. This resulted in a fairly significant shift over the period from 2005 to 2011 – the state share of total funding fell from 53% to 44% while the share from student fees rose from 24% to 36%.

Figure 2.2: Proportion of total funding by source (1994-2011)

Source: Higher Education Statistics Agency.

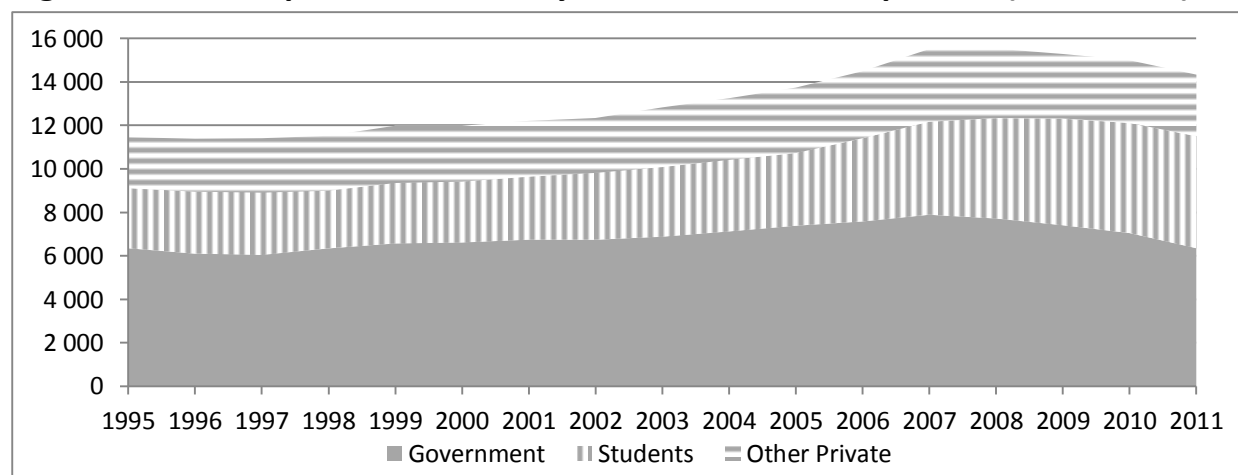
Another way of looking at investments in higher education is to look at spending as a percentage of GDP³³. This is shown below in Figure 2.3. As it turns out, total spending did fall in the mid-1990s, from 1.58% of GDP to 1.39% in 1999, not so much because investments were decreasing, but because the economy was growing so quickly. Spending as a percentage of GDP rose from 2000 to 2008, when it reached its peak at 1.65%. But by 2011, stagnation in overall spending combined with even the small amounts of economic growth that have been possible in the wake of the financial crisis meant that higher education as a percentage of GDP slid back down again to 1.51%.

³³ The UK does not normally provide GDP figures by constituent country. There is, however, an alternative measure known as 'Gross Value Added'. Over the past 20 years, England's GVA has consistently been within a couple of percentage points of 85% of that of the UK as a whole. In order to derive 'English' GDP, we have therefore simply multiplied UK GDP by 0.85.

Figure 2.3: Higher education funding by source as a % of GDP (1994-2011)

Source: Higher Education Statistics Agency.

Yet another way that expenditures in higher education can be measured is through spending per student. This tells a slightly different story again. As we saw in Figure 1.1, above, student numbers were growing fairly steadily throughout the period of investigation. But as Figure 2.4 shows, funding per full-time equivalent (FTE) student increased even more:³⁴ funding per student increased by just over 35% between 1995 and 2008. The figure per student begins to fall away sharply after that, partially because money becomes less available (see Figure 2.1) but also because enrolment was growing strongly.

Figure 2.4: Funds per FTE student by source in real 2011 pounds (1995-2011)

Source: Higher Education Statistics Agency.

³⁴ Full time equivalent students have been calculated by multiplying each part-time student by 0.3 and adding to the number of full-time students. If one were to change assumptions, and assume that a PT student is re worth more than 0.3 FT students, then the per-student funding figure would decline slightly.

2.2 Institutional Expenditures

As we have seen, per-student institutional income over our period rose and then levelled off or even fell slightly towards the end. However, the fact that institutional income has been rising in our period does not mean that it has necessarily been invested to the benefit of students. Money might be invested in non-instructional missions that might lead students to question whether they are getting value for their money and thus undermine the case for cost-sharing.

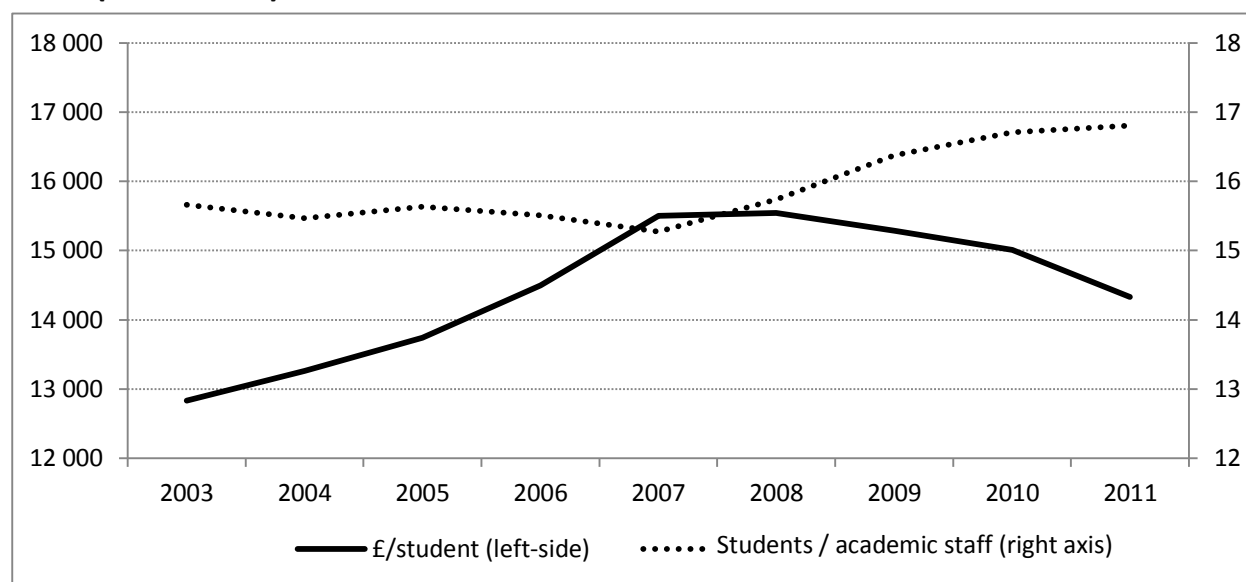
One way to examine this is to look at changes in students-per-academic staff ratios and relate them to changes in funding. Figure 2.5 shows the ratio of FTE students to full-time academic staff³⁵ in England from 2003 onwards.³⁶ Though this figure does not cover our entire period, it does cover the critical period on either side of the 2006 reforms which brought about both a major increase in total income and a shift in the cost-burden towards students.

What Figure 2.5 shows is that while total income was rising in the period 2007-2008, students-per-academic staff ratios were staying absolutely flat (that is to say, as far as student-faculty interaction is concerned, students were paying more for the same). Once the rise in fees was over, and total income per-student started to fall because of growing enrolments and the problems caused by the recession, students-per-academic staff ratios started to rise (or, to put it another way, students were paying the same and getting slightly less).

³⁵ Academic staff includes all staff member whose academic employment function is either teaching only or teaching and research (see HESA definition at: <http://www.hesa.ac.uk/content/view/2937>).

³⁶ Some pre-2003 data on full-time professor numbers are available, but they appear not to be compatible with the post-2003 data.

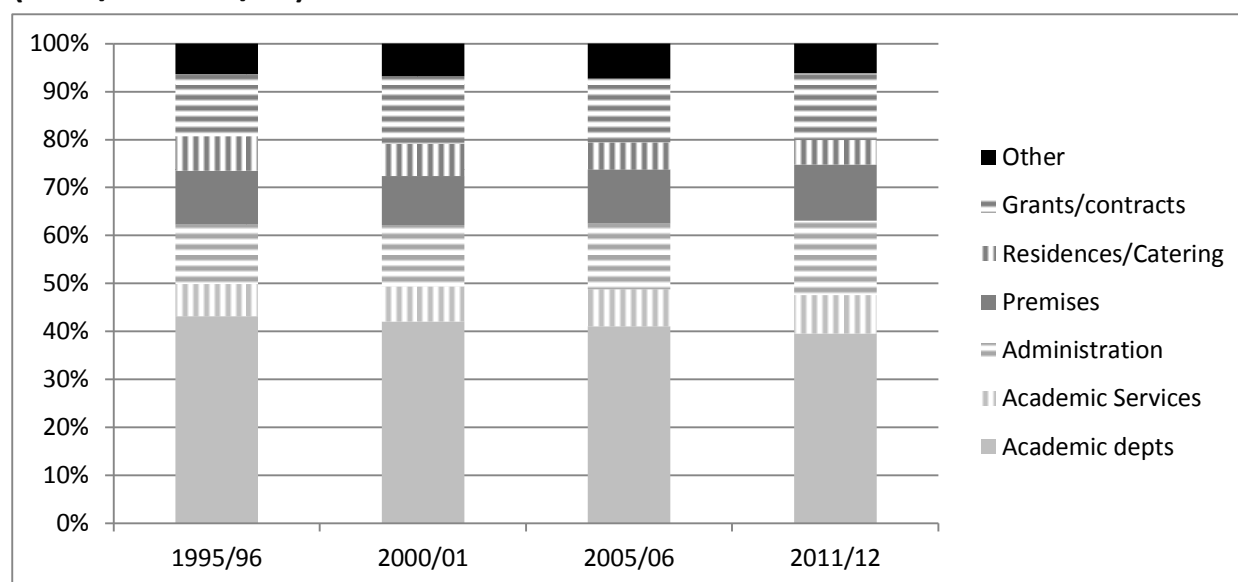
Figure 2.5: Per-student income, in 2011 pounds, vs. students-per-academic staff ratio (2003-2011)



Source: Higher Education Statistics Agency.

That said, an examination of English universities' expenditure by activity shows remarkably little change over time. The portion of total income that goes to academic salaries does fall slightly, from 43% to 39.5%, and administration rises from 12% to 15%, but apart from that there is very little change over time – see Figure 2.6.

Figure 2.6: Shares of total expenditure by activity, select years (1995/96-2011/12)



Source: Higher Education Statistics Agency.

2.3 Evaluation

The questions posed at the outset of these papers with respect to cost-sharing were as follows: ‘Has cost-sharing increased total funding?’ and ‘how was additional money spent’?

With respect to the first question, the answer is much more complicated than it first appears. The first major change in cost-sharing in 1998, which created a series of means-tested 1000 pounds tuition fees, was momentous in the sense that it created a precedent for domestic students to pay tuition fees for a first undergraduate programme. But in terms of overall cost-sharing it meant almost nothing; the sums raised compared to the sums available from international students and other fee-paying domestic students were tiny and government investment was increasing so quickly at the time that the overall student share of funding actually *fell* after the introduction of fees. The 2006 change was clearly additive; income from students increased strongly at a time when government was increasing its investments considerably. Finally, the 2012 changes were clearly and deliberately designed with a view to making student fees replace public investment. So, at different times, fee policy has had different effects with respect to total funding. As of 2012, one can say without contradiction that over the entire period student fees have proved entirely additional and have not displaced public funds. With the current rapid cutback in government funding, it is not clear if this will continue to be the case past 2015.

As for how the money was spent, such details as are available on institutional spending suggest that there has not been a very large shift in actual spending patterns, though such change as there has been has been away from academic departments. It can be confirmed that the influx of new money did not lead to a better students-per academic staff ratio; in fact it has deteriorated slightly over the last ten years. It would therefore be difficult to argue that the extra investment by students and government have led to significant improvements in students’ educational experiences, in so far as the students-per-academic staff ratio can be taken as an indicator of the quality of students’ experiences. That said, one should probably not overstate the degree of deterioration, either.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO STUDENT DEMAND

This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

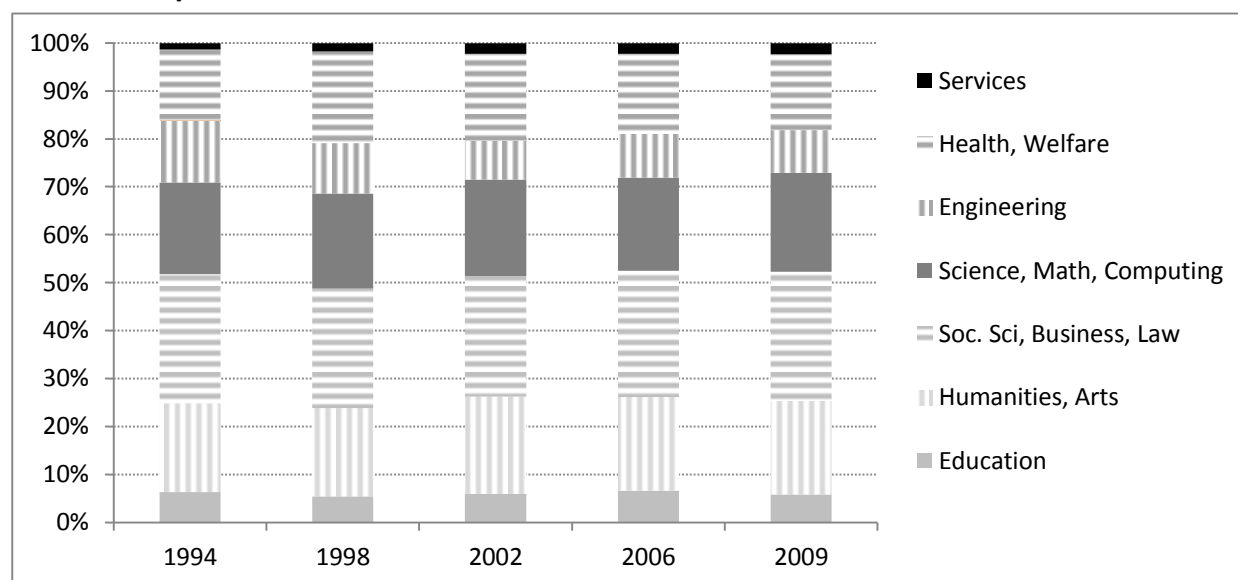
Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

3.1 Enrolment by Discipline

One hypothesis about the effects of fees is that they make institutions desirous of increasing revenues by focusing on programmes that are popular or lower-cost to deliver (these tend to be ‘soft’ disciplines, paper and pencil subjects-areas). This may lead to overall changes in the discipline profile of a national higher education system.

As Figure 3.1 shows, there is almost no evidence of this in England. In fact, the opposite is the case – despite enrolment rising by 50%, there has been very little change in the distribution of students by field of study. Basically, engineering has fallen from about 13% of enrolments to 9% while health studies, sciences and humanities have all gained between one and one-and-a-half percentage points. It should be noted, though, that most of engineering’s decline happened prior to 2000 – the large increases in tuition in 2006 had essentially no effect at all on enrolment.

Figure 3.1: Distribution of enrolment (FT & PT) by field of study (various years 1994-2009)



Source: Higher Education Statistics Agency.

3.2 Enrolment Patterns by Mode

In some countries the fee structure may make it advantageous for institutions to increase the number of part-time students. This is not the case in the UK, where since 1998 the part-time student fee has been set proportionately to those of full-time students. There is therefore not a particularly good financial reason why part-time students should have been favoured or disfavoured during these years. And yet, even in the absence of policy stimulus, there has been significant change in the student profile over our period. As shown in Figure 2.3, from 1995 through to 2001, the percentage of total students studying part-time³⁷ rose from 31% to 41%. From there until 2006, it began to slide back towards 39%. Then, in 2006, at the same time as the second major change in tuition fees, the part-time proportion fell significantly and has continued falling ever since; down to less than 33% in 2011.

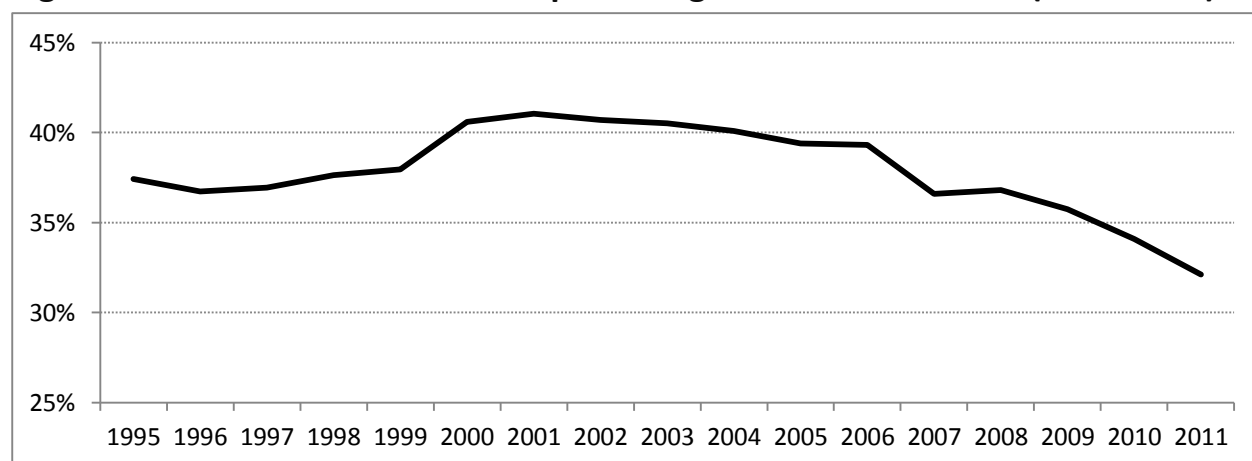
One way to interpret this data would be to note that Human Capital Theory (Becker, 1962) does in fact predict that tuition increases will be likelier to dissuade older students than younger ones from study because older ones have less time in which to make back their investments through higher earnings. To the extent that part-time students are older than full-time ones,³⁸ this might therefore be expected. In addition, part-time students were not eligible for any study aid to offset their tuition prior to 2012. On the other hand, these figures are percentages, and the

³⁷ Here, part-time includes students recorded as studying part-time, or studying full-time on courses lasting less than 24 weeks, on block release, or studying during the evenings only. (see definition by HESA, available at: <http://www.hesa.ac.uk/content/view/1902/#mode>)

³⁸ In 2008 (the most recent year of data freely available), 64% of first-year part-time undergraduates were over 30.

denominator here includes both full-and part-time students. In absolute terms, there were only 30,000 fewer part-time students in 2011 than there were in 2001; what caused the percentage drop was mainly the addition of roughly 350,000 students on the full-time side.

Figure 3.2: Part-time students as a percentage of total headcount (1995-2011)



Source: Higher Education Statistics Agency.

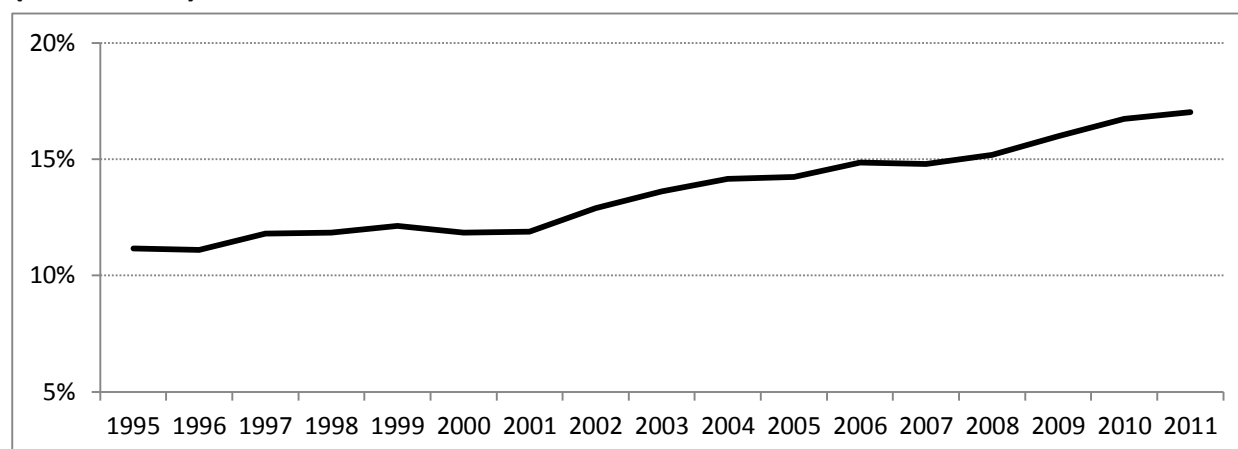
3.3 Enrolment Composition

Another possible avenue through which institutions might choose to increase revenue is by attracting international students, who may be charged fees for full-time studies in ways that domestic students cannot.

Universities in England have been permitted to charge full fees to international students since 1981. As was noted earlier, even when tuition was free for domestic students, fees made up a significant portion of the higher education budget, and these for the most part came from international students. The arrival of fees for domestic students should not have changed the equation for international students too much as they continued to be significantly more valuable to universities than domestic students. As Figure 3.3 shows, the proportion of the student body coming from outside the EU rose steadily from about 12% in 1994 to 17% in 2011.

Another factor to consider from about 2004 onwards is the increasing influence of university rankings and, in particular, the rise of Global Rankings such as the Times Higher Education, which awarded points based on the proportion of international students an institution enrolled. The quest for international students may thus have been as much about prestige as about income.

Figure 3.3: International student enrolment as a percentage of total headcount (1995-2011)

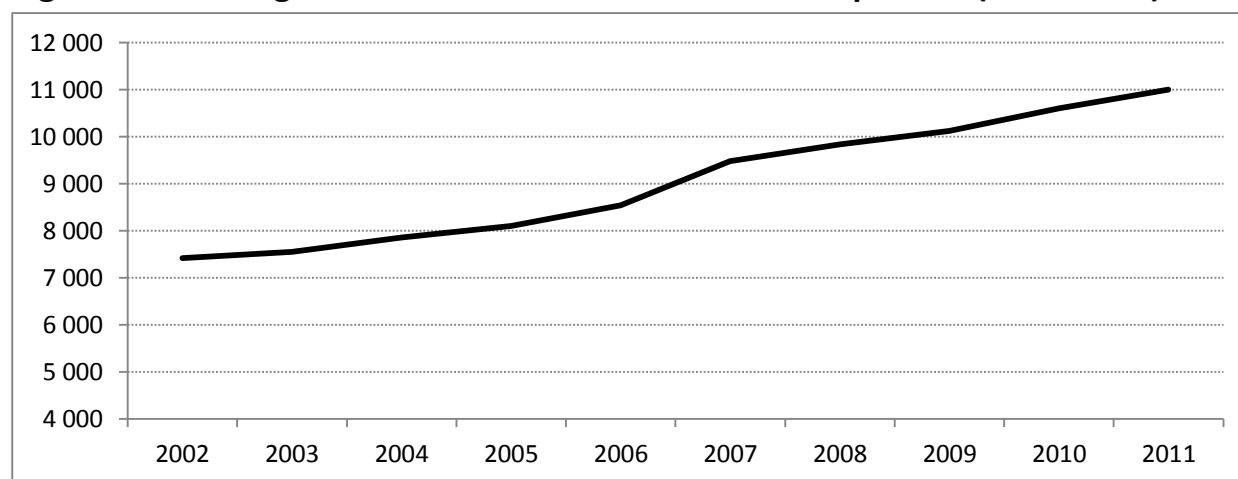


Note: Data for all UK countries.

Source: Higher Education Statistics Agency

Of note is the fact that tuition for international students increased fairly steadily throughout this period. Authorities in England do not track international student tuition directly; however, dividing the total amount of fees earned from international students can give one an average fee paid per international student, though by necessity this eliminates the distinction between undergraduate and graduate fees. The evolution of fees is shown in Figure 3.4.

Figure 3.4: Average international student fees in 2011 pounds (1995-2011)



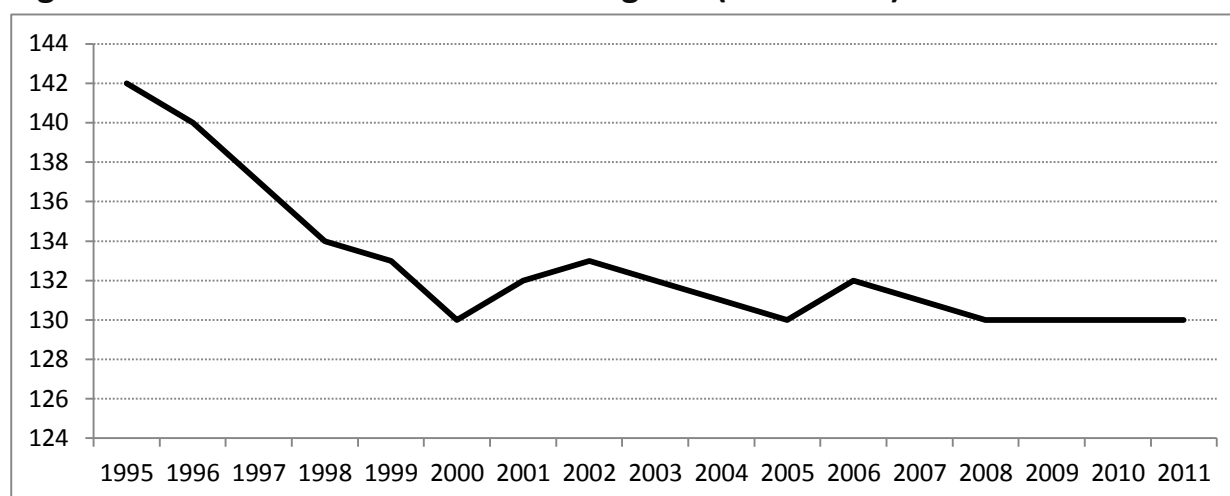
Note: this includes fees for both undergraduate and graduate students.

Source: Higher Education Statistics Agency.

3.4 Diversity of Provision

Another hypothesis regarding the effects of cost-sharing is an increase in the diversity of provision, either in the number of institutions or the number of programmes offered. Figure 3.5 shows the number of universities in England from 1995 to 2011. The decline in the number in the 1990s is largely due to institutional mergers which occurred in the wake of the mass conversion of former polytechnics in 1992. Since then, the number has stayed fairly constant, settling at 130 in 2011. Since then (not shown on the graph), two private institutions – the University of Law and BPP Universities – have been granted the right to use the term ‘university’.

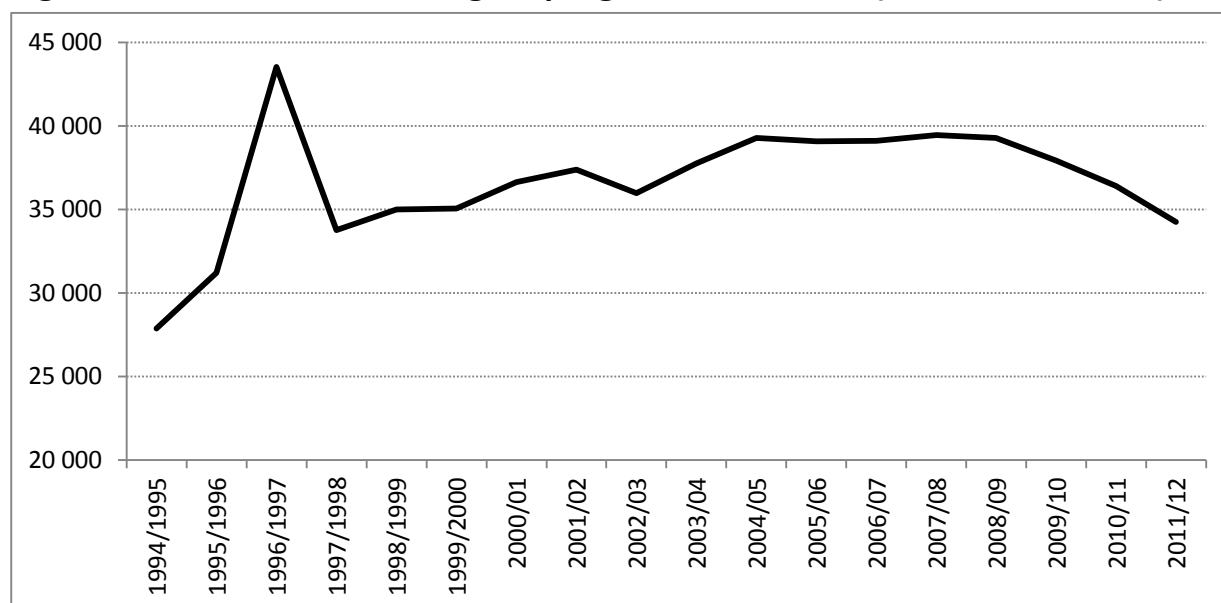
Figure 3.5: Number of universities in England (1995-2011)



Source: Higher Education Statistics Agency.

There is no reason to link the decline in numbers in the 1990s with changes in fee policy as the decline started well before the Dearing Commission. The introduction of two new private universities in 2012-3 is, however, quite clearly part of a government’s plan to try to open up provision of higher education to the private sector. The present Government’s current white paper makes it relatively clear that the elimination of public funding for many fields of study (and the concomitant rise of fees) is about ‘levelling the playing field’ for public and private providers.

Figure 3.6 shows the number of undergraduate degree programmes offered in England from 1994 to 2011. Apart from a one-year spike in 1996/97 (cause unknown), the total number of degree programmes rose slowly but steadily from 30,000 to 40,000 between 1994 and 2004, where it plateaued for four years. At about the time of the financial crisis, when it became evident that the sector’s funding would not continue increasing indefinitely, there was a strong push to rationalise programme offerings and reduce them in areas where enrolments were low enough to be thought unsustainable. By 2011/12, the number of programmes had been reduced to 35,000.

Figure 3.6: Number of first degree programmes offered (1994/95-2011/12)

Source: Higher Education Statistics Agency.

3.5 “Outreach” Practices

One significant change in outreach practices in the United Kingdom has been the spread of US-style marketing, particularly in the run-up to the major changes in 2012. Though there are little long-term data about marketing budgets, we know that marketing budgets increased by just over 30% between 2009 and 2013, from 19 pounds per applicant to 25 pounds per applicant (O’Reilly, 2013). A survey conducted by the Times Higher Education Supplement in 2012 (Matthews, 2013) suggested that institutions averaged about 450,000 pounds in marketing expenditures in the 2011-12 recruitment cycle; however, these figures vary widely between institutions. At the top end of the prestige scale, Oxford and Cambridge spent nothing, while the London Business School spent almost 2% of its total budget on marketing (Matthews, 2012) (for reference, US private for-profit institutions spend about 20% of their income on marketing); however, apart from these extremes the study found little to substantially inversely correlate spending with prestige.

Without comparative data from earlier tuition fee changes, it is not entirely clear what meaning one can draw from this. Twenty-five pounds per applicant is still not very much, and is certainly lower than comparable institutions in the US would spend (even public institutions, which charge considerably less than the UK institutions now charge)³⁹. Still, it would seem to be clear evidence that institutions are changing their behaviour to attract more students, even if this expenditure does not in any way change the actual student experience.

³⁹ The average across average published tuition fees at public HEIs of all states for four-year courses was 8,521 US-dollars (roughly 6,150 euros) in 2012/2013 according to CollegeBoard US (<http://trends.collegeboard.org/college-pricing/figures-tables/tuition-and-fees-sector-and-state-over-time>).

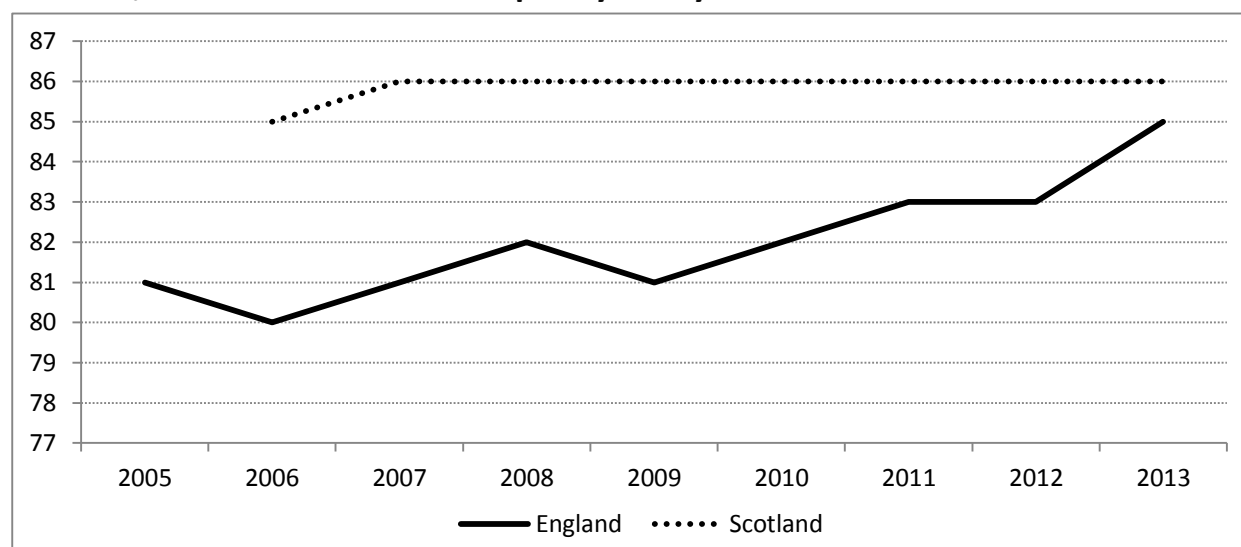
More evidence from along these lines comes from the ‘clearing’ experience. ‘Clearing’ is a uniquely UK process which bears some explanation. Students apply to universities through a centralised clearing service known as the University and College Application Service (UCAS). Not all students are accepted to any of their preferred universities in the spring application period; equally, many institutions have unfilled places come the summer. ‘Clearing’ is a process that matches un-selected students with institutions with unfilled places. Traditionally, clearing was seen as something in which only second- and third-tier universities would participate as the pool of students in clearing were not seen as being of sufficiently high quality as to be worth bothering to recruit. However, post 2012 rule changes not only made students more valuable in terms of the fees they bring in, but some students (those with particularly high A-level marks) effectively counted double because they could be accepted without their counting against the enrolment cap. While most students of this calibre would have been selected in the spring base on their expected A-level results, a few who did much better than expected might still be available come clearing time. The result was that the number of institutions participating in this process jumped from 24 to 124, including many of the selective Russell Group universities. Clearly, this was the result of changed behaviour due to fee policy changes - however, they were due not solely to rules about fees but also rules about student caps (that is to say, they were as much about a reaction to the quasi-market as to the market).

3.6 Quality and Relevance

Unlike many countries in our survey, there are a number of measures about educational quality and relevance that may be used to evaluate the impact of cost-sharing. This section begins with the views of students themselves. Since 2005 – just before the introduction of the second major fee reform – English universities have been conducting a survey called the National Student Survey, which is meant to measure the quality of services provided on campus as well as the degree of student engagement. This is useful because it means there are data from all three tuition regimes (the post-Dearing, post 2006 and post-Browne eras). Since 2006, it has also been administered across Scotland as well.⁴⁰ This allows us to use Scotland as something of a control group. Figure 3.7 shows the percentage of students in each country reporting that they either ‘definitely’ or ‘mostly’ agreed with the statement ‘overall, I am satisfied with the quality of my course’.

⁴⁰ In point of fact, it was administered at two Scottish universities in 2005 as well, but their results are excluded here because of non-representativeness.

Figure 3.7: Percentage of students indicating agreement with statement 'Overall, I am satisfied with the quality of my course'



Note: Percentage includes respondents reporting that they either 'definitely' or 'mostly' agreed.

Source: National Student Survey.

Throughout the period in question, satisfaction among Scottish students is higher than that for English students, which might suggest that lower fees make students happy. But what is particularly interesting about the results in figure 3.7 is the way in which English results continue to improve throughout the period, even though average tuition fees rose more than twelvefold in real terms. It is not entirely clear how one should interpret this result, but it may be that English universities have been making efforts to improve the student experience over the past eight years and these efforts have borne at least some fruit.

There is less information with respect to employers. Though there are employer satisfaction surveys carried out by Ipsos-MORI on behalf of the Confederation of British Industry (note the survey is a UK survey, and not an English one), they have not been going on for long enough to really understand how fees might have changed employers' views. Table 3.1, below, shows how a selection of industry respondents (the numbers vary between 540 and 700) rate graduates' skills in a variety of areas. The percentages shown in the boxes indicate the proportion of employers saying they were 'very satisfied' or 'satisfied' with the skills graduates possess. To the extent that there is a trend in these findings, it is downward; that is, industry is expressing decreasing satisfaction with graduates, notably in problem-solving, team-work, self-management and customer awareness. However, most of the drop happened in a single year, 2010, with very little change thereafter. It is unclear why this should be the case.

Table 3.1: Proportion of employers reporting they are ‘satisfied’ or ‘very satisfied’ with graduate skill

	2009	2010	2011	2012
IT Skills	98	91	95	94
Numeracy Skills	92	91	90	90
Positive Attitude		80	85	82
Use of English/ Communication	87	86	83	85
Problem Solving	89	76	81	77
Team-work	90	81	80	75
Self-Management	80	74	75	69
Work Experience		61	58	63
International /Cultural awareness		60	57	59
Customer awareness	65	54	56	53
Foreign Language Skills		44	40	46

Note: Percentages indicate the proportion of employers saying they were ‘very satisfied’ or ‘satisfied’ with the skills graduates possess.

Source: Ipsos-Mori/CBI.

3.7 Evaluation

The broad hypothesis which was tested in this section was ‘have institutional strategies changed to maximise revenue from private sources’. This has been done by looking at six sub-hypotheses, which will be briefly reviewed here before attempting to assess whether there was an overall effect.

The first sub-hypothesis related to whether the discipline profile of HEIs in the 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). The answer here is essentially no. Despite a massive increase in student numbers and massive changes in tuition policy, they stayed spread across a wide variety of disciplines. The share for engineering was the only one to drop significantly, but science was one of the disciplines that gained share.

The second sub-hypothesis related to whether there had been any change in the modes of study, such as an increase in part-time provision, with the aim of increasing private revenue. Here, judgement is somewhat more difficult. Part-time enrolments first rose then fell over our period, despite fees only moving in one direction. They fell sharply as a proportion of total enrolments after 2006, though this was due more to an increase in the number of full-time students than a decrease in the number of part-timers. The fall after 2006 may have been due to a significant increase in costs without any concomitant ability to borrow; if so, we may see a reversal of this trend after 2012, as these students are now permitted to access study aid.

The third sub-hypothesis has to do with institutions changing their enrolment composition to maximise revenue, such as by recruiting more international (non-domestic) students paying international student fees. Here the answer is pretty clear: English universities have long been aggressive about courting fee-paying international students. Changes to domestic tuition fee schedules have not altered this at all, and even as overall enrolments grew, the proportion of the student body coming from outside the EU grew even faster, and the fees international students were charged rose faster still.

The fourth sub-hypothesis relates to any change that had occurred in the degree of diversity in higher education providers, such as more private institutions, or more programmes offered by public institutions. Here the answer is mixed. A very small private sector has come into existence but it is too soon to evaluate its effects on overall provision. The number of public institutions declined, but this was due more to consolidation after the major reform of 1992 than anything to do with tuition. The number of programmes at public universities rose and then fell, but the fall was fairly clearly due to anticipated declines in overall funding.

The fifth sub-hypothesis had to do with institutions becoming more open-access and market-focused in order to chase income. There is some evidence of this with respect to increasing marketing budgets and increased popularity among institutions in the clearing process.

The sixth and final sub-hypothesis has to do with quality and relevance. Did students and graduates become more satisfied with the options available to them? Did graduates become satisfied with their employment outcomes? And were employers satisfied with quality of recent graduates? There are quite a bit of data concerning this question. With respect to students, we can see that after the 2006 reform and continuing until after the 2012 reform, the percentage of students indicating satisfaction with their courses slowly but steadily increased while – intriguingly – those of students in Scotland remained constant (albeit at a slightly higher level). With respect to employers, only a fairly brief time series is available so it is difficult to see many effects from cost-sharing. Looking at the data which are available, however, employer satisfaction levels seem generally high, though they are falling in specific areas such as problem-solving, self-management and customer awareness.

And so, to the summative question: have institutional strategies changed to maximise revenue from private sources? The answer to this is almost certainly yes, with very few qualifications.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

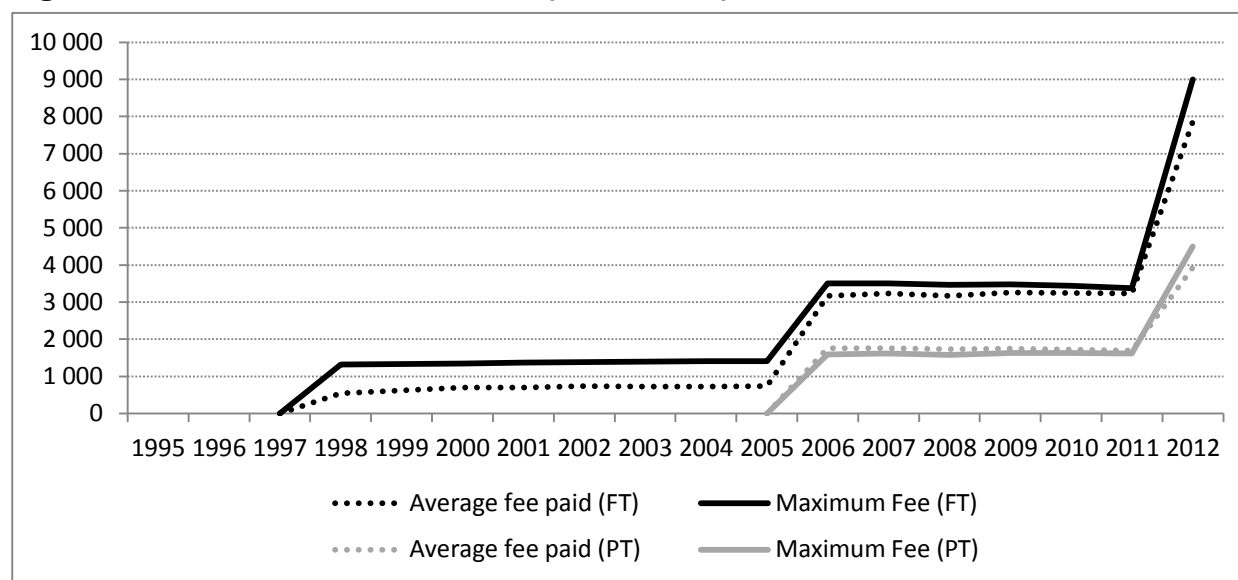
This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

4.1 Students’ Costs for Higher Education

Prior to 1997, tuition at English universities was free for domestic undergraduate students. Following the publication of the Dearing Report, fees were raised to 1000 pounds, with partial fee waivers available for students from families earning less than 30,000 pounds p.a. and full ones for students from families earning less than 20,000 pounds p.a. After 2006, maximum fees went up to 3,000 pounds p.a. (and thereafter adjusted for inflation); most institutions took full advantage of the freedom to set fees and set fees at the maximum. In 2012, after the Browne Report, maximum tuition rose to 9,000 pounds and as in 2006, many institutions took full advantage to raise fees as far as possible. Seemingly taken aback by the fact that so few institutions tried to compete on price, the government belatedly created incentives for institutions to keep prices below 7,000 pounds which some chose to take up. As a result, the final average tuition fee for 2012-3 was roughly 8,400 pounds. Part-time fees, since the 2006 report, have been roughly half those of the full-time fee – see Figure 4.1.

Figure 4.1: Student fees over time (1995-2012)

Source: Student Loan Company and Parliamentary Briefing Papers.

Of course, tuition is not the only source of costs in higher education. Regular surveys conducted as part of the EUROSTUDENT programme can help to highlight changes in such costs over time. We can see from Table 4.1 that students in England⁴¹ faced a substantial escalation in non-tuition costs over the thirteen years from 1998, primarily from the cost of housing.

Table 4.1: Student living expenses, in 2011 pounds (1998/99-2011/12)

	Full-time			Part-time		
	Participation, books, child care and transportation	Housing	Living	Participation, books, child care and transportation	Housing	Living
1998-99*	1,172	1,936	6,189	1,792	2,985	8,421
2002-03†	1,204	1,606	5,837	n/a	n/a	n/a
2004-05	2,416	2,778	7,164	1,970	3,712	11,052
2007-08	3,599	2,804	7,420	2,159	3,721	12,019
2011-12	3,973	3,002	6,705	2,420	3,995	11,534

Note: *1998/99 includes all students not just English domiciled; other years restricted to English domiciled;

†2002/03 covered only full-time single childless students under 25 in England and Wales; full sample used in later years.

Source: UK Student income and expenditure surveys.

⁴¹ Technically, this survey covers England and Wales. The 2002 sample covered only full-time students under the age of 25; other years covered the entire student population.

It is sometimes asserted that higher tuition fees will encourage students to work and as a result possibly neglect their studies. This does not appear to be the case in England, where the percentage of students working actually decreased somewhat over time. Employment outcomes are shown in Table 4.2. Earnings, however, have increased substantially over time, which suggests that hours worked have increased. Hence, though fewer students may be working, those that choose to do so may be working longer hours.

Table 4.2 Select statistics on student employment, in 2011 pounds (1998-2011, various years)

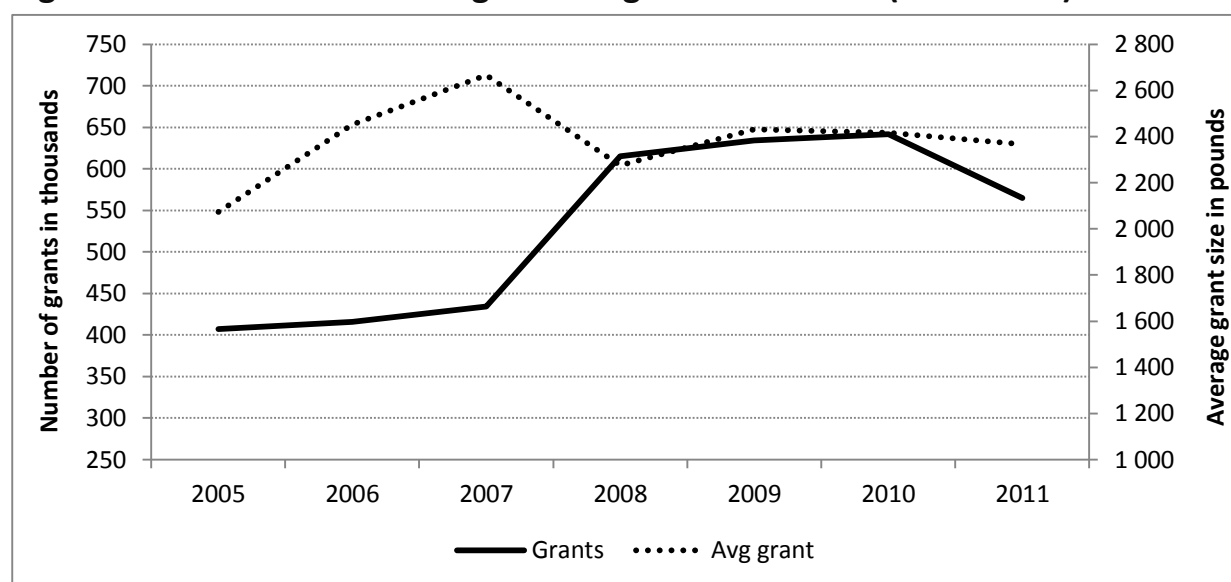
	Average annual earnings (in £2011)	% of total income	% of students working
1998	898	12	62%
2004	2,222	22	56%
2007	2,408	20	53%
2011	1,662	15	52%

Source: UK Student Income and Expenditure Surveys.

Grants

Currently in England, there are only two types of grant – those for maintenance (means-tested awards for living expenses), and those for students with disabilities. The precursor of the maintenance grant was called ‘Higher Education Grant’ (2004/05-2005/06). It awarded students of up to 1,000 pounds to help defray the costs of participation. Grants are non-taxable income.

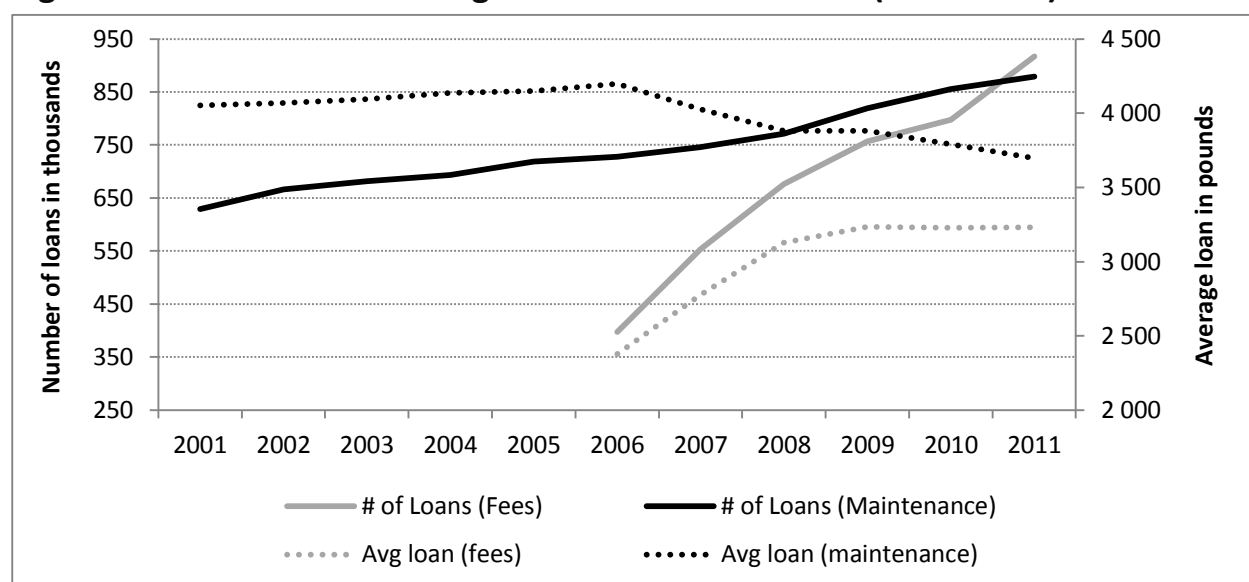
Because of the significant changes in programmes and reporting over the years, we do not have a full picture of grants prior to 2005 (mainly because recipient numbers are missing). However, as Figure 4.2 shows, average grant size stayed comparatively constant between 2005 and 2011 in real terms, staying within a small band around 2,400 pounds. The number of grants, however, increased quickly following the re-introduction of maintenance grants in 2006, and rose from around 400,000 (about 35% of students) in the last year of the post-Dearing tuition phase, to about 650,000 (about 46 % of students) in 2010 and then back down again to 600,000 in 2011 (about 40 % of students).

Figure 4.2: Number and average size of grants over time (2005-2011)

Source: Student Loan Company.

Loans

Student loans were first offered in England in 1992, and were designed to cover part of living or ‘maintenance’ costs. After the introduction of fees in 1998, maintenance became an entirely loan-based affair. In 2006, when higher fees were introduced, a new ‘Tuition Fee Loan’ was introduced. Unlike the maintenance loan, it was universal rather than need-based, thus permitting the government to say that education remained ‘free at the point of delivery’ because universal availability meant that no students would have to pay a cent out of his or her pocket. Due to changes in reporting, it has not been possible to obtain a consistent sample of the maintenance loans before 2001. Such data as are available are presented below in Figure 4.3

Figure 4.3: Number and average size of loans over time (2001-2011)

Source: Student Loans Company.

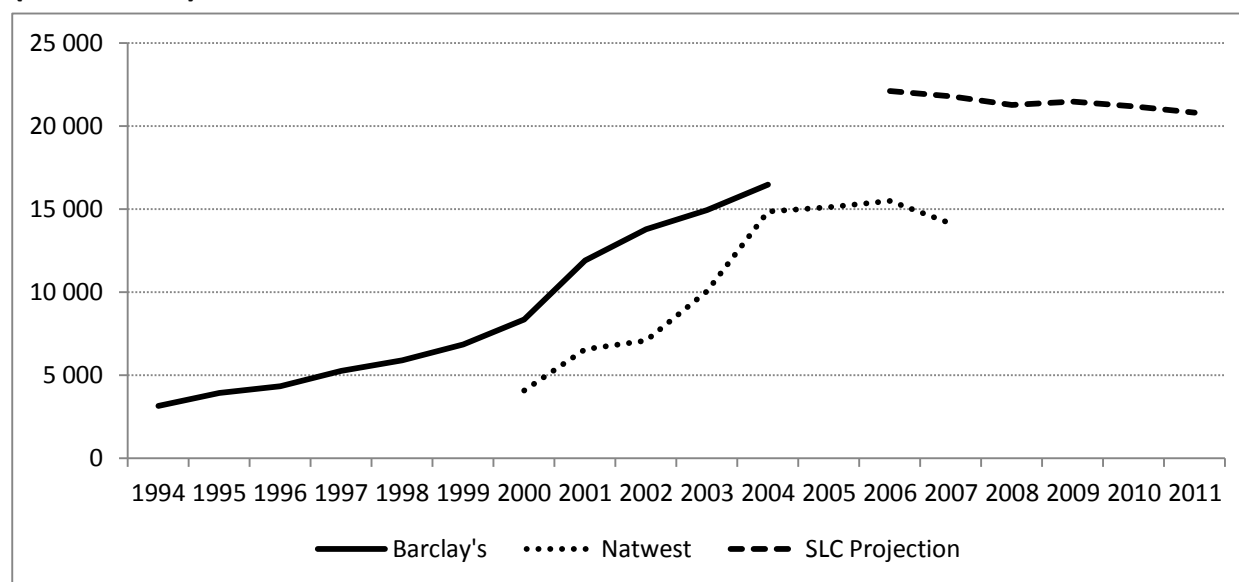
Tax Expenditures

The UK has only one small form of tax-based assistance for students; namely, a tax exemption for income from scholarships. Since this income is taxable in the year it is used and students do tend not to earn very much money, the value of this tax exemption is relatively low, and we do not include it in our calculations of net cost in this report.

Student Debt

Until comparatively recently, there were no ‘official’ figures for student debt at completion of studies. It was known, for instance, that between 80% and 90% of graduates held debt, but the actual consolidated amount was not known. Different banks – first Barclay’s and then Natwest – conducted regular surveys of graduates, with somewhat differing results. Only in 2006 did the Student Loan Company begin publishing its own annual estimates of consolidated debt. As shown in Figure 4.4, debt rose steadily even before the introduction of fees in 1998. From there until 2006 debt rose steadily before levelling off at just above 20,000 pounds.

Figure 4.4: Estimated average debt of graduates over time, in 2011 pounds (1994-2011)

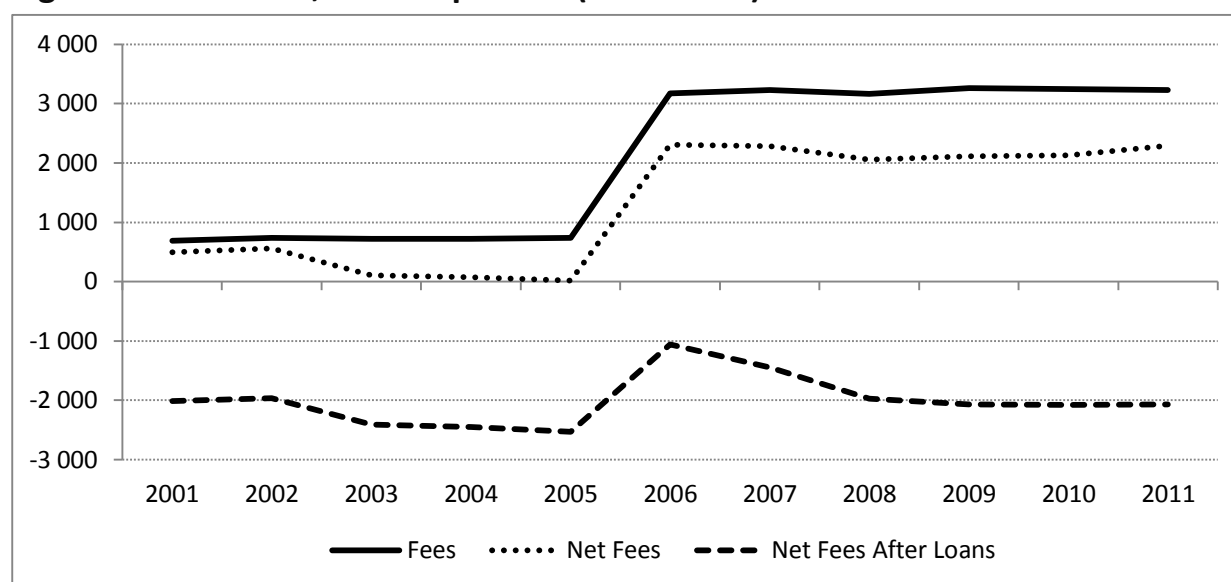


Source: Student Loan Company; Barclay's Bank Survey; Natwest Bank Survey.

Net Costs

In this section net costs are defined as average tuition fees minus average subsidies (i.e. grants and loans). Figure 4.5 looks at average fees paid, net fees (i.e., average fees minus average grants⁴²) and net fees after loans. At the start of the period for which data are available (2001), the average fee in constant 2011 pounds was just under 800 pounds. Grants were relatively scarce and so only brought down the net fee by about 200 pounds. Loans, however, were over 2,500 pounds, and so the average student was able to cover fees and have roughly 2,000 pounds left over for their living expenses. There was, obviously, a significant one-time change in costs when the 2006 tuition-fee regime changed. On a net fee-basis, this was partially offset by an increase in average grants, which rose to about 1000 pounds per student and so reduced net cost by about a third. But with an even larger increase in the size of average loans, the out-of-pocket cost (that is, net fees minus loans) actually remained virtually unchanged at minus 2,000 pounds. At a day-to-day level, then, the reforms did not leave English students out of pocket at the time they were studying – the consequence of this, though, was much higher debt.

⁴² Average grants equal total grants divided by the number of full-time students; since not all students receive grants, this figure will be lower than net cost for students who did not receive a grant, and higher than net cost for those who did. The Loan average is similarly distributed across all students rather than just those with loans, though since over 80% of students receive loans in any given year, this number is much closer to what students who were awarded loans actually received.

Figure 4.5: Net fees, in 2011 pounds (2001-2011)

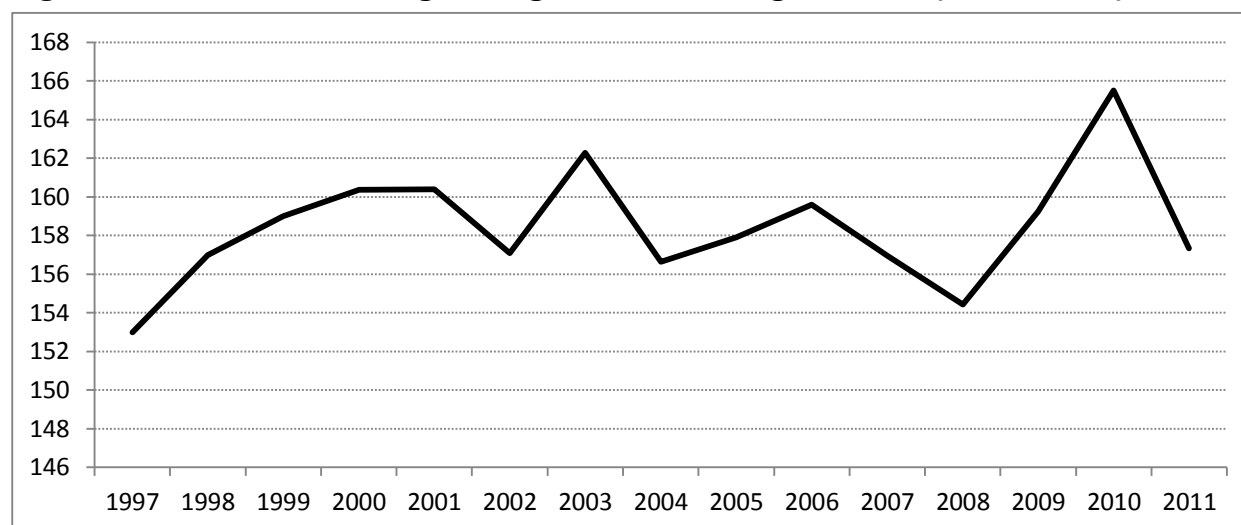
Note: Net student fees is student fees minus grants.

Source: Student Loans Company.

There are no statistics yet that would permit to see the full effects of the 2012 changes. It is clear that average tuition rose by roughly 4,500 pounds to just under 8000 pounds. If the remainder of the changes occurred as expected, we would expect net tuition to increase by an equivalent 4,500 pounds, because the tuition increase was not accompanied by an increase in grants. However, because the tuition increase was accompanied by an equivalent increase in loans, one would expect that net tuition minus loans would not change substantially even after the reform: but that debt levels will rise even further.

Relative Earnings

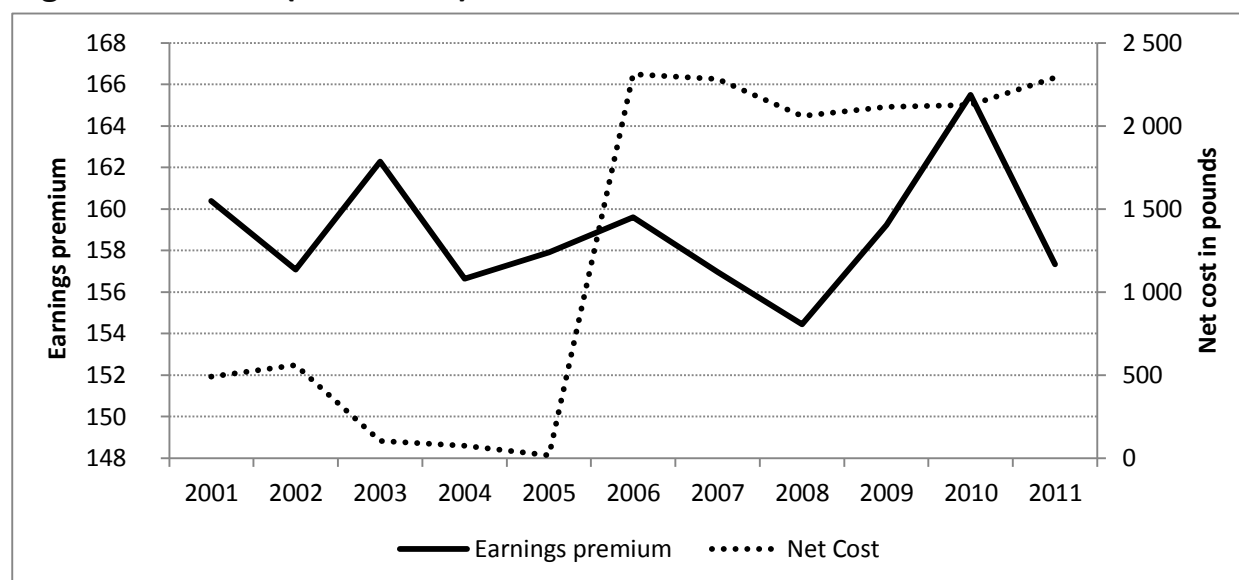
One important factor to consider is how relative earnings of graduates have changed over time. If rising costs are accompanied by rising graduate earnings then the latter should to some extent offset the former in terms of the return on investment. Figure 4.6 shows the evolution of higher education earnings premiums over time.

Figure 4.6: Relative earnings of higher education graduates (1997–2011)

Note: Indexed to the earnings of a person with upper secondary or post-secondary non-tertiary education (=100).
Source: OECD.

Figure 4.7 shows that returns changed relatively little over the period in question. Since actual net cost increased roughly five-fold (albeit from quite a low base) over the decade in question, it must be the case that the financial advantage potential students can expect from pursuing higher education has in fact been falling. This might be expected to make higher education less attractive as an investment and to have had a negative impact on enrolment. The fact that it has not suggests that in fact demand still significantly exceeds supply in English higher education.

Figure 4.7: Relative earnings of higher education graduates vs. net costs of higher education (2001-2011)



Note: Relative earnings Indexed to the earnings of a person with upper secondary or post-secondary non-tertiary education (=100).

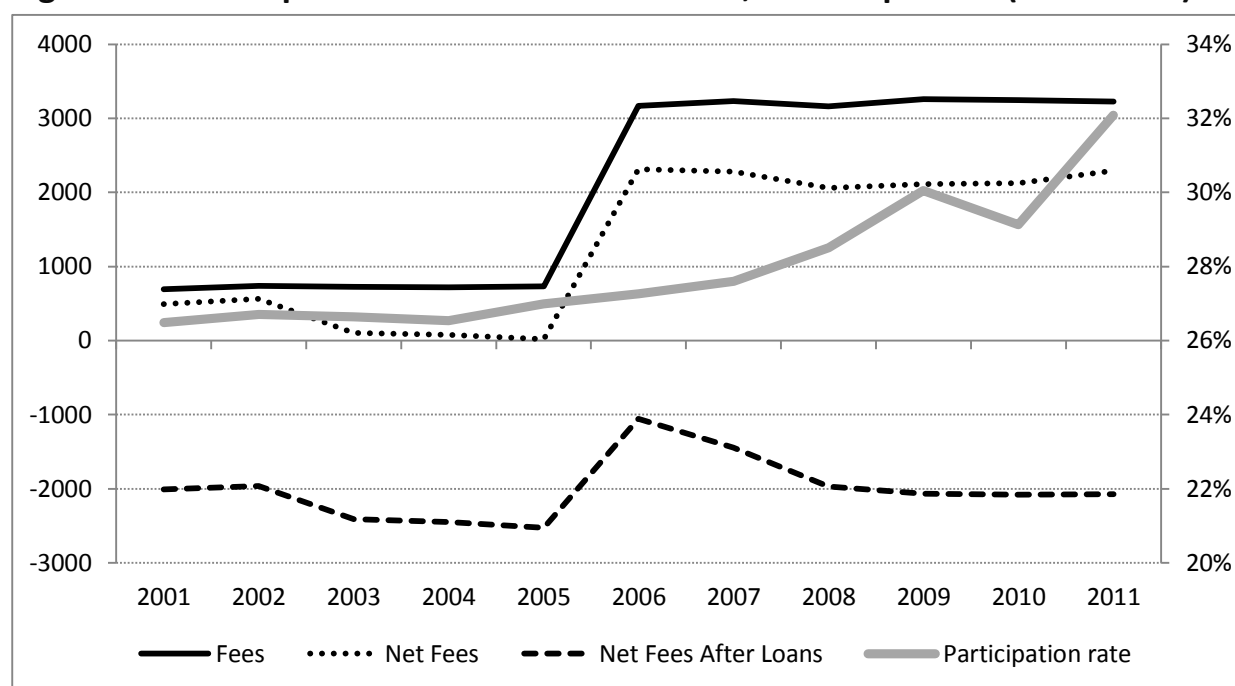
Source: OECD, Student Loans Company, Authors' Calculations.

4.2 Participation Rates

A key question to address in this research is whether changes in cost-sharing have had an impact on transition rates from secondary education and on overall participation rates.

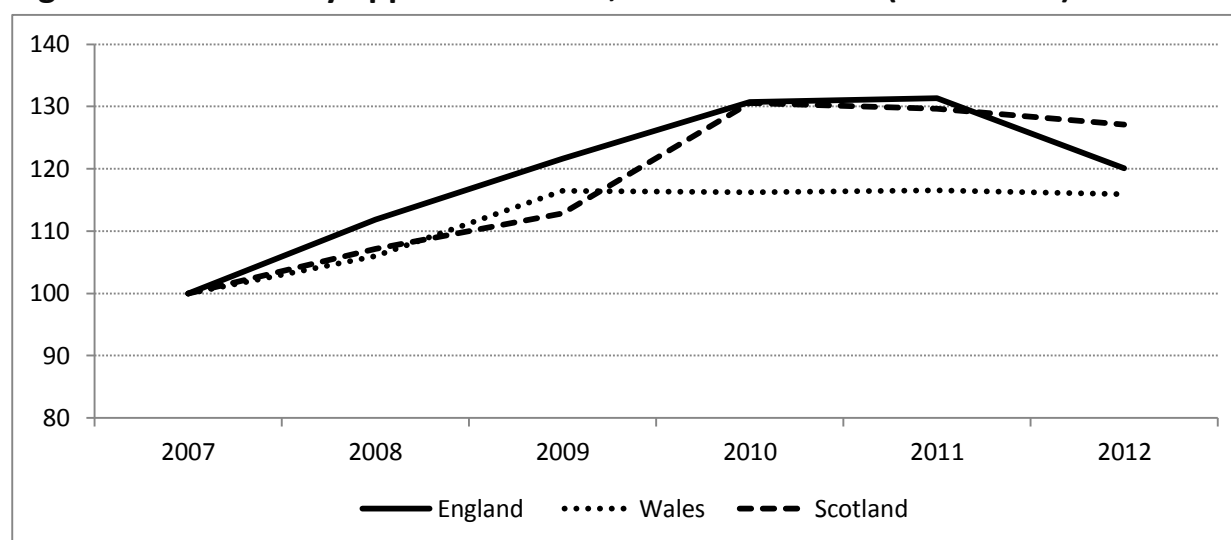
If we simply answer the question with reference to participation rates, the data available on this needs some careful interpretation, because the answer differs by age range. Normally, when we talk about participation rates, we talk about the rates among 'traditional' age students. In these case studies, a 'best 4 years' approach has been used, which looks at rates in the four years with the highest student participation rates. Here, the evidence is unequivocal that rapidly rising tuition rates have had no detectable effect on access. Indeed; quite the opposite – following the 2006 tuition fee rise, when institutions suddenly had access to much more money, they expanded places and participation rates rose. The same should not be expected of the 2012 fee rise, as the government has explicitly limited the number of places available; until that policy changes, any increase in participation *rates* post-2012 are going to come from declines in the youth population base rather than increases in student numbers.⁴³

⁴³ According to the 2011 census, the 20-24 age band in England had 3.59 million people, the 15-19 band 3.34 million and the 10-14 band 3.08 million. This means that provided domestic student numbers stay stable, the participation rate will increase significantly

Figure 4.8: Participation vs. various cost indices, in 2011 pounds (2001-2011)

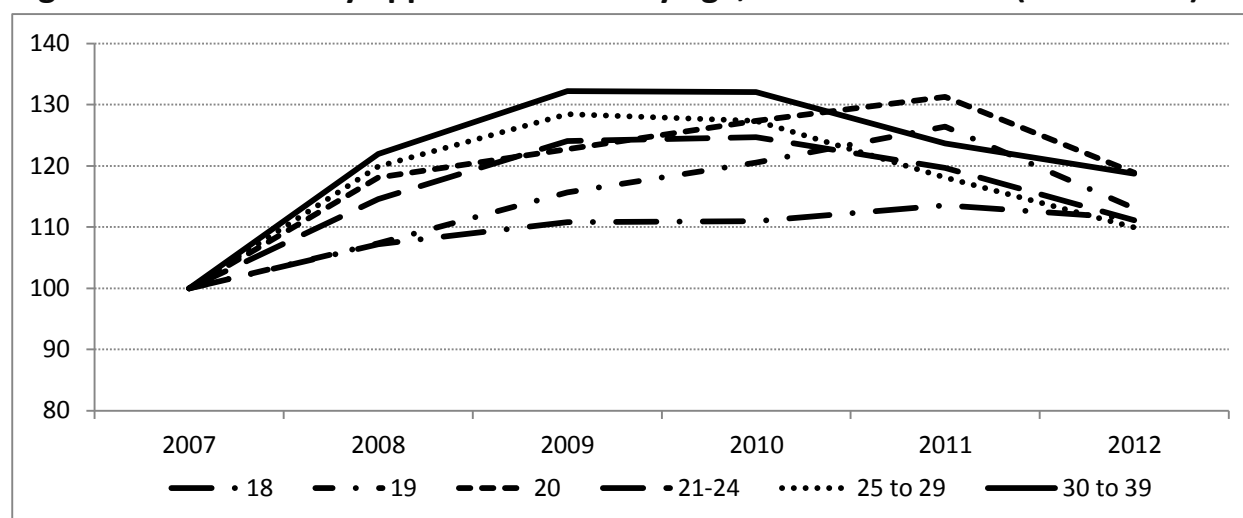
Source: Higher Education Statistics Agency, Student Loans Company.

Figure 4.8 suggests that even major tuition fee increases have had no effect on participation rates of traditional age students. But this is not entirely the case, as a closer examination of the more recent (and much larger) tuition-fee increase shows. Participation rates can be slow to change in the face of sudden policy changes because they contain data on several cohorts simultaneously. A more sensitive look at demand would look directly at applications from new students. This is shown below in Figure 4.9. In fact, applications fell across the UK in 2012. As expected, they fell by the most in England (9%), but they also fell in Scotland (2%) and in Wales (0.5%). This suggests that the introduction of tuition fees did in fact have an effect on demand. That said, preliminary data from UCAS for the 2012 reporting period suggest that applications have rebounded somewhat, rising 3% in England.

Figure 4.9: University application rates, indexed to 2007 (2007-2012)

Source: Universities and Colleges Admission Service.

It is important to point out, though, that these reductions in demand were not equally distributed across age groups, as is shown in Figure 4.10. It was of some interest that ‘traditional’ entry-aged students – that is 18 year-olds, only recorded a 2% drop in applications in 2012; among older age groups, the decline was between 6-10%. The most precipitous and worrying drops were among 19 and 20 year-olds. Among older students, the decline in applications in 2012 was slightly milder, and was actually part of a larger trend that began in 2010. These were the age groups that seemingly benefitted the most from the post-2006 expansion of access (applications for 30-39 year-olds grew by 30% between 2007 and 2009), so even after three years of decline, their application numbers were still substantially above where they had been in 2007.

Figure 4.10: University application rates by age, indexed to 2007 (2007-2012)

Source: Universities and Colleges Admission Services.

Another important piece of evidence concerns people who do not attend higher education and their reasons for not doing so; it may well be that some important effects show up in terms of the percentage of students who say they are excluded involuntarily, or an increase in the number of young people with no interest in attending higher education. There is one interesting time series on this, thanks to the Sutton Trust, which conducted a series of surveys of 11-16 year-olds, asking them about higher education. These results are shown in Table 4.3. The percentage who said they were somewhat or very unlikely to attend higher education fell from 14 to 7 percent between 2003 and 2010, which suggests again that the 2006 reform did not act as a deterrent to young people. Among those who did indicate that it was unlikely they would attend higher education, we do not see many important, sustained trends in the reasons for *why* they are unlikely to go to university. Wanting to do something practical and wanting to make money are the two most common responses across the entire period. The percentage saying they were worried about going into debt did rise somewhat, but it is clear that finances were not a major factor in students thinking it unlikely they would attend university.

Table 4.3 Reasons for not planning to attend higher education, 11-16 year olds (2003-2010)

	2003	2004	2005	2006	2007	2008	2010
Percent claiming to be unlikely to go into HE	14%	12%	12%	9%	12%	9%	7%
<i>Of those who claim to be unlikely to go to HE, % who agree with each statement below:</i>							
I prefer to do something practical rather than studying from books.	39	49	45	48	52	52	45
I want to start earning money.	40	40	48	43	49	50	45
I'm not clever enough.	28	25	26	32	29	22	38
I can get a well-paid job without a degree.	31	25	35	30	34	30	33
I won't get good enough exam results to get in.	29	29	26	31	24	20	31
I don't know enough about it.	16	15	15	16	16	16	25
I do not need a degree for the job(s) I am considering.	32	25	30	21	27	25	25
I do not enjoy learning.	29	31	29	32	30	25	24
I'm worried about getting into debt as a student.	14	18	17	15	20	13	20
My family can't afford to pay for me to be a student.	9	7	10	7	11	7	13

Source: Sutton Trust.

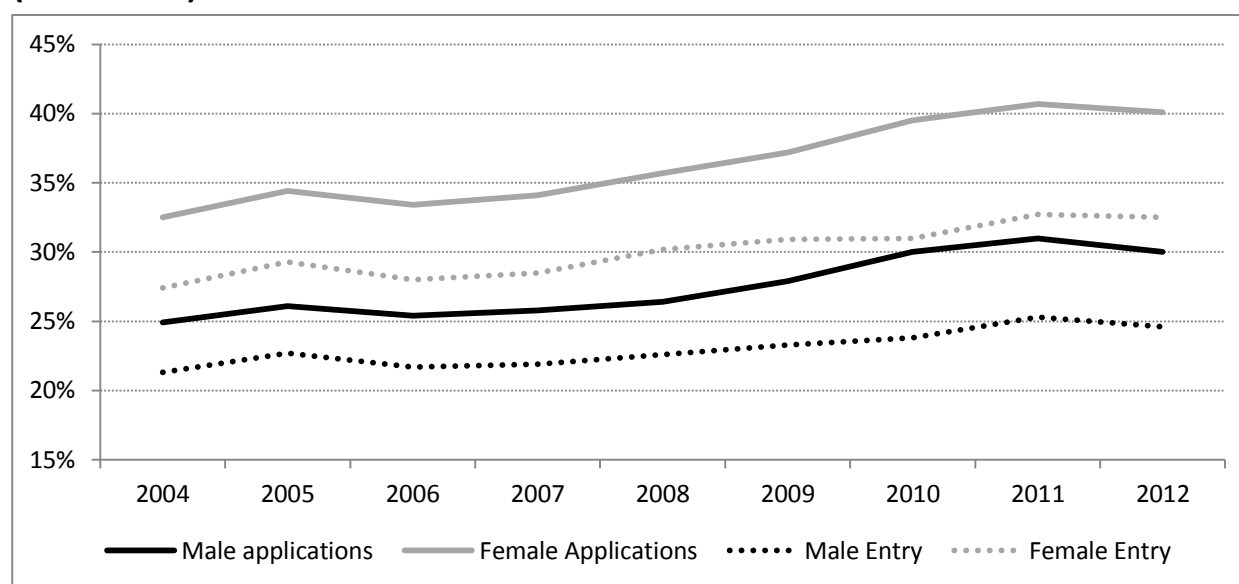
4.3 Composition of the Student Body

Of course, the issue of accessibility cannot be measured by aggregate numbers alone. Increasing the share of private funding may affect the composition of the student body, by changing participation by age, gender, socio-economic status, or other under-represented groups. These possibilities are examined in the sections that follow.

Gender

Though there is gender inequality in higher education in England and the UK (as in most of the OECD, females outnumber males substantially), there is little indication that tuition fees have had any influence on this. Figure 4.11 shows the percentage of males and females aged 18 applying for university places from 2004 to 2012, thus covering both the major tuition fee increase incidents. The gap between female and male entry rates stayed constant at seven percentage points throughout the period; the gap in application rates actually grew slightly, from seven to ten points between 2004 and 2007. In both 2005-6 and 2011-12 we see a similar pattern across all four categories – a rise in the year prior to the tuition increase followed by a drop the year of the change. But the effect is the same regardless of gender.

Figure 4.11: University application and entry rates by gender, indexed to 2007 (2004-2012)



Source: Universities and Colleges Admissions Service.

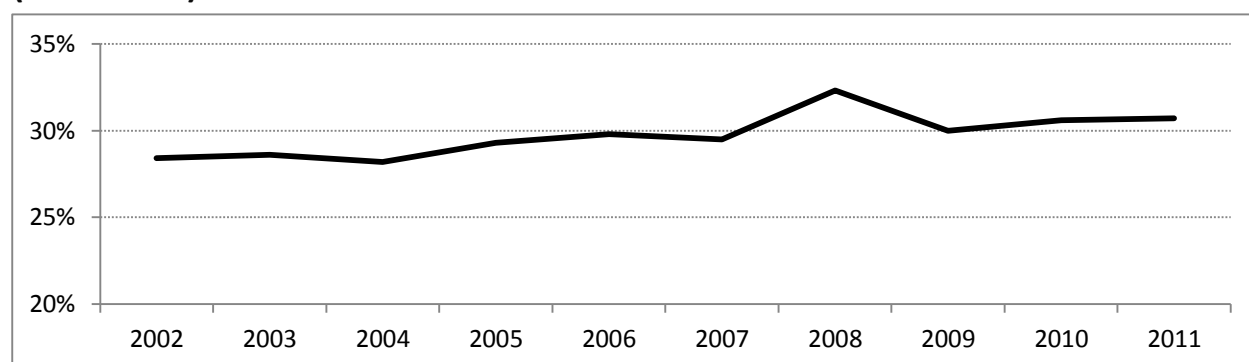
Socio-Economic Status

Since the introduction of tuition fees, there has been considerable effort expended in collecting data on participation from students from low-income backgrounds in England and throughout the UK. The most consistent measure is the data collected by the Higher Education Statistics Agency on the percentage of the student body that comes from lower social classes.

Before discussing the data, it is worth noting how the data are collected and what it means. When students apply for higher education, they are asked on their forms about parental occupation and ethnicity. As a result, it is possible to answer questions at any given time such as ‘what percentage of the student body is from lower social classes’? What it is not possible to do – at least not without considerable manipulation of census data which is beyond the scope of this exercise – is to look at participation *rates* from each social class. This is because we do not know the size of the underlying population (e.g. total number of children whose parents are in lower-supervisory or technical occupations), and hence cannot produce the denominator required to create a true rate.

Figure 4.12 shows the proportion of new entrants to higher education which comes from the four lowest classes on the National Statistics – Socio-Economic Classification. Small employers and own account workers (Class 4), lower supervisory and technical occupations (Class 5), semi-routine occupations (Class 6), and routine occupations (Class 7). These groups are considered the ‘traditionally under-represented’ in UK higher education.

Figure 4.12: Proportion of new entrants from four lowest socio-economic groups (2002-2011)



Note: Data for all UK countries.

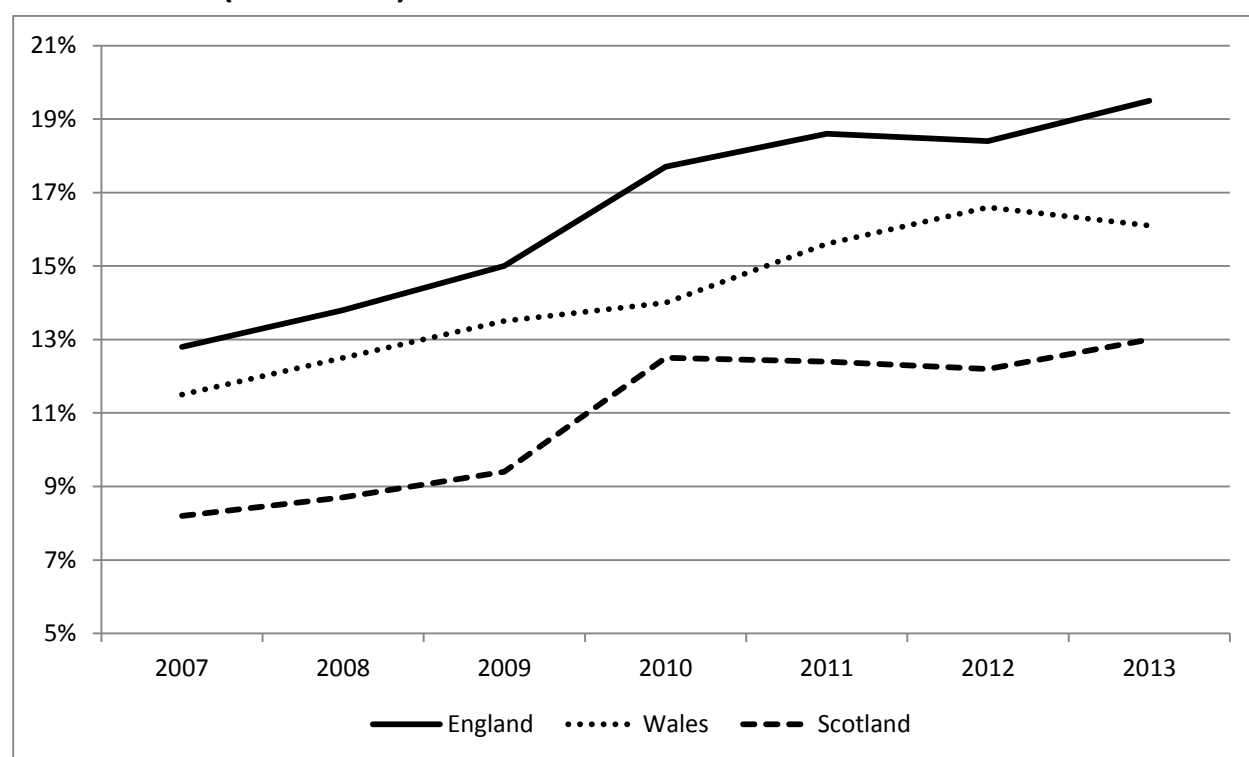
Source: Higher Education Statistics Agency.

Clearly, the data shown in Figure 4.12 are somewhat prone to swings, but the overall trend shown is unmistakable – even as total student numbers have increased significantly, an increasing share of enrolments is from students who are from underrepresented groups. This is not incontrovertible evidence of improving access – conceivably, the proportion of all young people coming from under-represented social classes might be increasing as well. But it is likelier than not that it implies an improvement in access, despite an increase in tuition fees over

this period from 0-500 pounds (most students from these backgrounds would have benefitted from fee waivers in the pre-2005 period) to 3000 pounds.

Unfortunately, the data shown in Figure 4.12 only go up to 2011, and so do not show the impact of the 2012 tuition fee change. However, a different set of data, collected by the University and College Application Service (UCAS), suggests something similar. UCAS routinely publishes application rates by income quintile. Application rates are of course not access rates – some people who apply are not accepted. But they are an indicator of demand and if tuition were deterring participation it would do so by dampening demand and hence diminishing the number of applications. These data are shown below in Figure 4.13.

Figure 4.13: Application rates from the lowest income quintile, England, Wales and Scotland (2007-2013)



Source: Universities and Colleges Application Service.

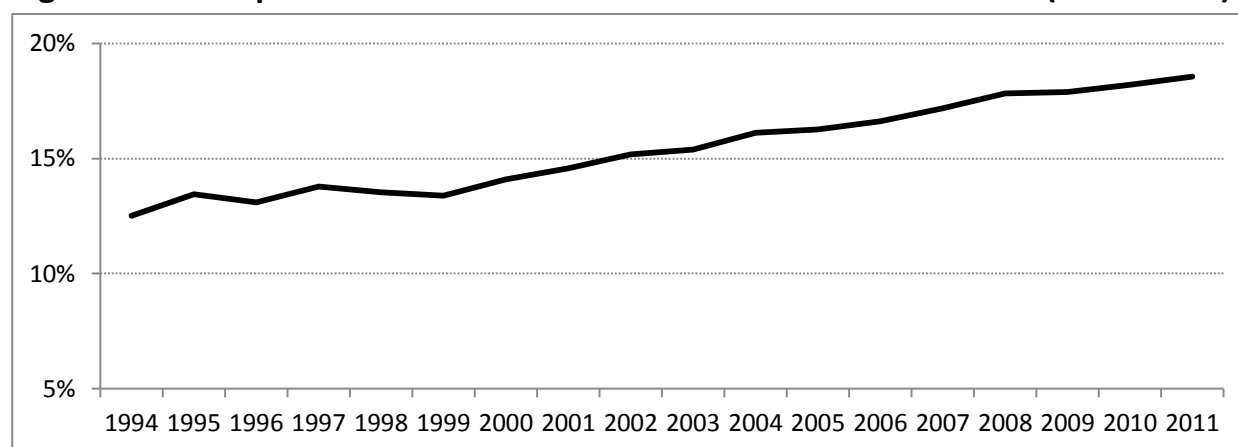
Figure 4.13 shows two things. First, that application rates from the lowest quintile were significantly higher in England than they were in neighbouring Scotland where tuition is free throughout the 2007-2013 period. This implies that the absolute level of tuition may not have a very important effect on demand. Second, the introduction of tuition fees did seem to cause a temporary break in the upward trend in applications from the lowest-quintile youth. But within a year, the upward trend had resumed, so that application rates from lowest-quintile youth for the 2013-14 year were the highest ever at just over 19%.

It therefore seems relatively safe to say that the introduction of very significant tuition fees has not had a noticeable effect on participation of lower-income students, and while significant gaps in participation remain, youth from lower-income/lower socio-economic class seem to not be decreasing their share of the total student population.

Ethnic Minorities

The Higher Education Statistics Agency (HESA) provides data on the percentage of the student body which is both UK-domiciled (i.e. excluding international students) and non-white. This data are shown below in Figure 4.14. As with the data on lower socio-economic classes, what is being portrayed here is not an increasing *rate* of participation but an increasing *share* of participation. Again, some of this increase could be related to a rise in the share of the youth population which is non-white but it seems unlikely that this would account for all of it.

Figure 4.14: Proportion of new enrollees who are visible minorities (1994-2011)



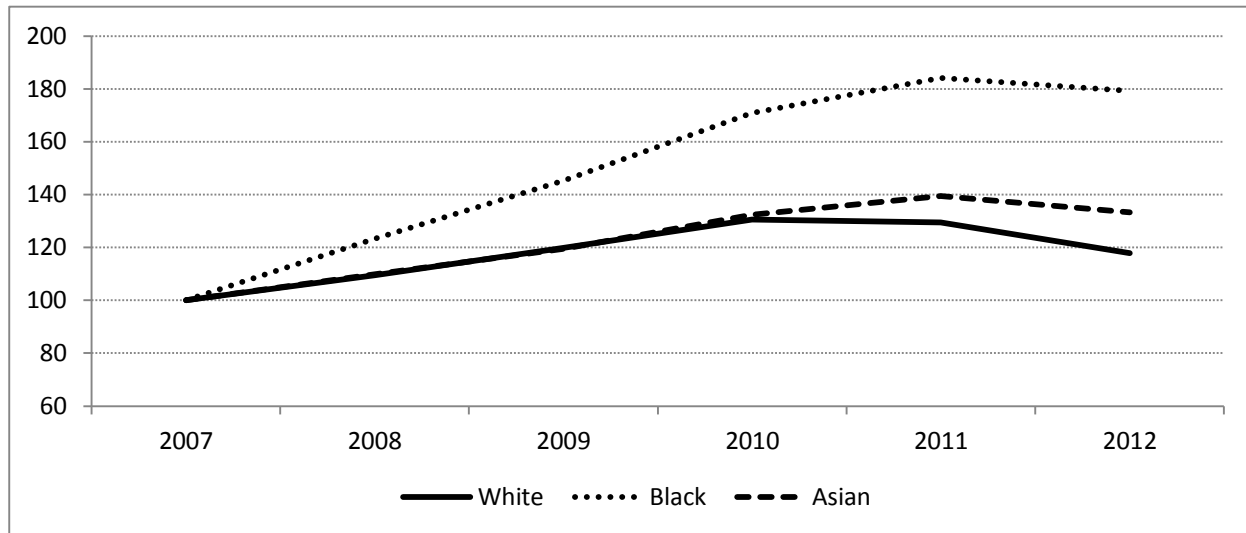
Source: Higher Education Statistics Agency.

The HESA data show that the non-white share of domestic enrolments has increased by nearly half, from just over twelve per cent to just over eighteen. Interestingly, the percentage did not start increasing in a sustainable way until after tuition fees began to rise. Since then, the rise has been relatively steady, suggesting that neither the 1998 nor the 2006 tuition fee increases affected access for students from non-white backgrounds very much, if at all.

Unfortunately, the data in Figure 4.14 end just before the major reform of 2012. However, we can examine this question by looking at applications rather than enrolments, as the central enrolment service UCAS provides breakdowns of the number of applications by ethnicity back to 2007. Figure 4.15 shows these figures, indexed to 2007. Application numbers for all ethnic groups rose steadily during the first few years of the post-2006 period. Application numbers peaked for whites in 2010 and for other ethnicities in 2011. In the year of the major tuition reform, we see a dip in applications across all ethnic groups. However, the drop was stronger for Whites (9%) than for either Blacks (3%) or Asians (4%). And in all cases, application numbers

remained much stronger in 2012 than they had been six years earlier when tuition had been 5-6000 pounds cheaper.

Figure 4.15: University applications by race, indexed to 2007 (2007-2012)

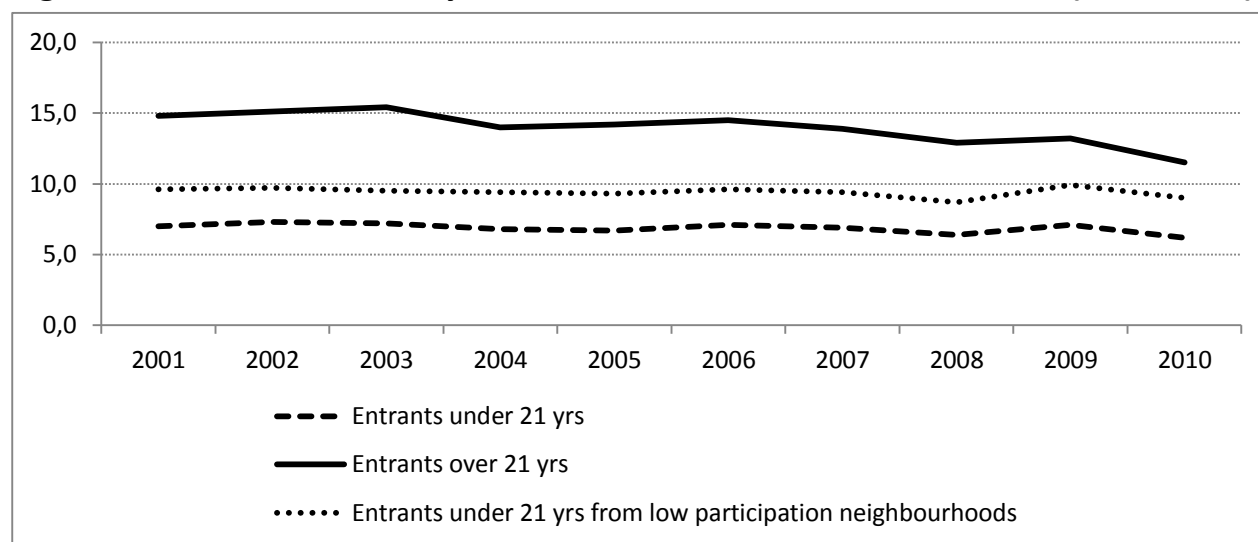


Note: Data for all UK countries.

Source: Universities and Colleges Application Service.

4.4 Completion Rates

The UK does not systematically trace completion or continuation rates. However, it does track the proportion of full-time, first-year degree entrants who go on to start the following year. These statistics are shown below in Figure 4.16. The figure requires little comment. To the extent continuation rates changed, they improved and there is no obvious connection between the improvements and changes in tuition rates.

Figure 4.16: First-to-second year attrition rates of full-time students (2001-2010)

Source: Higher Education Statistics Agency.

4.5 Evaluation

The following evaluation consists of answering four separate sets of questions.

First, how have increases in private funding changed costs to students? The answer is that the changes in England were very substantial indeed. Annual tuition for domestic students rose from zero to roughly 7,800 pounds. An increase in grants meant that this was offset by about 1000 pounds. It is true that an extremely generous loan scheme means that most students in fact are not paying anything out of pocket – indeed loans are still substantially larger than net tuition. But without a doubt the change in students costs in England are by far the largest of any of the nine countries in our study; indeed, the scale of the fee increase in 2012 is literally unprecedented in the history of higher education.

The second question here is: what effect does an increase in private funding have on participation rates? The answer is that the impact it is surprisingly slight. Unequivocally, participation rose after both the 1998 and 2006 tuition fee increases – a sign in fact that higher fees can increase participation if growth in study places is constrained due to restricted availability of public funds and fees are used to expand capacity. The 2012 increase, on the other hand, clearly did have a negative effect on demand, with applications falling by roughly 9% in the year of the increase. However, early indications from 2013 suggest that some of this loss will be regained in 2013, and indeed that applications from the traditional 18 year-old applicants may have completely recovered their 2011 heights. Even if not, application and participation rates now are still much above levels seen when domestic tuition was free.

A third question is ‘how have changes in private funding affected the composition of the student body’? The answer would appear to be ‘very little’. The general trends in participation are

towards greater participation from women, students from low-income or lower socio-economic classes, and visible minorities. Neither the 2006 nor the 2012 tuition fee increases appear to have had the slightest impact on any of these trends. The only way in which the composition of the student body appears to have been affected is with respect to age – applications from older students appear to have been particularly hard-hit by the latest of the tuition fee increases.

A fourth question is ‘how have changes in private funding affected time-to-completion’? This question cannot be answered directly because of a lack of statistics. But what can be confirmed is that attrition rates from first-to-second year have been falling steadily over the last decade, and that the 2006 increase in fees had no obvious effect on it.

In sum, there were three major tuition increases in our period. There are little data to measure the effects of the first one, which was the smallest of the three. With respect to the 2006 increase, virtually all participation indicators were better after the increase than before it. This suggests that a tuition increase which is accompanied by an increase in grants and loans, and an increase in public funding for institutions, can significantly improve access. With respect to the 2012 increase, it is too soon to tell what the effects have been. The initial results seem to be negative, but not especially so – that is, applications have declined, but only back to about the levels of 2010 (which was still among the best years ever for participation and applications). It is worth noting that unlike 2006, the 2012 fee increase was accompanied by a drop in public funding and no increase in grants.

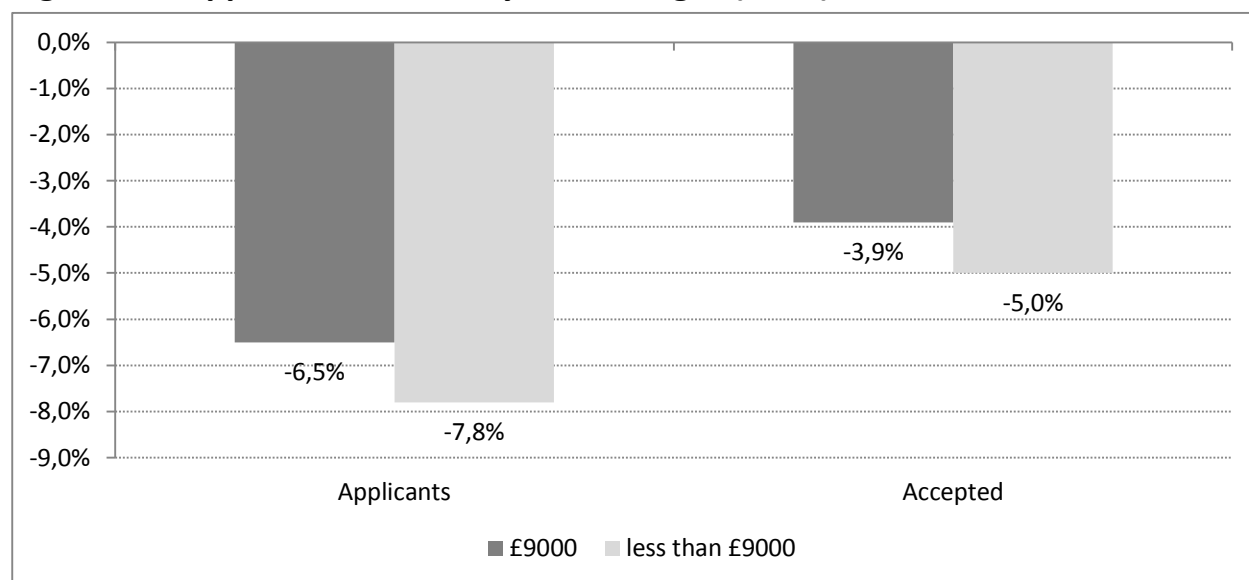
5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study (but not necessarily on the share of students studying). Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

5.1 Student Study Patterns

One hypothesis with respect to the effects of fees is that students will be tempted to choose a cheaper mode of study. For most of the period under study, this was not possible in the UK. Tuition fees did not vary across institutions until 2012 and part-time study fees were roughly proportional to full-time ones, meaning that they conferred no real cost-saving. And, as we have seen, part-time students declined as a percentage of the overall student body even before the tuition increases of 2006.

Post-2012, the situation changes somewhat, and more price variation occurred between institutions. The data seem to indicate that not only did students not flock to cheaper alternatives, but that falls in applications and acceptances were more pronounced at HEIs charging less than 9,000 pounds than at those that charged the maximum amount.

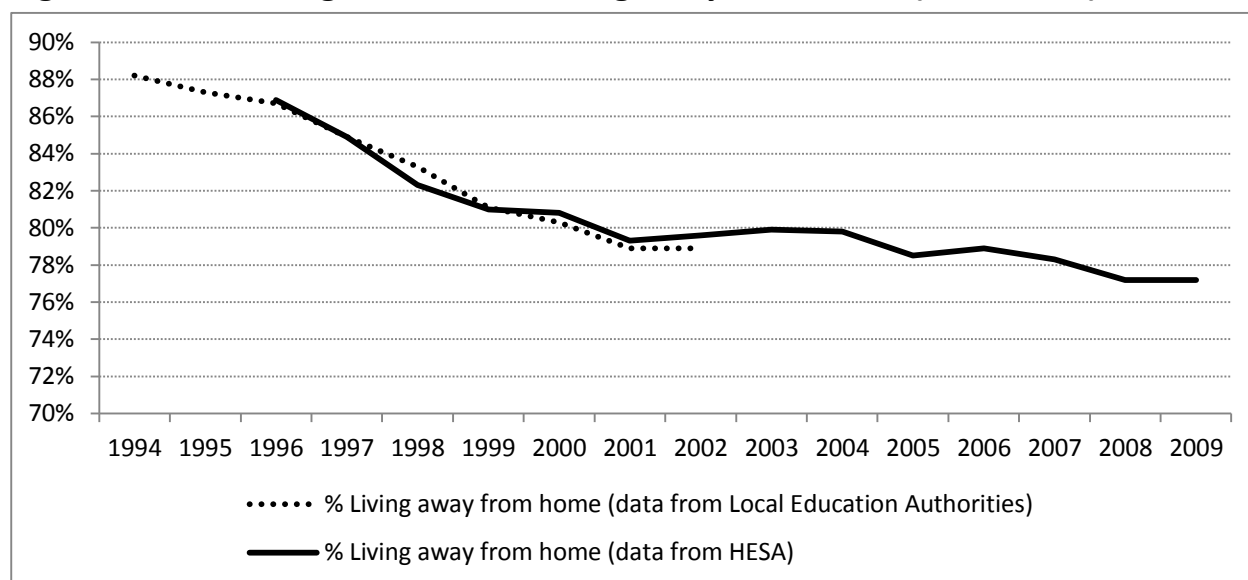
Figure 5.1: Application and entry rate changes (2012)

Note: Data for all UK countries.. Hence the actual declines were smaller.

Source: Higher Education Statistics Agency.

5.2 Location of Study

It has always been a tradition in the United Kingdom for students to move away from home to go to university. Much more so than in other countries, this is seen as a key rite of passage to adulthood. Historically, two different bodies have tracked data on students living arrangements – the Local Education Authorities, who played a major role in student support prior to 1998, and the Higher Education Statistics Agency. Data from both sources are shown below in Figure 5.2.

Figure 5.2: Percentage of students living away from home (1994-2009)

Note: Data for all UK countries.

Source: Higher Education Statistics Agency, LEAs.

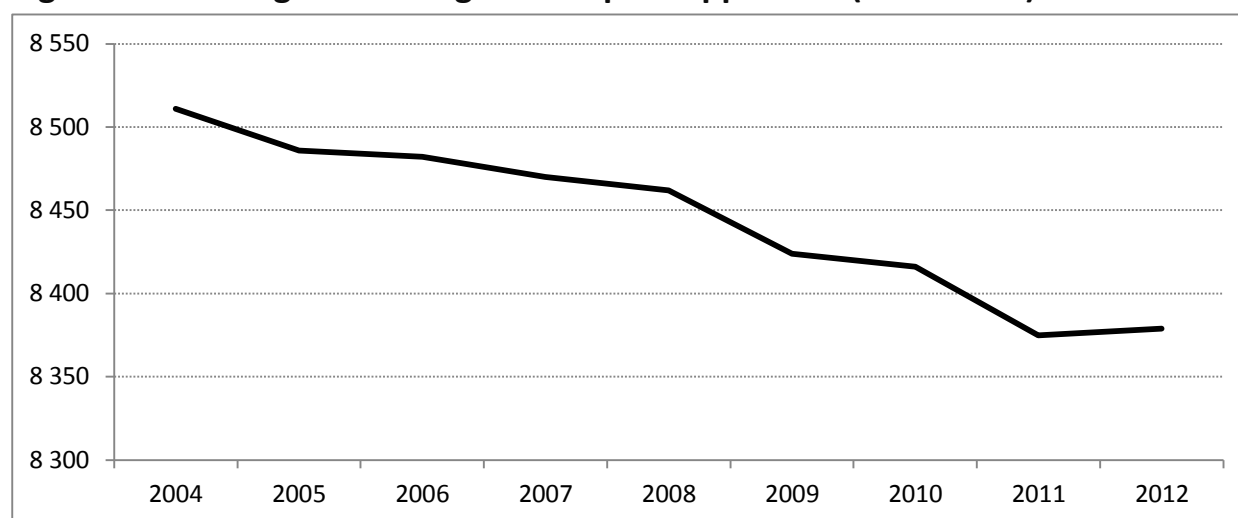
Figure 5.2 shows that there has been a long and steady decline in the percentage of students who leave home to study; however, the start of this decline significantly predates the introduction of tuition fees. Indeed, over the period 1994-2009, when rates of living away from home fell from 88% to 77%, more than half the decrease occurred prior to the Dearing reforms. Fees may have had something to do with the decrease after 1998, but given the prior trends it seems unlikely that they were the decisive factor.

A final possibility to investigate here is whether changes in cost-sharing resulted in an increasing number of students leaving the country to study for reasons of cost. Certainly there have been news stories to this effect in the wake of the 2012 increase in fees. For instance, Maastricht University in the Netherlands, which performs much of its teaching in English and has targeted English students in the wake of the fee hike, published a study which suggested that head teachers at prestigious English secondary schools were considerably more likely to recommend to their students that they consider studying abroad (Jobbins, 2013). Similarly, a number of top US universities said they had experienced an uptick of about ten percent in their enrolments from the UK in 2012 when the new regime was announced (Danby, 2013). These are plausible stories; as fees for ‘standard’ English universities increase, the gap between these universities and competitors such as US Ivy League schools decline. The American options still cost more, but the price differential is smaller and based on a ‘value-for-money’ perspective, they may now look more attractive. Still, these numbers are very small overall – a 10% increase in English students in top US universities still only barely amounts to 1,000 students, so while it is correct to acknowledge the existence of this phenomenon, one should not overstate its importance, either.

5.3 Field of Study

Another hypothesis with respect to the effects of cost-sharing is that students will be attracted to less costly fields of study. However, as noted in Chapter 3, there has been almost no change in the distribution of fields of study in the period to 2011, which suggests that there was little in the way of major changes brought about by either the 1998 or 2006 tuition changes. However, the UCAS 2012 end-of-year report noted an interesting pattern. It took the 2012 tuition fee by institution and programme and projected it backwards into the past, to see if students were more or less likely in 2012 to be taking less expensive programmes. The results are shown in Figure 5.3.

Figure 5.3: Average fee of English accepted applicants (2004-2012)

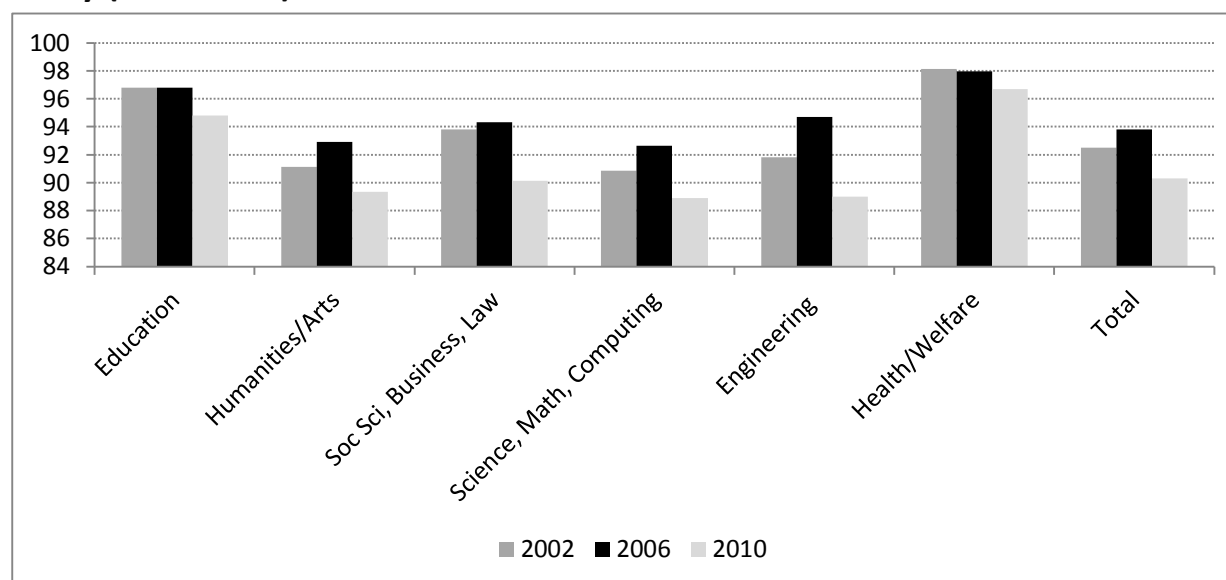


Source: Universities and Colleges Admissions Service.

Figure 5.3 requires some explanation. Obviously, English students were not paying 8,500 pounds in 2004. What they were doing was studying in programmes which in 2012 would cost that much. Thus, what the figure shows is that there has been a trend towards studying in ‘cheaper’ disciplines, but that this trend pre-dates the 2012 tuition change. Indeed, in 2012 itself, the trend actually reversed itself very slightly.

One reason why there may not be much of a shift in terms of study patterns among students is that there has not been much of a shift in terms of employment prospects between disciplines. As Figure 5.4 shows, with the exception of health, most fields of study have had similar (2-4%) negative shocks to employment rates from the 2008 financial crisis. Since all fields are being affected roughly similarly by economic change, there is no obvious reason to expect students to be switching fields.

Figure 5.4: Graduate employment rates six months after graduation, by field of study (2002-2010)



Note: Rate is employment rate of all individuals who have completed a degree within the previous six years.

Source: Higher Education Statistics Agency.

5.4 Time-to-Completion

A final hypothesis with respect to the effects of cost-sharing is that students will complete their studies more quickly to reduce their costs. No data with respect to these rates were available. However, to the extent that first-to-second year attrition (see Figure 4.15) rates are indicative of faster completion rates (which they may well be – students who leave may come back but have longer times-to-completion as a result), then perhaps there is an effect. But it would seem to be a relatively minor one.

5.5 Evaluation

Hypothesis D suggested that rather than having an absolute effect on the level of participation, the liquidity issues that stem from increased tuition levels 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. Specifically, four sub-hypotheses about the potential impact of higher tuition were examined:

First, with respect to ‘how’ students study, it was hypothesised that increases in private funding might lead to changes in study mode (part-time versus full-time study) and delays in entry. As there was no financial advantage to part-time study, this was not the case.

Second, with respect to whether increases in fees have affected students' choice of study location, there are several factors at work. Students do appear to be less likely to live away from home than they did twenty years ago, but since much of the decline happened prior to the introduction of tuition, it seems unlikely that cost-sharing has had much to do with this. With respect to choosing an actual institution, it seems that fees may have the opposite effect to what might be expected since in 2012 declines in number of applications and acceptances were greater at institutions which did not charge the maximum fee than at those which did.

Third, with respect to whether increases in tuition have affected what students study, as noted in Chapter 3, there has in fact been very little change in study profiles in our study period. There has been a subtle shift towards 'cheaper' programmes in recent years, but again this trend long pre-dates a significant change in tuition policy. One possible reason for the lack of shift is that no field of study has increased much in relative value in recent years, and that relative economic benefits are not shifting in a way that would make students rethink their study preferences.

Fourth, with respect to increases in fees making students more efficient and taking less time to complete their education, there are little data available on which to test this proposition. It can be seen that first-to-second year attrition rates are decreasing, but it is difficult to infer much from this.

In sum, it is very difficult to see an impact of changes in cost-sharing on these various forms of student behaviour. One plausible explanation for a lack of impact is that despite higher fees students have not in fact seen any diminution in liquidity. Because of the massive expansion in loan programmes that accompanied every tuition reform, net costs after loans remain below zero, very close to where they were in the period just after Dearing. Thus even though they are racking up fairly significant amounts of debt, because students do not feel cash-poor they are not altering their behaviour significantly.

6. CONCLUSION

Our study of England really revolves around three major reforms – the introduction of tuition fees in 1998 following the Dearing Report, the rise in tuition fees to 3000 pounds in 2006, and the final truly massive increase which was introduced in 2012 following the Browne report. Most of the important evidence here relates to the post-2006 period. It was a more significant reform than the 1998 reform, which in many ways was quite minor in terms of creating new cost-sharing streams, and there are better data on the post-2006 reform than we do for the more recent major reform.

With respect to Hypothesis A, it can be said that the cost exercises of 1998 and 2006 most certainly increased total funding. In both instances, public contributions rose at the same time as private ones. The 2012 reform was, however, a deliberate exercise in substituting private funds for public ones.

With respect to Hypothesis B, it can be asserted with near-absolute confidence that institutional strategies were designed to maximise revenue from private sources, but this should not necessarily be taken as a change from a prior period as UK universities had for some time been market-driven with respect to taught Master and foreign students. Diversity of programming did increase at first, but then was pruned in anticipation of serious budget cuts after 2011. But there was no major shift of students across fields of study. There is also some evidence that English institutions have been paying more attention at ‘customer satisfaction’.

With respect to Hypothesis C, the answer is mostly negative. Since tuition was introduced, participation is up sharply, gender mixes have not changed, and the proportion of students who are either non-white and/or from lower socio-economic strata have increased. The 2012 reform does however seem to have put at least a pause on those gains. Applications fell – more strongly among whites than other races, and *much* more strongly among older students. However, even with this change, application and participation of all groups remain well above where they were in 2006.

Finally, with respect to Hypothesis D, the answer again is mostly negative. To the extent that students are changing their institution, they are moving slightly towards the more expensive institutions. There has been a reduction in the proportion of students leaving home, but this trend started well before increases in fees became a reality and the two phenomena may not be causally related.

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FINLAND

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1. INTRODUCTION

1.1 Overview of Higher Education in Finland

Finland has a population of roughly 5.4 million. Higher education has an important place in Finnish society: According to Eurostat measures, Finland has one of the highest higher education graduation rates in Europe. In 2012, 45.8% of the population aged 30-34 had a higher education degree.

The Finnish higher education system is divided into two sectors: universities (Finnish *yliopisto*) on the one hand and polytechnics (also called universities of applied sciences, Finnish *ammattikorkeakoulu*, AMK for short) on the other hand. The country's 14 universities provide research-based academic education in (three year) Bachelor, (two year) Master and (four years) doctoral degree programmes.⁴⁴ 12 universities are public corporations, and two are foundations. Finland's largest university is the University of Helsinki with around 36,000 enrolled students. The smallest universities are the Hanken School of Economics and the University of the Arts (both Helsinki) with around 2,000 students each. Finland also has two Swedish-language universities, the Åbo Akademi University at Turku, and the Hanken School of Economics. The University of Helsinki is bilingual (Swedish and Finnish) by law. Many universities offer some of their courses in English. The average size of Finnish universities is around 11,000 students.

The first polytechnics began to operate on a trial basis in 1991 and were made permanent institutions in 1996. Most polytechnics were non-tertiary vocational education institutions before that time. In 2013, there were 25 polytechnics in Finland. Six are run by local authorities, seven by municipal education consortia and 13 by private organisations. The government authorises their study programmes, student numbers and location. It also acts as the main funding body. Institutional funding for polytechnics is based on core funding for teaching, project funding and performance-based funding. Polytechnics provide vocational education on an advanced level and promote applied research in Bachelor programmes (3.5 to 4 years duration) and, since 2005, programmes for polytechnic graduates (1.5 to 2 years duration), equivalent to a Master's degree. In order to apply for a graduate programme at a polytechnic, holders of a polytechnic Bachelor degree have to acquire at least three years of work experience after graduation. These polytechnic graduate programmes are much fewer in number than the Bachelor programmes: In 2010, less than 5% of all polytechnic students were enrolled in such programmes. Like in the university sector, there are Swedish-language polytechnics in Finland, the largest of which is the Novia University of Applied Sciences. The average student number at Finnish polytechnics is below 5,000, i.e. less than half the size of universities.

⁴⁴ The standard degree at universities is the Master degree. The Bachelor/Master distinction is more or less a formality introduced to align with the two-cycle Bologna system.

Applicants for universities and polytechnics are often required to take entrance examinations. Universities use a *numerus clausus* in order to restrict entry to study programmes. Bachelor graduates of polytechnics are eligible to apply for a Master course at a university.

After the rapid development of the polytechnic sector in the 1990s, both universities and polytechnics are now almost equal in terms of enrolment capacity: In 2009, 144,000 students were enrolled in universities (including 41,000 Master students), and 138,000 in polytechnics.

The Universities Act of 2009, implemented in the Finnish university sector in 2010, made universities independent corporations under public law or foundations under private law. As a result, some universities merged, such as the Helsinki University of Technology, the Helsinki School of Economics and the University of Art and Design, which jointly became the Aalto University. Such mergers were additionally encouraged by government policy in the years following the new law.

In terms of the development of new approaches to cost-sharing, the University Act of 2009 encouraged universities to compete for international research funding and donations and to increase revenues from business ventures in order to diversify their funding base. Although this change of policy led towards greater financial autonomy for universities, charging general tuition fees is still not an option. However, the legislative reforms made it possible to charge tuition fees on a trial basis to students from countries outside the EU/EEA who are taking English-language Master programmes, provided a scholarship scheme is included.

A comparative study by the European University Association (EUA) rates Finnish higher education institutions' (HEIs') autonomy as high in the areas of internal organisational affairs, staffing and student admission. In contrast to this, their financial autonomy is classified as 'medium low' in comparison with other European systems: Although HEIs are subject to few restrictions on how to spend the money allocated by the government and are allowed to borrow money and keep surplus, the prohibition of tuition fees in all but a small number of programmes is judged to obviate financial autonomy (EUA, n.d.-c).

1.2 Key Higher Education Stakeholders

The Finnish Ministry of Education and Culture (*Opetus- ja kulttuuriministeriö*, OKM) is responsible for developing the general educational and scientific policies and is the main financier of HEIs.⁴⁵ Funding is provided for a period of three years (four years from 2013 onwards) based on the resources required and operational and qualitative targets agreed between the Ministry and each university individually. The agreements also define how these targets are monitored and evaluated. An important element of the agreements concerns the fields of education and the study programmes a HEI provides.

⁴⁵ The National Defence University in Helsinki is supervised by the Ministry of Defence.

The Finnish National Board of Education (*Opetushallitus*, OPH) is a national agency subordinate to the Ministry of Education and Culture. The Board is in charge of the implementation and monitoring of the pre-primary to upper secondary education sector but also plays a role in Finnish higher education. For instance, it decides on the eligibility of foreign qualifications on the Finnish labour market (but not, for instance, on the eligibility of foreign academic qualifications for further studies in Finland). The OPH can advise HEIs on questions relating to academic recognition upon request.

During their studies, Finnish students and permanent residents of Finland are eligible to apply for financial support from Kela, the Social Insurance Institution of Finland (actually a tax-funded organisation despite its designation) that cooperates directly with the education institution concerned. Study aid is mainly provided in the form of study grants and housing supplements.

Founded in 1996, the Finnish Higher Education Evaluation Council (*Korkeakoulujen arviointineuvosto*, KKA) consists of twelve members. It is funded by the Ministry of Education and Culture but is an independent expert body assisting higher educational institutions in matters of evaluation. The members of the KKA represent universities, polytechnics and students. The KKA aims to improve the quality assurance systems of HEIs, e.g. by providing audit manuals at the beginning of each new audit term.

The Academy of Finland (*Suomen Akatemia*) is the primary funding agency for research in Finland. The Academy is under the administrative control of the Ministry of Education; it distributed 317 million euros of aid money in 2013. The funding is provided for scientific research at universities and research institutions and also for the development of international research networks. Individuals interested in taking advantage of funding opportunities apply directly to the Academy.

The second major public research funding agency is Tekes (Finnish Funding Agency for Technology and Innovation). Tekes is part of the Finnish Ministry of Employment and the Economy and specializes in financing research in the areas of technology, services, design, business, and social innovations. In 2013, the budget appropriation for Tekes was 542 million euros, which Tekes distributed to private enterprise projects, HEIs and public research institutions.

The Centre for International Mobility (CIMO) is a governmental agency operating under the Ministry of Education and Culture and offers various services in internationalisation and fostering cross-cultural communication. The CIMO administers exchange programmes and scholarships, it is responsible for implementing EU education programmes at the national level and promotes and organises international trainee exchanges. In the wake of the Bologna reform the CIMO collaborated with the Ministry of Education and Culture on the implementation of Diploma Supplements and the European Credit Transfer System (ECTS).

The National Union of University Students in Finland (*Suomen ylioppilaskuntien liitto*, SYL), founded in 1921, is the student's representative body. Membership in the SYL is compulsory for all students studying for a full degree at a Finnish university. The membership fee varies from 30

to 100 euros per year; in return students receive reduced price meals, health care services and other social benefits. The SYL participates in the Finnish Higher Education Evaluation Council and the Ministry of Education and Culture to improve students' rights, financial support and equality. SYL also takes part in the Student Research Foundation (*Otus*) that was founded in 1989 to foster independent research on higher education and students' environment. The polytechnic sector has its own student union called SAMOK (Union of Students in Finnish Universities of Applied Sciences).

1.3 How Governments Fund Institutions

Universities

After a long period of applying incremental, line-item budgeting procedures for funding, the government changed its policy in the beginning of the 1990s and adopted a block grant (lump sum) allocation model which included minor performance-based incentives. The majority of the funding was, however, still allocated on the basis of inputs necessary for the on-going operations of institutions. When it turned out that this model did not provide sufficient incentives for universities to follow the performance objectives set by the ministry, a new funding model was sought. Thus, the late 1990s and early 2000s witnessed the gradual introduction of more output- and performance-driven funding models.⁴⁶ The objective of the new funding approach was to secure accountability by offering universities incentives to increase efficiency, effectiveness, and quality of education and research.

The policy of the Ministry of Education and Culture has been to adjust the university funding model every three years, which was the standard lifespan of performance agreements between the Ministry and universities throughout the period 1995-2011. As a part of these adjustments, new indicators were introduced and old ones removed, and weightings of indicators were altered. Nevertheless, in general, these changes have been quite moderate so as to provide stability and predictability for universities.

Across the funding periods from 2001-2012, between 70% and 90% of state funding to universities was based on indicators.⁴⁷ The indicators were mostly aimed at four different areas: facilities and staff, teaching (e.g. number of Master degrees), research (including number of doctoral degrees and amount of external funding), and other activities, such as contributions to national tasks and societal services. The models included a mixture of input- and output-related indicators. Usually, both targeted and realised values were appraised. There were no formal sanctions in case targets were not met, but past target achievement is taken into account in future negotiations. Teaching-related indicators always represented the most important field of performance in the models, followed by research, which was introduced to the funding model as a special field in 2004. The proportion of state budgets not included in the indicator-based model

⁴⁶ In 1998, only 15% of the state funding was allocated by applying the model. The model became 100% effective in 2003.

⁴⁷ The remaining shares were distributed for special projects and programmes, and institutions' contributions to national tasks.

was allocated to specific purposes, such as support for specific policy programmes launched by the government, including measures to improve the quality of teaching and research, strategic development, or further performance-based funding.

Polytechnics

Compared to universities, funding for polytechnics is more complex, but at the same time more stable. During the period 1995-2011, there were only few and relatively small changes in the funding models.

The providers of polytechnic education (local authorities, joint municipal bodies or foundations) received core funding from the state. Under the Polytechnics Act, the government provided roughly 57% of the core funding and local authorities the remaining 43% up to the year 2007. From 2008 onwards, the respective funding shares have been roughly 42% and 58%. The state government share is recorded in the state budget as a net amount. The local authorities' share of the financing also goes through the state government. If the education provider is a local authority, its own financing share is deducted from the amount allocated, whereas joint municipal boards and private educational providers receive their entire core funding from the government. Throughout the period of investigation, funding has been provided in the form of block grants.

Polytechnics receive three types of state funding: core funding, project funding and performance-based funding.

- Core funding: The system of core funding includes both statutory aid and subsidies for running costs and new projects. Core funding is provided on the basis of targeted graduate numbers, weighted by field of study. After 2006, the average number of awarded degrees (both Bachelor and Master) was included in the calculation of unit costs with a 30% weighting.
- Project funding: Project funding has been targeted to support national policy programmes as well as policies and projects of individual polytechnics.
- Performance-based funding: The criteria for awarding performance funding have varied and grown throughout the period of investigation. Whereas, in 1998, the criteria comprised only four performance indicators related to internationalisation, employability of graduates, professional development of teachers and completion rates, the number of indicators in the period 2007-2009 was no less than 26.

Input-oriented core funding has been the most important category of funding, accounting for approximately 80%-90% of all state government funding. According to Rätty et al. (2008, cited in Opetus- ja kulttuuriministeriö, 2010, p. 9/19), the role of project and performance-based funding has been rather insignificant in providing operational incentives for polytechnics.

1.4 History of Cost-Sharing

Tuition fees

In Finland, higher education leading to Bachelor, Master and doctoral degrees is free of charge for domestic and EU/EEA students. The most common argument for tuition-free higher education is that it ensures social inclusiveness and equality of opportunities. In 2010, the government allowed HEIs to charge upfront tuition fees from non-EU/EEA students in selected Master programmes on an experimental basis during a trial period from 2010 to 2014. In these programmes, both universities and polytechnics can freely set their fee level, but at the same time, they are required by the legislation to provide some sort of scholarship schemes for the student group from which fees are collected. The design of these scholarship schemes is not specified in the legislation. The average amount of fees collected from students in the pilot phase is 8,000 euros per year.

Study aid policy

Finland has a comprehensive public study aid system for different types of expenses. Most important are study grants (*opintoraha*), which cover (or partly cover) students' cost of living, and housing supplements (*asumislisä*). Even though the system includes some needs-based differentiations, e.g. living with one's parents or away from home, age and marital status, most students receive the same amount of assistance. Student loans are offered by banks, with the government providing a loan guarantee. The most important changes in the period 1995-2010 are listed below.

- 1997: The maximum study aid period was extended for students in certain fields of study, and for a number of special reasons.
- 2000: The coverage of housing supplements was raised from 67% to 80% of the defined maximum rent.
- 2000-2007: Meal subsidies were increased by 42% (from 1.18 to 1.67 euros per meal).
- 2005: The calculation of maximum time period for a student to receive study aid was adjusted. Effects on the actual length of the study aid period were minor.
- 2005: Student loan tax deductions were introduced (effective for students enrolled in the academic year 2005–2006 or later). Eligibility for loan tax deduction requires that a student completes his/her degree within a set time period and at the end of the semester in which a student completes his/her degree, he/she has more than 2,500 euros in outstanding student loan debt taken out during the studies. The deduction is equal to 30% of qualifying debt exceeding 2,500 euros.
- 2005: The amount of government guarantee for a student loan was raised by 36%, from 220 euros to 300 euros per month.
- 2005: The defined maximum rent used for calculating the value of housing supplements was raised by 38 euros (from 214 to 252 euros). As of 2013, housing supplement covers 80% of the rent for amounts of up to 252 euros per month. If the rent exceeds 252 euros, the student still receives 80% of this maximum amount.

- 2008: The amount of other income a student can have without affecting the availability of the study grant and housing supplement was raised by 30%. In 2013, for each month a student receives the study grant or the housing supplement, the exempt amount is on average 660 euros, and for each aid-free month 1,970 euros. Assuming that a student received aid for nine months, he/she would be allowed to have up to 11,850 euros a year in other income.
- 2008: The amount of the study grant was adjusted, resulting in a monthly increase per student of roughly 40 euros. As of 2013, the standard monthly grant is 298 euros.

Policies designed to increase private investment in higher education

In the political discussion concerning higher education funding, increasing the share of private revenue for HEIs (from sources other than tuition) has been considered desirable by most parties in the period 1995-2010. Nonetheless, before passing the new Universities Act which became effective in January 2010, government policies encouraging the generation of private revenue were minor or non-existent. The new Universities Act made universities independent legal and economic entities. This change was at least partly motivated by the expectation that, being more independent in legal and economic terms, universities would be better equipped to generate private revenue.

Funding models for both universities and polytechnics have offered minor incentives to increase the share of 'external' or 'service-based' (i.e. not necessarily private) funding from research and/or education. In the case of universities, such incentives were first made part of the performance-based funding models in the periods 2001-2006. In the case of polytechnics the share of revenues from services was made a performance indicator in the period 2007-2009, and again in the period 2010-2012, in which the share of revenue from domestic/foreign companies and from EU programmes was introduced as an additional performance indicator.

In 2007, a new law which specified the property rights of patents and inventions made in HEIs became effective. The law classified research activities at HEIs as 'contract research' or 'open research'. If research involves third parties financing, it is considered 'contract research'. In this case, HEIs are entitled to claim property rights in inventions made in this research, enabling them to generate profits from it.

There is a weak culture of private donations in Finland, which according to one of the interviewed experts can be linked to Finland's strong welfare state tradition. In the years 1995-2007, there were no significant changes in policies related to donations. The new Universities Act marked a clear policy change in promoting private donations for HEIs. These changes are specified below:

2008: The maximum sum of tax-deductible donations of private foundations and companies is raised from 25,000 euros to 250,000 euros.

2009: Donations of individuals worth 850 - 250,000 euros are made tax-deductible.

2010-2011: The government promotes donations for HEIs from individuals and private foundations and companies by establishing a temporary matching-fund scheme in which the government offers to pay universities 250% of the amount they receive from private donations.

In 2008, a new passage was inserted into both the Universities Act and the Polytechnics Act stating that a university may arrange degree education geared to groups of non-EEA students which has been commissioned and is paid by the Finnish government, another state, an international organisation, a public or private corporation, or a foundation. This arrangement is called ‘made-to-order education’, and it is required that universities engaging in this kind of activity must charge fees covering at least the costs incurring from it. Made-to-order education is an opportunity for Finnish HEIs to generate private revenues by ‘exporting’ their services to recipients outside the EEA.

1.5 History of Enrolment

National policies affecting admission

Even though Finnish HEIs are autonomous in many respects, the basic educational mission of each institution must be agreed with the Ministry of Education and Culture. Universities are thus not allowed to initiate degree-based training in new disciplinary fields (e.g. engineering, medical science or law) without prior approval of the Ministry. The purpose of this restriction is to ensure national coordination and the quality of the programmes within the scope of the institutions’ educational responsibilities and the (public) resources available to them. According to expert statements, this policy choice is grounded in a welfare state-influenced perspective in which forecasting labour market demands plays an important role. This is particularly the case for (public) professions for which university degrees have traditionally served as a screening device. These forecasts of labour market needs, adjusted to reflect policy targets, form the basis for the national six-year Development Plans of Education and Research providing the framework for education supply. The development plans also provide the framework for negotiations between the Ministry and individual HEIs.

Once an HEI has reached an agreement with the Ministry concerning which fields of education, subjects or programmes leading to a degree it will offer, the institution can decide freely on how to handle admission. Both universities and polytechnics apply a *numerus clausus* for most subjects, which can be fleshed out in different ways: It can focus on matriculation grades, previous experience, various types of entrance examinations, or a mixture thereof. Depending on the popularity of a programme, this system produces long waiting times and relatively high rejection rates, forcing many prospective students to delay entry into higher education.⁴⁸ This is especially true for the university sector, for which there is no centralised application platform.

⁴⁸ Leitner, Ecker and Steindl (2011, p. 89) report that rejection rates in recent years have been between 40% and 55%, and that depending on the subjects students wait between one and three years before they receive their study place.

Discussions about how to mitigate this situation are on-going, and a new centralised application platform for both polytechnics and universities is scheduled to be launched in 2014.

In the years 1995-2010, there were no significant legislative changes affecting admission policies for HEIs. Below is a description of how enrolment is handled in universities and polytechnics.

Enrolment in universities

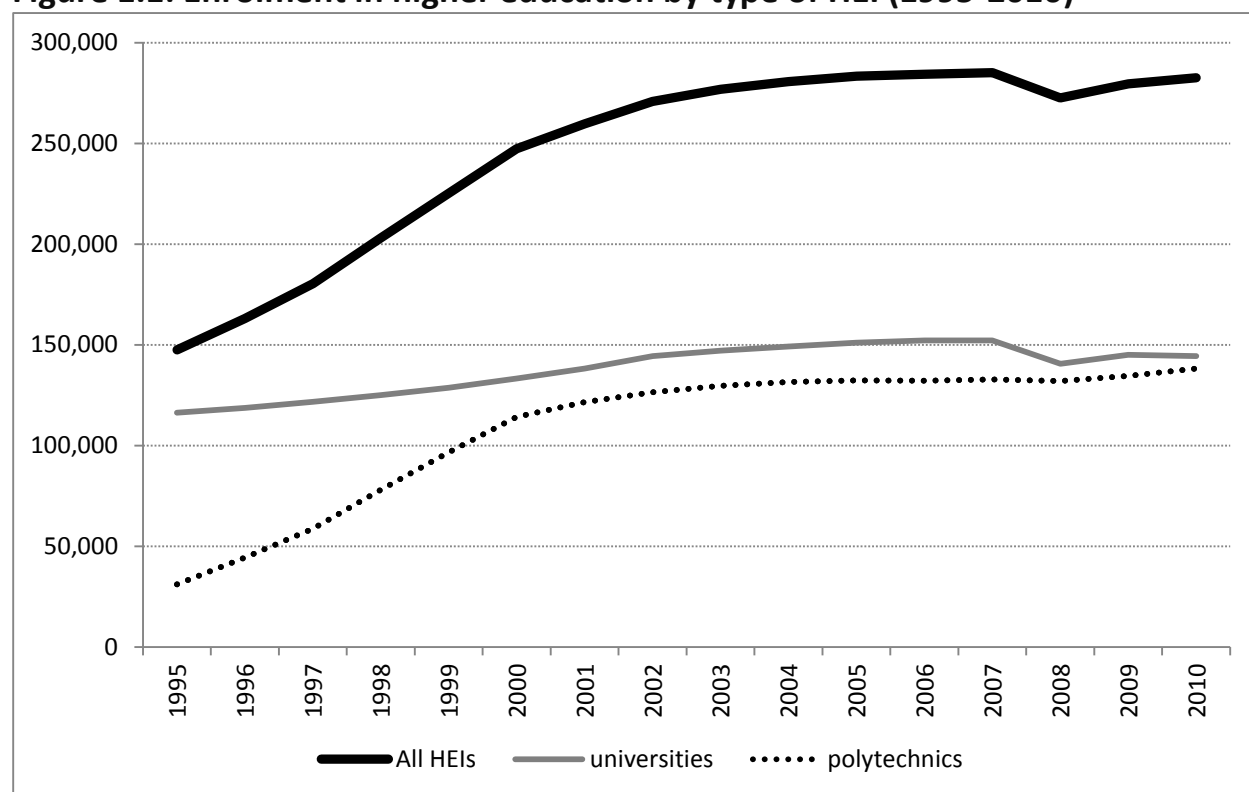
Finland's university admission system is highly decentralized. Finnish universities and individual departments within them are free to establish their own criteria for the admission of students.⁴⁹ University applicants are typically admitted based on an entrance examination and matriculation examination results. In the majority of cases entrance examinations differ from one university to another. One reason for the growth of various forms of entrance examinations has been the belief that success in general upper secondary school does not necessarily predict success in higher education studies. Separate examinations have also served as a part of 'second chance' policies, especially in those fields where the number of adult applicants is relatively high. Therefore, nearly all programmes have a quota where admittance is based solely on the entrance exam. The quota gives a second chance to students who fared badly in their matriculation exam or only have a vocational upper secondary school diploma.

Enrolment in polytechnics

Polytechnics are also authorised to establish their own criteria for the admission of students. Matriculation results are typically one admission criterion, and interviews, tests of aptitude or suitability may also be used. In contrast to the university sector, the government has established a joint application system for polytechnic institutions.

Figure 1.1 shows enrolment in universities and polytechnics during the period of investigation. We see that there was a strong increase in enrolment between 1995 and 2000, which was mainly due to a rapid growth of enrolments in polytechnics. To some degree, this development is connected with the re-classification of formerly non-tertiary vocational institutions into polytechnics, i.e. higher education institutions. In the 2000s the growth slowed down, with a slight decline in 2008. Overall, the number of enrolled students more than doubled in the sixteen years under consideration here.

⁴⁹ HEIs are however not free to choose how many students they admit – this is a matter of negotiation between institutions and the Ministry of Education and Culture

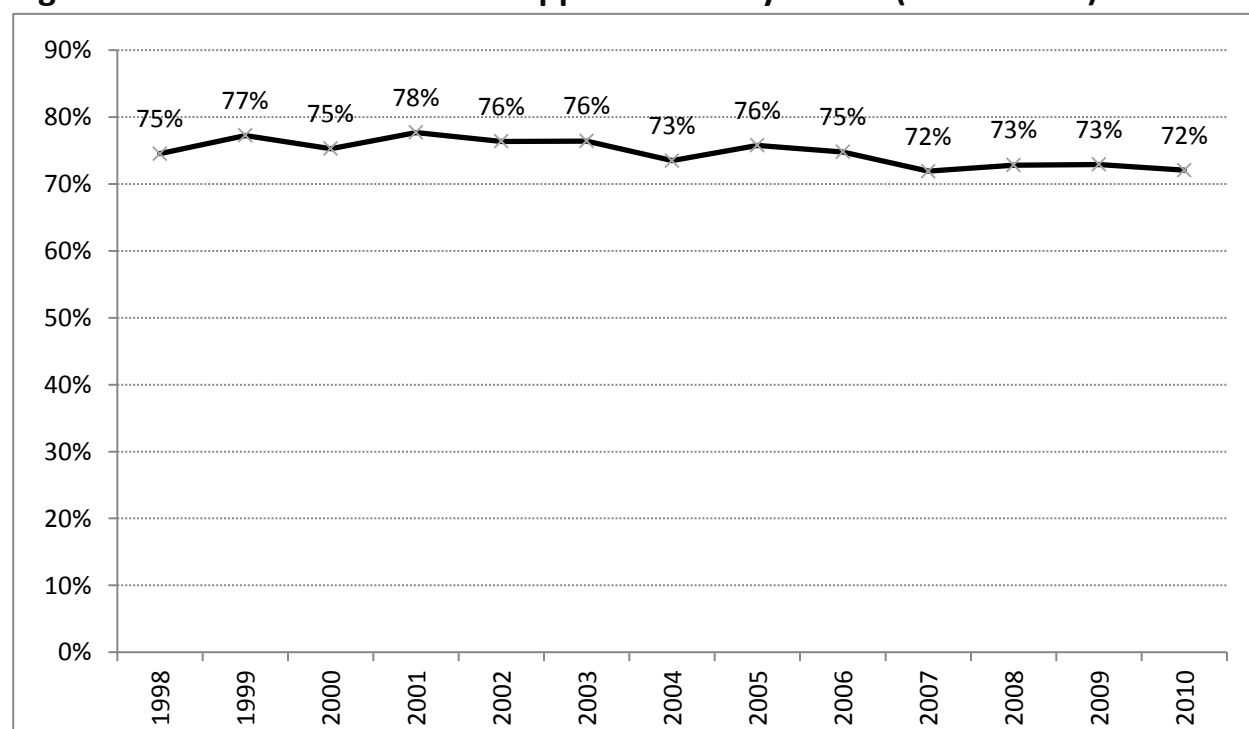
Figure 1.1: Enrolment in higher education by type of HEI (1995-2010)

Source: KOTA⁵⁰ / Vipunen⁵¹ / Ministry of Education and Culture: Higher Education Report (2009) / Statistics Finland.

Figure 1.2 presents an approximation of the rate of transition from upper secondary to higher education. This rate was highest in the early 2000s (2001: 78%) and decreased to 72% in 2010.

⁵⁰ Online service, maintained by the Ministry of Education and Culture, offers statistical data on universities and fields of education from 1981 to 2010 (<https://kotaplus.csc.fi/online/Etusivu.do>).

⁵¹ Statistical services maintained by the Ministry of Education and Culture (<http://vipunen.csc.fi/fi-fi/ohjeet/Pages/default.aspx>).

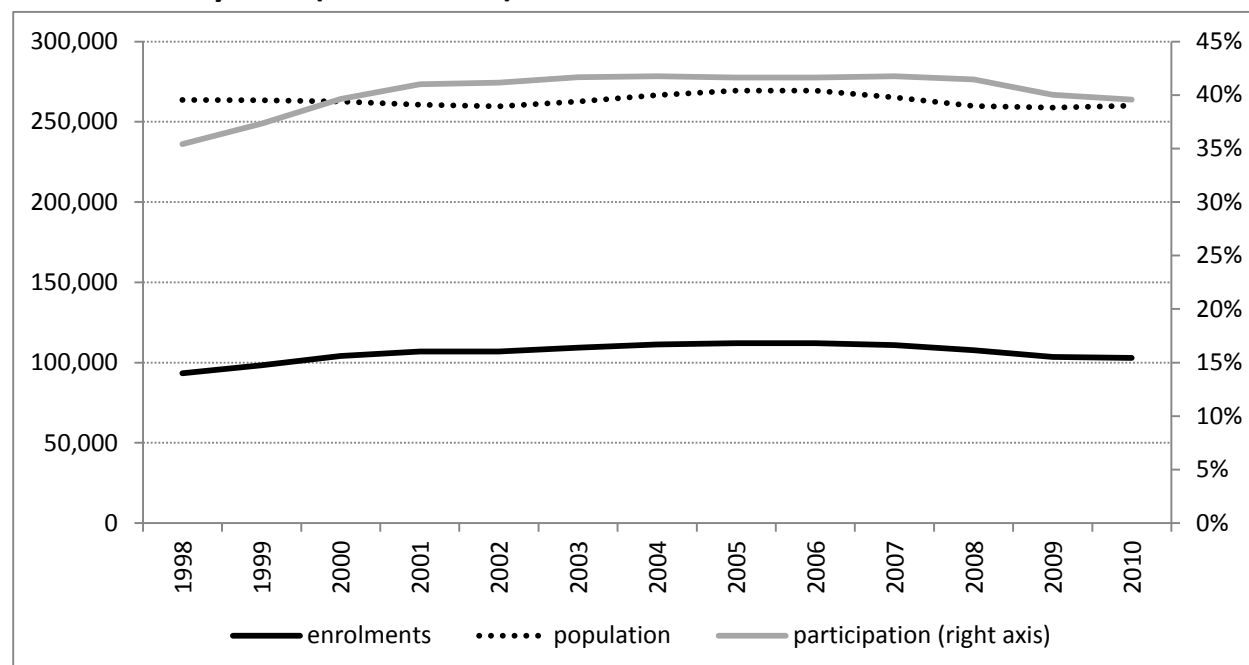
Figure 1.2: Transition rates from upper secondary school (1998 - 2010)

Note: The transition rate is approximated as the ratio of new entrants in higher education in each year to the number of upper secondary-school leavers with a higher education entrance qualification in the same year.

Source: KOTA/ Vipunen / Ministry of Education and Culture (2009) / own calculations.

Finally, Figure 1.3 represents higher education participation in the group of ‘best four years’, i.e. participation by students in the four age-years with the highest participation rates in higher education. For Finland, this is the group of persons aged 21-24. The figure shows that participation in the best four years remained relatively stable at around 42% after an increase in the years 1998-2001, and dropped to slightly below 40% in 2009/2010. The same pattern is also visible for the best four years-students in absolute numbers. The entire population in the best four years remained relatively stable with minor ups and downs that did not influence student numbers. This means that the slight increase in participation is not due to a decline in the group of potential students, but actually an effect of educational upward mobility.

Figure 1.3: Students, population and higher education participation in age group of 'best four years' (1998 - 2010)



Note: Best four years: Age 20-23 in 1998, age 21-24 in 1999-2010. Best four years accounts for 39% of all students.
Source: OECD statistics / Statistics Finland⁵²

Figure 1.3 also shows that the increase in enrolment numbers in the 2000s (Figure 1.1) was not due to the group of best-four-years students. The statistics show that it was rather the group of mature students that drove to this growth. The number of enrolments of students aged 40+ grew by 62% in the years 1998-2010. In 2010, this group accounted for 12% of Finnish students.

⁵² Available at <http://www.stat.fi/index.html>.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which argues that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will look at whether:

- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and whether this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

2.1 Changes in Institutional Revenues over Time

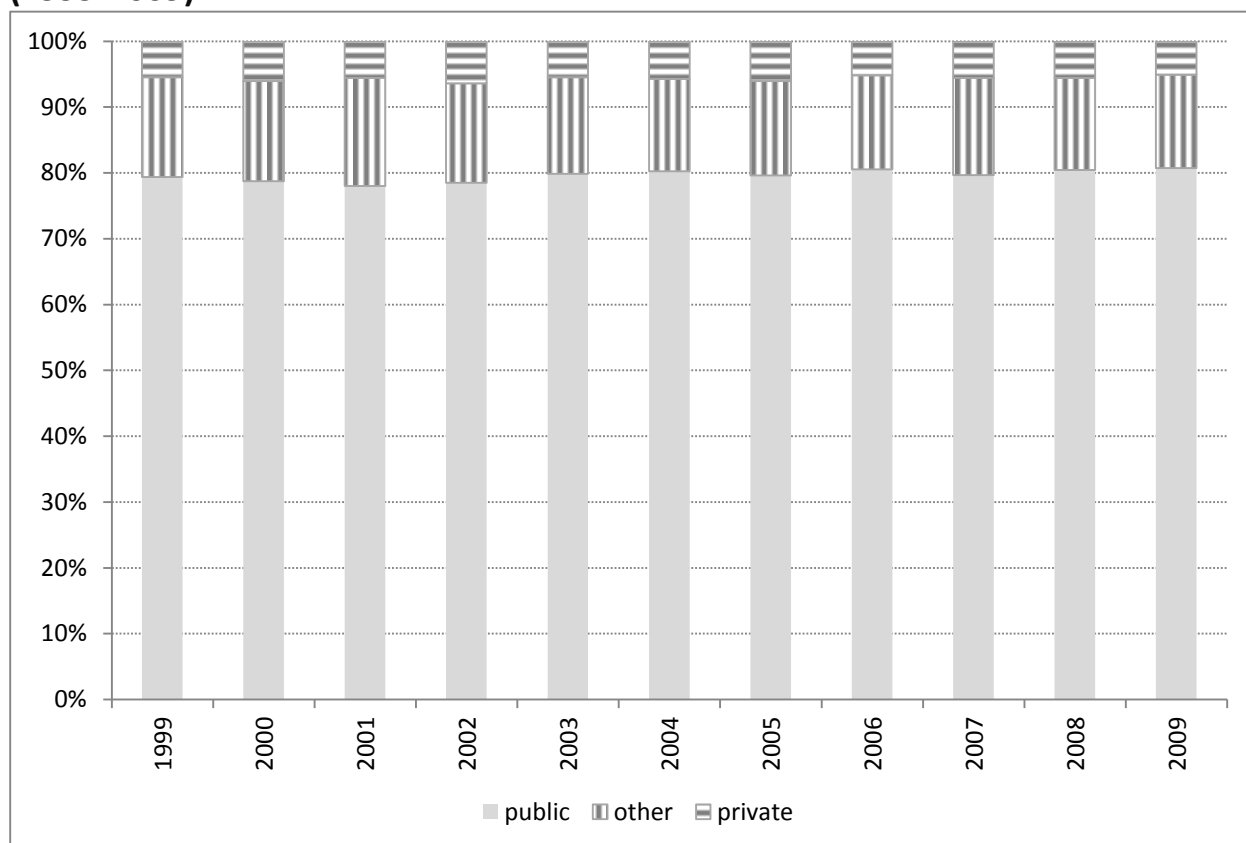
This section compares the absolute and relative amounts of funding to Finnish HEIs from different sources. Universities and polytechnics will be represented separately in Figures 2.1 and 2.2 below. For universities, the category ‘public funding’ subsumes institutional core funding from the government, public third-party funding and EU funding. Private funding includes funding from domestic and foreign business. The category ‘other funding’ subsumes various funding sources that cannot be clearly classified as public or private: Included are additional funds from public sources (e.g. municipalities or ministries other than the Ministry for Education) and private sources (e.g. foundations and trusts) as well income from foreign sources whose public/private status cannot be determined.

For polytechnics, a two-fold distinction will be made between public funds - defined as the sum of government funding, funding from the maintenance body and other state funding - and other funds. The latter category cannot be differentiated according to either public or private sources. It includes revenues from the sale of goods and services, charges, donations, sponsorships, revenues from interest and invested equity, etc.

Both graphs clearly show that Finnish higher education is predominantly publicly funded. For universities, the share of private funding oscillates between a low of 5.9% (in 2009) and a high of 7.6% (in 2002).

In polytechnics, the exact amount of private funding cannot be determined due to the way data are reported. Figure 2.2 demonstrates, however, that the private contribution to funding of polytechnics must be below 18% (this is the maximum share of the category ‘other’ in 2006).

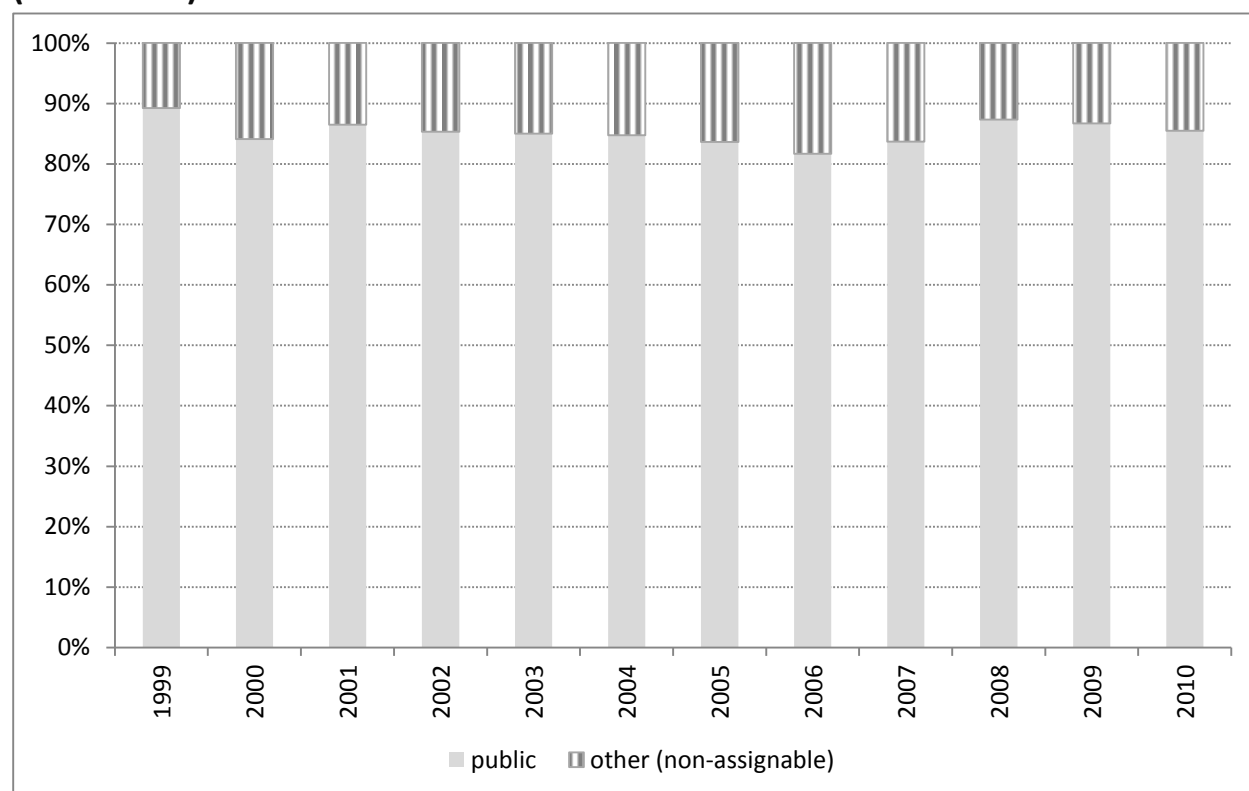
Figure 2.1: Relative amounts of funding to universities from different sources (1999-2009)



Note: Constant prices (2011).

Source: KOTA / Ministry for Education and Culture / National Board of Education / own calculations.

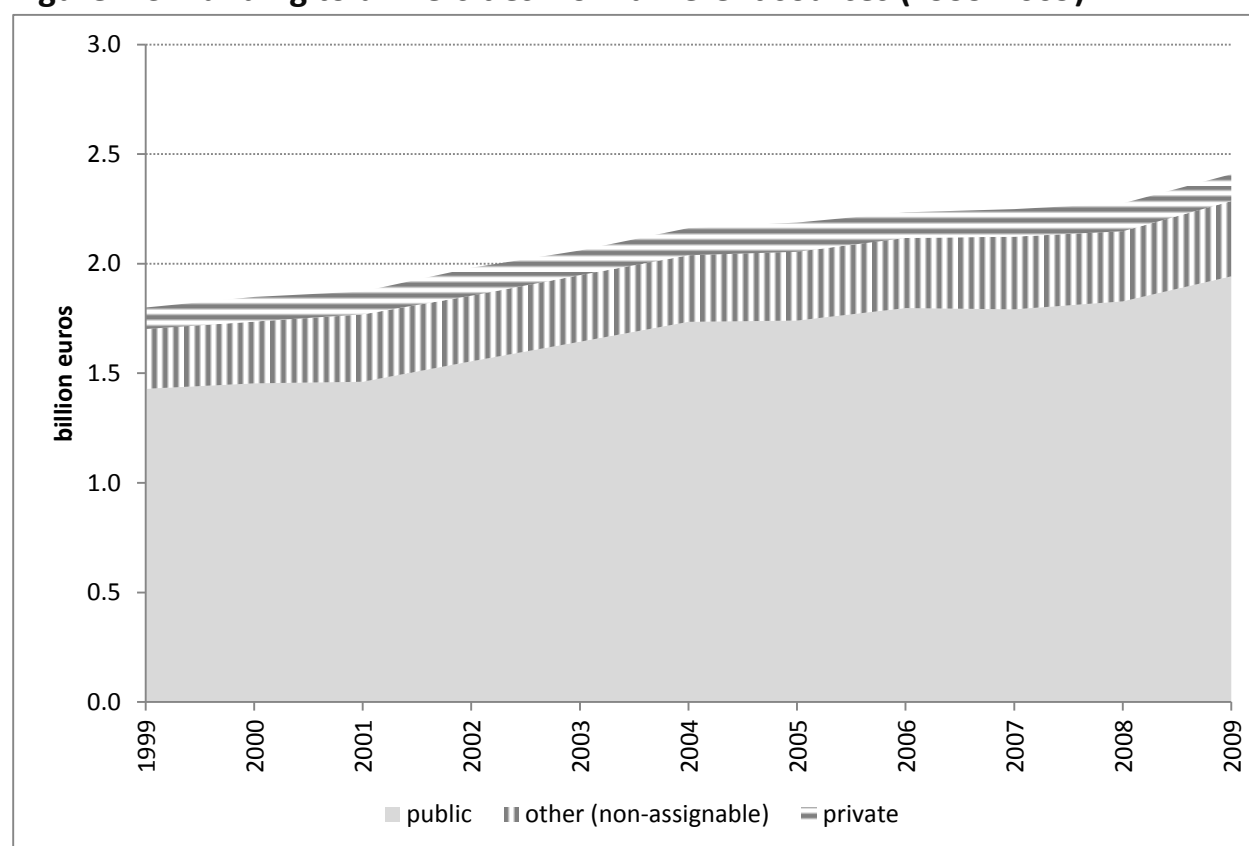
Figure 2.2: Relative amounts of funding to polytechnics from different sources (1999-2010)



Note: Constant prices (2011).

Source: KOTA / Ministry for Education and Culture / National Board of Education / own calculations.

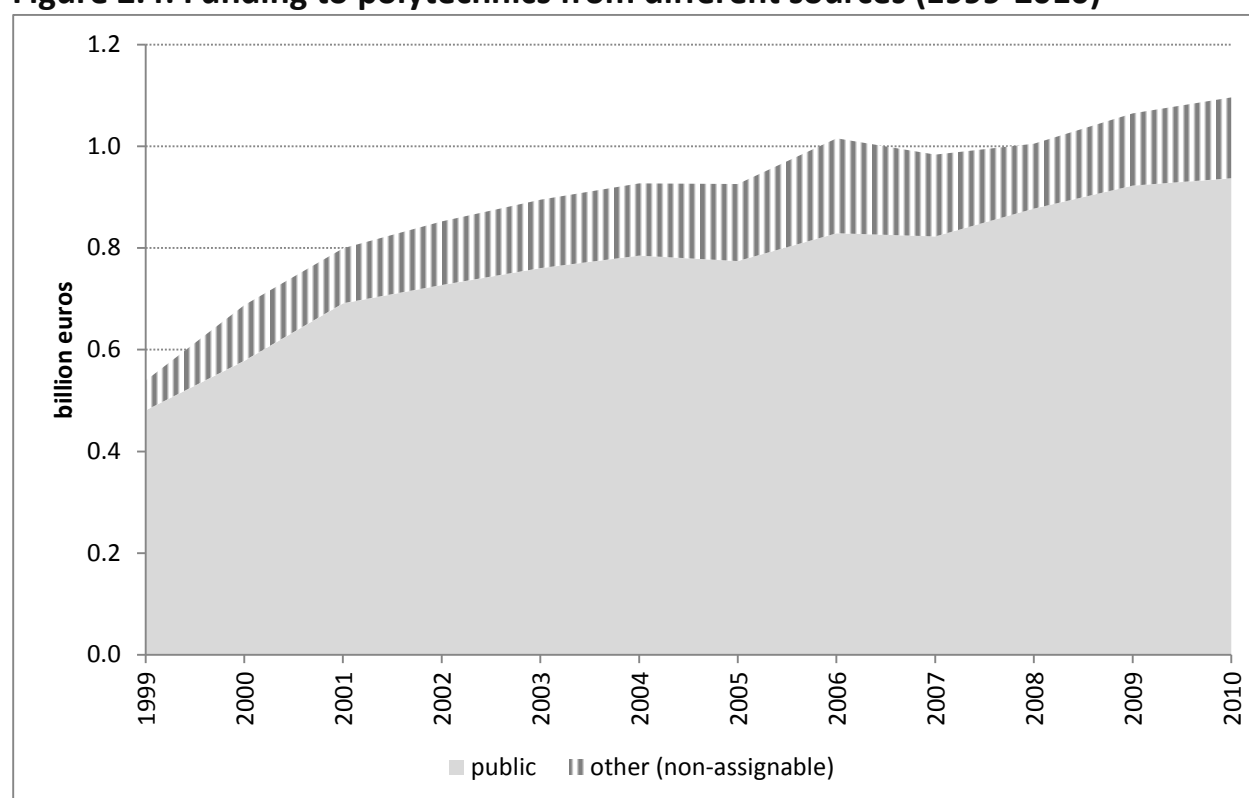
The absolute amount of funding per source is shown in Figure 2.3, for universities, and in Figure 2.4 for polytechnics. The figures show that public funding to both universities and polytechnics increased markedly. In the university sector, institutional core funding almost doubled between 1995 and 2009, and income from public third-party funders (not displayed separately above) increased by a factor of 6. For polytechnics, too, institutional core funding is by far the most important source of income. It nearly tripled in the years between 1999 and 2010, from 319 million euros in 1999 to 882 million euros in 2010. This strong increase is related to a concurrent growth of the entire polytechnics sector. The second most important income for polytechnics are charges for services. Revenues from this source increased from 77 million euros in 1999 to 132 million euros in 2010. This growth progressed linearly except for a short decline in 2008/09, presumably as a consequence of the global economic crisis.

Figure 2.3: Funding to universities from different sources (1999-2009)⁵³

Note: Category 'other (non-assignable)' includes funding from public authorities other than the Ministry of Education and Culture (e.g. municipalities, other ministries) as well as private bodies not listed as companies (foundations, funds/trusts etc.). Constant prices (2011).

Source: KOTA.

⁵³ Finland introduced the euro as a currency in 2002. Before, the national currency was the Finnish markka. Its currency rate was fixed: 1 euro equals 5.94573 Finnish *markka*. All calculations in this report are based on this equivalence for the years up to and including 2001.

Figure 2.4: Funding to polytechnics from different sources (1999-2010)

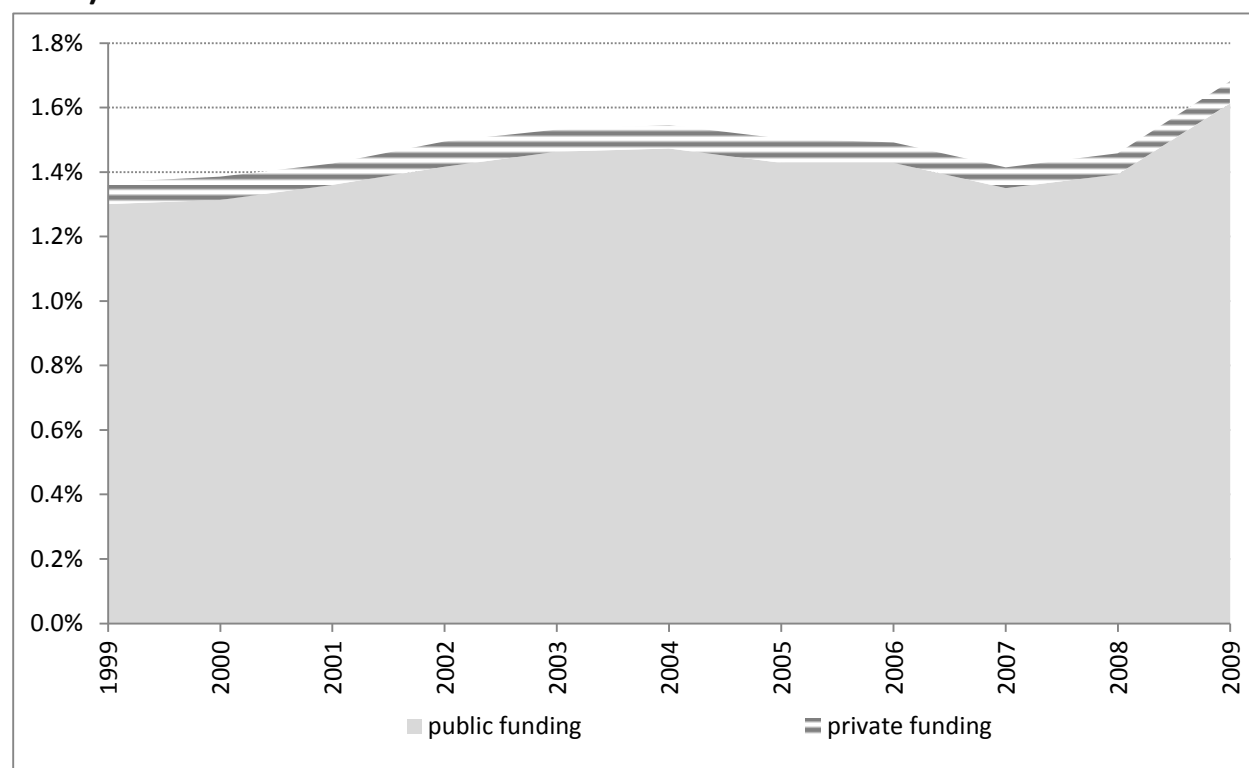
Note: Category 'other (non-assignable)' includes public and private revenue from educational and other services, EU-funding, business incubator revenues, farming and forestry revenues, revenues from research, development and innovation activities, from sold goods and equipment, from charges for utilities and rents, donations and grants/subsidies, from learning materials sold to students, sponsorship revenue and fees collected from students (open university courses, specialization courses). Constant prices (2011).

Source: Finnish National Board of Education / Statistics Finland.

Summarising the results so far, both the Finnish university and polytechnics sectors are to a large degree funded by public sources. Moreover, no direct correlations between the levels and shares of public and private funding could be observed. The expansion of the Finnish higher education system appears to have been financed primarily by increases in public funding to both universities and polytechnics.

To see how higher education financing is linked to Finland's economic development, Figure 2.5 shows spending on higher education (universities and polytechnics combined) by source in relation to the country's GDP. The figure shows that private funding to HEIs as a percentage of GDP remained relatively stable throughout the years 1999-2009, whereas that of public funding was more volatile. Having increased until 2004, the proportion declined between 2004 and 2007, and continued to increase thereafter due to a decrease in GDP performance.

Figure 2.5: Higher education funding by source as a percentage of GDP (1999-2009)



Note: Excludes all income not clearly attributable to either public or private sources. Constant prices (2011).

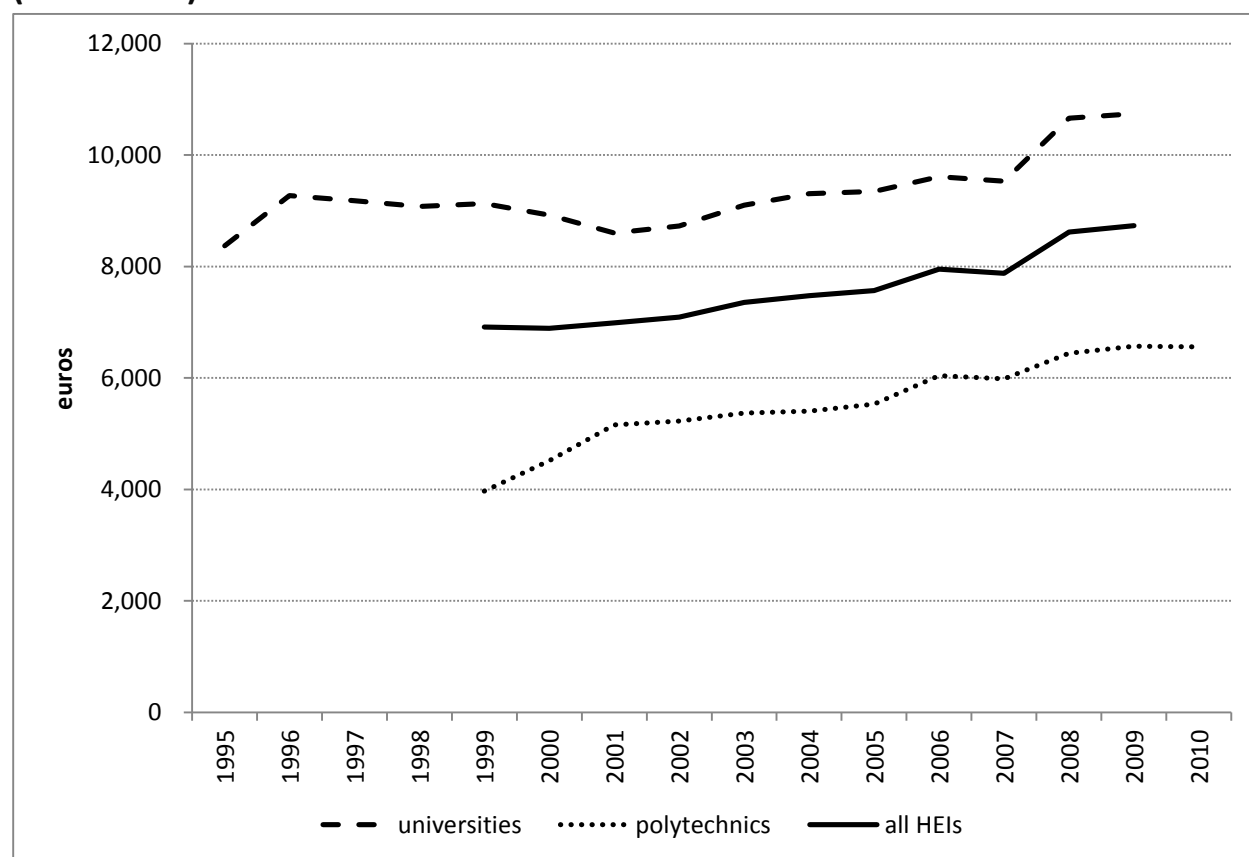
Source: KOTA / National Board of Education / OECD statistics (GDP).

2.2 Institutional Expenditure

This section focusses on how changes in overall income of HEIs affect spending on students. Therefore it is assumed that institutional core funding is equal to the portion of the budget that covers teaching costs. Hence, for Figure 2.6, income per student has been defined as institutional core funding divided by total number of students. As the graph shows, income per student increased for both types of institutions. Income per student in universities increased by a factor of 1.28 (1995-2009). The progression of the line is roughly as one would expect from the enrolment figures (Figure 1.1): Slightly downward-pointing in times of increasing demand and stabilising simultaneous with the consolidation of enrolment numbers. The sharp increase in 2008 was due to a drop in student numbers combined with a simultaneous increase in funding.⁵⁴ In polytechnics, funding increased by a factor of 1.65 (1999-2010).

⁵⁴ The drop in student numbers is most likely due to the end of the transition period to the two cycle degree structure: Many students who had not completed their studies within the transition period ending in 2008 left university.

Figure 2.6: Institutional income from core funding per student by HEI type (1995-2010)



Note: Constant prices (2011).

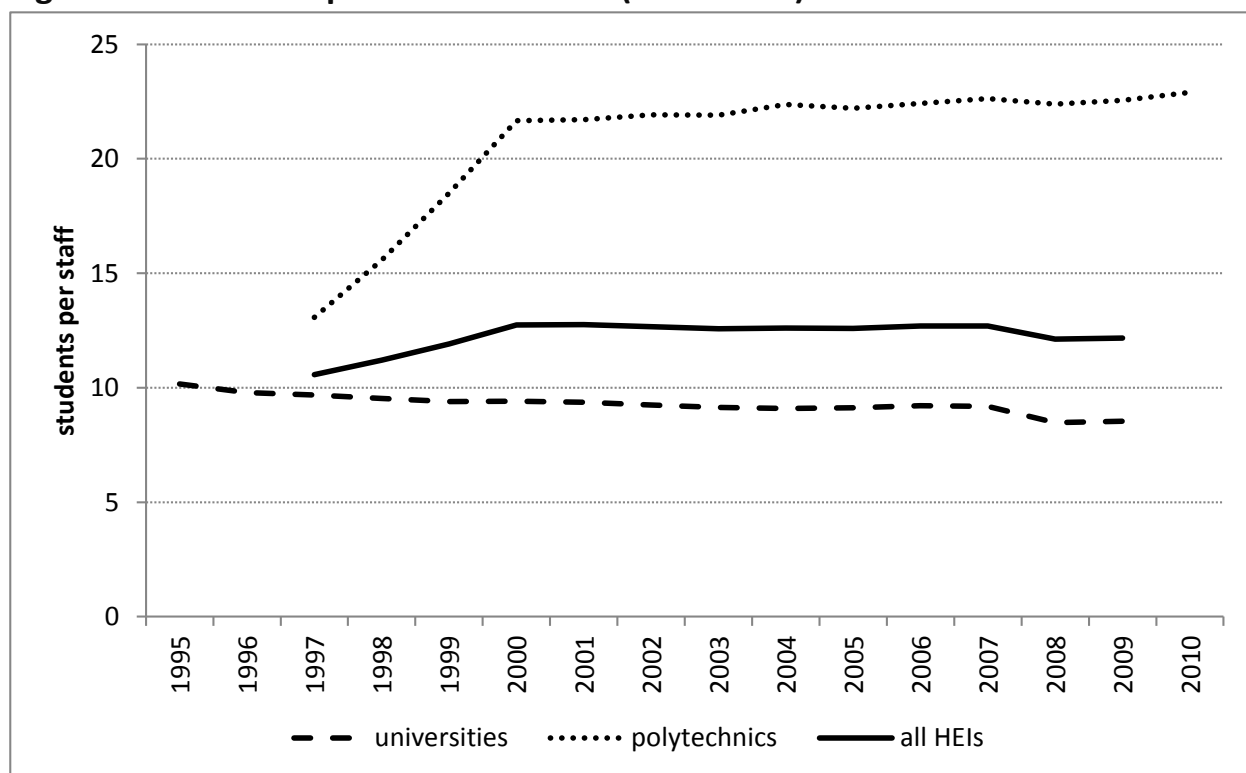
Source: KOTA / Vipunen / Ministry of Education and Culture: Higher Education Report (2009).

A more indirect way of investigating the influence of changes in higher education funding on studying conditions is to look at student-staff-ratios, which are shown in Figure 2.7. The graph shows a clear difference between universities and polytechnics: Whereas the student-staff-ratio remained relatively constant in universities, the pattern in polytechnics is marked by a steep increase in students per staff in the years between 1997 and 2000, when the number of students enrolled at polytechnics increased strongly but staff numbers did not. This is in contrast with the pattern in Figure 2.6, which shows an increase in per-student funding. A national expert who was interviewed on this commented that the additional funds for polytechnics were mostly spent on increases in salaries and other personnel related costs of academic staff, increased costs in administration and facilities as well as increased research and development tasks of polytechnics. This could explain why increased per-student funding did not result in smaller student-per-staff ratios during that period. After 2000, student and staff numbers increased simultaneously.

Where the university sector is concerned, it can be seen that the growth of funding to institutions kept up with the growth of student numbers both in terms of funding per student and in terms of

academic staff per student. The student-per-staff ratio even decreased over time, from a little over 10 in 1995 to 7.8 in 2010.

Figure 2.7: Students per academic staff (1995-2010)



Note: Research staff is included in calculation.

Source: KOTA / Ministry of Education and Culture: Higher Education Report (2007/2009/2011) / Finnish Board of Education / Vipunen / own calculation.

2.3 Evaluation

This chapter showed first of all that Finnish HEIs are to a very large degree publicly funded. In the absence of tuition fees, the major source of private funding is through third-party funds for university research and, particularly in the case of polytechnics, diverse other services offered, partly to private customers. The precise amount of private funding to HEIs could not be specified due to the way data are reported. Even so, the figures reveal that private third-party funding plays a minor role when compared to public institutional core funding and public project funding. In fact, there has been no increase in the share of private revenues for either universities or polytechnics. This means that Hypothesis A cannot be verified or falsified in the Finnish case.

Nevertheless it is interesting that the Finnish higher education system expanded at the same time as other countries' higher education systems, such as Canada's or Germany's – also examined in

this study – yet Finland managed this expansion without introducing tuition fees. In fact, public per-student spending increased continually even at times when total student numbers were increasing. The notion of higher education as a public good seems to be entrenched in Finnish society to such a degree that even a considerable expansion of the higher education sector has not resulted in an increase in the use of private financing sources. Changes in the status of universities and polytechnics enforced through legislative reforms are to some extent aimed at encouraging HEIs to better exploit private funding sources, but the data gathered for this study do not show any clear effects in this regard.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO USER DEMAND

This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

In Finland, higher education funding relies to a large degree on public contributions, as was shown in the preceding chapter. In this chapter, it will be shown that this also influences the way responsiveness of institutions works: It is in many cases mediated by governmental interventions rather than directly stimulated by private income.

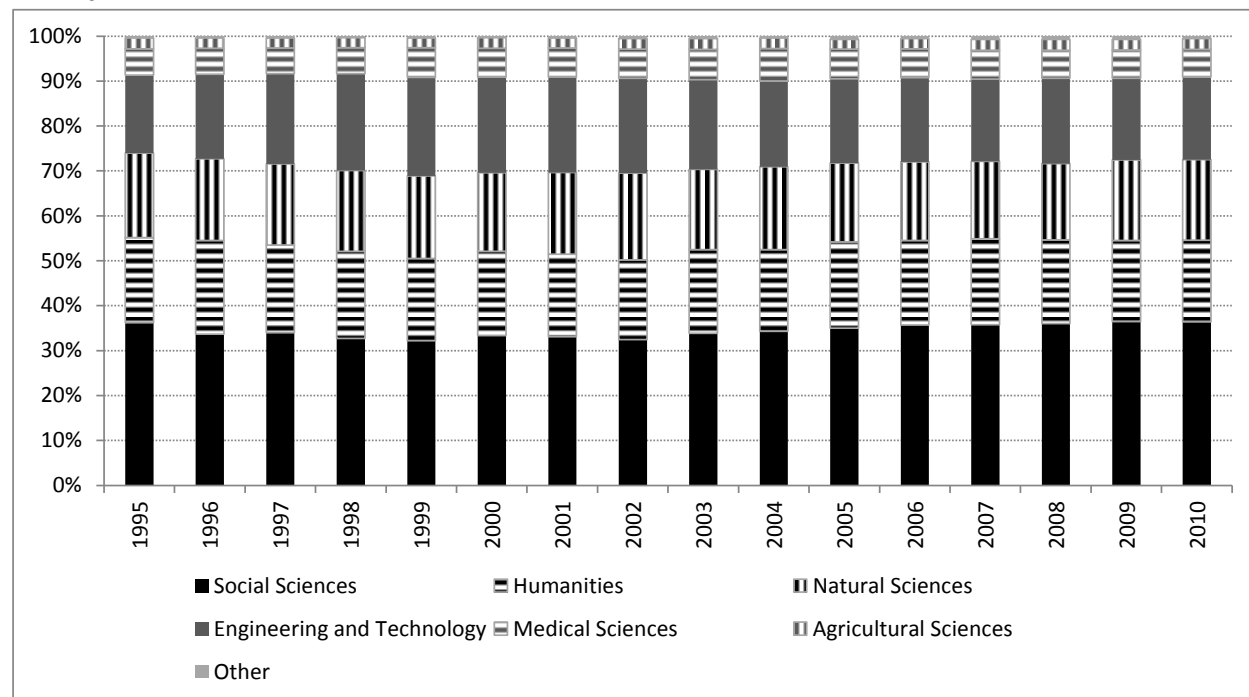
3.1 Enrolment by Discipline

The aim of section 3.1 is to examine whether HEIs changed their provision of study programmes, and whether any such changes can be related to cost-sharing considerations. As a proxy for changes in provision, enrolment patterns of new entrants will be used. The results are presented in Figures 3.1 and 3.2. A distinction is made between universities and polytechnics because the two types of HEIs differ considerably in the range of programmes offered. For universities, subjects were categorised based on OECD (2002, p.67). For polytechnics, the original categorisation from the national data source was used.

The figures show relatively stable patterns for both universities and polytechnics. Fluctuations on a minor scale are visible for social sciences, business and administration as well as social services, health and sports in polytechnics. Overall, the expansion of the polytechnics sector does not seem to have had drastic effects on the profile of the university sector in terms of the importance of different fields of study. In any case, it should be kept in mind that in Finland the provision of higher education is not primarily a matter of direct reaction to student demand, but is organised in coordination with the Ministry of Education and Culture and its higher education planning strategy (see Section 1.6). From the perspective of HEIs, the provision of study programmes is primarily a matter of reaching an agreement with the Ministry. These agreements include multi-annual funding arrangements securing financial stability for institutions (see

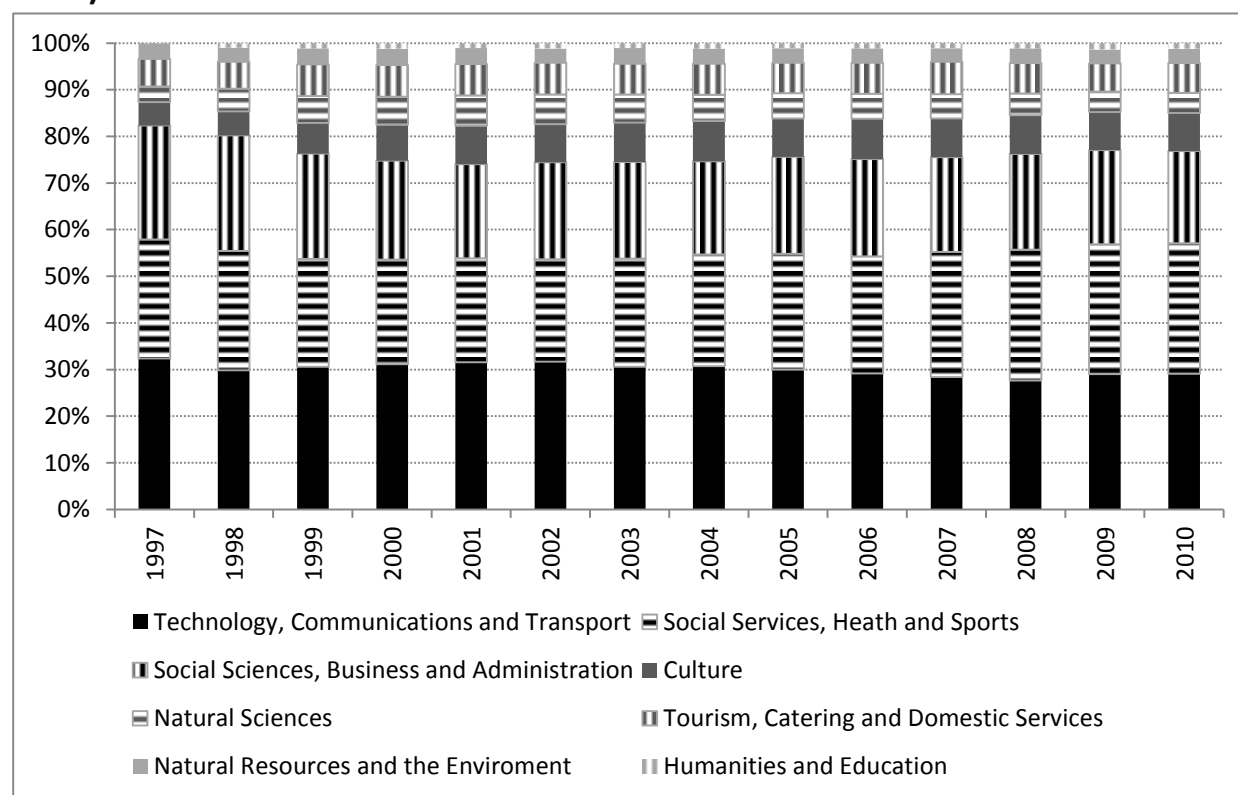
Section 1.4). Issues of student demand have a more indirect bearing in this system, e.g. in the sense that the number of degrees an HEI confers influences the amount of state funding.

Figure 3.1: Distribution of enrolment by field of study in universities (1995–2010)



Source: Ministry of Education / Vipunen / Statistics Finland /KOTA / own calculations.

Figure 3.2: Distribution of enrolment by field of study in polytechnics (1995–2010)



Source: Ministry of Education / Vipunen / Statistics Finland.

3.2 Enrolment Patterns by Mode

In the absence of tuition fees, Finnish HEIs have no opportunities to maximize revenues by promoting more profitable modes of study over others. Moreover, there is no official status distinction between full-time and part-time students in Finland. Survey data (2000-2009) show that the share of part-time students in Finland is around 20%-25% in universities and 8%-16% in polytechnics. The figures are based on students' own understanding of 'full-time/part-time'. The issue of full versus part-time will be taken up in more detail in Section 5.2, where changes in study behaviour are discussed.

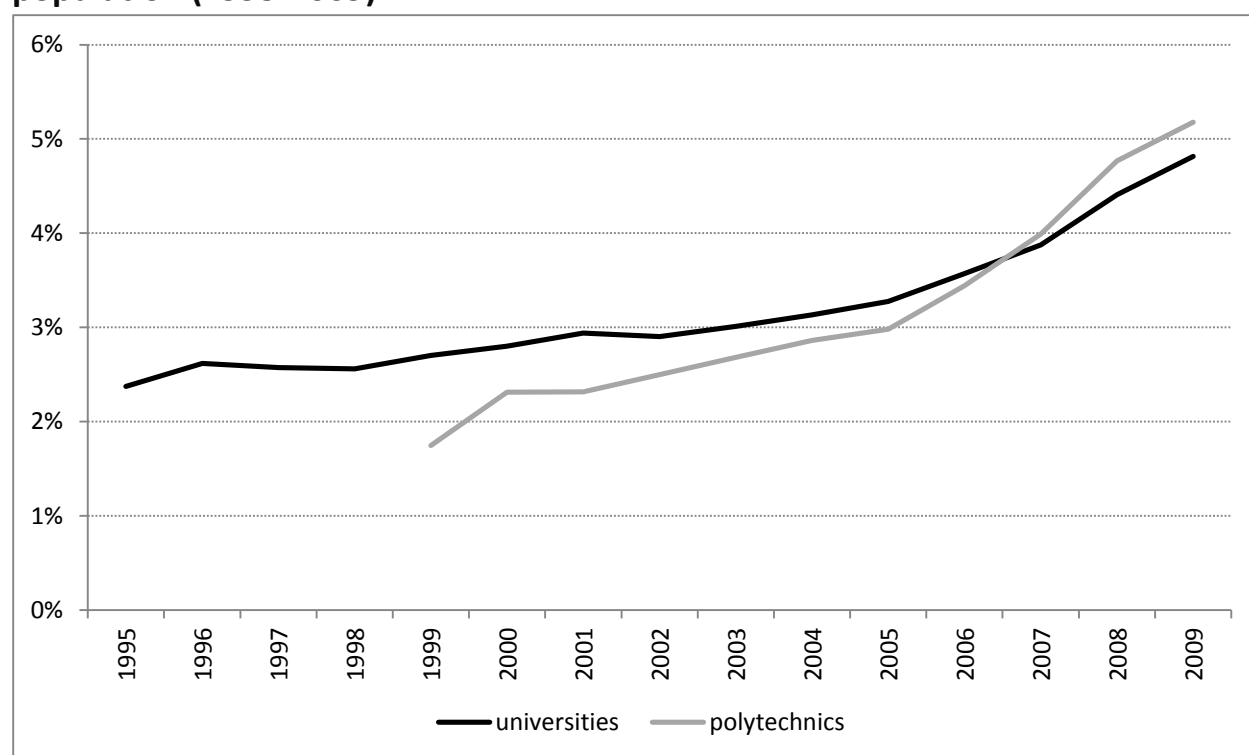
3.3 Enrolment Composition

The aim of this section is to investigate changes in enrolment composition as a consequence of HEIs attracting specific groups of students. Since Finnish HEIs did not charge tuition fees at all

in the period of investigation, any changes in enrolment cannot be directly related to cost-sharing. Since autumn 2010, Finnish HEIs have been allowed to collect tuition fees from non-EU/EEA students in English-language Master programmes. Tuition varies between 2,500 euros and 12,000 euros per year, the average amount being 8,000 euros. In 2011, no more than 110 fee-paying students from non EU/EEA countries were enrolled in Finnish HEIs.

Although international students are not a source of additional income through fees for Finnish HEIs, international student numbers increased quite steadily in the period of investigation, and particularly in the latter half of the 2000s, as Figure 3.3 shows:

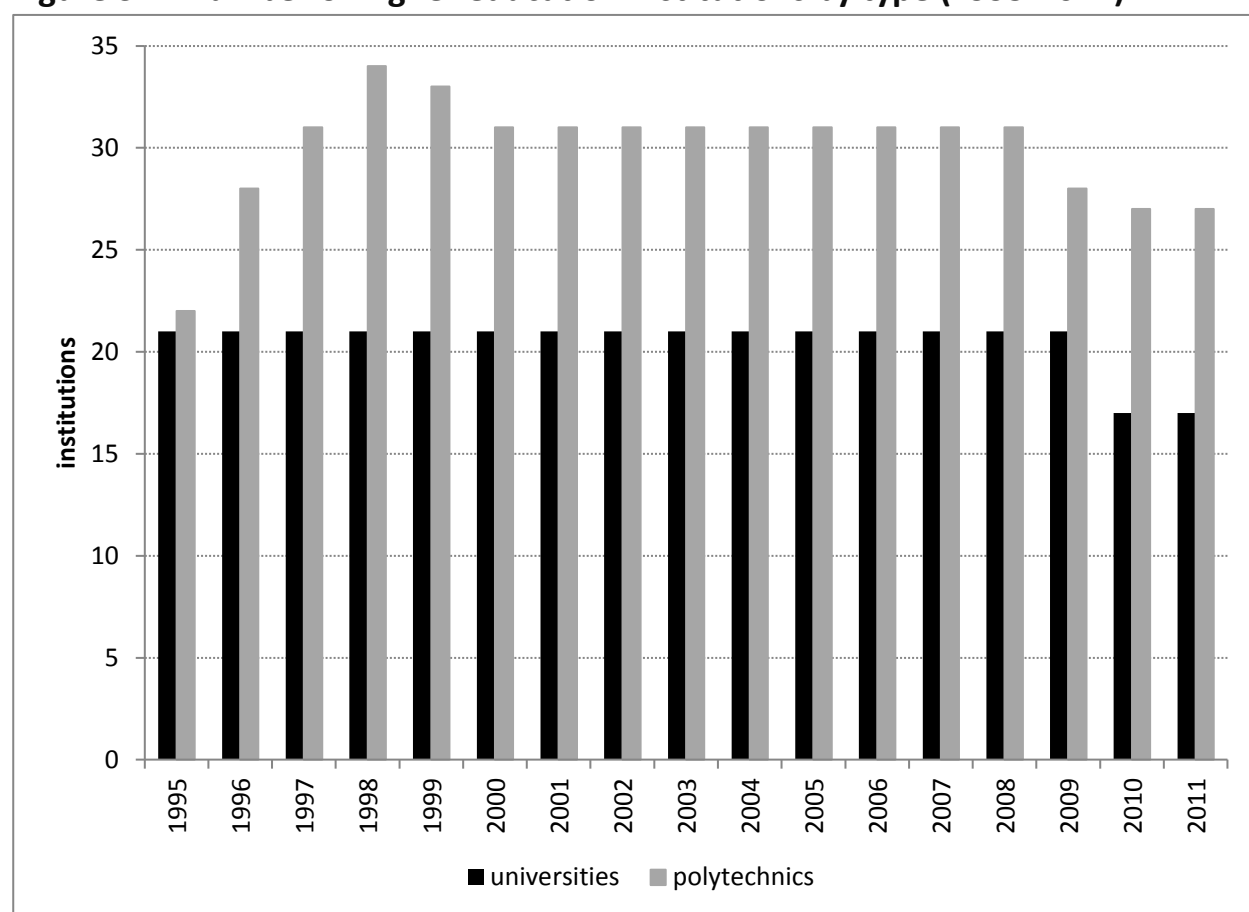
Figure 3.3: International student enrolment as a percentage of total student population (1995-2009)



Source: KOTA.

3.4 Diversity of Provision

This section deals with changes in the number of study programmes and the number of institutions. While no data on the number of programmes were available for Finland, the most significant change in terms institutional diversity was certainly the development and subsequent consolidation of the polytechnic sector. Figure 3.4 shows the number of universities and polytechnics (1995-2009).

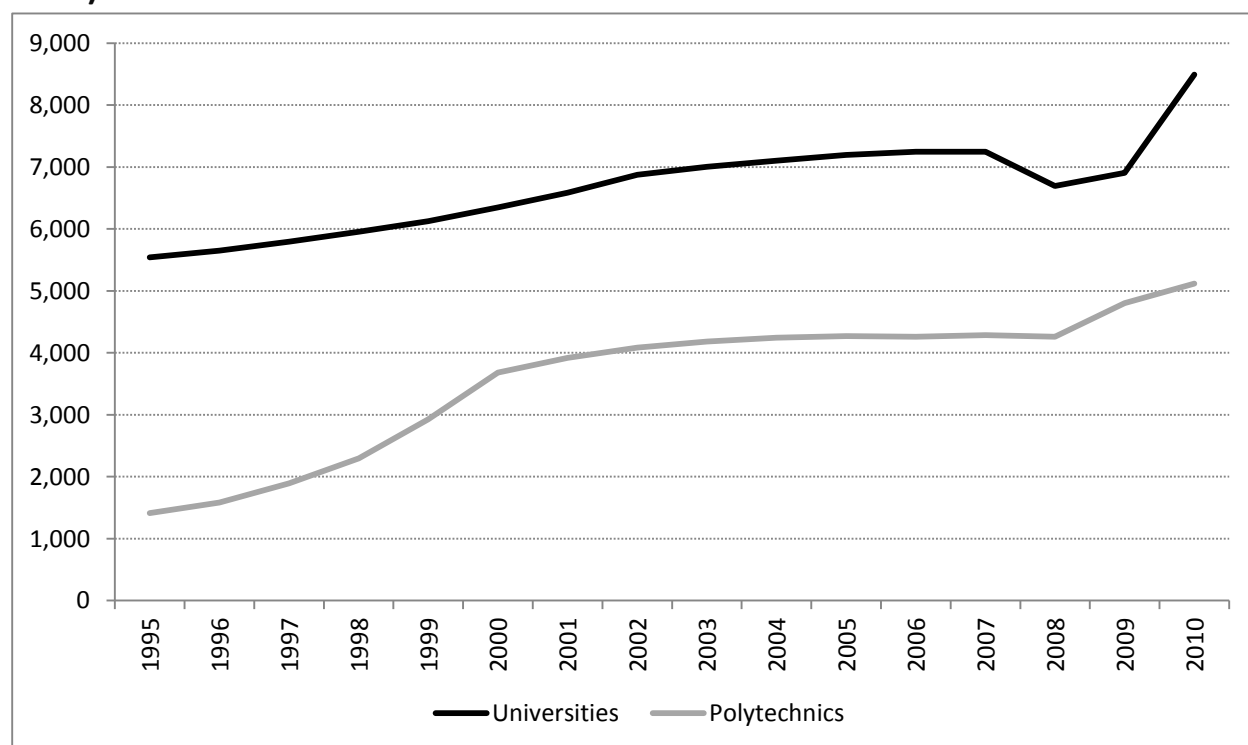
Figure 3.4: Number of higher education institutions by type (1995-2011)

Source: Ministry of Education and Culture.

The missions of Finnish universities and polytechnics are in many ways complementary: Universities conduct scientific research and deliver research-based education. Polytechnics provide professional training with an eye on labour market demands, and have strong regional ties. They, too, conduct research, but with a closer orientation towards regional development and non-university working life.

Figure 3.5 below shows how the growth of the Finnish higher education system influenced the size of institutions, measured by average student number. The figures show that the expansion of the system caused an increase in both number and average size of institutions. Polytechnics grew rapidly in size in the years up to 2001; concurrently there was an increase in the number of institutions.

Figure 3.5: Average size of institutions in student numbers, by HEI type (1995-2010)



Source: Ministry of Education and Culture: Higher Education Report (2009/2011) / KOTA / own calculations.

Finland has no private HEIs in the sense of institutions held by private entities financing themselves primarily through student fees and other private income. Some polytechnics are administered by private entities, but their funding structure does not differ substantially from public HEIs, i.e. they receive most of their funds from the state.

3.5 Outreach Practices

In the interviews carried out with national experts, representatives from several HEIs reported that in recent years, an increased emphasis on fostering alumni networks and collaboration with partners from business and industry – resulting in a number of sponsored professorships and cooperative programming of courses – was observable. This information, albeit selectively gathered, conforms to trends observed in other country reports of this research. In Finland as in most other countries, it is difficult to find reflections of these changes in the sort of aggregate data this study uses.

The same expert was also asked about changes in HEI governance and reported that recent reforms based on the University Act of 2009 have led to restrictions in the competencies of both staff and student representatives, favouring a more managerial and professional leadership

approach. This means that an increased focus on user demand is not reflected in terms of organisational participation.

3.6 Quality and Relevance

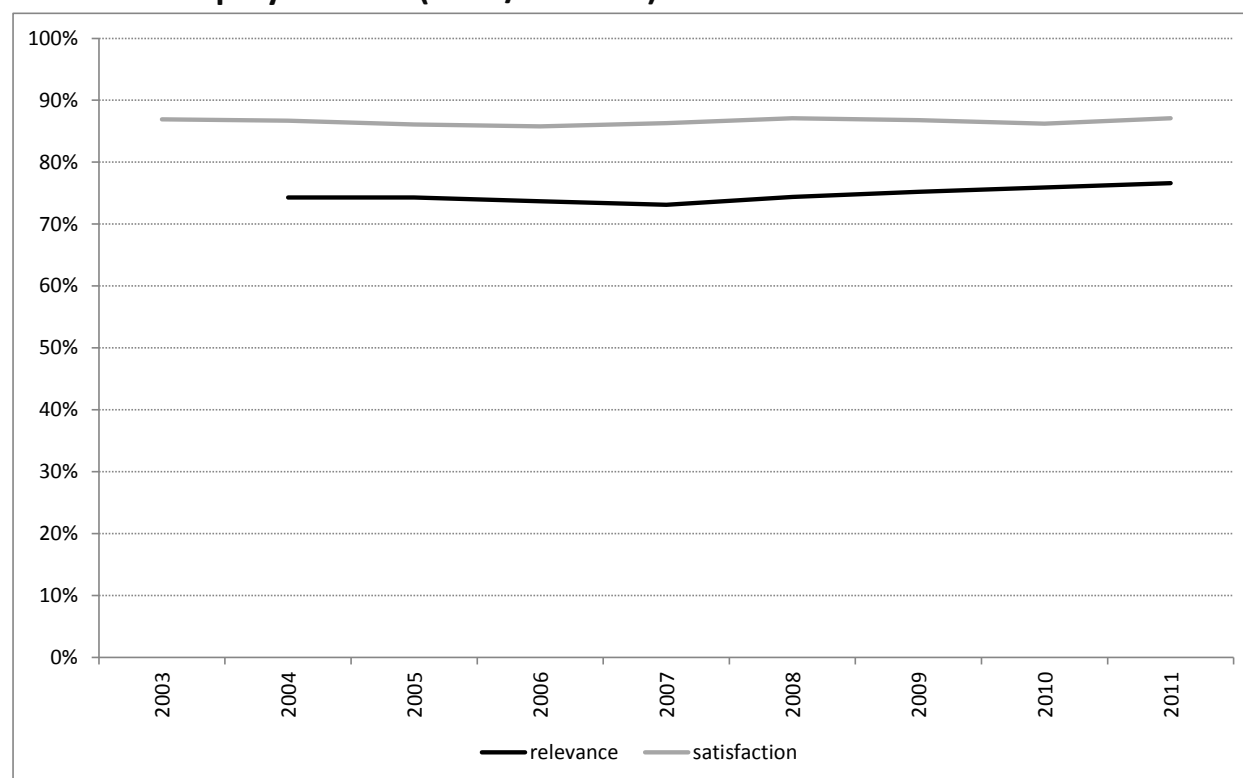
In the interview series conducted for this report, several experts were asked to comment on the changing role of quality and relevance considerations for Finnish higher education. On relevance, one interviewee commented that increased awareness of user demand was incentivised by introducing employability as a criterion in the indicator-based allocation models to universities, and that this stimulated HEIs' motivation to take into account the needs of the labour market and (prospective) students. The same expert also noted the government's incentives for HEIs to acquire donations (see Section 1.5) as a starting point for institutions to direct more attention towards business and industry as well as alumni.

An interviewed expert from a major university stated that the institution systematically collects feedback from graduates, and from employers offering internships for students, and makes use of this information in the development of study programmes.

National student satisfaction measures are only available for polytechnics, for which the Ministry of Education and Culture runs the feedback system OPALA (see Karelia-University of Applied Sciences, 2013). Figure 3.6 charts student satisfaction judgements and relevance measures using the two following question items: "The education provided by the polytechnic was competent and of a high quality" for satisfaction, and "In your place of work after graduation, you will make use of your Polytechnic studies" for (prospective) relevance. Answers counted in each case are "I (strongly) agree" as opposed to "I (strongly) disagree" on a four-tiered scale.

The graph shows consistently high levels of student satisfaction (86%-87%). An upwards trend is visible regarding judgements of relevance between 2007 and 2011: from 73% in 2007 to about 77% in 2011. There does not appear to be a correlation between satisfaction / relevance judgements and funding per student / student-teacher-ratios (see Figures 2.6 / 2.7).

Figure 3.6: Student satisfaction with education and judgements on relevance of education at polytechnics (2003/04-2009)



Note: Satisfaction is the percentage of students who agree / strongly agree that ‘the education provided by the polytechnic was competent and of a high quality’. Relevance is the percentage that agrees / strongly agrees that “in your place of work after graduation, you will make use of your polytechnic studies”.

Source: OPALA student survey.

It is worth repeating here that due to the absence of tuition fees in the Finnish system, there can be no immediate correlation between student satisfaction / judgements of relevance and institutions’ financial goals. However, as was described in Section 1.4, state funding is partly based on number of students/graduates, which gives HEIs an incentive to be an attractive location of study, a reputation which can be earned through high quality in teaching. Some indicators in the performance-based funding component refer directly to measures of student satisfaction and employability. As a consequence, institutions do have an incentive to attain high student satisfaction and educational relevance in order to maximise revenues, although the process is mediated by the state. Experts interviewed for this study were not unanimous as to whether the relevant incentives provided by the government are actually strong enough to trigger lasting changes in HEIs’ behaviour.

3.7 Evaluation

This chapter investigated whether institutions adapt their behaviour to external incentives to earn private funding. Since no unambiguous evidence could be found that such incentives are in force for Finnish HEIs, the results are provided as a control case for those countries in which such incentives exist. For Finland, it was found that the discipline structure of Finnish HEIs has not changed drastically in the period of investigation. No significant changes in mode of study could be determined, either. Changes in diversity in the Finnish higher education sector were obviously caused by the expansion of the polytechnics sector, but not by a rising degree of privatisation. Where polytechnics are concerned, student views on relevance and particularly on educational quality are consistently high and do not seem to be directly influenced by changes in financing such as those described in section Chapter 2.

Overall, responsiveness to user demand in Finnish higher education does not appear to come about through a direct type of coordination of demand and supply, as in systems in which institutions are dependent on income through student fees for their economic subsistence. Rather, institutions negotiate with the Ministry regarding their choice of programmes and number of study places, and are funded accordingly. Efficiency in the provision of higher education is taken care of to some degree by the state funding models, which take into account output-related measures like number of degrees awarded. This is a sort of ‘market emulation’ that can also be found in other countries, such as Germany and Austria. One interviewed expert commented that this funding structure has actually led to competition between institutions for ‘good’ students, i.e. students who will be likely to graduate and thus support institutions’ claims for funds in the negotiations with the Ministry.

Although Finnish HEIs are often described as autonomous organisations, some interviewed experts pointed to certain restrictions which make it difficult for HEIs to increase their responsiveness to user demand: Institutions are regulated with respect to their educational responsibilities / educational profiles, the types of programmes they may offer, the duration of the programmes, the language in which these programmes are taught, and their fee policy. Another interviewed expert took a different view, stating that despite these restrictions, HEIs still have sufficient freedom to react to user demand.

Finally, it should be pointed out that responsiveness to user demand is not only brought about by financing measures. The Finnish higher education system is very flexible in terms of students interrupting their studies between and within study programmes to gain work experience, be it through internships or regular jobs. This naturally leads to a certain permeability between higher education and professional life benefiting the interlinkage between the sectors even though it is not realised through direct financial contributions to HEIs.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

Despite the fact that no tuition fees are charged in Finland, it is possible to investigate the effects of changes to net costs.

4.1 Students’ Costs for Higher Education

Like Hypothesis A, Hypothesis C presupposes that private funding has increased, which could not be confirmed for Finland, as discussed in Chapter 2. As stated before, the findings presented in this chapter will help to provide a baseline where students do not share directly in covering the cost of education.

Student fees and student costs

This section focuses on changes in private costs to students. Table 4.1 gives an overview. Tuition fees, a large cost item in other countries, were not relevant for students in Finland in the period of investigation. Table 4.1 shows that costs of living for students have increased considerably over a ten year period due to rising costs of accommodation, food and clothing. The overall increase in costs between 2000 and 2009 is 20% in constant 2011 euros.

Table 4.1: Annual student costs in euros, by cost category (2000-2009)

	Accomm- odation	Books	Clothing	Transport	Food	Other	Total	Relative change from period before
2000	3370	240	490	670	1580	1640	7990	
2003	3530	270	690	690	2060	1910	9150	+14.5%
2006	3830	270	670	670	1880	2550	9870	+7.8%
2009	4010	130	750	630	2510	1590	9620	-1.5%

Note: Student cost is differentiated by sector (university vs. polytechnic) for 2000 in source data. The data given here represent the arithmetic mean. Constant prices (2011).

Source: Opiskelijatutkimus (National student survey) 2000-2009 / own calculations.

In the next two sub-sections it will be investigated how public student grant and loan systems developed in the period of investigation.

Student Financial Assistance

Student assistance in Finland consists of six components: study grants, housing supplements, meal subsidies, interest subsidies for study loans, tax deductions related to student loans and government guarantees for student loans. All of these are administered by Kela.

- Study grants are provided to cover study-related costs of active students. There is a standard amount of 298 euros per month (2013). For students living with their parents, the amount is lower (122 euros basic amount plus potentially parental income-related increments in 2013) (Kela, n.d.), but since the vast majority of students live away from their parents this only applies to a small group. The grants are subject to means-testing: Students with income beyond a certain threshold are not eligible, nor are students beyond the standard period of study. Grants of 170 euros or more are subject to income taxation for students who have other sources of income besides the grant.
- Housing supplements are granted to students living in rented or right-of-occupancy accommodation. Their share is fixed at 80% of the rent, with a maximum monthly amount of 202 euros.
- Meal discounts are also granted by Kela. Student restaurants offer meals at full price and discount price. Kela refunds the difference between the full price and the discount price to the operators of student restaurants.
- Assistance with loan interests is an income-related subsidy. A graduate's gross income must not exceed 1,195 euros per month in order to be eligible for this type of financial aid (the amount is higher for persons having dependent children).
- Tax deductions on student loans are provided for graduates with a debt exceeding 2,500 euros at the time of obtaining a degree. It is conditional on graduating in the regular period of study. The deduction is equal to 30% of the qualifying debt that exceeds 2,500 euros. This type of assistance was introduced in 2005.

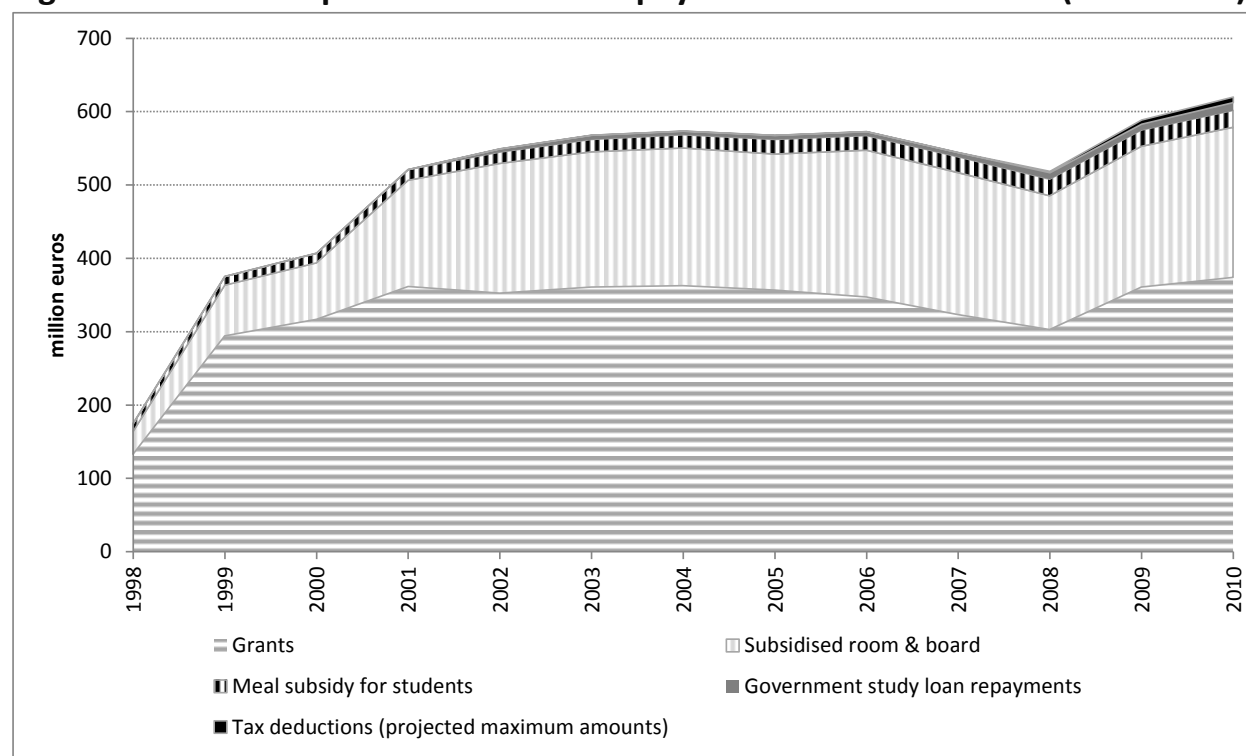
- Government guarantees for student loans (issued by a third party): The government guarantees the refunding of loans (of up to 300 euros per month) to the loan issuer even if the client will be insolvent. Every recipient of a student grant is eligible for this guarantee unless there is a record of previous loan defaults.

Non-repayable Assistance

Figure 4.1 shows the amount of public expenditure for each of these types of assistance (except expenditures on defaulted loan repayments). Figure 4.2 shows the numbers of individuals benefitting from grants and subsidised room and board.

Figure 4.1 shows that public expenditure on student financial support increased in the period of investigation. The most rapid growth took place between 1998 and 2001, caused primarily by an increase in expenditure on student grants. After that, the growth slowed with almost no change from 2003 to 2006. There was a decline between 2006 and 2008, followed by a recovery in the years 2009-2010. Most of the time, study grants accounted for about 60% of expenditure on student support, and housing subsidies for another 20%. The number of recipients of grants and housing subsidies (shown in Figure 4.2) roughly parallels the pattern in Figure 4.1. Approximately two thirds of all students receive grants, and one in two receives housing supplements.

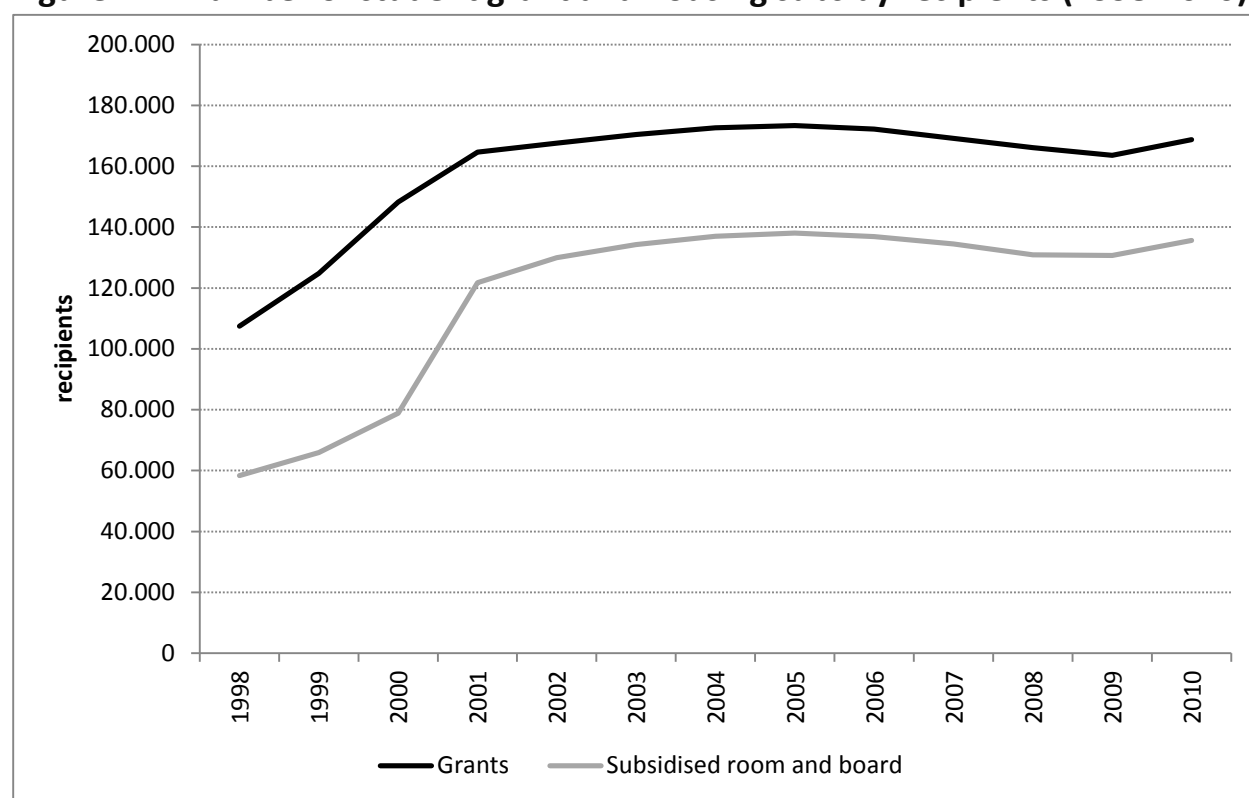
Figure 4.1: Public expenditure on non-repayable student assistance (1998-2010)



Note: Constant prices (2011).

Source: Kela⁵⁵ (grants, meal and housing subsidies) / Ministry of Education and Culture, Finnish Tax Administration: Report on deductions (*Opintolainavähennyksen arviointi*) (study loan repayments, tax deductions) / own calculations.

⁵⁵ Statistical data base provided by Kela is available at <http://www.kela.fi/web/en/statistics>

Figure 4.2: Number of student grant and housing subsidy recipients (1998-2010)

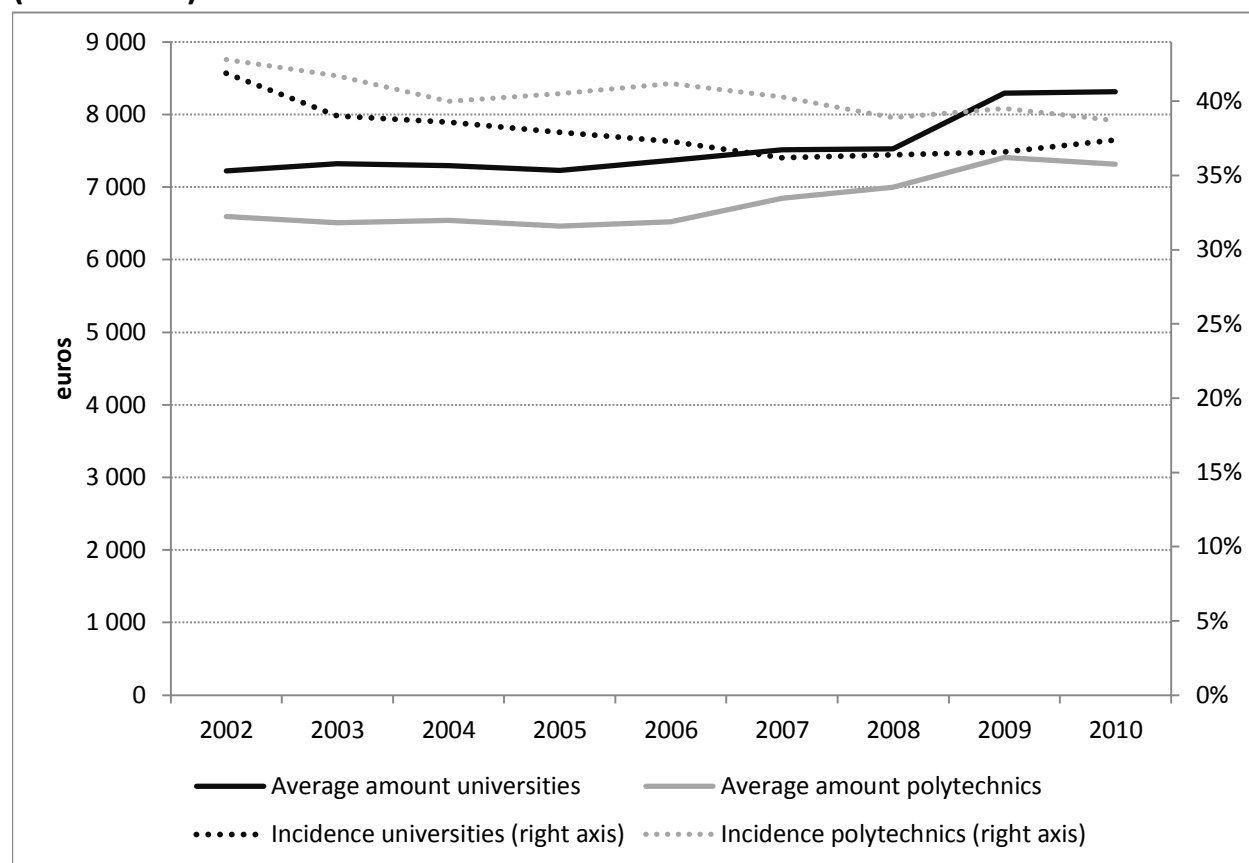
Source: Kela / own calculations.

Loans

Data on the amounts of student loans paid and their incidence are not available from issuers of loans. However, Kela provides data on the incidence and amounts of student loan debts at graduation. These can be used as a proxy for the incidence of loans among Finnish students.

Figure 4.3 shows an increase in average debt at graduation for both universities and polytechnics. The increase started after 2006 in polytechnics and in 2008 in universities. The share of graduates with debt does not show this pattern: The shares in university graduates decreased by about 6% between 2002 and 2007 (from 42% to 36%) and increased again by approximately the same amount between 2008 and 2011. The share of polytechnic graduates with loan debts ranged from 42.8% (2002) to 38.7% (2010), showing a moderate decrease.

Figure 4.3: Average amount and incidence of student loan debt at graduation (2002-2010)



Note: Constant consumer prices (2011).

Source: Kela / own calculations.

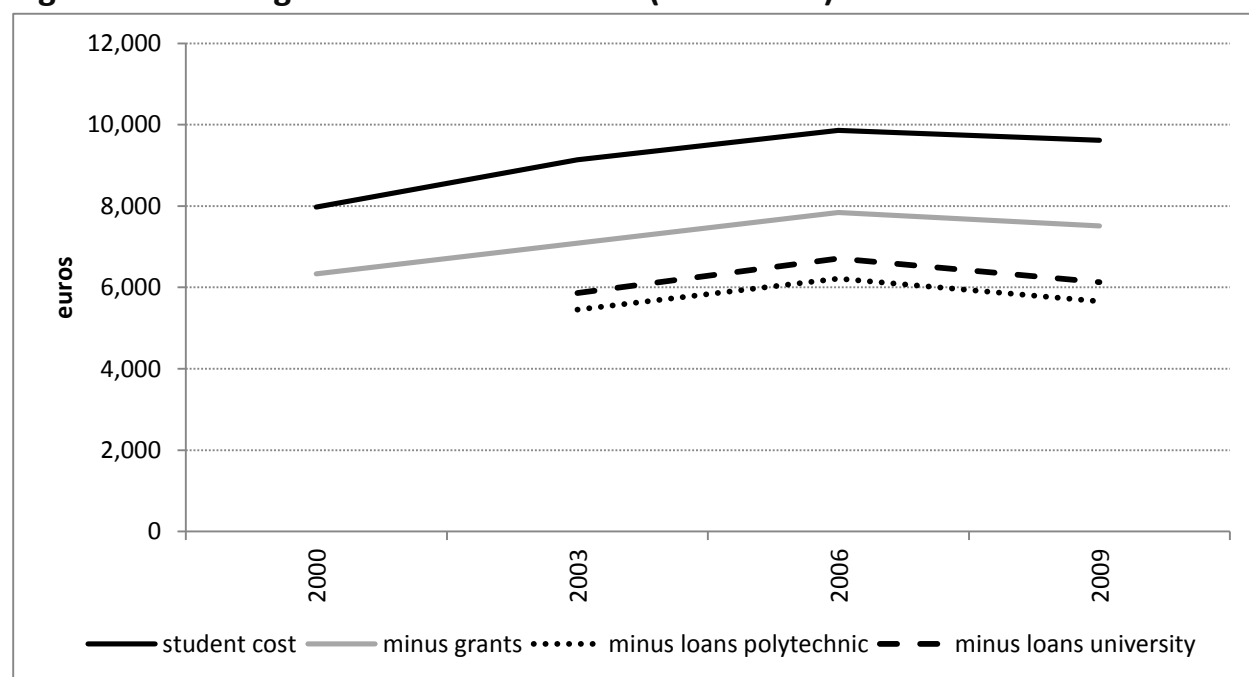
Taking out loans appears to be a much more common way of financing studies in Finland than in other countries, such as Austria or Portugal, where the share of students making use of loans is marginal. While student costs have increased (see Table 4.1), the incidence of borrowing has declined, although the average amount of debt at graduation has increased for those who do borrow.

Total student costs

Figure 4.4 summarises findings of the above sections by comparing student costs before and after the subtraction of student grants. Costs minus loans are approximated by dividing debts at graduation (Figure 4.3) by the average duration of studies in years (Figure 5.4). The graph shows an overall increase in student costs, with a maximum in 2006. Between 2000 and 2009, average student cost rose by 19.7% (17.5% when student assistance is subtracted). The pattern for costs minus grants and loans follow that of student costs closely. In all four years represented in the

chart, student assistance accounted, on average, for between 17% and 18% of total student cost. This also means that the public-private cost-sharing balance barely shifted with respect to student costs. Student loans covered another 13%-16% of total costs for university students and 18%-22% for polytechnic students.

Figure 4.4: Average annual student costs (2000-2009)

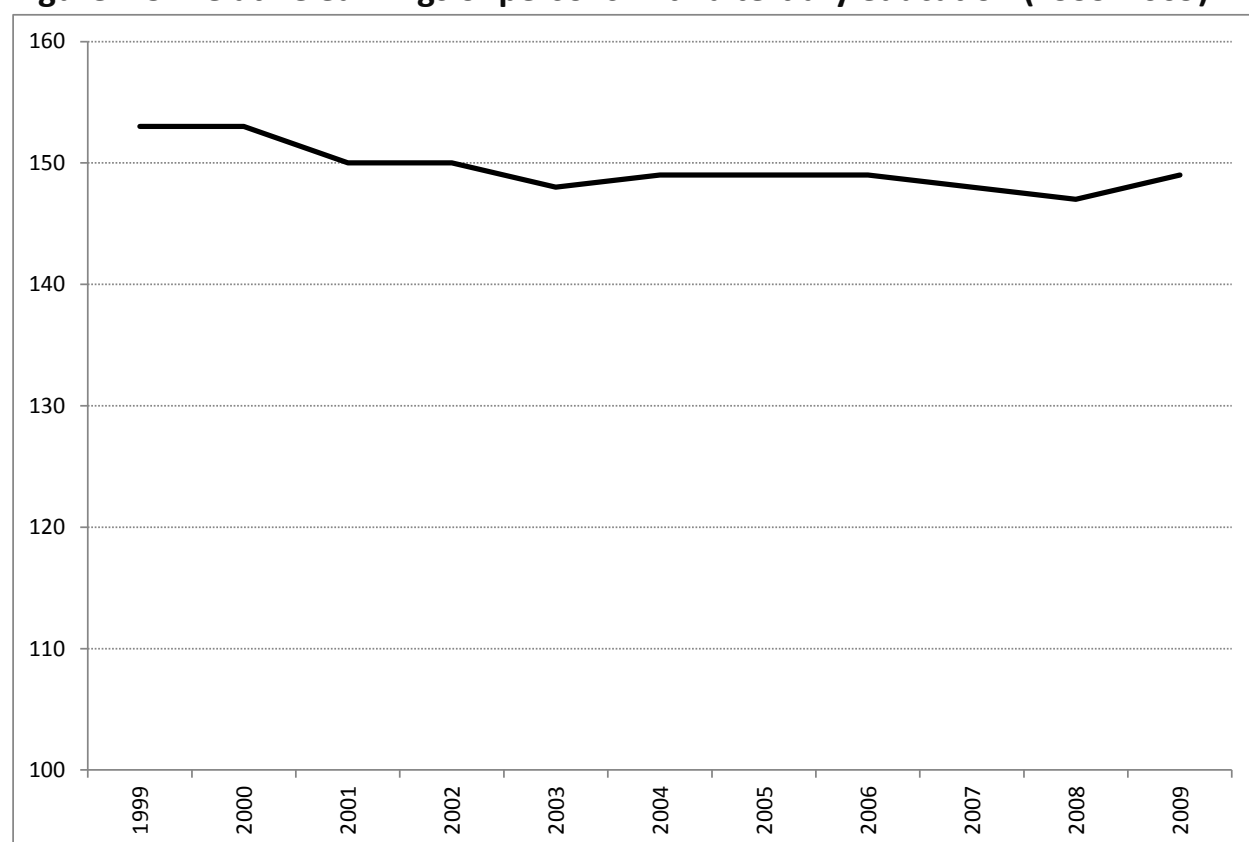


Note: Constant prices (2011).

Source: Kela / own calculations.

Relative earnings

Increasing cost is a potential incentive *against* choosing higher education, but can be counterbalanced by increasing earnings after graduation. The OECD's 'Education at Glance' series specifies relative earnings of populations with income. The reference case (=value 100) are the earnings from employed persons with a secondary or post-secondary, non-tertiary education. Figure 4.5 shows the results for employed persons with tertiary education. The graph shows that the differences in average income between persons with a tertiary degree and persons with an upper secondary degree narrowed between 1999 and 2003: The relative advantage of a tertiary degree holder was 153 in 1999 and 148 in 2003 (100 being the average earnings of a person with an upper secondary qualification). After 2003 the difference became more stable, it narrowed again in 2006-2008 and increased in 2009. Despite a slight overall downward trend, the differences in earnings between persons with and without a degree are still considerable. It thus appears unlikely that university entrance qualification holders will be discouraged from higher education based on the pattern displayed in Figure 4.5, even when the price increases shown in Figure 4.4 are taken into account.

Figure 4.5: Relative earnings of persons with a tertiary education (1999-2009)

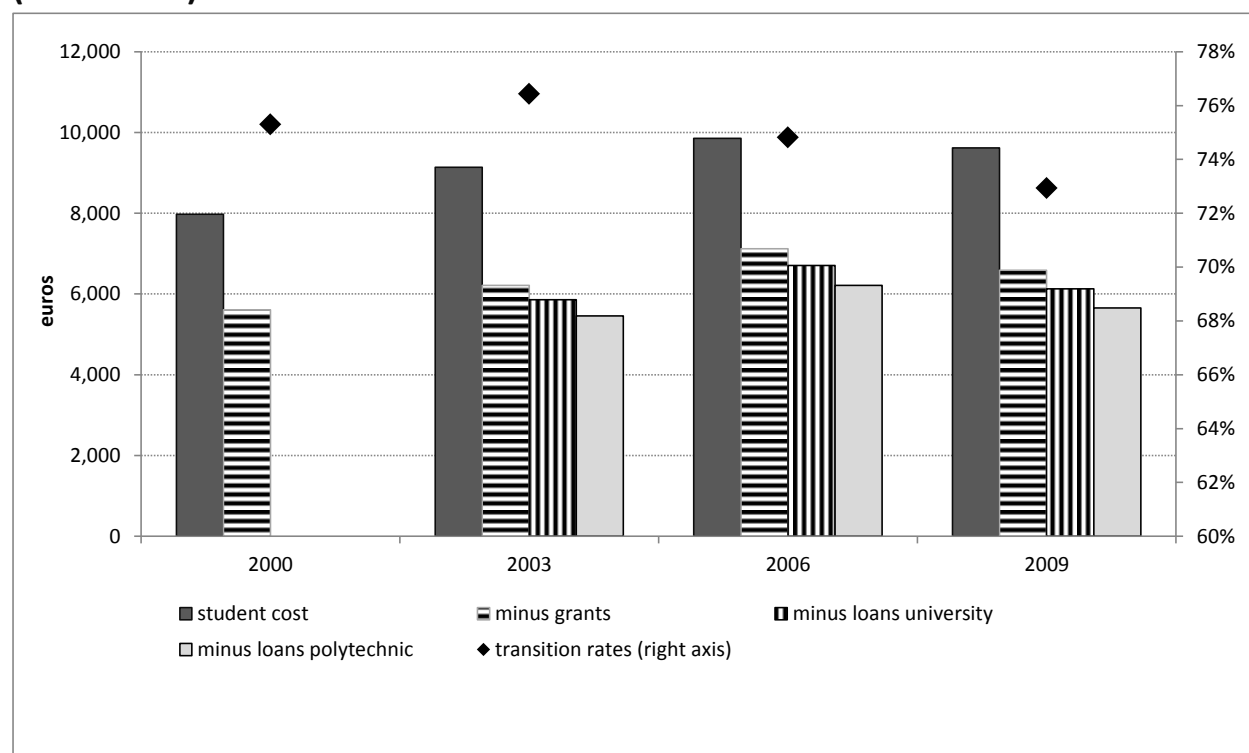
Note: Data indexed to earnings of a person with secondary and post-secondary, non-tertiary education (=100). Comparison based on 25-64 year-old employed persons.

Source: OECD Education at a Glance.

4.2 Participation Rates

A key question addressed in this research is whether changes in cost-sharing have had an impact on transition rates from secondary education and on overall participation rates. In the Finnish case, the issue is whether the rising cost of living for students as documented in Figure 4.4 has had a negative impact on participation. Figure 4.6 maps these rising costs against participation rates (repeated from Figure 1.2). The data show that there is no clear correlation between the cost to students and higher education participation: The values in both dimensions increased between 2000 and 2003 and decreased between 2006 and 2009, while an inverse relationship is visible between 2003 and 2006. It can thus not be concluded that rising costs of living for students led to declining participation in higher education in Finland or vice versa based on these data.

Figure 4.6: Participation in higher education vs. annual student cost of living (2000-2009)



Source: Kela / own calculations.

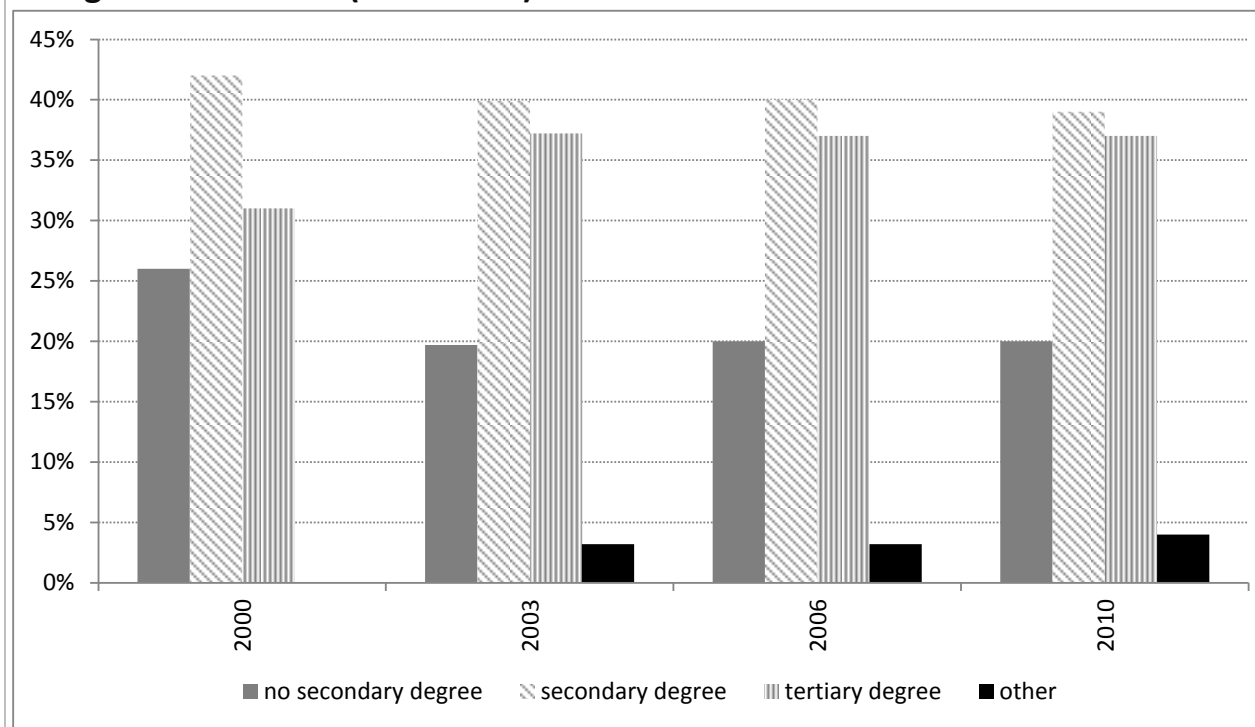
4.3 Composition of the Student Body

Figures 4.7 and 4.8 graph the social composition of Finnish students. They use the highest educational degree of a student's father as an indicator of social status. At first sight, both Figures 4.7 and 4.8 show a tendency to increasing social selectivity and decreasing social mobility in higher education, since the share of students whose father has not attained tertiary education is decreasing. The data show that in universities, there is a shift from lower to higher social background in the student population, which for the most part took place between 2000 and 2003. In those years, the share of students from lower social backgrounds (father with no secondary education degree) decreased by 6%, while the share of students from higher social backgrounds (father with a tertiary degree) increased by the same amount. The share of students from intermediary backgrounds (father with a secondary but no tertiary degree) decreased between 2000 and 2003 but increased again thereafter.

In polytechnics, the trend is the same, but it is more marked than in universities. Between 2000 and 2010, the share of students from lower social backgrounds (father with no secondary degree)

decreased from 39% to 23%, while the share of students from higher backgrounds increased from 12% to 25%.

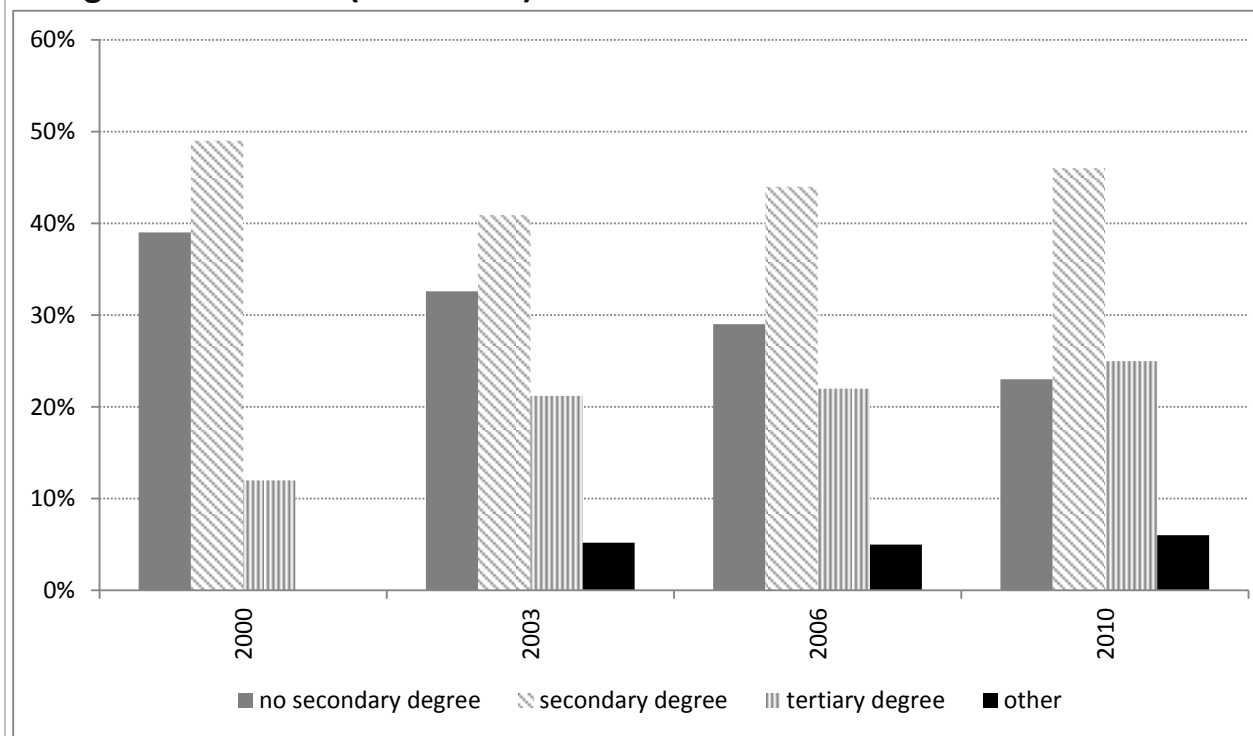
Figure 4.7: Social composition of Finnish university students by educational background of father (2000-2010)



Note: 2000: No data for category "other".

Source: Ministry for Education and culture: National Student Surveys 2000 / 2003 / 2006 / 2010.

Figure 4.8: Social composition of Finnish polytechnic students by educational background of father (2000-2010)

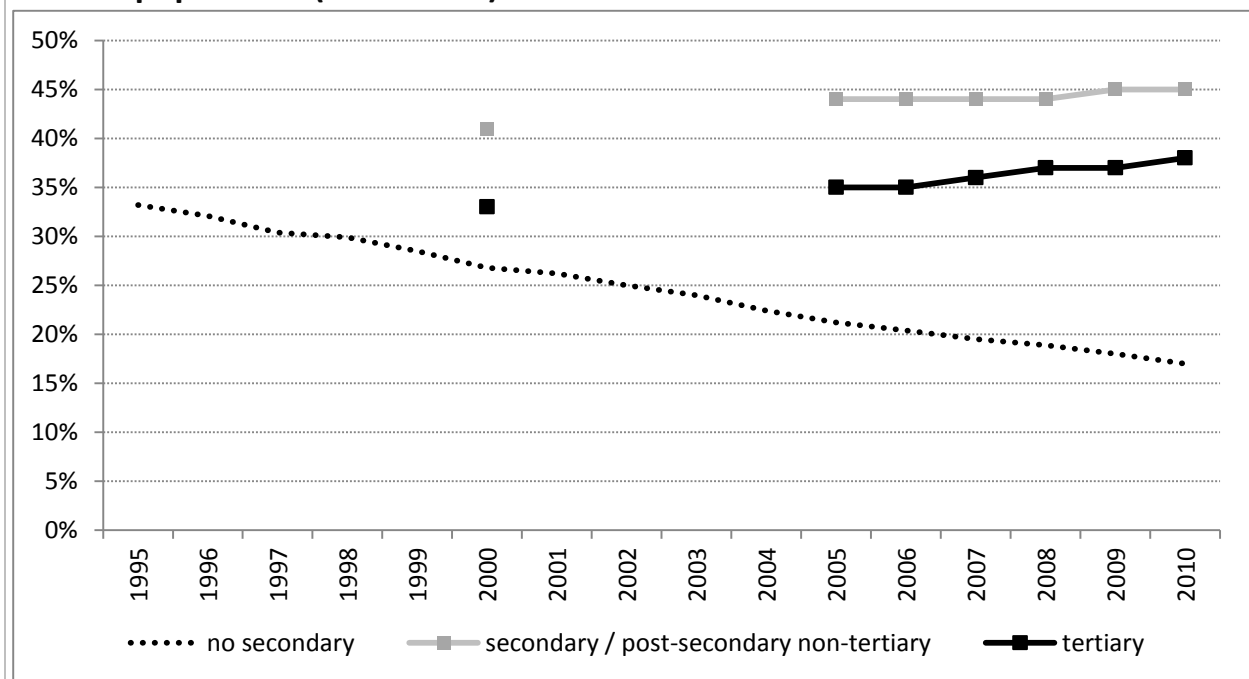


Note: 2000: No data for category "other".

Source: Ministry for Education and Culture: National Student Surveys 2000 / 2003 / 2006 / 2010.

In order to test the assumption of increasing selectivity in HEIs, one can relate the shares of students of different social groups to the social composition of the overall population. The latter is shown in Figure 4.9 below. Most importantly, we see that the educational status of the population aged 25-64, which includes most parents of students in our period of investigation, advanced between 2000 and 2010. The decline in persons with no secondary school leaving certificate (10 percentage points between 2000 and 2010) was compensated in roughly equal proportions by growing shares of persons with a secondary, non-tertiary degree and persons with a tertiary degree. The decline in the share of persons with no secondary degree is faster in the total population than among fathers of university students, but slower than among fathers of polytechnic students. This means that selectivity in polytechnics was higher than in universities. The causes of this development cannot be investigated further here.

Figure 4.9: Social composition of Finnish population aged 25-64, in percentages of total population (1995-2010)

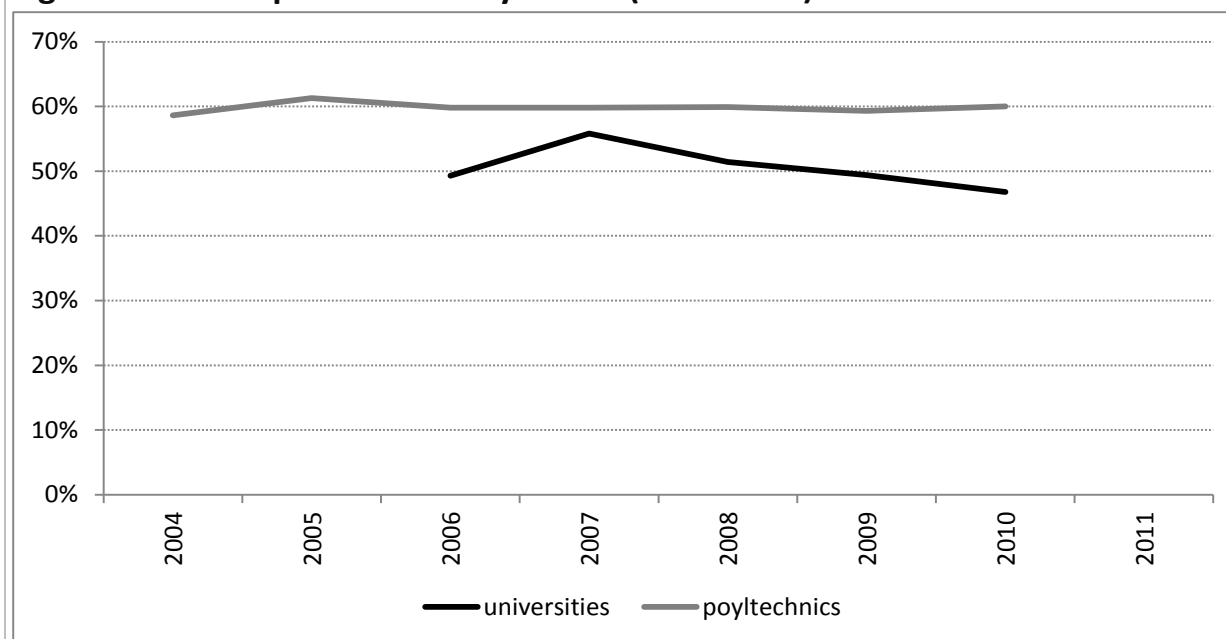


Source: OECD Education at a Glance / Eurostat (data before 2000).

Issues of equity of the Finnish higher education system are also discussed in Davies et al. (2009), where it is asserted that “large inequalities in access to tertiary education by social origin still persist in Finland“. According to the Ministry of Education (2005, p. 50), chances of participating in higher education were ten times as high for young persons (aged 20-24) from academic homes than for persons from non-academic backgrounds throughout the 1980s and 1990s, and the gap had narrowed to a relative advantage of seven-fold in 2000. These numbers show clearly that free higher education does not make social equity in the student population a matter of course: “Overall, as regards the family background of the 20-to-24-year-olds, the situation still is that the offspring of fathers with tertiary education go to university, while the offspring of untrained fathers find fulltime jobs or seek other training” (Ministry of Education Finland, 2005, p. 50).

4.4 Completion Rates

Figure 4.10 shows completion rates by sector. In polytechnics, completion rates are fairly stable, ranging from a low of 58% in 2004 to a high of 61% in 2007. In universities, completion rates are generally lower (51% on average), and a downward trend is visible between 2008 and 2011.

Figure 4.10: Completion rates by sector (2004-2011)

Note: For universities the figures specify the percentage of students who have completed their studies within seven years after enrolling. For polytechnics the figures specify the percentage of students who have completed their studies within five years after enrolling.

Source: Ministry of Education and Culture.

4.5 Evaluation

The aim of this chapter was to investigate whether increasing private funding has a negative effect on participation. In the case of Finland, the premise of Hypothesis C, i.e. that private funding has increased is true only with respect to student cost of living (not with respect to tuition itself).

Gross costs to students increased by 20% between 2000 and 2009, although this change did not influence the public/private cost-sharing *balance*, because public student assistance increased in parallel with student costs. The increase in student costs was not due to the introduction or increase of tuition fees, but due to increases in spending on accommodation, food and clothing. If the available data on student loans are taken into account, students' out-of-pocket costs were only slightly higher in 2009 than in 2003. The available data on participation did not reveal a negative correlation between rising studying costs and propensity to enrol at an HEI. Transition rates increased in times when student costs went up and decreased in times when student costs went down.

Changes in the composition of the student body were investigated using information on the educational background of the father. It was shown that the social composition of the student body changed towards larger shares of students from higher social backgrounds, and that this change is mirrored by changing levels of educational attainment in the larger population. The literature suggests that the selectivity of the Finnish (higher) education system reduced in the period of investigation, but it is still clearly visible when looking at the likelihood of children from (non-)academic backgrounds going to university or not.

The relatively short periods of time for which data on completion rates are available make it impossible to relate them to changes in student costs. The stability in completion rates for polytechnics students (2004-2011) make it seem unlikely that the recent drop in completion rates for university students (2008-2011) is connected to cost-related factors.

Concluding this chapter, it can be said that changing costs for students in Finland did not appear to have strong effects in the dimensions investigated under Hypothesis C.

5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study (but not necessarily on the share of students studying). Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

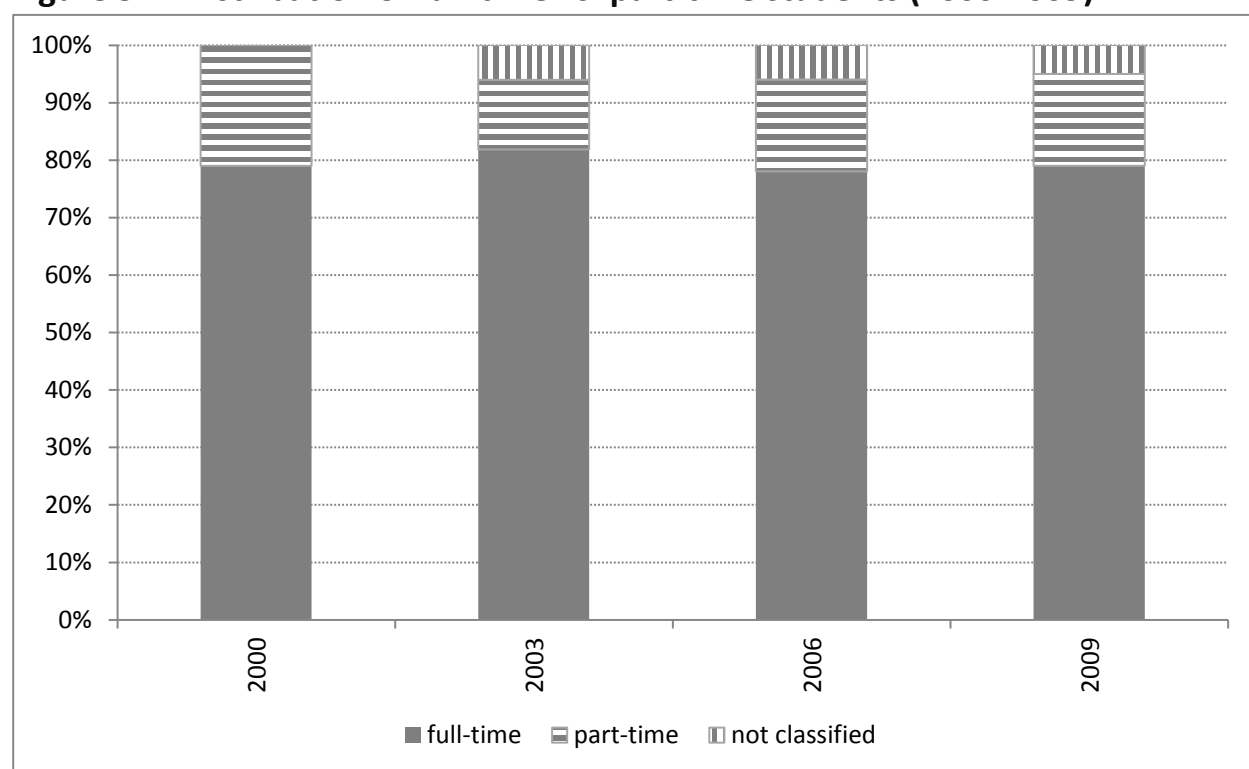
Once again, Finland, which did not undergo many changes related to cost-sharing in the period of investigation, will be looked at as a reference case for other jurisdictions which developed more dynamically in this respect.

5.1 Student Study Patterns

This section investigates changes in study patterns. Two aspects are studied here: Full-time versus part-time studying and age at entry into higher education.

Full-time and part-time students

While there is no official full- / part-time student status distinction in Finland, the national student surveys ask students about their self-assessed status as full- or part-time. This information is summarised in Figure 5.1 below. The data show that the share of full-time versus part-time students remains relatively constant between 2000 and 2009. The decrease in the share of part-time students is mostly due to the introduction of the category 'other' (not classified) in 2003.

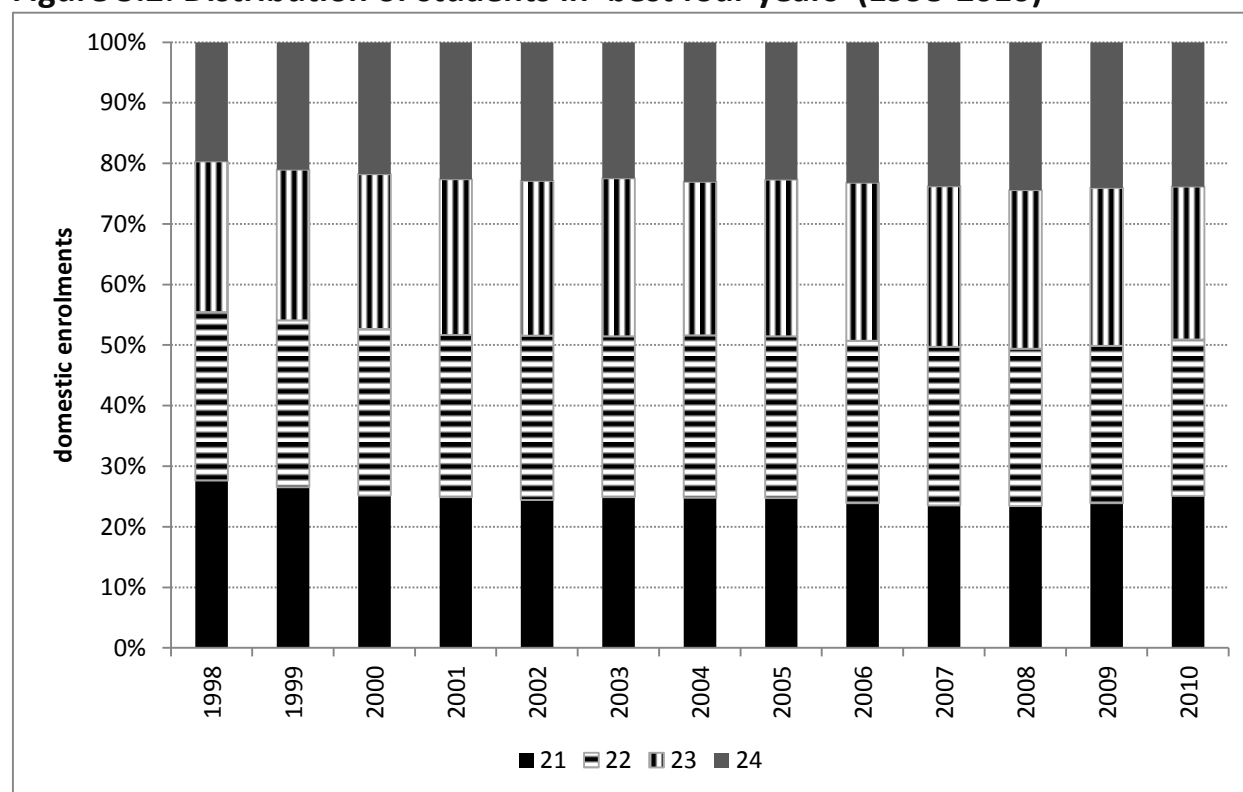
Figure 5.1: Distribution of full-time vs. part-time students (2000-2009)

Note: Results based on survey respondents' own understanding of their status.

Source: Ministry of Education and Culture: National Student Survey 2000/2003/2006/2009.

Distribution of students by age

The following graph shows changes in the 'best four years' student group, i.e. the age group of students in which there are most enrolments. In Finland this is the group of students aged 21-24. The graph shows that the best four years-group changed its composition somewhat over the years: While the share of younger students (age 21 and 22) declined slightly (particularly in the early 2000s), the share of older students (age 23 and 24) increased slightly. Overall, this change is not very salient, however.

Figure 5.2: Distribution of students in ‘best four years’ (1998-2010)

Source: UOE data / Statistics Finland / own calculations.

Of note is the fact that mature students represent a relatively large share of the Finnish student population. Data from the national statistical office show that around 30% of all students are 30 or older. The group of students aged 40 and older grew quickly in the period of investigation, from 22,000 in 1998 to over 35,000 in 2010, making up 11.6% of all students in 2010 (1998: 8.7%).

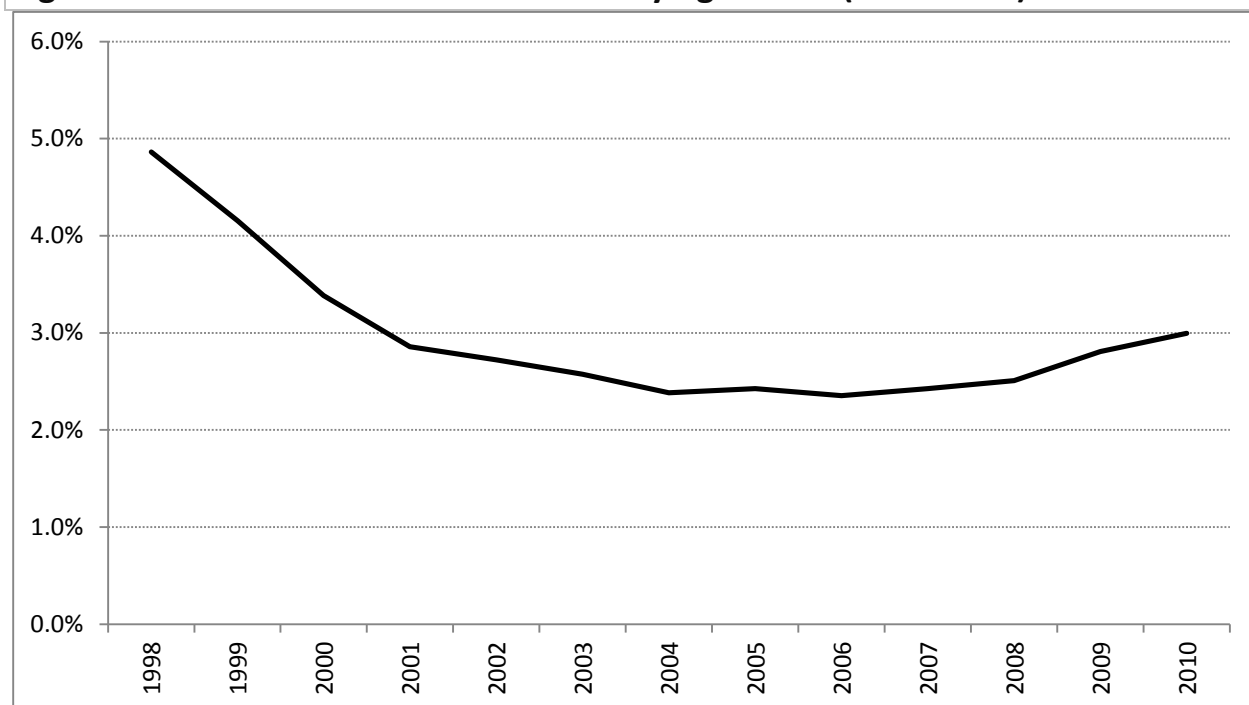
5.2 Location of Study

This section investigates mobility behaviour. The available data pertain to the number of Finnish students going abroad to study while receiving study assistance.⁵⁶ Figure 5.3 shows a downward trend in the number of students studying abroad until about 2004, then a leveling off until about 2007 at which point the percentage of students studying abroad began to increase. One may

⁵⁶ Finnish students studying abroad are eligible for study grants if they spent at least two years in Finland in the five year period preceding their studies.

conclude from this that rising student costs (see Section 4.1) did not cause Finnish students to go abroad – which of course must be considered against the backdrop of a tuition-free country. In addition, as was shown in Chapter 3, accessibility and diversity of provision in Finland appear to have kept up with the ever-rising student demand, so that these structural features do not act as ‘push’ factors, either.

Figure 5.3: Share of Finnish students studying abroad (1998-2010)



Source: Kela / own calculations.

To get an idea of mobility behaviour inside Finland, one can look at the share of students living with their parents. This number is very low in Finland. In the EUROSTUDENT I-IV data sets, Finland has consistently been the country with the lowest share of students living with their parents (6% in 2000 and down to 4% in 2011). This is certainly related in parts to the relatively generous public housing supplements. The EUROSTUDENT data further show that increasing costs of living (see Chapter 4) did not result in a decline in student mobility, i.e., for Finnish students staying with their parents has not been a popular scheme to save costs.

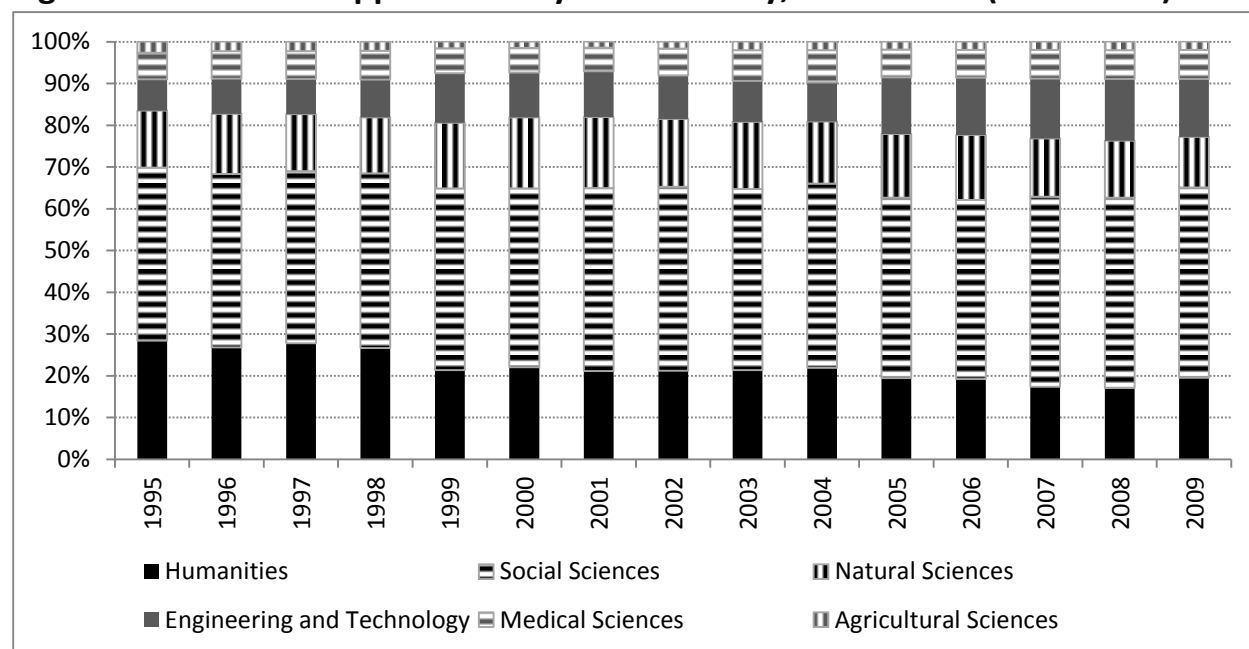
5.3 Field of Study

This section investigates changes in field of study from the student perspective. To do this, it is helpful to consider not only actual enrolment, but also application data. In Finland, HEIs handle admission autonomously (see Section 1.6). For universities, data on numbers of applications are

available and will be used because they are more indicative of actual student demand. For polytechnics, no such data are available, and enrolment data will be used (repeated from section 3.1).

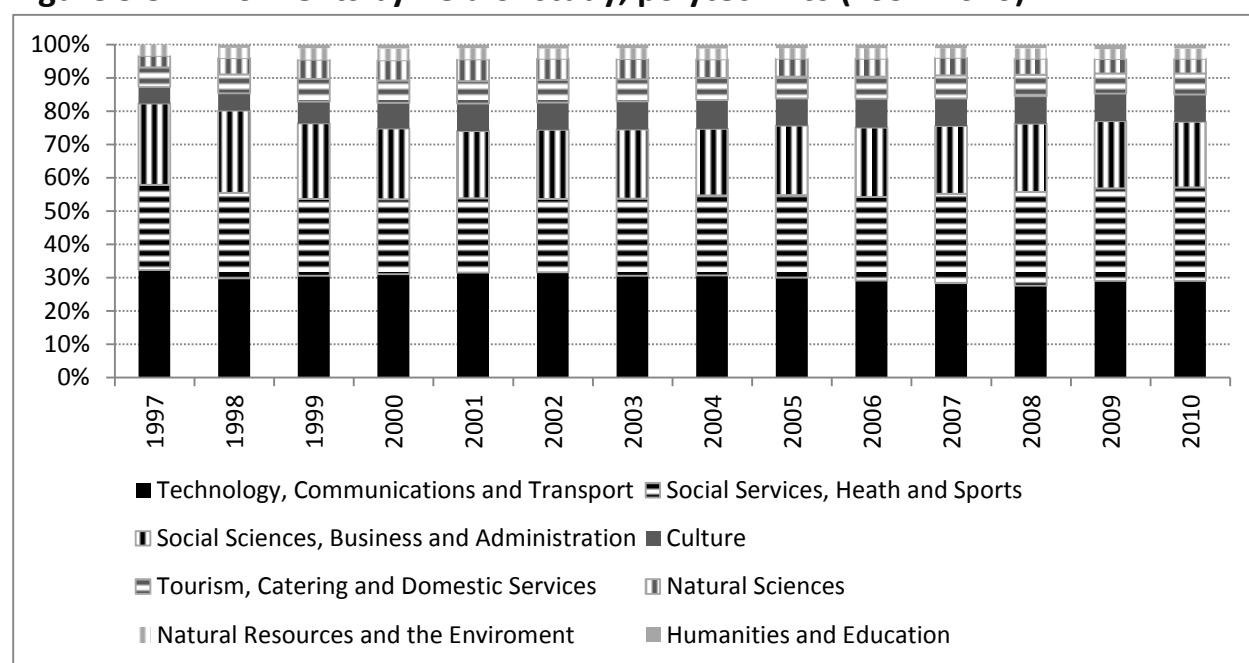
Figure 5.4 shows that in the university sector, a decline in demand for humanities is visible, which is for the most part to the benefit of social sciences. Natural sciences first gained then lost some popularity, whereas there seems to be a recent trend in favour of engineering.

Figure 5.4: Shares of applications by field of study, universities (1995-2009)



Source: KOTA / Ministry of Education and Culture.

In polytechnics, shown in Figure 5.5, technology, communications, and transport; social services, health, sports; and social sciences, business and administration together account for about three quarters of all enrolments, highlighting the different orientations of universities and polytechnics. Social services, health and sports as well as social sciences, business and administration gained in importance in recent years, whereas no clear tendency is visible for the other fields.

Figure 5.5: Enrolments by field of study, polytechnics (1997-2010)

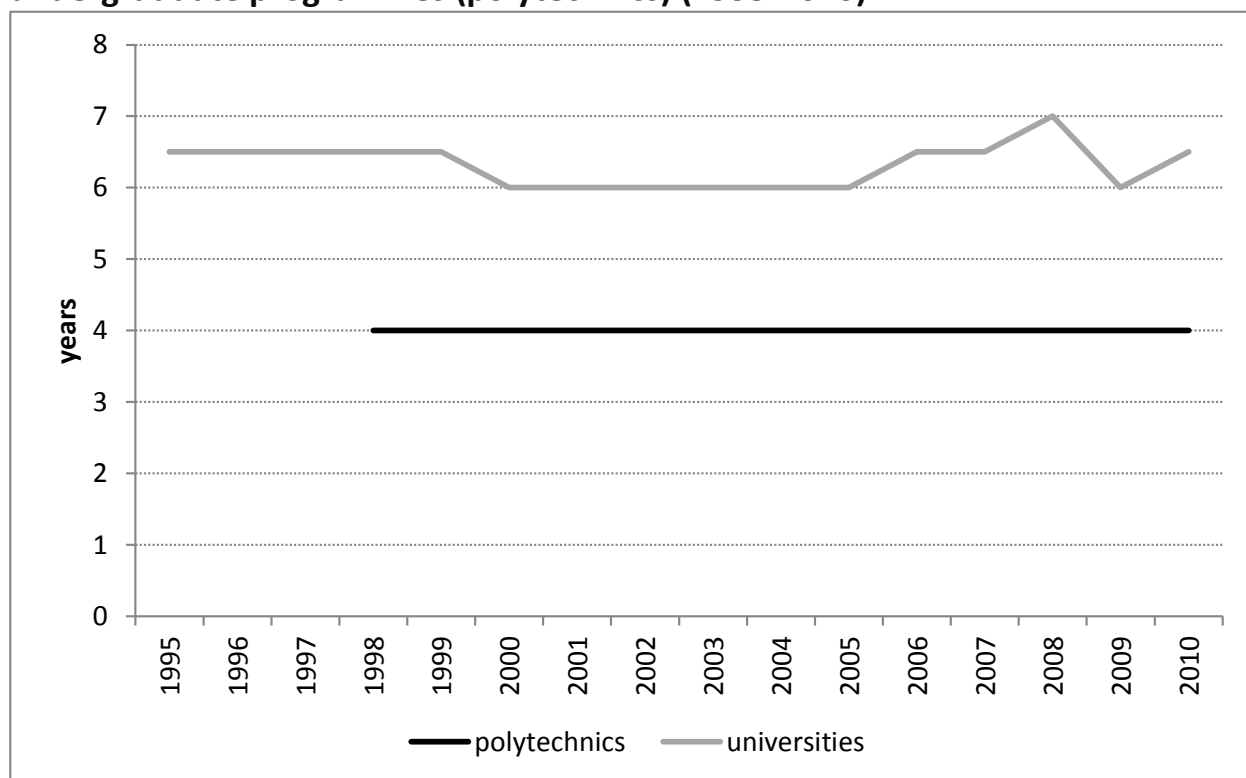
Source: Vipunen / KOTA / Ministry of Education and Culture / Statistics Finland.

5.4 Time-to-Completion

The aim of this section is to consider whether changes in cost-sharing have an impact on times to completion. Figure 5.6 shows the average time to degree for universities and polytechnics. While average time to completion for polytechnics was level throughout the years 1998 to 2010, the average for university students increased by one year between 2005 and 2008 and then declined.⁵⁷ The drop is presumably due to the end of the transition period to the new Bachelor-Master-system. The actual effect may be overestimated as the source data only specifies time-to-degree in half-year increments.

⁵⁷ The Bologna study reforms are not reflected in this graph due to the fact that the Master degree is *de facto* still the basic degree in university education, whereas the Bachelor degree is not widely regarded as a degree with which one can enter the labour market. Polytechnic education was focussed on basic degree programmes before and after the Bologna reform.

Figure 5.6: Average time-to-degree in Master programmes (universities) and undergraduate programmes (polytechnics) (1995-2010)



Note: Universities: Median graduation time in Master degrees (all enrolled students). Polytechnics: Median graduation time of traditional undergraduate students.

Source: Statistics Finland/ Ministry of Education and Culture.

5.5 Evaluation

The aim of this chapter was to investigate whether increasing private funding has effects on study behaviour in several different dimensions. As was shown in Chapter 4, there is evidence that student costs went up in the period of investigation, particularly in the years 2000-2006.

Study patterns did not appear to have changed as far as the full- / part-time division is concerned. About 80% of Finnish students study full-time, the remaining share studies part-time or do not see themselves as belonging to either one of these categories.

There was no indication of Finnish students leaving the country to avoid rising costs, either. On the contrary, the share of Finnish students studying abroad clearly decreased between 1998 and 2010. Available data do not show a tendency for more students to live with their parents in order to save costs – an observation which must be assessed with the well-established system of public housing subsidies in mind.

Enrolment by field turned out to be relatively stable, with no clear indications of students switching to more 'profitable' subjects as a result of rising study costs. Changes in study behaviour due to differential programme costs are not a relevant aspect in Finland due to the absence of tuition fees.

The question of whether time-to-completion changes as a result of increasing private funding could not be answered positively based on the available data: For polytechnics, time-to-completion remained constant between 1998 and 2010, whereas in universities, no correlation can be discerned between changes in student costs and changes in time-to-completion.

In summary, it can be stated that student behaviour in the dimensions investigated in this chapter is marked by stability rather than change.

6. CONCLUSION

As was pointed out in Chapter 1, the Finnish higher education system saw an expansion not unlike that of other countries studied in this project. However, in the Finnish case this expansion was not answered with an increase in the share of private funding, but with increases in public funding. As was shown in Chapter 2, there is evidence that even funding per unit increased concurrently with the growth of the system as a whole. However, the largest part of the enrolment growth of the 1990s was accommodated by the polytechnic sector, and, as Chapter 2 has shown, education in this sector is less costly than in universities. Thus, in some sense, an important element in Finland's answer to the massive expansion of higher education was not cost-sharing, but cost containment. That said, institutions did receive minor incentives to increase private funding in state funding models. There have been reforms to give HEIs more autonomy. However, they did not result in important increases in private revenues, but appear to be more connected to governance and academic programming. Accordingly, it was found that responsiveness of Finnish HEIs is not primarily a matter of direct reactions to user demand. Rather, it is mediated by bilateral negotiations with the Ministry of Education, which is responsible for higher education planning, including investigations into labour market demands.

Student costs did increase in the period of investigation. However, these costs are largely general living costs not specific to students. Also, state assistance to students increased in parallel with rising living costs, leaving the cost-sharing balance unchanged in this area. No direct evidence was found that rising student costs deter (potential) students from studying.

No clear indications could be found that students have changed their study behaviour in terms of choice of programme, mode of study, time-to-completion or mobility as a result of changes in private costs.

Summing up this report, the Finnish higher education system has coupled expansion of the system with increasing public investment, and with the establishment of a binary system as a landmark decision. Within this context, increasing private revenue has not been considered a policy option of top priority. The Finnish policy setting prefers to invest directly in students and recoup costs through income tax for all taxpayers.

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APPENDIX: LIST OF INTERVIEWED EXPERTS

Name	Position / Affiliation	Interviewed
Marita Aho	Senior advisor The Confederation of Finnish Industries (EK)	August 2013
Esa Hämäläinen	Director of Administration University of Helsinki	September 2013
Seppo Hölttä	Professor of Higher Education Administration and Economy School of Management University of Tampere	October 2013
Jarmo Kallunki	Education policy officer The National Union of University Students in Finland	August 2013
Helka Kekäläinen	Secretary General Finnish Higher Education Evaluation Council	September 2013
Harri Melin	Vice Rector for Education and International Affairs University of Tampere	October 2013
Hannu Sirén	Director General Department for Higher Education and Science Policy Ministry for Education and Culture	August 2013
Tapio Varmola	Rector Seinäjoki University of Applied Sciences	September 2013

GERMANY

1. INTRODUCTION

1.1 Overview of Higher Education in Germany

The Federal Republic of Germany has a population of roughly 80.2 million. The republic is a federation of sixteen states, called *Länder* (singular *Land*), five of which were joined to the Federal Republic after the breakdown of the German Democratic Republic in 1990. Education policies are placed under the responsibility of the *Länder*; consequently, all public higher education institutions (HEIs) are owned by the *Länder*.

The federal government's influence on matters of higher education has changed over the years. In 2006, an amendment to the country's Basic Law (its constitution) was passed limiting federal state support for HEIs to include only scientific projects and research. Consequentially, the new amendment explicitly excluded permanent institutional funding. Nevertheless federal funding does play a role in supporting German higher education and so the federal government has retained some influence on the higher education system as a whole.

The German HE system is dominated by the public sector. A basic distinction can be made between general / technical universities (*Universitäten / Technische Universitäten*) on the one hand and universities of applied sciences (*Fachhochschulen*) on the other hand. Presently, there are 88 public general/technical universities and 104 public *Fachhochschulen*. While the former have the authority to award Ph.D. degrees and a stronger research focus, the latter do not award Ph.D. degrees, and have a stronger focus on teaching and applied research. Academies of the arts (*Kunst- und Musikhochschulen*) and theological colleges (*Philosophisch-theologische Hochschulen*) are usually considered part of the university sector. This is also the case for the few separate teacher training colleges (*Pädagogische Hochschulen*). Therefore, these three types of HEIs will be subsumed under the university sector in the statistics below.

Traditionally, the German higher education landscape has been characterized by a high level of homogeneity. A university degree has typically been regarded as having equal value regardless of the institution from which it was obtained. A stronger degree of institutional differentiation has been a recent policy goal, and a number of initiatives have been launched in recent years with the explicit aim of giving individual HEIs more distinctive profiles.

Up until the onset of the Bologna reform, the most common university degrees were the *Diplom* (mostly for programmes in natural science, engineering and social sciences), the *Magister Artium* (for degrees in arts and humanities), professional degrees with state examinations (*Staatsexamen* – for degrees in medicine, pharmacy, law and teaching professions) and the doctorates. The Bologna reform was embraced by all states beginning in the early 2000s, and study programmes were progressively altered to align with the unified Bachelor and Master system (except for the *Staatsexamen*). In 2010 60% of students were studying in a Bachelor or Master programme

(Hochschulrektorenkonferenz, 2011, p.21), and 81% of all study programmes were Bachelor or Master programmes (Winter, 2011, p. 233).

There are presently about 40 Church-maintained and 100 private HEIs in Germany. Although the private sector has been increasing over the last twenty years, the private HEIs operating in 2009 only accommodated about 3.9% of all German students (Werner & Steiner, 2010, p. 484). The distribution of private HEIs across *Länder* is uneven: North Rhine-Westphalia, Berlin and Hamburg are examples of *Länder* with a high share of private institutions, whereas eastern *Länder* such as Thuringia and Mecklenburg-Vorpommern have a low share. Reasons for this are geographical conditions as well as differences in legislation concerning the operation of private HEIs.

Further education programmes are offered as part-time (for people in employment), and full-time programmes by both public and private HEIs. Some of them offer regular degrees (mostly Master degrees), others do not.

Germany also has an important non-university research sector organized in a number of institutional networks funded conjointly by the federal government and the *Länder*.⁵⁸ These institutions conduct both basic and application-oriented research. They will not be further considered in this report.

A survey by the European University Association (EUA) shows that the *Länder* differ with respect to the financial autonomy granted to HEIs: There were differences with respect to fee policies, but also with respect to whether HEIs are allowed to borrow money or keep surplus, and with respect to the length of funding cycles.⁵⁹ The survey, which studies HEI autonomy in the four dimensions of organisational, financial, staffing and academic affairs, looks at three German *Länder* and shows that financial autonomy is relatively the least developed dimension of autonomy.

1.2 Key Higher Education Stakeholders

Due to the country's federal structure, governance structures in German higher education are fairly complex. The principal actors of higher education policies at the state level are the ministries for science, research and higher education of the *Länder*. They are responsible for higher education planning and development, for the negotiation of funds and for the legal and administrative supervision of HEIs.

⁵⁸ The four major networks are the Max Planck Society, the Helmholtz Association, the Fraunhofer Society and the Leibniz Association.

⁵⁹ Three *Länder* were surveyed by the EUA: Brandenburg (<http://www.university-autonomy.eu/countries/brandenburg/>), Hesse (<http://www.university-autonomy.eu/countries/hesse/>) and North Rhine-Westphalia (<http://www.university-autonomy.eu/countries/north-rhine-westphalia/>) (last viewed 13.10.2013).

The heads of the ministries for education assemble regularly in the Standing Conference of the Ministers of Education (*Kultusministerkonferenz*, KMK) for coordinating purposes. The Conference aims to create and preserve comparative standards and practices across all *Länder*, and it represents the interests of the *Länder* vis-à-vis other stakeholders such as the central government.

Another key actor in higher education policies is the Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*, BMBF). The ministry offers a host of programmes in support of research activities involving HEIs and other institutions. Recently it has also supported the provision of higher education directly, for instance by providing co-funding for additional study places in a multi-year programme called the Higher Education Pact 2020 (*Hochschulpakt 2020*) running from 2007 until 2015.

The Joint Scientific Conference (*Gemeinsame Wissenschaftskonferenz*, GWK, formerly *Bund-Länder-Konferenz*, BLK) is an assembly in which both the ministries of finance and science of the Federal state and the *Länder* gather to coordinate nationally significant political matters regarding research and education. The Conference's work focuses on strategic aspects of the higher education and research system. Its authority is derived from §91b of the Basic Law, in which the possibility of agreements between the federal state and the *Länder* concerning the promotion of science is stated.

The heads of German universities are organized in the German Rectors' Conference (*Hochschulrektorenkonferenz*, HRK). It represents 268 universities (2013). The Conference publishes policy papers on various matters of the HEI system, in which it tries to define common positions represented by the diverse set of member HEIs. The Conference also runs a set of projects pertaining to the reform of German higher education.

The state-funded Science Council (*Wissenschaftsrat*) is the key advisory body to both *Länder* and federal actors in matters of higher education. It is composed of members from the scientific community as well as political representatives. The Council makes recommendations on the development of the German science and higher education system, and it conducts accreditations of scientific institutions.

The German Research Foundation (*Deutsche Forschungsgemeinschaft*, DFG) is the single most important provider of third-party funds for university research.⁶⁰ The DFG is organised as a registered society and almost entirely publicly funded. In 2010, it had a total budget of 2.31 billion euros (Deutsche Forschungsgesellschaft, 2010) and provided 34.1% of HEI's total third-party funds for research.⁶¹ The DFG offers funding for individuals, groups and networks on a competitive basis.

⁶⁰ The term 'third-party' is used in this report to refer to all kinds of funds which are provided for specific purposes (usually research projects), and which are not part of the recurrent funding routines between the governments and the HEIs. This definition is based on the use of the term 'third-party funds' in Germany, and is more comprehensive than what one finds in other jurisdictions, where 'third-party funding' would exclude funds from organisations such as the DFG.

⁶¹ Source: Destatis.

The German *Studentenwerk* (DSW) is a network of local public institutions that offer local student services and lobby centrally for students' needs in economic and social matters. It is responsible for the administration of the most important public study aid system, BAföG, and other study aid programmes. The local *Studentenwerke* also provide subsidised food and housing for students and offer various sorts of counselling.

The *Freier Zusammenschluss von StudentInnenschaften* ('Free Association of Student Representative Bodies', fzs) is the German umbrella organisation of local student representative bodies. Student representative bodies from about 80 HEIs voluntarily delegate members to this organisation. The fzs represents the collective interests of German students in political, social, economic and cultural terms.

1.3 How Governments Fund Institutions

Due to the fact that HEI funding is a responsibility of the *Länder*, there is a great deal of variation between funding mechanisms in the German higher education sector. This section outlines commonalities and differences across the *Länder* in a brief description.

The traditional form of HEI funding in Germany is line-item budgeting, a process in which the budgets of HEIs are calculated annually based on detailed listings of expenditure categories. Funds are earmarked to the types of tasks and periods of time they are appropriated for, leaving HEIs little independence in terms of financial management.

During the 1990s, the concept of New Public Management began to take hold in German university governance. More autonomy for HEIs and more competition between HEIs were two central tenets of this approach which had direct consequences for matters of financing. In order to increase financial autonomy, several *Länder* loosened existing rules of line-item budgeting over time. The complete abolition of line-item budgeting resulted in global budgets, i.e., lump sums handed out to universities with no or limited provisions on how to spend the money. According to In der Smitten and Jaeger (2012, p. 40), a majority of the *Länder* now use bilateral target and performance agreements between the respective ministry and HEI to influence the expenditure of recurrent core funding. Some *Länder* (presently Brandenburg, Hesse, Schleswig-Holstein and Thuringia) also use indicators to determine HEIs' recurrent core budgets; the number of students within their standard period of study⁶² is the most common indicator used.

In addition, a performance-based component has been introduced into the HEI core funding, typically accounting for between 5% and 15% of the total state grant. Rhineland-Palatinate and North Rhine-Westphalia were the first *Länder* to introduce a performance-based component into their HEI funding schemes in 1991 and 1993, respectively. Since then, most *Länder* have

⁶² The standard period of study is a certain number of semesters which is defined in each programme's official description, e.g. six semesters for a typical Bachelor programme.

adopted performance-based funding schemes.⁶³ Each scheme is composed of a set of different indicators for past performance in research, teaching and sometimes gender mainstreaming and internationalisation. With the exception of Schleswig-Holstein, teaching and learning is the most important area of performance, accounting for 50% or more of the allocated funds in all models (status as of 2010). The two most common indicators for teaching performance are number of students within their standard period of study, and number of graduates. With very few exceptions, these schemes provide the basis for the funding of HEIs depending on their relative performance compared with other public HEIs of the same *Land*. Performance is measured annually, sometimes using averages spanning several past years. Universities and faculties have partially adopted similar schemes for their internal budgeting.

Over the period observed, third-party funding for HEIs from public sources has also increased and led to a higher level of financial differentiation between HEIs.

1.4 History of Cost-Sharing

Tuition fee policy

Tuition fees (known at the time as *Hörgeld*, literally ‘money for lecture attendance’) were common in the Federal Republic of Germany up until 1970, when, following a resolution of the Standing Conference of the Ministers of Education and Cultural Affairs (*Kultusministerkonferenz*), public HEIs in Germany were not allowed to collect tuition fees any more. This situation remained stable for 35 years. In 2005, six *Länder* led by Christian-Democrat governments successfully filed a lawsuit against the general prohibition of tuition fees with the Federal Constitutional Court (*Bundesverfassungsgericht*). The Court ruled that a general prohibition on tuition fees was illegitimate and that it was up to the *Länder* to decide whether or not tuition fees should be charged or not. Following this decision, the governments of North Rhine-Westphalia, Lower Saxony (both in the winter semester 2006/07), Bavaria, Baden-Württemberg, Hamburg (all summer semester 2007), the Saarland, and Hesse (both winter semester 2007/08) resolved to introduce tuition fees for all students. The nine remaining *Länder* did not introduce general fees.⁶⁴ An upper limit of 500 euros per student per semester for first-time students within their standard period of study is/was in place in all jurisdictions. In most, the exact amount to be charged was determined by the government of the corresponding *Land*. In Bavaria and North Rhine-Westphalia, universities were free to set the fee level with an upper limit of 500 euros. These fees come/came on top of obligatory administrative fees, which vary between *Länder* and even HEIs, but which are/were never as high as the regular tuition fees (the range of administrative fees is between around 40 and 280 euros).⁶⁵ In all *Länder* tuition fees are/were required to be used for the improvement of studying conditions; universities are/were

⁶³ As of 2013, only Bremen and the Saarland have no such schemes. The scheme is on hiatus in Bremen, and the government of the Saarland includes performance-related elements in its periodical target agreements with HEIs.

⁶⁴ Note on terminology: The term ‘general (tuition) fees’ will be used here to refer to fees that are regularly charged from most students, i.e. not only certain groups such as non-domestic students or students in certain programmes.

⁶⁵ The latter is the approximate amount students pay at Berlin HEIs, public transport included.

given certain liberties as to how they implement this requirement. According to the 19th HIS/DSW Social Survey (p. 274), in the summer semester of 2009 59% of students were enrolled in a fee-charging HEI. International students both from EU/EEA and non-EU/EEA countries are not treated differently to domestic students in existing fee schemes.⁶⁶

A capacity regulation has been in place since the early 1970s, which seeks to assure a balance of staffing and student numbers in individual HEIs (see Section 1.6 below). One consequence of this regulation is that increasing HEIs' central revenue may lead to the requirement of the HEIs to enrol more students. Importantly, revenues from tuition fees are/were excluded from this regulation in all *Länder* and as such do not require HEIs to enrol additional students. This was done to enable HEIs to realise quality improvements through this new revenue source.

As far as the exact procedures through which tuition fees are/were set are concerned, there is variation across *Länder*:

In Baden-Württemberg, there was a general tuition fee of 500 euros. In 2009, the law was changed so that students with two or more siblings paying fees were exempt from fees. This led to a considerable reduction in income through fees at HEIs.

In Bavaria, the ministry set lower and upper limits for tuition fees (between 300 and 500 euros per semester for universities, and between 100 and 500 euros for *Fachhochschulen*). In fact, most universities charge 500 euros or close to this, whereas the sum varies between 300 and 500 euros in *Fachhochschulen*. Some students are exempt from fees, such as students with children under the age of 18 or certain groups of foreign students. No predefined upper limits exist for fees charged in further education degree programmes.

In Hamburg, general fees of 500 euros per semester were charged for three semesters; after that time (starting in the winter semester 2008/09), the fee was lowered to 375 euros per semester, and a new financing model was adopted: Students did not need to pay the fees directly, but could delay payment until their annual income exceeds 30,000 euros per year. Hamburg was the only German *Land* in which this model was implemented.

In Lower Saxony, tuition fees of 600 to 800 euros per semester for students beyond their standard period of study existed before the introduction of general tuition fees in 2007. General tuition fees were fixed at 500 euros per semester for all HEIs. Students of minor age (under 18) and students with children below the age of 14 are exempt from fees.

In North Rhine-Westphalia, tuition fees for long-term students were introduced in 2004. A law passed in 2006 allowed public HEIs to charge general tuition fees of up to 500 euros per semester. Most HEIs chose to charge the maximum or nearly maximum fee; only few institutions set their fees at a level below 400 euros, and fewer still charged no fees at all.

There is no consensus on the utility or even lawfulness of tuition fees across political camps in Germany. Tuition fees in the 2000s were all introduced by *Länder* led by the Christian Democratic Union (mostly in a coalition with the Free Democratic Party). The Social Democrats, the Greens as well as the Left Party all tend to oppose general tuition fees. Consequently, tuition

⁶⁶ A minor exception is Saxonia, where the law now allows HEIs to charge fees from non-EU/EEA students, see Section 3.3 for more information.

fees were abolished in several *Länder* after coalitions of Social-Democrats and the Greens came to power in the last few years: North Rhine-Westphalia abolished general fees in the winter semester 2011/12; Hamburg in the winter semester 2012/13; and Baden-Württemberg in the summer semester 2012. The new government of Lower Saxony, which has come to power in 2013, has confirmed plans to scrap general tuition fees in the winter semester 2014/2015. Hesse abolished general fees in the winter semester 2008/09, after only one year of fees, based on an initiative of the political parties opposing fees. The Saarland scrapped general fees in the summer semester 2010 after the Greens joined the government. In Bavaria, the governing Christian-Democrat-liberal coalition has recently resolved to abolish tuition fees in the winter semester 2013/14. In the fall of 2014 there will be no *Land* charging general tuition fees in Germany. The most common argument employed by governments abolishing fees is that they may cause a decline in the propensity to study and disadvantage socially vulnerable groups.

In summary, by 2014 general tuition fees will have been a relatively short-lived phenomenon in recent German higher education policies. The maximum period of time in which tuition fees were charged will have been Lower Saxony and Bavaria, each charging fees for about seven consecutive years. Most governments under which fees were abolished have guaranteed to HEIs to pay compensations for the loss of tuition fee-based revenue. These compensations are based on number of enrolled students, and like the fees they replace, their use is earmarked for the improvement of studying conditions. This will mean a net growth in state budget appropriations to HEIs, provided that no budget cuts are realised elsewhere.

The situation with respect to the introduction and abolition of general tuition fees and the amounts charged in the German *Länder* is summarised in Table 1.1 below:

Table 1.1: Tuition fees in German *Länder*

Land	introduction of fees	abolition of fees	amount per semester
Baden-Württemberg	summer semester 2007	summer semester 2012	500 euros
Bavaria	summer semester 2007	winter semester 2013/2014	100-300 euros in <i>Fachhochschulen</i> ; 300-500 euros in universities (institutions set the exact fee)
Hamburg	summer semester 2007	winter semester 2012/2013	500 euros until summer semester 2008, 375 euros from winter semester 2008/2009
Hesse	winter semester 2007/2008	winter semester 2008/2009	500 euros per semester
Lower Saxony	winter semester 2006/2007 (for new entrants); summer semester 2007 (all students)	planned 2014	500 euros

Land	introduction of fees	abolition of fees	amount per semester
North Rhine-Westphalia	winter semester 2006/2007 (for new entrants); summer semester 2007 (all students)	winter semester 2011/2012	up to 500 euros
Saarland	winter semester 2007/2008	summer semester 2010	500 euros

Source: Authors.

Study aid policy

The situation with respect to public aid to students in Germany is marked by a “tremendously large spectrum” (Schwarzenberger & Gwosc, 2008, p. 67). Schwarzenberger and Gwosc distinguish between direct and indirect sources of student support. Figures show that the two most important direct support systems are the Federal Training and Education Assistance Act (*Bundesausbildungsförderungsgesetz*, BAföG) and benefits from non-contributory statutory health insurance; by far the most important category of indirect support are child benefits for parents of students. These three components will be explained in more detail below:

- BAföG support: The principal aim of BAföG support is to guarantee equality of opportunities by assuring equal living conditions for all students. BAföG is a mixed grant/loan system: In the standard case, half of the sum a student receives is a non-repayable grant, whereas the other half must be repaid starting five years after the end of the support. The loan is interest-free, and in 2001 a rule was introduced cutting the accumulated loan debt at 10,000 euros. The BAföG system was established in 1971 with the aim of promoting equal opportunities for potential students, in particular by supporting students from low-income families. BAföG provides means-tested benefits, where the exact amount is related to family income. As a result, how much money a student is entitled to receive through BAföG is based not only on his/her personal financial situation, but also on that of his/her parents. This is because parents are legally required to provide for their studying children within the standard period of study. The maximum monthly amount a student may receive via BAföG was originally supposed to cover the average cost of living of a student; the actual amounts have varied over time. About 29% of all regular students received BAföG support in 2009; the average support per month was 376 euros (19th HIS/DSW Social Survey, p.194). As of 2013, the maximum BAföG support is 670 euros per month. Not considering numerous special regulations, eligible BAföG recipients must not be older than 30 (35 for master students). In the period of investigation, BAföG support covered between 11% and 15% of a regular student's income (19th HIS/DSW Social Survey, p.201) on average. The most important reforms in the period under investigation took place in 2001, when access to BAföG support was facilitated (mostly by changing the calculation of parental income thresholds) and the maximum

amount of repayable loans was reduced, resulting in a sharp increase in the number of BAföG-supported students. The support is financed 65% by the federal state and 35% by the *Länder*. Students at both public and private HEIs are eligible for BAföG support. BAföG is non-taxable income.

- Benefits from non-contributory statutory health insurance: Children of parents in the statutory health insurance system are insured on a non-contributory basis under certain conditions. For persons in education, including students, the non-contributory status is prolonged until the age of 25. Students older than 25 may still benefit from a special, relatively inexpensive statutory insurance up until the age of 30 (or up to their fourteenth semester).
- Child benefits for parents of students: This is characterised as an ‘indirect’ type of support by Schwarzenberger & Gwosc (2008) because the money goes not to the students but to the parents, who are obligated to assure the livelihood of their studying children. Child benefits for the first child were introduced in 1975. In that year, the amount varied between the equivalent of 25.56 euros per month for the first child, 35.79 euros for the second child and 61.36 euros for third and every further child (in non-adjusted prices). Parents could claim child benefit until the age of 18 but were obligated to credit it against their taxable income. For children above the age of 18, child benefits can be extended up to the age of 27 if the child is in a secondary, tertiary or professional education phase. Previously applicable income thresholds limiting eligibility were rescinded in 2012. Over time child benefit rates have been raised several times. In 2010, parents received 184 euros for the first and second child, 190 euros for the third child and 215 euros for every further child.

Schwarzenberger & Gwosc (2008) present calculations for 2004 according to which roughly 4.5% of total public expenditure on higher education in Germany is distributed through BAföG support, roughly 9.5% through benefits from non-contributory or reduced statutory health insurance, and 11.4% through child benefits. (The largest part of the expenditure – 58.5% – is teaching allocations to HEIs, which is not part of the study aid system considered in this section). The authors list more than twenty other, smaller direct and indirect categories of student support which together add up to over 16% of the total expenditure.

Considering a typical student’s overall cost of living, income from private sources is more important than income from public sources. As shown in the 19th HIS/DSW Social Survey, money received from parents is by far the most important source of student income, amounting to about 50% of the total income.⁶⁷ Second most important is income through work (between 24% and 31% in the investigation period), followed by BAföG (see above) and then various other sources (between 9% and 11%). Consequently, with regard to the wider definition of cost-sharing applied in this study, private sources compensate for the larger part of the student side of higher education cost.

⁶⁷ Part of this income is ‘indirectly public’, because it includes child benefits. The average parental support to students is however more than twice as much as the standard child benefit rate.

Policies designed to increase private investment in higher education

Given the dominance of public universities in the German HEI sector, governmental budget allocations are the most important financing source for higher education. Nevertheless, private revenues play a role in the financing of HEIs, in particular with respect to research activities. An important general trend visible in the period of investigation concerns an increased support of large, longer-term clusters between academic and industrial partners as opposed to individual projects. This development is supported by the Federal Ministry of Education and Research as well as the incumbent ministries of the *Länder* (Wissenschaftsrat, 2007, p. 62/64), but, as noted in (Knie & Simon, 2010, p. 32), the business sector itself has assumed an important role in creating sustainable and more direct forms of collaboration between academia and industry since the end of the 1990s. A large programme launched by the Federal Ministry of Education and Research in 2007 is the ‘Leading-Edge Cluster’ competition (*Spitzencluster-Wettbewerb*), in which innovative forms of regional academic-industrial partnerships are stimulated through public co-funding of up to 40 million euros for a period of five years. As of 2013, there are fifteen such clusters.

Another federal initiative that has turned out important for academic-industrial cooperation is the Programme by the German Federal and State Governments to Promote Top-level Research at Universities, better known as the ‘Excellence Initiative’ (2006-2017). The initiative funds five-year projects in top-level research, where cooperation and clustering are important selection criteria. Although co-funding through private project partners is not obligatory, it is argued that the initiative has helped catalyse cross-sectoral collaboration (see T. Knie & Braun-Thürmann, 2008)

One more instrument designed to reduce barriers to working with industry is the ‘Research Premium’ (*Forschungsprämie*). Introduced by the Federal Ministry of Education and Research in 2007, it grants 25% of total project costs to HEIs collaborating with small and medium-size enterprises. The *Länder* have also placed a strategic emphasis on supporting innovation clusters since the beginning of the 2000s, and have given special support to technological focus areas in which public research institutions are frequently involved.

Two recent amendments to federal law reveal the heightened political expectations concerning the interaction between HEIs and the private sector:

- Firstly, earnings from licensing or selling patents were made a possible source of revenue for HEIs in 2002, when a law was passed which obliges professors to report technological inventions to the HEI management. The management can then decide whether to patent and commercialise the invention or not. Before that time, professors were allowed to patent their inventions without involving their employer. Schmoch (2007) shows that the new law has led to a visible increase in patents filed by HEIs in the years after 2002.
- Secondly, the 2007 amendment of the federal Framework Act for Higher Education (*Hochschulrahmengesetz*) introduced knowledge and technology transfer as a basic mission of German HEIs besides research, teaching and training of young researchers

- a principle which most *Länder* adopted in their higher education laws. Although one may not expect direct quantifiable effects from this legal amendment, it shows that political stakeholders have recognised the creation of links with the private sector as an elementary task of HEIs.

A recently introduced instrument with a potential to intensify the relationship between HEIs and the private sector is the Germany Scholarship (*Deutschlandstipendium*) established in 2010. It awards grants of 300 euros per month to gifted students; half of the money is covered by the federal state, the other half by private sponsors, which must be sought by the HEI. The Germany Scholarship represents a new mode of cost-sharing in which the state, HEIs, students and business are all involved in different roles.

1.5 History of Enrolment

Regulation of enrolment

Paragraph 12 of the German Basic Law states that “[a]ll Germans shall have the right freely to choose their occupation or profession, their place of work and their place of training.” The latter point has direct implications for the admittance to public universities: It means that in principle public HEIs must admit all German holders of a suitable university entrance qualification wishing to take up studies at that university. From a student’s perspective this means that any holder of a suitable entrance qualification has complete freedom to choose his/her place of study. This restricts HEIs’ ability to choose students autonomously.

HEIs do have certain competencies in choosing their students in cases when demand for study places exceeds an institution’s teaching capacity. In order to be able to determine an HEI’s capacity, the ‘Capacity Regulation’ (*Kapazitätsverordnung*) was adopted by all *Länder* of the Federal Republic in 1977. This regulation stipulates a general method of calculating how many students a faculty can assume based on the number of its teaching personnel and the support required for each student in a particular programme up to his/her degree, based on a pre-defined standard period of study. The Capacity Regulation was inspired by a desire to keep conditions for studying comparable across all *Länder* in the face of the rapid educational expansion of the time. Universities were obligated to enrol the maximum of students they were able to serve in admission-limited programmes, leaving them little room to control their own supply of study places.

The Capacity Regulation has been criticised on the grounds that it is at odds both with the deregulation approach practised in many other areas of university governance in Germany and with the present structure of study programmes. In 2006, the Standing Conference of Education Ministers decided that each *Land* should have a choice between three options:

- The incumbent ministry can choose to adhere to the calculation of study places based on the Capacity Regulation in its original version.

- The ministry can adhere to the principles of the Capacity Regulation, but define upper and lower margins of teaching load, so that variation in the student-professor ratios become possible.
- The ministry can negotiate the number of study places directly with the HEI.

In order to coordinate admission to degree programmes in which the demand for places is notoriously higher than the national supply, the Central Office for the Allocation of Study Places (*Zentralstelle für die Vergabe von Studienplätzen, ZVS*) was founded in 1972. The most important criterion for determining admittance to programmes in great demand was the high school graduation (*Abitur*) grade. Particular grade limits were set for each study programme under the responsibility of the ZVS. Applicants could specify several preferred places of study ranked by priority and depending on their relative position in the pool of co-applicants, were admitted to one of their preferred HEIs, or to another HEI, or else put on a waiting list. The procedure was later amended so as to provide for different entrance grade limits to different HEIs, and since 2005, HEIs have even been able to specify individual criteria for admitting students to programmes handled by the ZVS, thus giving them a certain degree of autonomy in terms of admittance. The range of programmes dealt with by the ZVS has been varied over time as a function of changing demand-supply-ratios. As of 2014, admission to four degree programmes is regulated on a national level: Medicine, veterinary sciences, dentistry and pharmacy. In 2010, the ZVS was turned from an institution under public law into a foundation of public law and named Foundation for University Admissions (*Stiftung für Hochschulzulassung*).

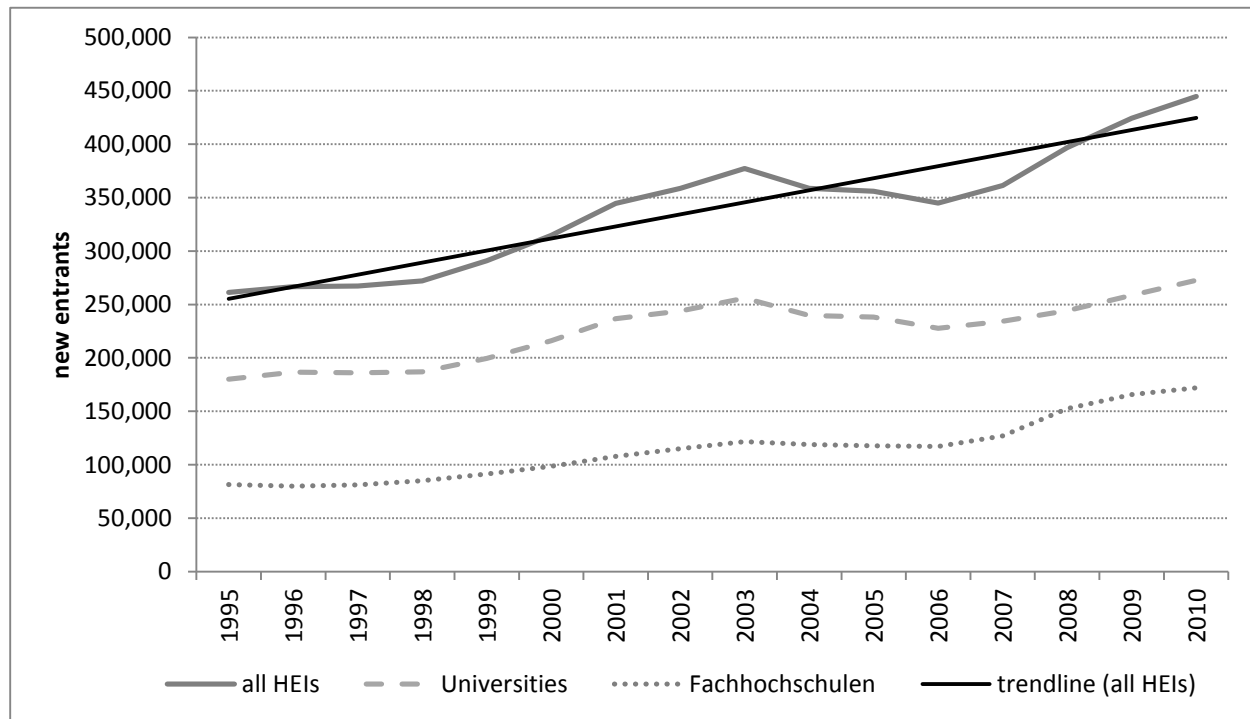
For degree programmes in which the demand does not regularly exceed the supply on a national level, universities can either keep their programmes completely free, or install local admission procedures not overseen by the ZVS. In the latter case, the responsible university departments establish charters specifying criteria of admission. The contents of these charters must obey the university laws or regulations of the respective *Land*, which must in turn respect regulations of the more general federal Framework Act for Higher Education (*Hochschulrahmengesetz*). Not only the average *Abitur* grade may be applicable here, but also more specific factors, like high school performance in certain subject areas relevant to the study programme in question, or particular abilities. For the admission to Master programmes, the previous completion of a suitable Bachelor degree is most relevant, but other criteria, such as an account of the applicant's personal motivation or the provision of certain performance records, are also used. Bogumil, Heinze, & Gerber (2011) report national survey data according to which 88.3% of the surveyed universities have degree programmes in which students are picked in an institutional-level selection procedure. Survey data from Willich, Buck, Heine, & Sommer (2011, p. 126) show that between 2000/01 and 2009/10, the share of first-time first-year students applying through the ZVS has decreased (32% in 2000/01 as compared to 20% in 2009/10), whereas the share of students applying directly at universities (48% in 2000/01 as compared to 70% in 2009/10) has increased. Nevertheless, as per 2009/10, only 14% of all respondents reported that their application procedure involved aspects other than the general university entrance qualification or the high school graduation grade (Willich et al., 2011, p. 131). Although the figure is still small, it doubled in ten years (2000/01: 7%).

As of 2013, about 50% of all Bachelor programmes and about 37% of all Master programmes have restricted admission.⁶⁸ Although the Bachelor degree was initially supposed to be the regular degree with which graduates enter the job market, most Bachelor degree holders have chosen to take up Master studies after obtaining their Bachelor degree. Heine (2012) reports that nearly 75% of all Bachelor graduates take up consecutive Master studies. It is yet uncertain how this development will affect the regulation of admission to Master study places in the medium and long term.

The situation of student admission in Germany can be summarised as follows: Historically, public HEIs have had relatively little freedom to choose which and how many students they admit. Admission to HEIs is to a large degree regulated by federal and provincial laws and institutions. However, since the mid-2000s, a tendency to give HEIs more influence in deciding which and, to a lesser degree, how many students to admit has become visible. This also means that students may need to pass through interviews or present performance records in order to obtain their preferred study place, and, as may be the case, make compromises concerning the HEI at which they enrol.

Figure 1.1 shows enrolment in HEIs from 1995 to 2010. The expansion of the German higher education sector is clearly documented by the growth in new entrants from about 260,000 in 1995 to over 440,000 in 2010, an increase of over 69%. A decrease in new entrants is observable between 2003 and 2006, followed by a steep increase in the years thereafter. Both universities and *Fachhochschulen* expanded capacities to meet increasing demand, with the *Fachhochschulen* accommodating a slightly higher share of the additional demand despite the sector being smaller in absolute terms.

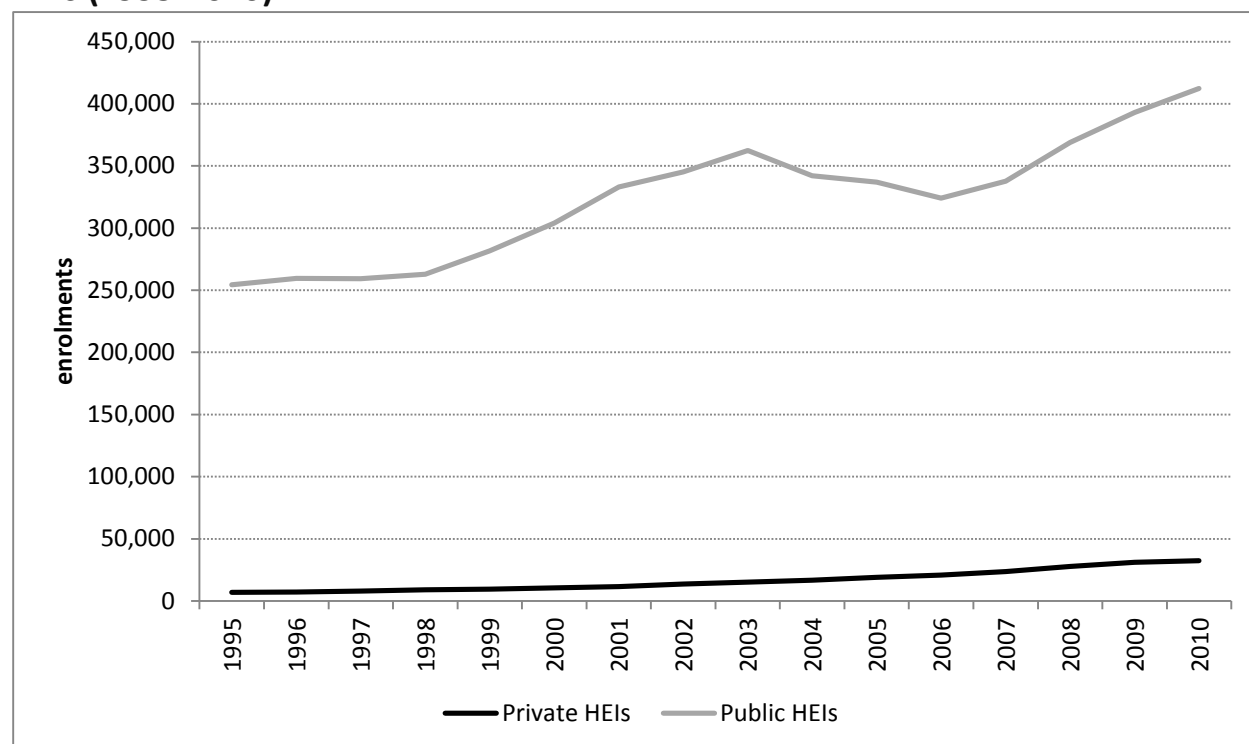
⁶⁸ Calculations based on information from the on-line database *Hochschulkompass* (www.hochschulkompass.de).

Figure 1.1: New entrants in universities and *Fachhochschulen* (1995-2010)

Source: Federal Statistical Office of Germany (Destatis).

The number of students enrolling at private and religious HEIs has also increased markedly, but still remains at a relatively low level when compared to the public sector, as Figure 1.2 shows:

Figure 1.2: New entrants in public and private (including Church-maintained) HEIs (1995-2010)



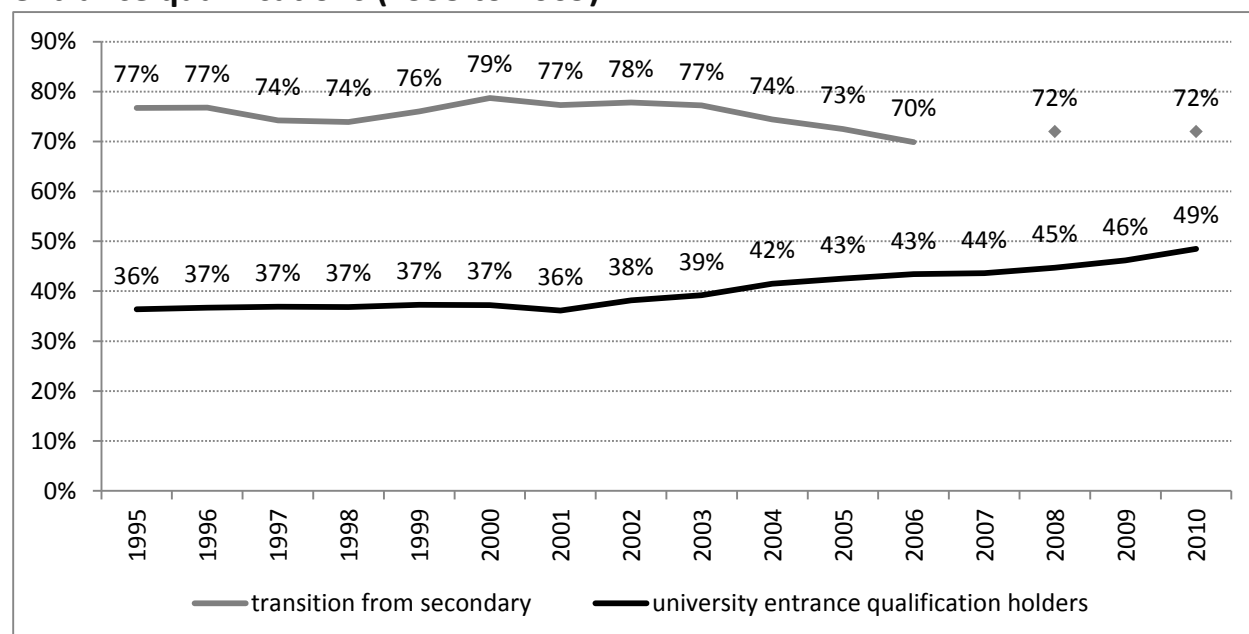
Source: Destatis.

This shows that in absolute terms, the largest part of the enrolment increases is accommodated by public HEIs.

Figure 1.3 represents transition rates of secondary school graduates with an HEI entrance qualification (*Abitur*). The lower line shows the percentage share of pupils obtaining the *Abitur* among the entire cohort of 18-20 year-old school leavers. It highlights the fact that the share of HEI entrance qualification holders is lower in Germany than in most European countries.⁶⁹ Paralleling the data from Figure 1.1, the graph shows a decrease in participation between 2003 and 2006, with a recovery in the years after. The data for the years 2008 and 2010 are taken from a HIS-HF panel study which surveys secondary school graduates with university entrance qualifications. The figures (72% transition in 2008 and 2010) are the sum of those respondents who specified that they have already enrolled at an HEI or have definite plans to enrol. To provide some context, the lower line specifies the share of HEI entrance qualification holders among each cohort of school-leavers. It has been growing but is still clearly below European average.

⁶⁹ According to the OECD's 'Education at a Glance' (2011 issue, Table A2.1), the percentage of pupils graduating from secondary school with a university entrance qualification (ISCED type 5A) was 62% in the EU21-area in 2009.

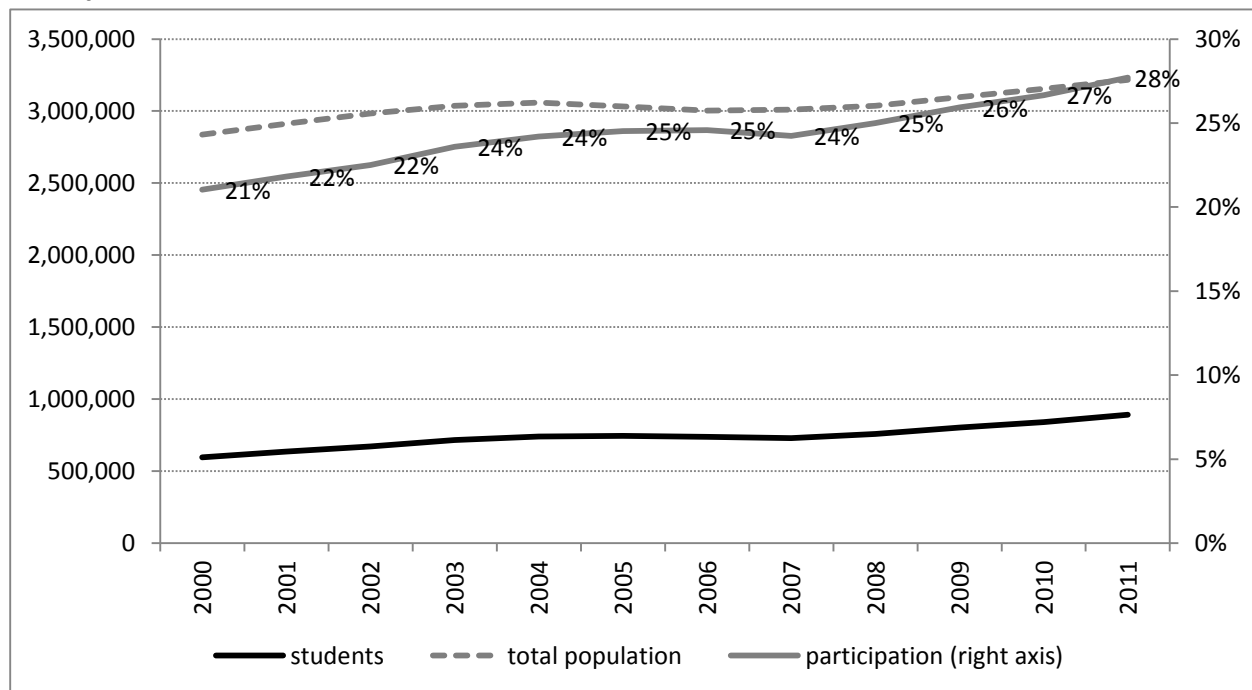
Figure 1.3: Transition rates among secondary-school graduates with HEI entrance qualifications (1995 to 2009)



Source: Autorengruppe Bildungsberichterstattung (2012) / HIS-Survey of secondary school graduates with HEI entrance qualifications six months after their secondary school graduation (2008, 2010) / Destatis (share of university entrance qualification holders).

Figure 1.4 focusses on higher education participation by students in the four age-years with the highest participation rates in higher education ('best four years'). The overall population in the best four years grew by 13% within ten years, while the student population grew by 49% in the same period. As a result, participation rates rose by 7% (21% to 28%) over time, with only one small drop in 2007. Consequently, the increase in enrolments we see in Figures 1.1/1.2 is for the most part due to increased participation, and to a lesser extent to demographic developments.

Figure 1.4: Higher education participation in age group of best four years (2000-2011)



Note: Best four years are 21-24. Domestic students only. The group covers between 37% and 43% of all students.
Source: BMBF data portal / own calculations.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

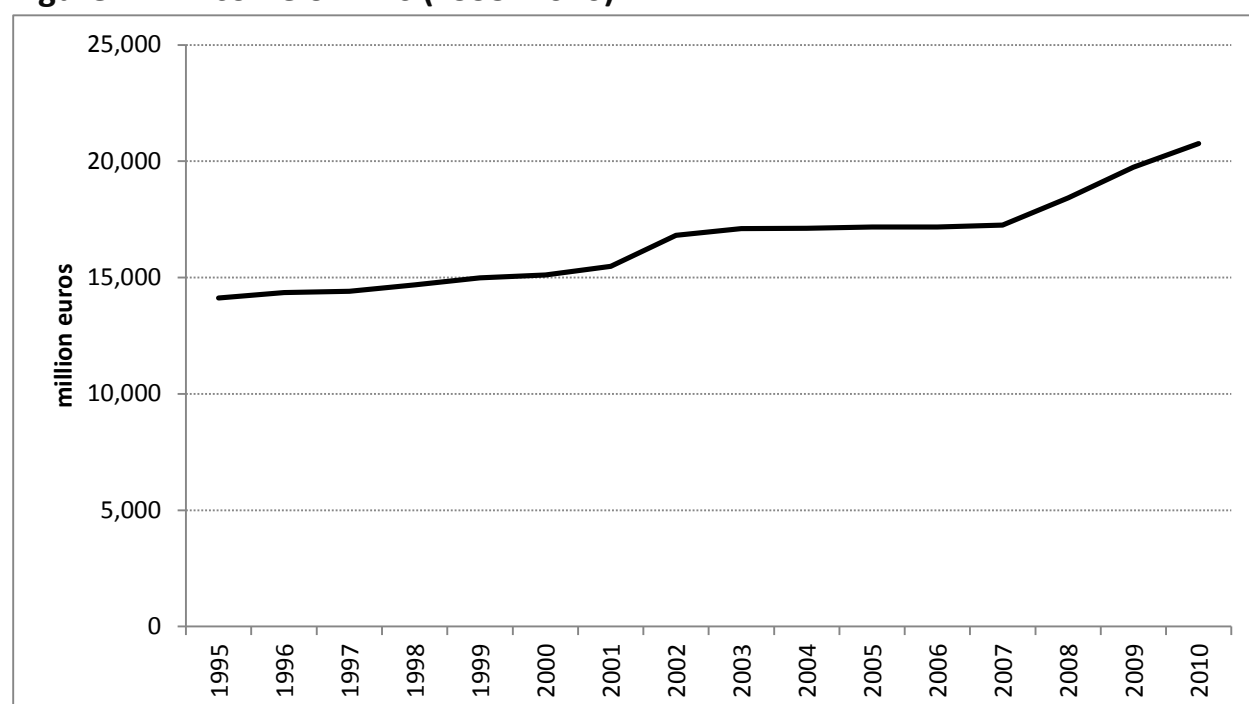
2.1 Changes in Institutional Revenues over Time

In order to test Hypothesis A, it is necessary to make a distinction between public and private revenues of HEIs. This is a difficult task in the German case, because the data reporting systems are not geared toward this distinction. As will be explained in more detail below, the official statistics focus on what HEIs receive funds *for* rather than where they come *from*. Accordingly, they distinguish between recurrent core funding (provided for the operation of core tasks in teaching and research, the amount of which is specified as described in Section 1.4), administrative revenues of HEIs (revenues of assets and revenues of services delivered by HEIs, excluding research) and third-party funding provided on top of institutional funding, usually for research projects. A figure which can be derived from official statistics is total income of HEIs, specified here as the sum of recurrent core funding, income from assets and economic activities, third-party funding and tuition fees.⁷⁰ This can be used to obtain an approximation of the general financial situation of the German HEI sector over time.⁷¹

The data, presented in Figure 2.1, show an overall increase of 47% in 15 years, from 14.1 billion euros in 1995 to 20.7 billion euros in 2010. This means that the consequent of Hypothesis A is fulfilled: Institutional revenues have increased, even markedly. The question is now whether and to what degree this increase is attributable to the private sector.

⁷⁰ Funds provided for capital expenditure are excluded from calculations regarding income because they are only specified as a category of expenditure, not income, in the official statistics.

⁷¹ In this and all ensuing figures and data on HEI financing, university hospitals and clinics are excluded as these costs are not directly related to research and teaching expenditure and are unevenly spread between the *Länder* and individual HEIs.

Figure 2.1: Income of HEIs (1995–2010)⁷²

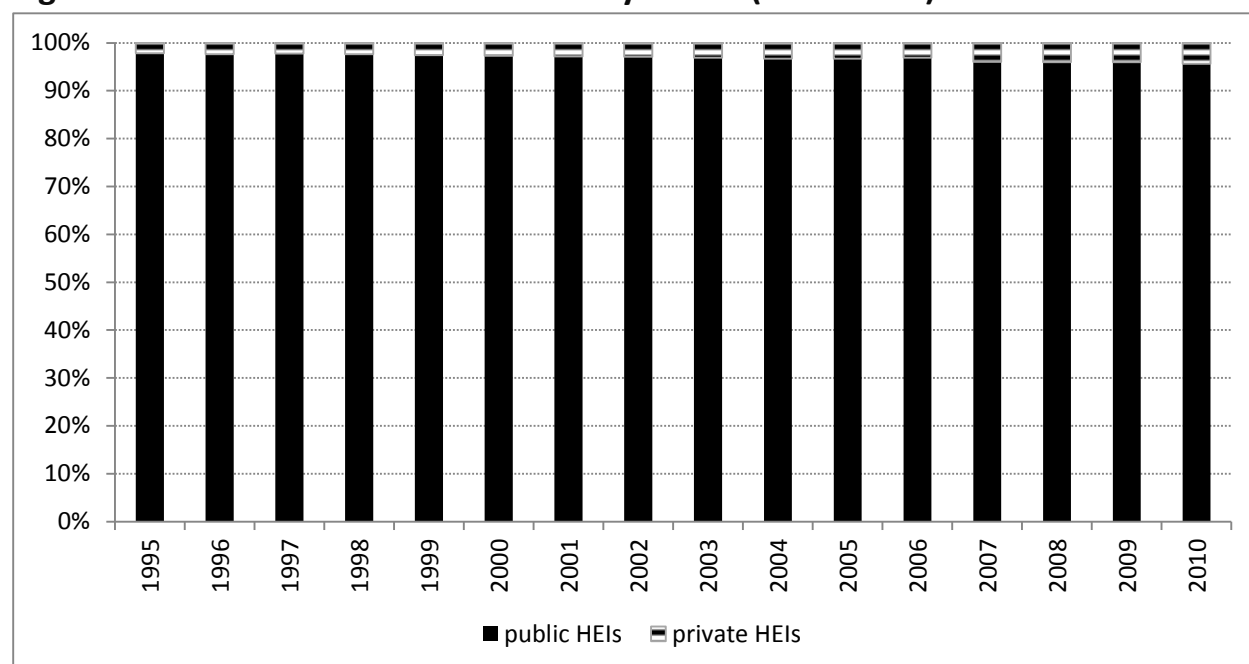
Note: Income rendered as the sum of recurrent core funding and income from fees, third-party funds, assets and economic activities. Private HEIs include Church-maintained institutions. University hospitals and clinics are excluded. Constant prices (2011).

Source: Destatis / own calculations.

As noted before, the answer to this is complicated by the structure of the available administrative data. An additional difficulty is that while on the side of the recipients, the data do distinguish between the public and private HEI sector, it is impossible to specify the cost-sharing ratio in private HEIs. Although private HEIs are for the most part financed through tuition fees, some *Länder* contribute to the institutional funding of private HEIs, and private HEIs may moreover receive public third-party funds and benefit from federal funding programmes (see Wissenschaftsrat, 2012). According to a study published by the *Stifterverband für die deutsche Wissenschaft* (Frank, Hieronimus, Killius, & Meyer-Guckel, 2010), the average income structure of a private German HEI includes 4% third-party funds from public sources and 12% institutional core funding, which may include public contributions. The exact share of public funds to private HEIs cannot be determined using available data.

Figure 2.2 represents percentage shares of total HEI income as defined in Figure 2.1 above for the private and public sector separately.

⁷² Germany introduced the euro as a currency in 2002. Before that time, the national currency was the Deutsche Mark. Its currency rate was fixed as follows: 1 euro equals 1.95583 Deutsche Mark. All calculations in this report are based on this equivalence for the years up to and including 2001.

Figure 2.2: Shares of total HEI income by sector (1995-2010)

Note: Income rendered as the sum of recurrent core funding and income from fees, third-party funds, assets and economic activities. Private HEIs include Church-maintained institutions. University hospitals and clinics are excluded.

Source: Destatis / own calculations.

These data support the observations from Chapter 1 that quantitatively speaking, the private HEI sector still plays a marginal role in the German HEI landscape despite a significant growth through the years. In view of the fact that Germany was chosen for this project as an instance of a country in which higher education is predominantly provided by public institutions (i.e., private funding of private institutions is not substantial), the following analysis of financial data will only consider the public sector. This avoids the problem of assigning income of private HEIs to public or private sources, although it should be borne in mind that the actual share of private higher education funding in Germany will remain underestimated through the exclusion of private HEIs.

What the available data on the funding of public HEIs can provide is an approximate distinction between private and public third-party funds, and the income through tuition fees (since 2006), which will also be counted as private contributions. This will be done next. Before looking at the data, the following comments are in order:

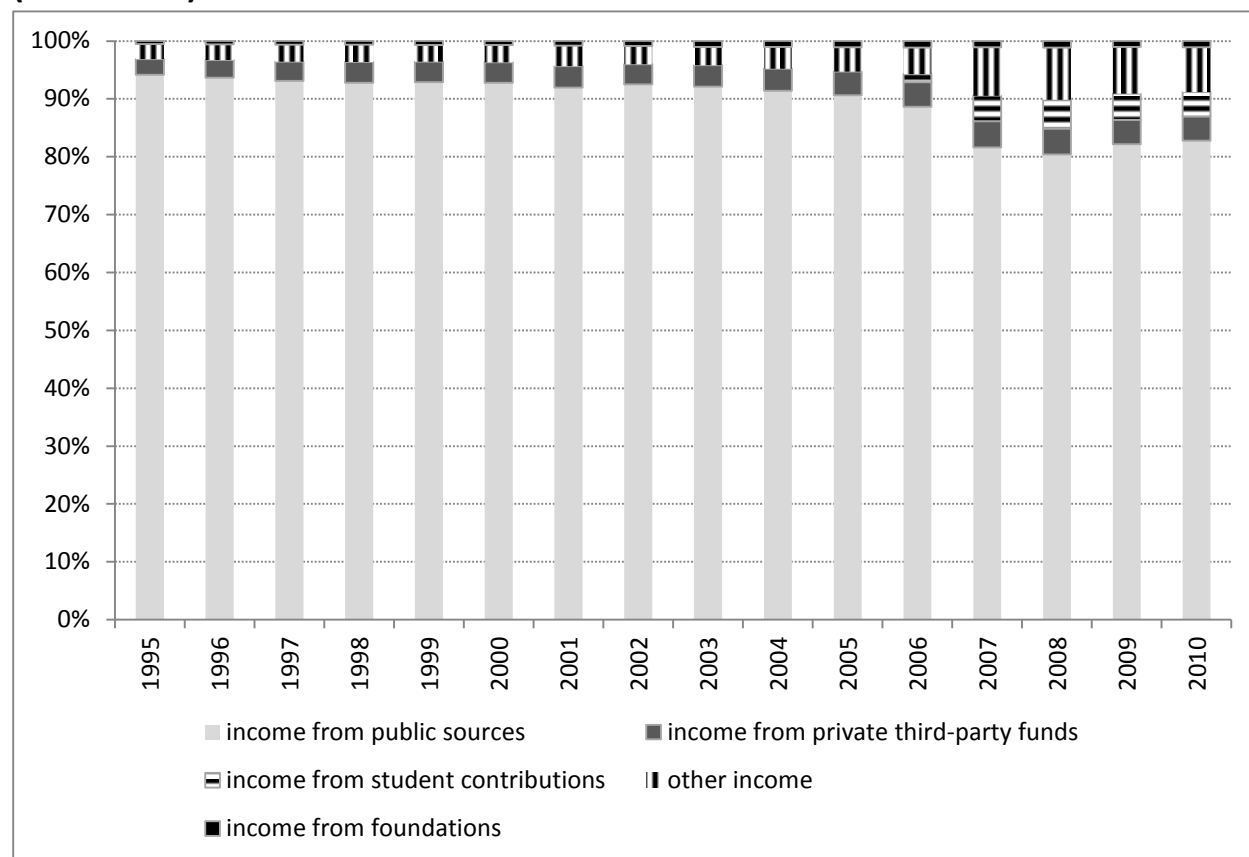
- The problem of assigning administrative revenues remains unsolved. An example of this source of funding would be if an HEI lets rooms to an external organisation. Depending on whether that organisation is public or private, the income would have

to be counted as coming from public or private sources. Since this information is not available, administrative revenues will be treated as a distinct element that cannot be assigned to public or private.

- Tuition fees are only recorded as a separate source of income from 2006 onwards. The category is officially called ‘student contributions’ and it includes administrative fees. Before 2006, fees (for special programmes or for students beyond their stipulated period of study) were included in the category of ‘administrative revenues’. Since no *Land* had general tuition fees before 2006, this change does not distort the data too much. From 2006 onwards, student contributions are factored out of administrative revenues in the presentation below.
- The official statistics include ‘revenues from foundations’ as a separate category. However, it cannot be determined whether these funds are public or private. The most important German science foundation, the Volkswagen Foundation (*Volkswagenstiftung*), received its funding capital from revenues of selling a state-owned automobile firm. The stock company providing the foundation capital is partly owned by the public and partly by private investors. The *Volkswagenstiftung* is legally speaking a charitable foundation established under private law. A clear classification of the funds it provides as either public or private is not obvious. It is conceivable that similar problems would arise for the assignment of other foundations, too. Therefore, funds from foundations will be represented as a separate category, too.
- The statistics, moreover, include a category for third-party funds from ‘international organisations’. Since it cannot be determined whether these organisations are public or private, this category is excluded from the figures below.

Applying these restrictions, Figure 2.3 results. We see that regardless of the assignment of administrative revenues, the public HEI system in Germany is to a large degree publicly funded. Nonetheless, a trend towards more private funding is visible: If private third-party funds and tuition fees are grouped together as private contributions, their share of public HEIs’ income increased from 2.8% in 1995 to 8.3% in 2010 (maximum of private: 9.4% in 2008). From 2005 onwards, the share of income from public sources decreased as the share of income from fees increased.

Figure 2.3: Relative amounts of income of public HEIs from different sources (1995-2010)

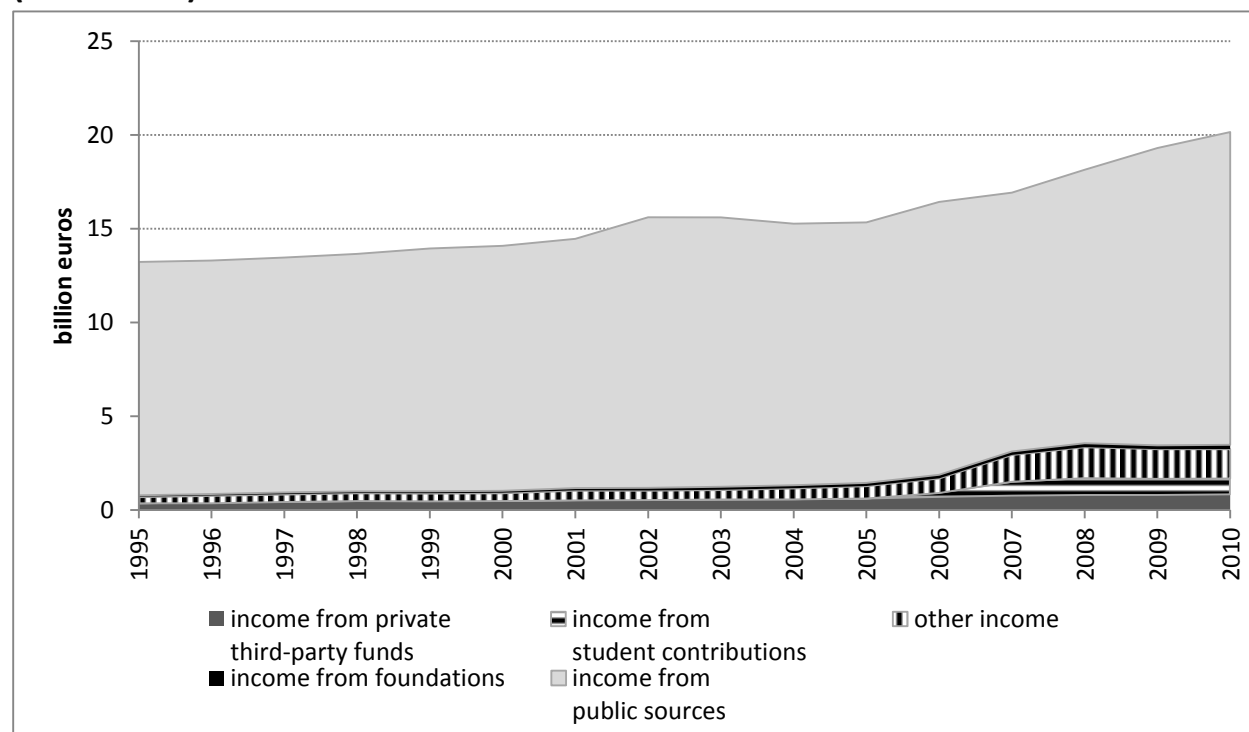


Note: Total public funding rendered as the sum of recurrent core funding and third-party funding from public sources. Income from student contributions includes tuition fees, administrative fees and examination fees. Other income includes revenue from economic activities and assets. University hospitals and clinics are excluded.

Source: Destatis / own calculations.

Looking at the absolute amounts of funding, one sees that all sources discussed above contributed to the growth of the system. In particular, with regard to Hypothesis A it can be stated that the growth of public funding to HEIs is not negatively correlated with private funding to HEIs:

Figure 2.4: Absolute amounts of income of public HEIs from different sources (1995-2010)



Note: Income from public sources given as the sum of recurrent core funding and third-party funding from public sources. University hospitals and clinics are excluded. Constant prices (2011).

Source: Destatis / own calculations.

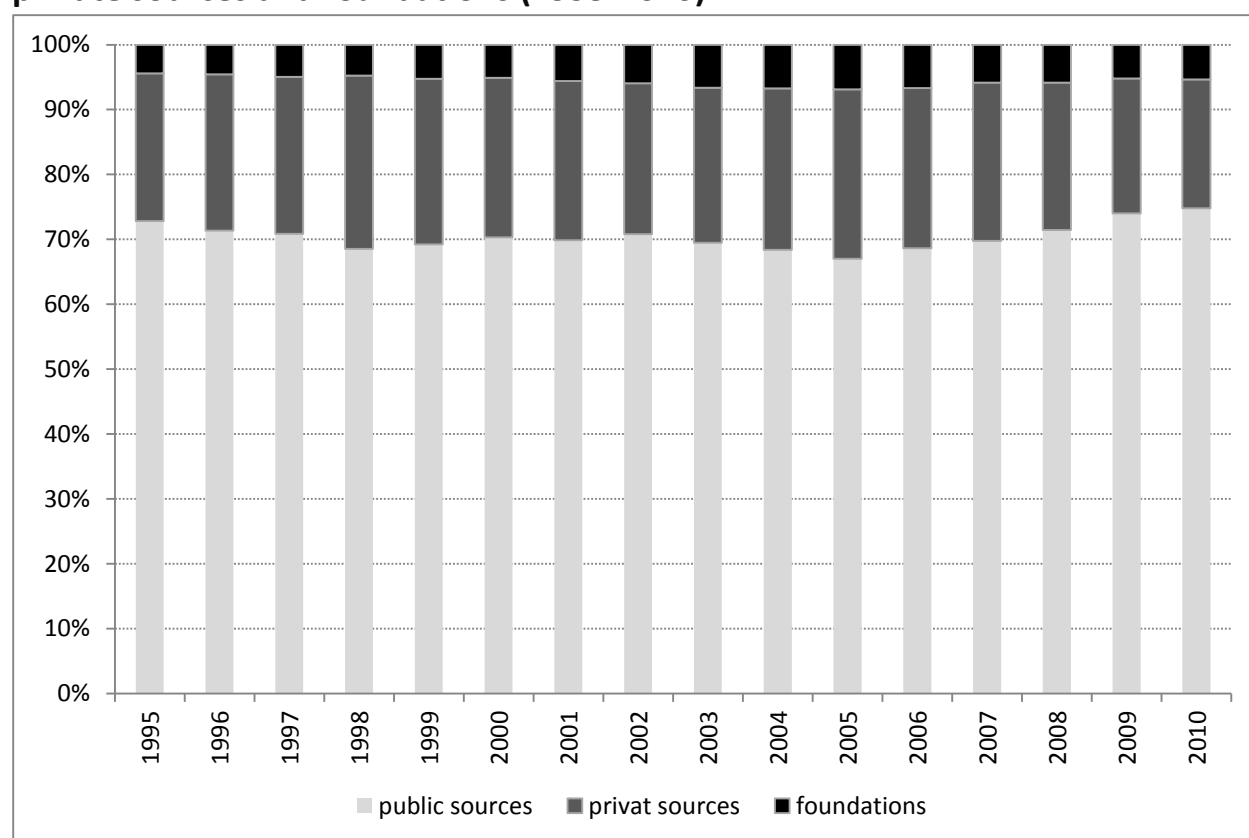
Third-party funds

Official statistics do not distinguish between third-party funds for research and for teaching. It can be assumed that the largest part of third-party funds is provided for research purposes.⁷³ The term ‘third-party funds’ is sometimes also applied to tuition fees (‘third-party funds for teaching’), but this usage will not be adopted here, i.e., tuition fees will be regarded as a separate source of income of HEIs. The increase in the amount of private third-party funds is a salient feature of Figure 2.4. Concerning public third-party funds, an even stronger increase can be determined: The importance of this income source trebled in the period of investigation. The figures show that the absolute amount and the share of both public and private third-party funding increased sharply.

⁷³ But cf. Konegen-Grenier & Winde, 2011 for an investigation into the business sector’s financial contributions to HEI teaching and learning.

Third-party funding and tuition fees are the two major elements through which changes in the cost-sharing balance can result, given that institutional core funding is by definition provided by public sources for public HEIs. What is important in the German case is that increasing third-party funds from the business sector have not caused a significant shift in the overall cost-sharing balance, because third-party funds from public sources have increased as well, even more so than private funds. This becomes visible when looking at the shares of third-party funders. The category ‘public funds’ in Figure 2.5 below includes that part of funding from public sources which is not allocated in the way of institutional core funding.

Figure 2.5: Percentage of third-party revenue of public HEIs from public and private sources and foundations (1995-2010)



Note: Public third-party funds are the sum of contributions from the following funders of the official statistics: the federal state, the Federal Employment Agency, the *Länder* (excluding institutional core funding), the communities, ‘other public sources’, the German Research Foundation (DFG), and the European Union. Funds from private sources include societies for the promotion of higher education institutions and funds from the business economy. Funds from ‘international organisations’ were excluded because they could not be assigned to either public or private. University hospitals and clinics are excluded.

Source: Destatis / own calculations.

The three most important third-party contributors are the German Research foundation (DFG), the federal state, and private business. In 2009, 34.1% of all third-party funds to HEIs were

provided by the DFG, 22.1% by the federal state and 21.1% by business. Both the DFG and the federal state have increased their share of the overall third-party funds to HEIs, while no such tendency is observable for the business sector. In absolute terms however, all third-party contributors greatly increased their funding levels in the period of investigation: In constant prices (2011), the public sector increased its third-party funds from 1.05 billion euros to 3.3 billion euros (equalling an increase by a factor of 3.1), and business increased its funds from 0.35 billion to 0.95 billion (a factor of 2.7).

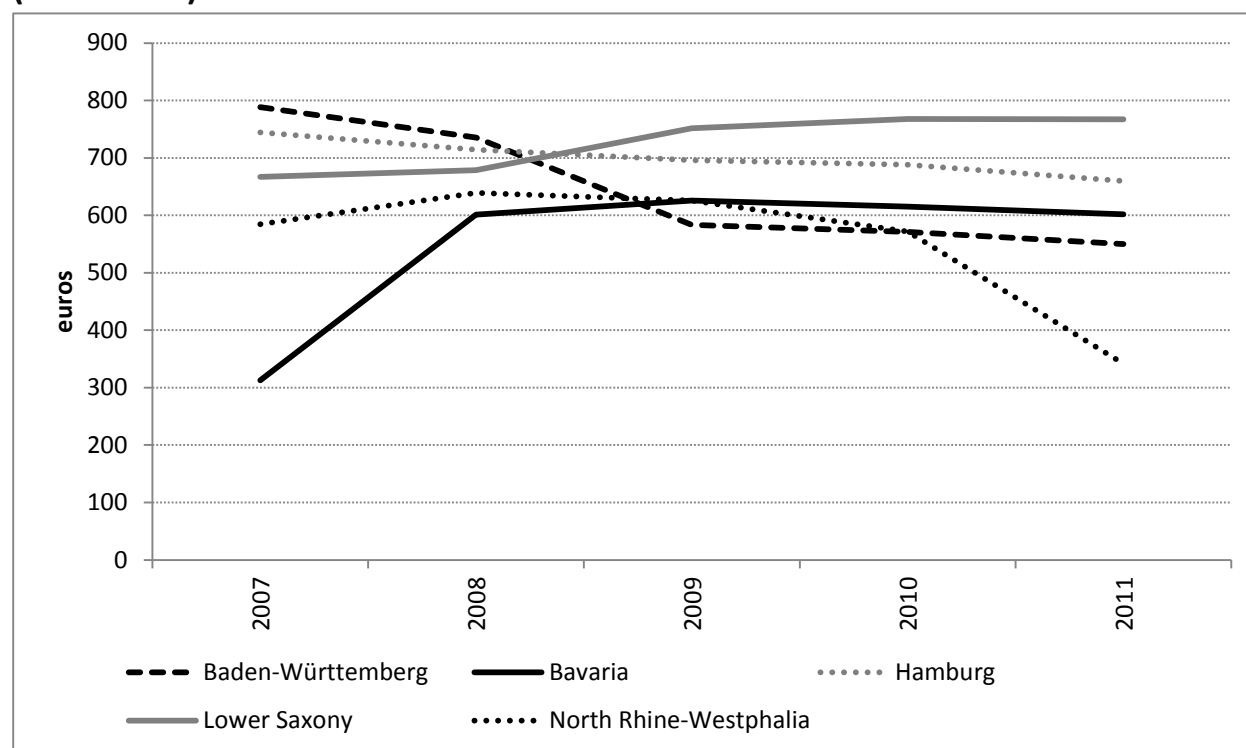
There is variation concerning the role of private contributors to HEI funding: Bavaria has the highest share of private third-party funding, with an average of 32% of all third-party funds. In the city states, the share is clearly smaller (about 15%).

Tuition fees

In Germany, private income through student contributions increased in significance in 2006/2007, when general tuition fees were introduced to the public HEIs of some *Länder*. Since this type of revenue was relevant for only some *Länder*, it makes sense to consider them separately.

Figure 2.6 shows the tuition fees in euros per student for five *Länder* which charged fees from 2007 until 2010. The figures are an approximation because the student numbers are specified for each winter semester, whereas the income figures are per calendar year. The figure shows that the average amount of income per student was between 600 and 700 euros a year. The income per student was highest in Lower Saxony in 2009 and 2011. The *Land* had the lowest ratio of exemptions (see Section 4.1). The decrease in Baden-Württemberg after 2007 is partly due to a new regulation which exempted students with two or more fee-paying sibling from paying fees.

Figure 2.6: Euros per student from tuition fees in public HEIs of five *Länder* (2007-2011)

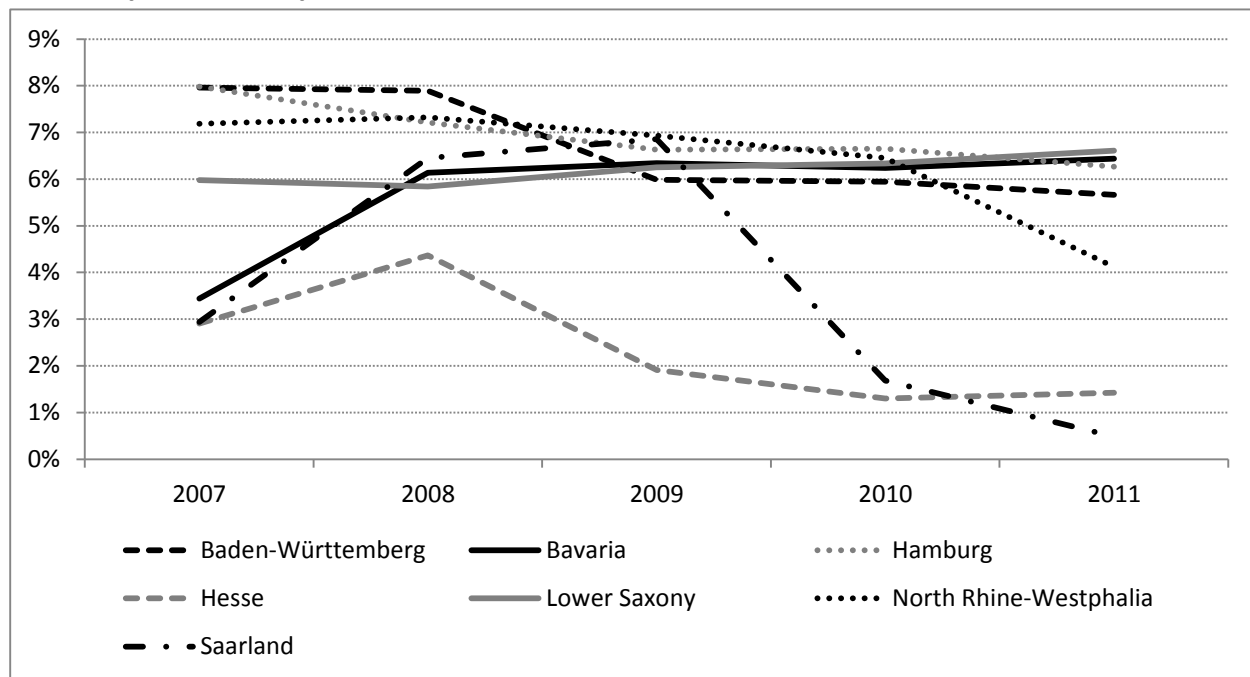


Note: Bavarian data 2007 underestimated. Constant prices (2011).

Source: Destatis / own calculations.

Figure 2.7 displays the share of tuition fees as a percentage of total income for those seven *Länder* which had or still have general tuition fees. The graph shows that in most *Länder*, income through fees amounted to between 6% and 8% of the income of HEIs for most of the time. Hesse (2008) and the Saarland (2010) abolished fees in the period of investigation, which is why their curves drop to near zero in the graph (administrative fees and fees from special study programmes remained). In the other *Länder* with the exception of Bavaria and Lower Saxony, the percentage of income obtained through fees diminishes after 2007, an effect which is mostly due to a stronger increase in other sources of income.

Figure 2.7: Tuition fees as a percentage of total income of public HEIs in seven Länder (2007-2011)

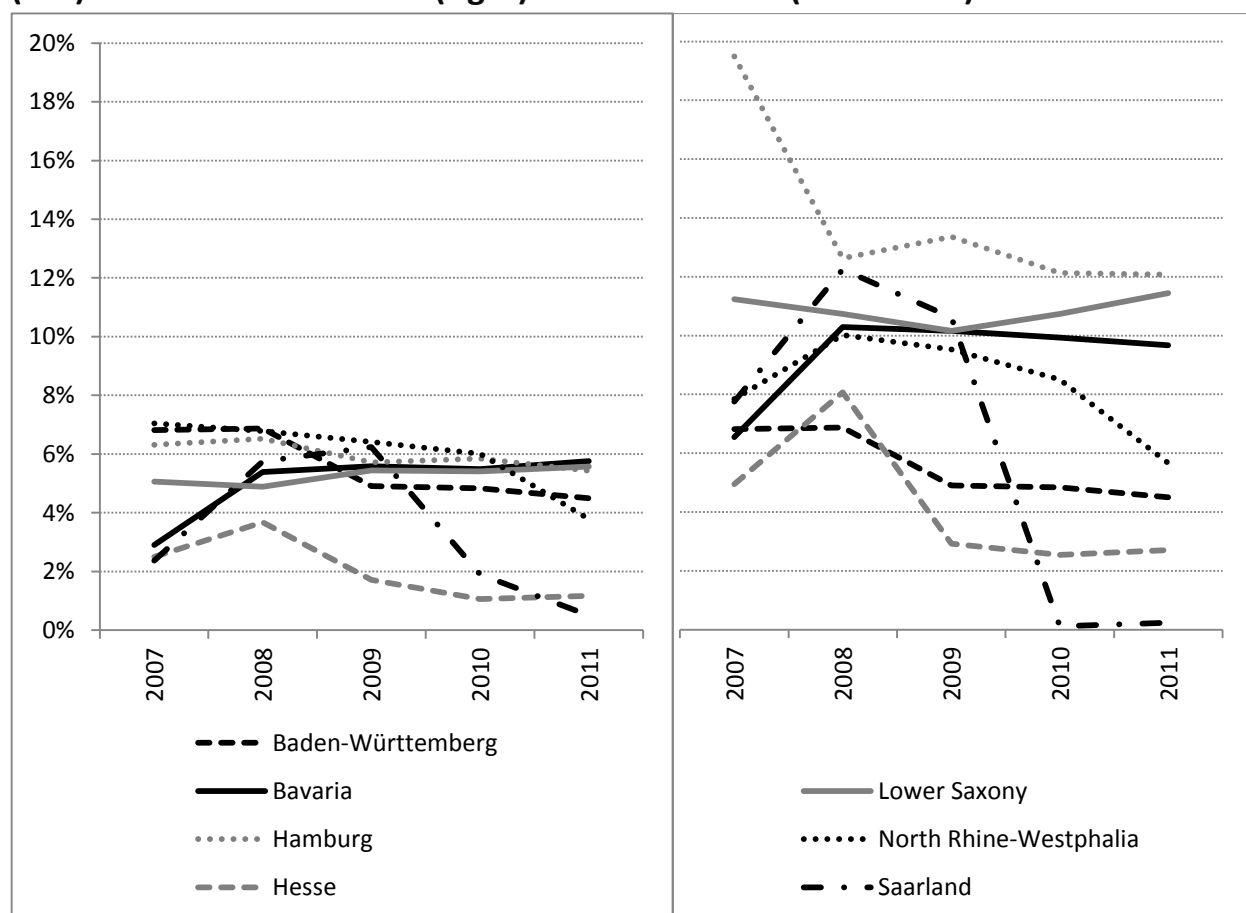


Note: Income specified as the sum of recurrent core funding and other income excluding funds for investment.

Source: Destatis / own calculations

Also worth mentioning is the fact that for *Fachhochschulen*, fees had a stronger financial impact than for universities. This is mainly because *Fachhochschulen* have smaller research budgets than universities. As a consequence, income through tuition fees accounted for a greater percentage of the total income of *Fachhochschulen* than of universities. In Hamburg for example, *Fachhochschulen* received 19% of their total income through fees in 2007, whereas it was only 6% for the universities in the same year. The following graph shows the differences between universities and *Fachhochschulen*:

Figure 2.8: Tuition fees as a percentage of total income of public universities (left) and *Fachhochschulen* (right) in seven *Länder* (2007-2011)



Note: Income specified as the sum of recurrent core funding and other income excluding funds for investment. University hospitals and clinics are excluded.

Source: Destatis / own calculations.

Looking at the country as a whole, public *Fachhochschulen* received 6.9% of their total income through fees on average between 2007 and 2010, whereas the figure for universities is 3.9%.⁷⁴

In all *Länder*, tuition fees are/were earmarked for the improvement of studying conditions (see Section 1.5), and all governments affirmed that tuition fees were going to be *additional* funds for HEIs. This has two important implications:

Income through tuition fees is not used to finance the quantitative expansion of the system.

Income through tuition fees is not accompanied by cuts in other budgetary components.

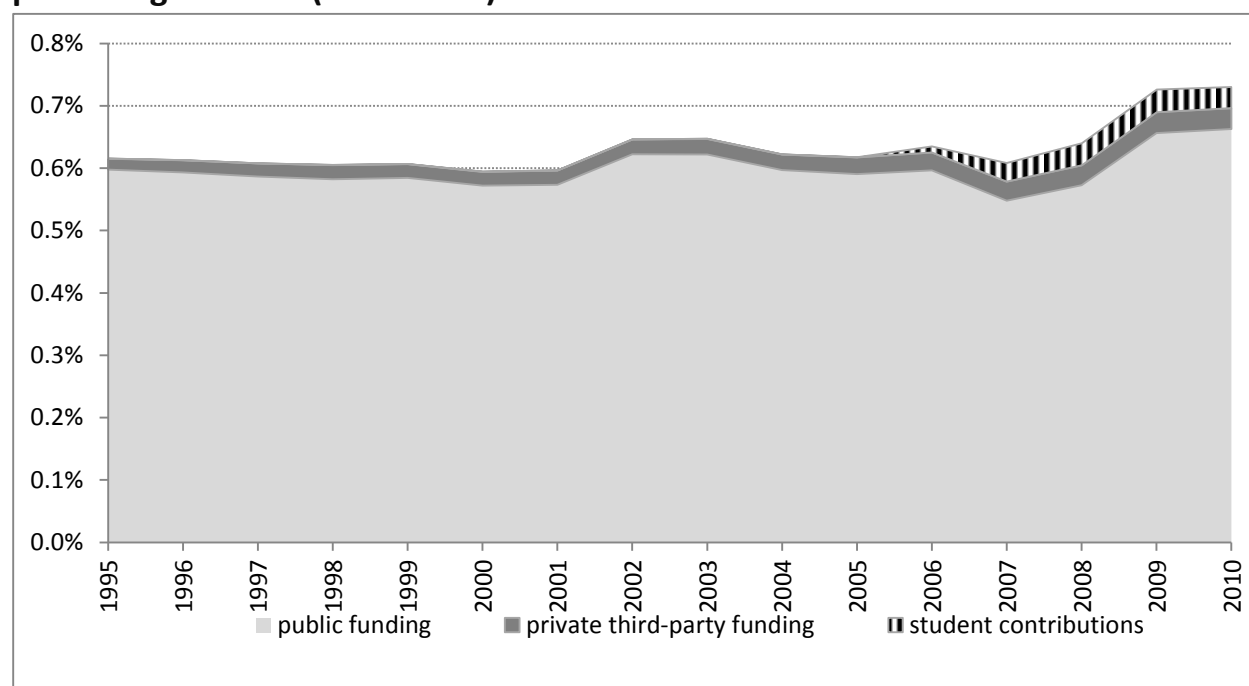
⁷⁴ These figures include fees for long-term students and for special fee-based programmes (e.g. in further education).

Different experts interviewed for this report verified these propositions. Therefore, the assumption can be made that tuition fees in Germany shifted the cost-sharing balance towards a greater contribution from private stakeholders, but under a special condition: The additional private funds were used for qualitative improvements in a specific area of HEI performance. The principal rationale behind this was to create a direct link between what students contribute and what HEIs offer them in return for that contribution.⁷⁵

As was noted earlier, fees have been or will be abolished in all seven *Länder* pointed out above, and all of them have established or are going to establish compensational funds which are/will be provided by the government. This implies that the cost-sharing balance will shift towards the opposite direction for this type of expenditure, i.e. the public shares will increase.

To see how spending on the HEI sector has changed compared to the country's economic development, Figure 2.8 displays the contribution of the three most important sources of funding represented in Figure 2.4 as a percentage of the country's (deflated) GDP.

Figure 2.9: Contributions to funding of public HEIs from different sources as a percentage of GDP (1995-2010)



Note: Income from public sources given as the sum of recurrent core funding and third-party funding from public sources. University hospitals and clinics are excluded. Constant prices (2011).

Source: Destatis / own calculations.

⁷⁵ The comparative report of this research shows that this use of tuition fees is common but not universal, as some jurisdictions chose to invest tuition fees in e.g. creating additional study places or raising salaries.

The graph shows a total increase in spending on public HEIs from both public and private sources in relation to GDP. However, the financial growth of the higher education sector shown in Figure 2.1 diminishes considerably when relativised to GDP. Moreover, Germany's total spending on the tertiary education sector has been below OECD average according to 'Education at a Glance' throughout the period of investigation: The OECD average spending on tertiary education institutions is between 1.3% and 1.5% of GDP according to 'Education at a Glance', whereas the German spending was at 1.1% between 1998 and 2007 (2001: 1.0%), and only started to rise to 1.2% and 1.3% in 2008 and 2009, respectively.⁷⁶ From this perspective, the recent growth in income of HEIs can presumably be interpreted as a narrowing of the gap with respect to the OECD average.

2.2 Institutional Expenditures

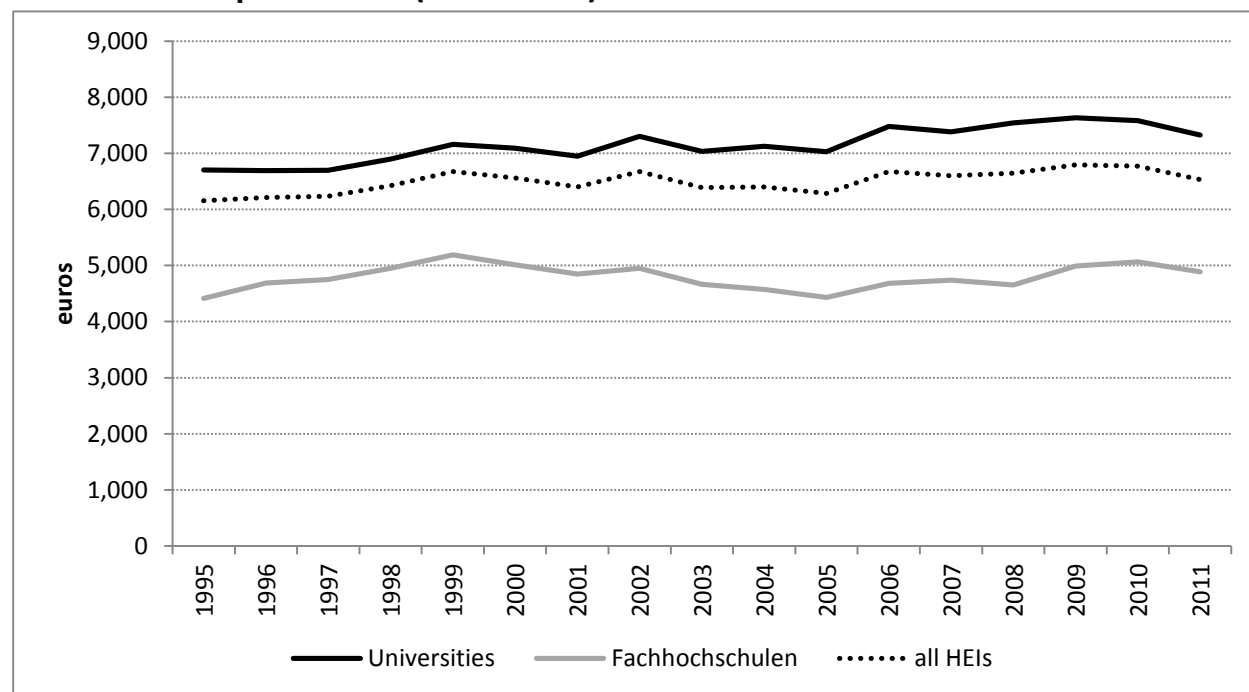
This section focusses on how changes in overall income of HEIs affect the student experience. In order to do this, a decision must be made about how to deal with the main funding categories discussed in Section 2.1: Institutional core funding, third-party funding, and tuition fees.

Recurrent institutional core funding comprises funds for the core tasks of HEIs: teaching and research, including funds for administration, equipment etc. The providers of the funds do not distinguish between funds for research and funds for teaching. Professors at universities have an average teaching load of about 8-9 hours of courses per week during the semester (for professors at *Fachhochschulen*, it is about twice that amount). At the universities, professors are also required to do research, but this is not quantified directly by law, as it is the case in teaching. Therefore, in the following calculations recurrent core funding will be included as a whole in the calculation of funds per student.⁷⁷ Tuition fees will be included as well, because they are exclusively spent on teaching due to legal regulations. Third-party funds as defined earlier will be excluded, because they are primarily provided for research purposes. The graph in Figure 2.10 is the result of these calculations: It shows a slightly increasing curve for income per student/year through the period of investigation. For both universities and *Fachhochschulen*, income per student increased by about 500 euros between 1995 and 2011, but not in a linear fashion.

⁷⁶ Source: Federal Ministry of Education and Research (<http://www.datenportal.bmbf.de/portal/de/Tabelle-2.1.5.html>, 24.07.2013).

⁷⁷ Some data sets differentiate between expenses on teaching and on research by stipulating a normative factor which specifies the amount of teaching and the amount of research a professor usually does. This method will not be applied here.

Figure 2.10: Income per student per year from recurrent core funding and tuition fees in public HEIs (1995-2011)



Note: University hospitals and clinics are excluded. Constant prices (2011).

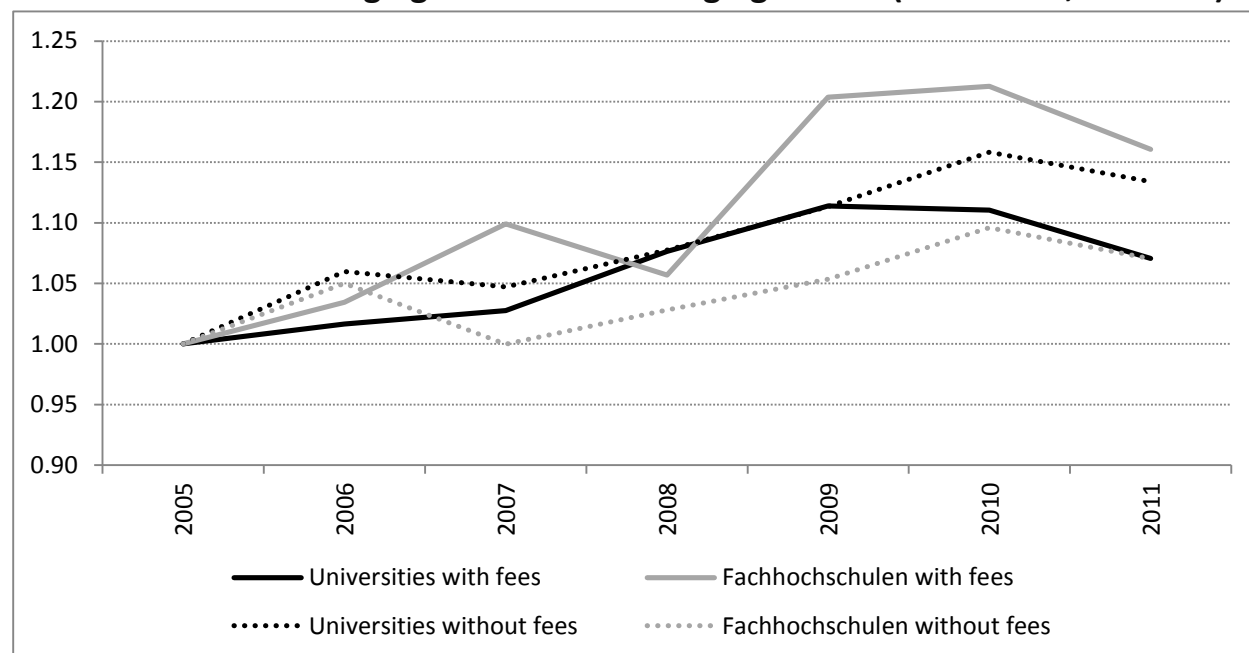
Source: Destatis / own calculations.

It should be added that these figures do not take into account the influence of any extra programmes connected to the financing of study places, such as the Higher Education Pact. In the first phase of the pact (2007-2010), additional funds from the federal state and the *Länder* were provided to finance 91,000 additional study places. The programme was later extended for a second phase (2011-2015). The federal government will have spent 7 billion euros on this programme by 2015 (Bundesministerium für Bildung und Forschung (BMBF), n.d.-b). The agreement between the federal state and the *Länder* specified that for each additional student, the programme was going to provide 22,000 euros in the first phase and 26,000 euros in the second phase (Gemeinsame Wissenschaftskonferenz, n.d.). The impact of this programme cannot be factored in to the above chart because the relevant statistics do not specify it separately.

The relative stability of the income per student is interesting when considering the steep increase of total student numbers (see Figure 1.1): It entails that total expenditure on higher education must have increased.

To examine whether fee-charging *Länder* differ from non-fee-charging *Länder* in terms of spending per student, the following graph differentiates Figure 2.10:

Figure 2.11: Income per student per year from recurrent core funding and tuition fees in fee-charging and non-fee-charging *Länder* (2005-2011; 2005 = 1)



Note: Hessen and Saarland are excluded. University hospitals and clinics are excluded. Spending per student not weighted by student numbers in *Länder*. Constant prices (2011).

Source: Destatis / own calculations.

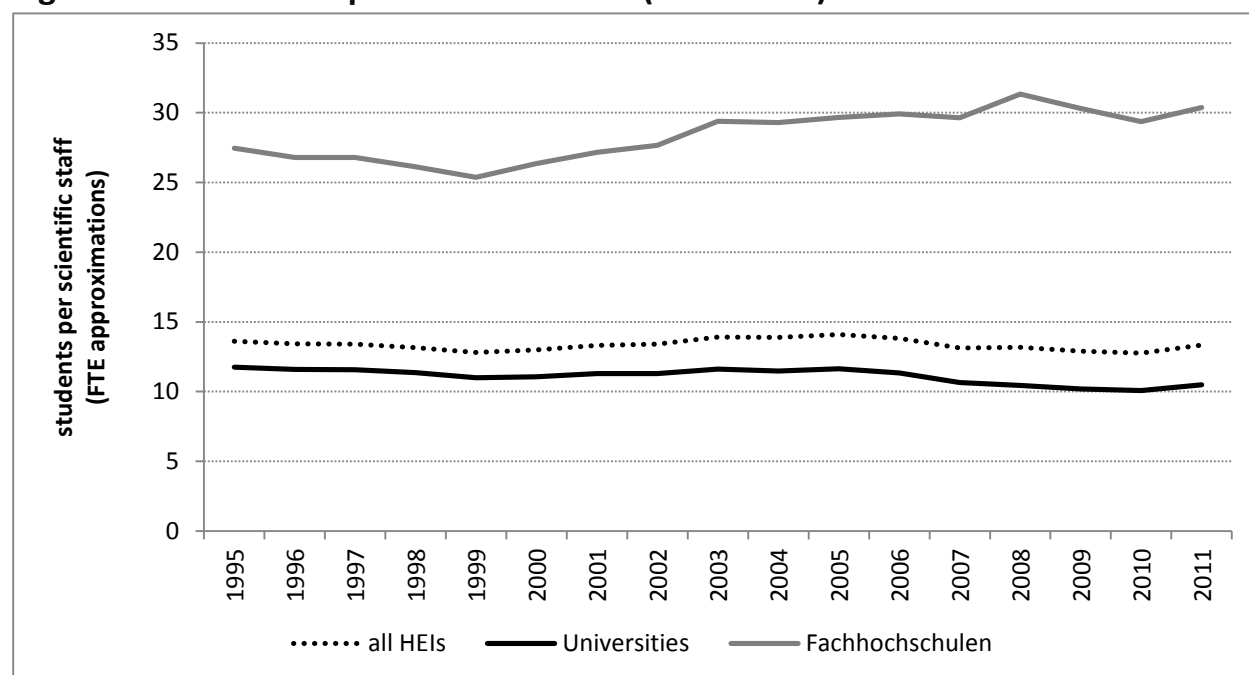
The figure shows that with the exception of *Fachhochschulen* in fee-charging *Länder* in 2008, spending per student increased by a similar amount in fee-charging and non-fee-charging *Länder* throughout the period in which fees were charged (from 2007 onwards). This means that *Länder* without fees apparently managed to increase spending per student out of public funds. A noteworthy pattern highlighted by Figure 2.11 is the growing difference between *Fachhochschulen* in fee-charging and non-fee-charging *Länder* between 2008 and 2011. However, this pattern is only partially linked to increasing private income through fees: The greater part of the gap between the two groups of *Fachhochschulen* was caused by a stronger increase in recurrent core funding in fee-charging *Länder* than in non-fee charging *Länder*. An exception is Hamburg (not shown separately in Figure 2.11), where institutional funding was reduced between 2005 and 2010 but *Fachhochschulen* realised an overall increase in funding through fees.

Total spending by other private contributors per student cannot be specified using available statistics. A study that investigates spending on students from the perspective of business and industry (but not HEIs) is Konegen-Grenier & Winde (2011). For the year 2009, the authors calculate that business invested 1.539 billion euros in the academic education of individuals (Konegen-Grenier & Winde, 2011, p.7). Out of that, 675 million euros were spent on financing

students in dual study programmes, 535 on internships, 286 on financing higher education, 41 on grants, and 2 on other activities.

Another, more indirect way of assessing how changes in institutional revenue affect teaching is to look at the student/teacher ratio. The assumption is that higher spending per student will lead to a lower students-to-teacher ratio. For Germany, official statistics do not clearly distinguish teaching personnel inside the group of academic staff; this is because the standard case for academic staff is to be active in both research and teaching. Figure 2.12 results from dividing the number of students at all HEIs by the number of academic staff. The graph shows a relatively stable progression with a slight decrease after 2006 for HEIs as a whole. Most noticeable is the increase in students per staff in the *Fachhochschulen* in the 2000s. This mirrors the decrease in funding per student at *Fachhochschulen* taking place in the same period (see Figure 2.10).

Figure 2.12: Students per academic staff (1995-2011)



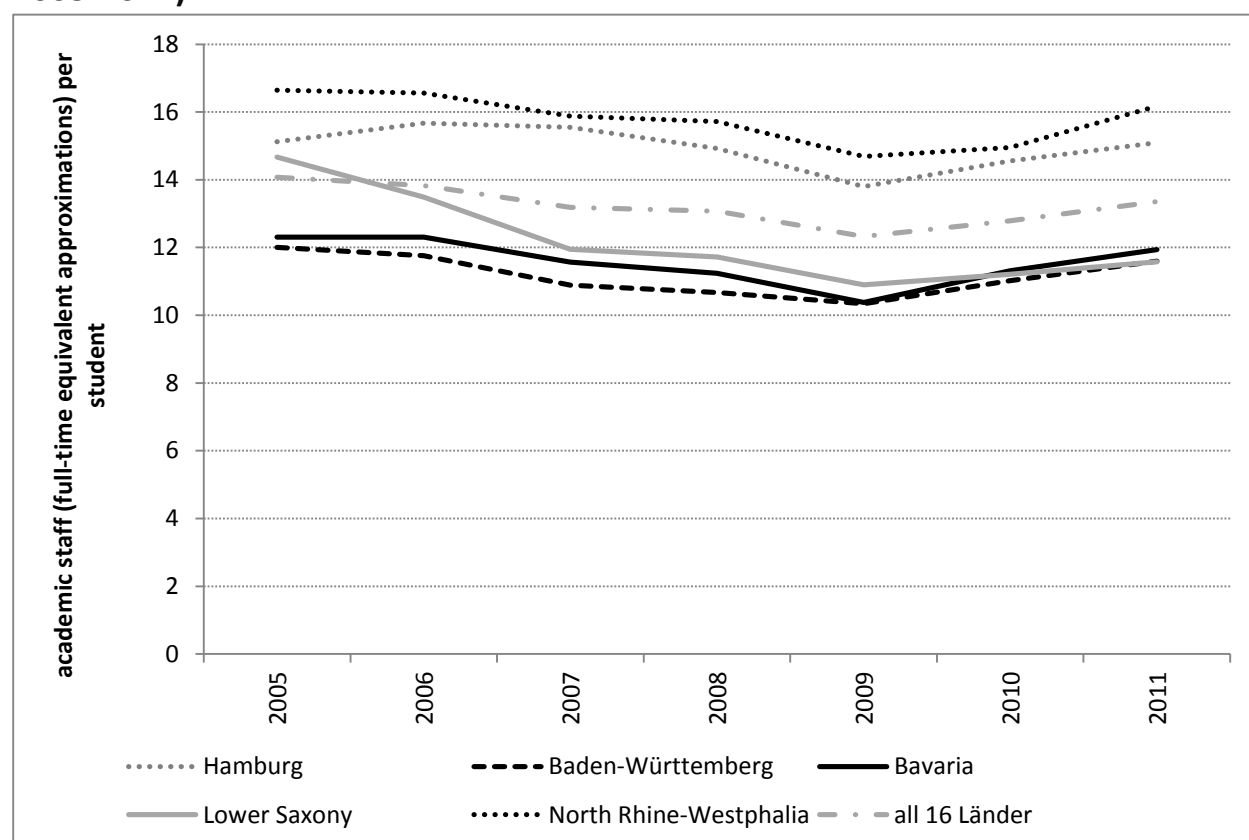
Note: Staff listed as 'part-time' multiplied by factor 0.5, staff listed as 'full-time' by factor 1.

Source: Destatis / own calculations.

Also of interest in this context is a look at how fee-charging *Länder* invested additional funds from fees. In Lower Saxony, the percentage of income through fees spent on additional personnel increased steadily, from 20.9% in 2006 to 55.6 % in 2009 (NMWK, 2010). This means that roughly 53 million euros were spent on employing additional personnel in 2009 in Lower Saxony. In Baden-Württemberg, 46.5% (64 million euros) of the fees were spent on additional teaching staff in 2009/2010 (Monitoringbeirat, 2011, p. 27). In the same year, Bavarian universities spent 47.2% of their income through tuition fees (28.8 million euros) on additional academic staff with teaching obligations (*Fachhochschulen*: 6.9 million euros, equalling 38.9%;

see Gensch & Raßer, 2011, p. 86). The sources do not state how many staff members were employed through these funds, making it impossible to analyse this change directly in terms of student/teacher ratios. However, the federal statistical office publishes student/staff ratios differentiated by *Länder*. Figure 2.13 illustrates changes in this ratio in five *Länder* charging fees from 2007 until 2011. The graph shows that the student/staff ratio decreased in all five *Länder* between 2007 and 2011. However, with the exception of Hamburg, this appears to be a tendency that started before the introduction of fees. Moreover, the data show the same pattern for the non-fee-charging *Länder*, so that it can be assumed that tuition fees were not the (sole) driver of lower student/staff ratios.

Figure 2.13: Students per academic staff in five fee-charging *Länder* (all HEIs, 2005-2011)



Note: Staff listed as 'part-time' multiplied by factor 0.5, staff listed as 'full-time' by factor 1.

Source: Destatis / own calculations.

2.3 Evaluation

The evidence amassed in this chapter suggests that the German case supports Hypothesis A insofar as public revenues of HEIs in fee-charging *Länder* did not decrease as private revenues

increased. However, some qualifications concerning the role of private and public funding streams for the HEI system are in order.

Across all *Länder*, recurrent core funding for public HEIs rose by 19% in real terms in the period of investigation, whereas third-party funding for public HEIs rose by 139%. This means that the absolute financial growth was mainly caused by an increase in third-party funds from both private and public sources. This observation is in line with that of several interviewed experts who stressed that the most important change in the income structure of HEIs was the growing importance of third-party funds.

Although third-party contributions from the private sector steadily increased in the period of investigation, their share of overall third-party contributions did not, because public third-party funds increased even more. This growth is mainly due to an expansion of the funding activities of the public German Research Foundation (DFG) as well as the federal state. In recent years, the country's 'Research Excellence Initiative', launched in 2006 cooperatively by the federal state and the *Länder*, provided HEIs with several billion euros of additional funds, mainly for research projects (see DFG, n.d.).

While third-party funding is spent for the most part on research, tuition fees have been spent exclusively on teaching and teaching-related activities, due to political regulations. As the analysis showed, in *Länder* charging fees after 2006, the share of fees to HEIs' total income was mostly in the range between 6% and 8%. Importantly, fees were used to improve study conditions, not to create new study places or finance non-teaching-related measures in all *Länder* concerned. The experts' view and the literature both suggest that these measures were indeed effective. One expert reported his observation that fee-charging *Länder* were under pressure not to cut government funds to HEIs because stakeholders had become alert to the importance of adequate HEI funding after the introduction of fees.

In Germany, tuition fees were not used to finance the quantitative expansion of the system, and, according to one expert, this has never even been up for discussion in Germany. The recent increase in student numbers was instead financed by a growth in institutional funding and additionally by a programme launched cooperatively by the federal state and the *Länder* in 2007: the Higher Education Pact 2020. In other words, the expansion of the system was financed by public funds except for the small but growing contribution of the private sector. Besides increasing institutional core funding for HEIs, in recent years (2007 onwards) additional public funds have also been invested in improving the quality of teaching: The Quality Pact for Teaching (*Qualitätspakt Lehre*) makes available 2 billion euros between 2011-2020 for measures to improve the quality of HEI teaching, for instance by employing additional personnel (Bundesministerium für Bildung und Forschung (BMBF), n.d.-a). The extra funds are provided by the federal state; the *Länder* agreed to provide adequate institutional core funding in return.

The precise amount of contributions of the business sector to the HEI system could not be quantified. This is partly a consequence of the official statistical data grids, which do not always distinguish between private and public sources; and partly due to the way in which HEIs benefit financially from contributions of the business sector. Contributions in terms of equipment,

lectureships or sponsorships, to name a few activities, have a tangible financial value, but are insufficiently captured by the statistics.

After the demise of general tuition fees in Germany, the current debate about higher education funding has been less focussed on how costs should be shared between public and private parties, but rather between the *Länder* on the one hand and the central state on the other hand. An emerging majority of stakeholders advocates a stronger engagement of the federal state in higher education funding to relieve the *Länder* from their increasing financial constraints. Ways to make this scheme compatible with existing legal restrictions have yet to be found.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO USER DEMAND

This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding. As will become clear in the course of this chapter, Germany is an example of a country in which incentives to increase responsiveness remained limited in the period of investigation, making it a difficult case with which to test Hypothesis B.

3.1 Enrolment by Discipline

The aim of this section is to examine whether HEIs change their provision of study programmes as a result of changes in cost-sharing.

According to expert opinion, the introduction of fees in Germany was not linked to plans to change the range of existing programmes. Such changes could rather be expected from the Higher Education Pact 2020, because the Pact explicitly aims to enable the *Länder* to “set priorities”, which might involve priorities in terms of fields of study.

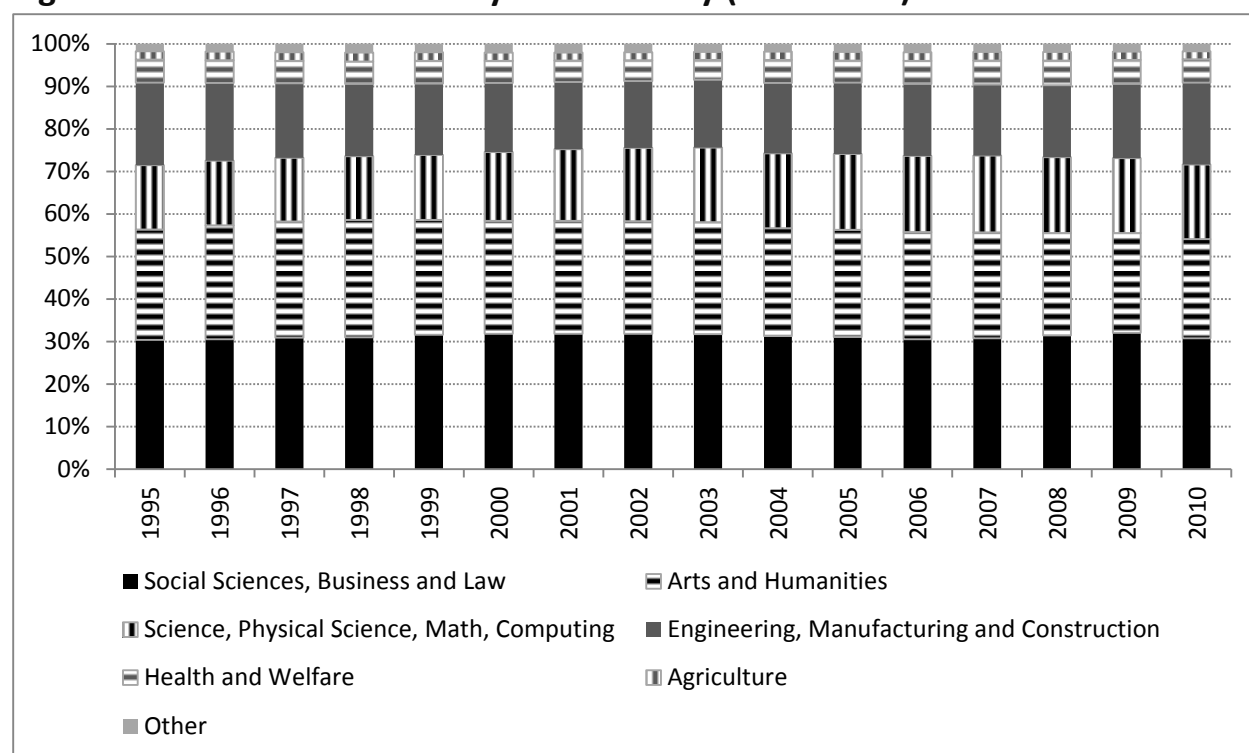
Nevertheless, depending on the degree of freedom an HEI has to close and establish study programmes it is conceivable that HEIs in fee-charging *Länder* attempt to attract more students for low-cost programmes (within the limits set by their governments) in order to obtain the best possible ‘profit’ from the unitary tuition fee.⁷⁸

To see whether such an effect is visible, enrolment patterns were investigated as a proxy for changes in the supply of programmes. Figure 3.1 represents the changes in enrolment for the

⁷⁸ In the period of investigation, the situation in Germany was marked by a growing autonomy of HEIs’ ability to decide on the establishment of study programmes. Most ministries merely confirm the establishment of study programmes, and accreditation is carried out by independent agencies. In some *Länder* (e.g. Bavaria and Lower Saxony), the establishment of study programmes is dealt with in target agreements between the HEIs and the ministry, which is in charge of higher education planning for the *Land*; see Winter (2011, pp. 246-248).

country as a whole. The graph shows relatively stable enrolment patterns, with a slight increase in the subjects of science, mathematics and computing during the 2000s (+2.7% percentage points between 1999 and 2007). Enrolments in Engineering, Manufacturing and Construction decreased by roughly the same amount in the late 1990s but recovered in the 2000s.

Figure 3.1: Enrolment in HEIs by field of study (1995-2010)



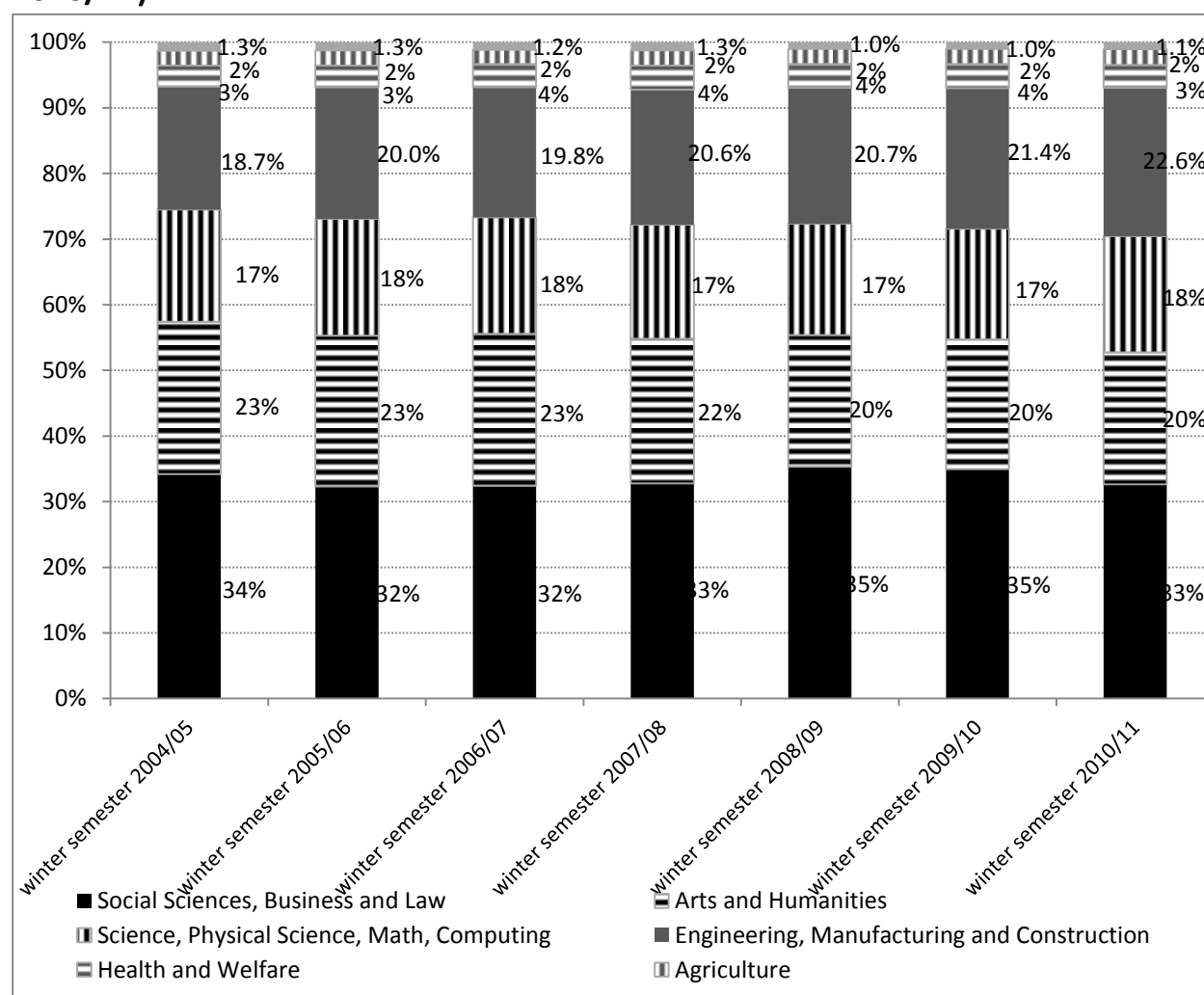
Source: Destatis / own calculations.

To see whether the introduction of tuition fees had effects on enrolment behaviour, Figures 3.2-3.4 display the situation in three fee-charging *Länder* from 2004 onwards.

The decisive stretch of time for all of these three *Länder* would be the years 2007-2010, since 2007 was the time when all three of these *Länder* introduced tuition fees. Changes in enrolment patterns as a consequence of the introduction of fees might concern increases in study programmes that allow more flexibility than others (giving students the opportunity to work in part-time employment parallel to their studies), or programmes associated with better rates of return; or decreases in programmes for which it is more difficult to enter the job market directly after graduation (in Germany, this is mainly the case for humanities - see Briedis, Fabian, Kerst, & Schaeper, 2008). Overall, the enrolment patterns in fee-charging *Länder* do not show a clear sensitivity to tuition fees. The changes observable after 2006/07 appear to be within the natural range of fluctuation taking place throughout the period of investigation in fee-charging and non-fee-charging *Länder*. Changes such as the relative increase of entrants in engineering, manufacturing and construction in Bavaria (+3 percentage points) appear to continue

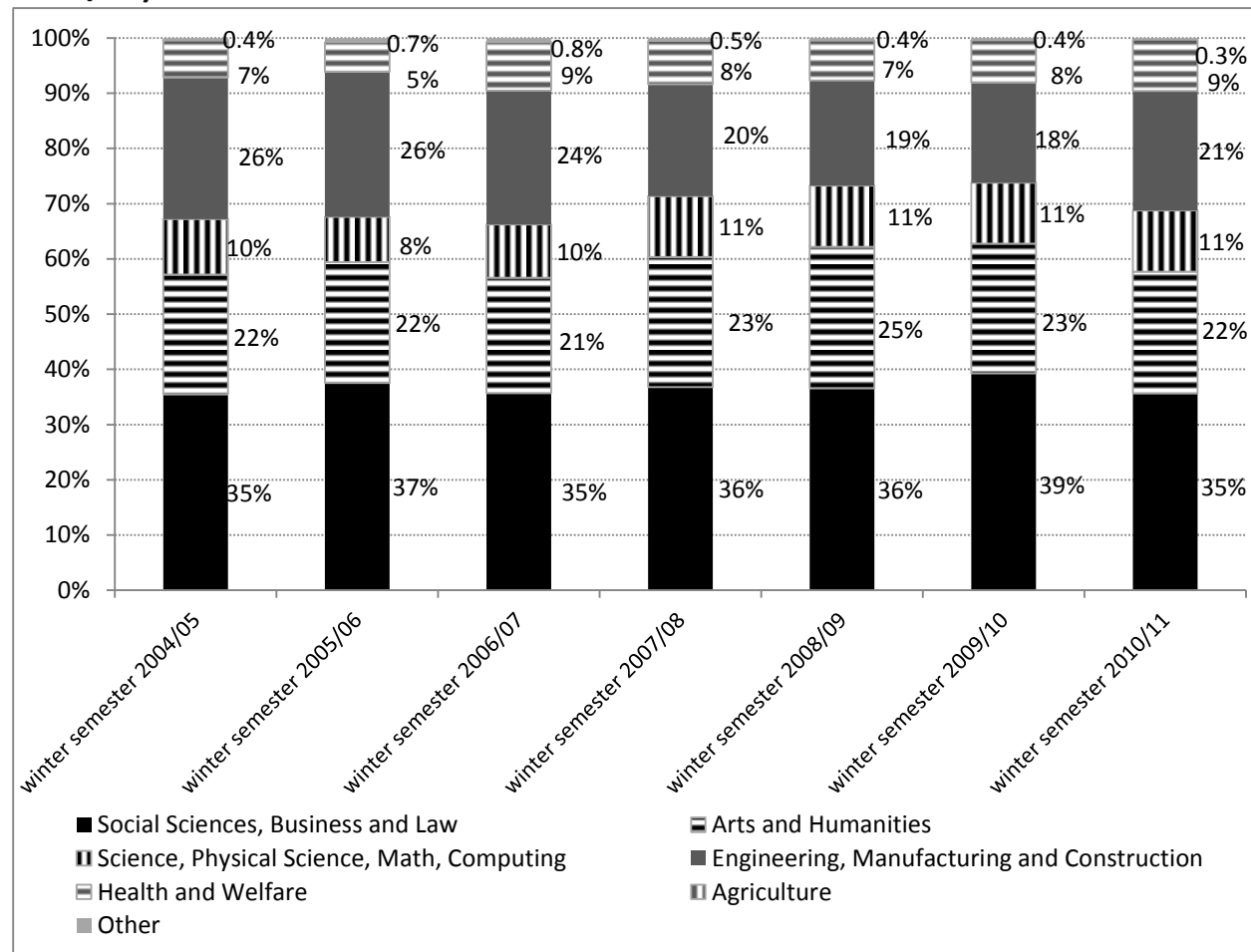
developments that had already begun earlier. The other fee-charging *Länder* not represented in the charts below do not show significant changes in enrolment patterns after the introduction of tuition fees, either.

Figure 3.2: Enrolment in Bavarian HEIs by field of study (new entrants 2004/5-2010/11)



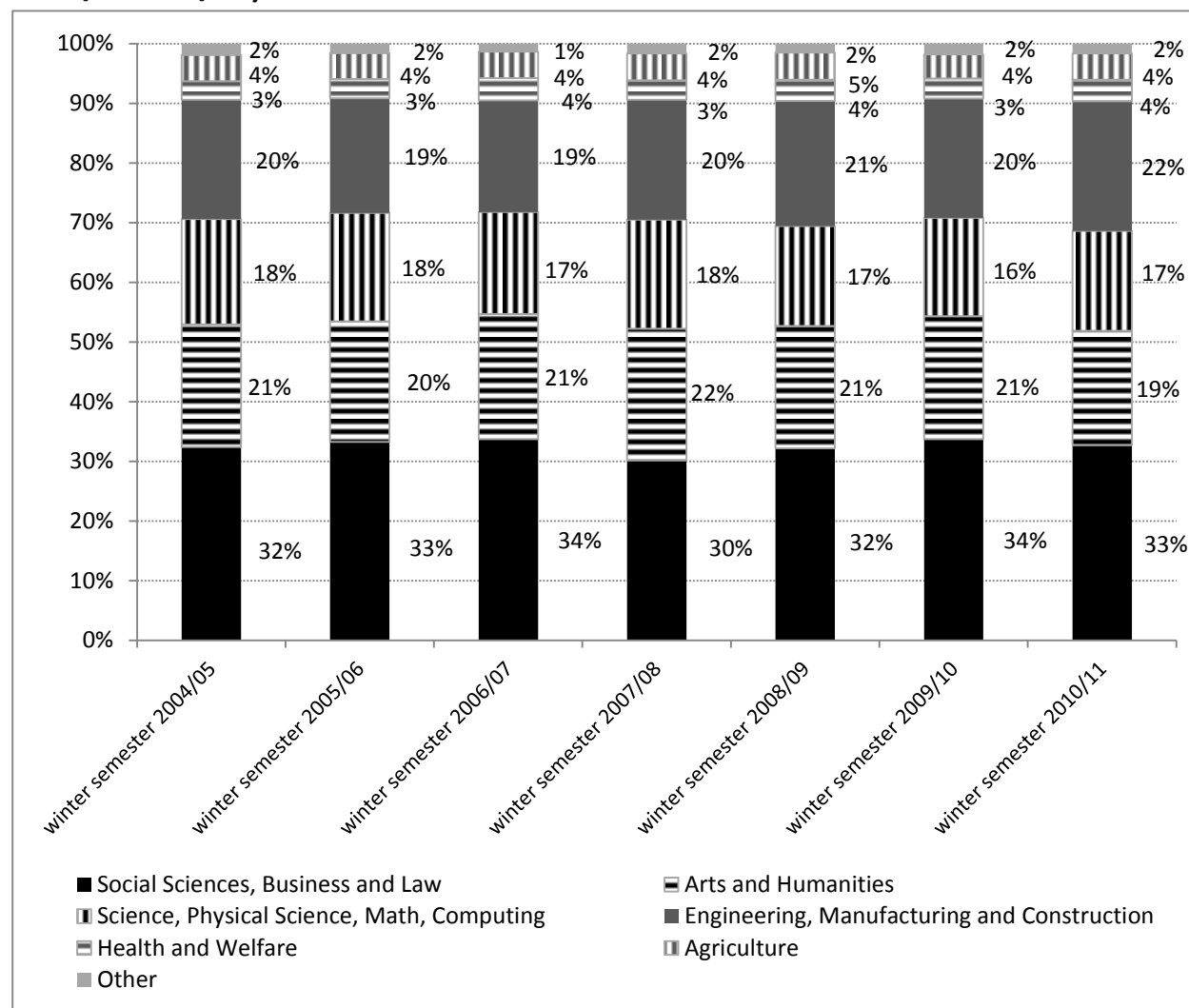
Source: Destatis / own calculations.

Figure 3.3: Enrolment in Hamburg HEIs by field of study (new entrants 2004/5-2010/11)



Source: Destatis / own calculations.

Figure 3.4: Enrolment in Lower Saxony HEIs by field of study (new entrants 2004/5-2010/11)



Source: Destatis / own calculations.

3.2 Enrolment Patterns by Mode

Part-time study programmes

This section is about the provision of part-time study programmes, i.e., programmes specifically designed to be executed in part-time by way of an extended standard period of study. Changes in actual time budgets spent on studying will be discussed in Chapter 4.

The official statistics do not take into account part-time study programmes; they only distinguish between basic study programmes and further education. The HIS/DSW Social Survey does however include data on the number of part-time study programmes, which are derived from statistics administered by the German Rectors' Conference. Based on this source, the number of basic part-time study programmes (excluding part-time further education programmes) between 2004 and 2014 is shown in Table 3.1:

Table 3.1: Part-time basic study programmes (2004-2014)

	Number of part-time programmes	Percentage of all study programmes
2004	119	~ 1
2007	217	2.5
2009	224	2.5
2012	505	5.4
2014	732	7.6

Source: 16th to 19th HIS/DSW Social Survey / German Rectors' Conference via *Hochschulkompass* (2014).

The figures show a clear overall increase in basic part-time programmes. In addition to this, HEIs can allow for certain regular programmes to be studied part-time by lengthening the deadlines for courses to be taken, examinations to be passed, etc.⁷⁹ Such offers are not included in the above figures, which only count dedicated part-time programmes.

The growth of part-time study programmes in Germany cannot be directly related to cost-sharing considerations: no additional fees are/were charged for part-time student status as such. In fee-charging *Länder*, the usual procedure was/is to reduce fees for part-time students proportionally to their use of services. Consequently, an expansion of part-time programmes to raise additional private revenue could only be expected from HEIs in fee-charging *Länder*, where every student is a source of additional revenue. As data on the provision of part-time programmes differentiated by *Länder* are not available, no statements can be made to this effect. In the literature on the topic, the increase in part-time students and programmes is taken to be indicative of a more pronounced service orientation of HEIs: Institutions are trying to better accommodate to a change in demand, and in the case of part-time study programmes, demand from persons with young children appears to be just as important as demand from professionally active persons (see Kibler, 2011).

Further education programmes

What appears to be more important in terms of modes of study than basic part-time study programmes is the provision of further education programmes. These programmes are specifically designed for persons who have gone through formal education and have gathered professional experience. The programmes build upon and extend professional experiences,

⁷⁹ An example of an HEI providing this service is the University of Potsdam:
<http://www.uni-potsdam.de/studium/konkret/studienorganisation/teilzeitstudium.html> (09.07.2013).

usually with a scientific orientation. They can, but need not conclude with a scientific degree. The following table presents data on the number of further education programmes at German HEIs over time. It only includes Master programmes, which are the standard form of further education programmes in Germany. Table 3.2 shows that further education programmes are a rapidly growing segment in both the public and the private sector: The number of ‘non-consecutive Master programmes’ (i.e., Master programmes building on learning outcomes of a particular professional activity) increased more than three-fold in both public and private HEIs within seven years. However, in the private sector further education is clearly more relevant: In 2014, almost one in two Master programmes offered by private HEIs was non-consecutive, whereas the share was 13% in the case of public HEIs. This demonstrates that private HEIs specialise in offers that are not focussed on as much by public HEIs (a point which will be elaborated in Section 3.4 below).

Table 3.2: Further education study programmes by sector (only Master programmes, 2007-2014)

	Public HEIs		Private HEIs	
	Number of non-consecutive Master programmes	Share of all Master programmes	Number of non-consecutive Master programmes	Share of all Master programmes
2007	160	6.3%	39	22.2%
2008	298	8.0%	68	27.0%
2009	395	9.0%	81	28.7%
2010	447	8.7%	112	31.9%
2014	639	13.1%	128	49.0%

Source: German Rectors’ Conference / own calculations.

The cost-sharing regulations with respect to further education programmes vary between *Länder*, but in general public HEIs in Germany are allowed to charge fees for further education programmes so as to at least cover the cost of their provision. This means that unlike basic study programmes, further education programmes are a potential source of private income from students for public HEIs. According to several interviewed experts, public HEIs have been reluctant in making use of this source of private income. Two experts commented that many HEIs simply do not see it as part of their core mission to provide further education. This would be in contrast to the position of the Standing Conference of Education Ministers, who appealed to HEIs to acknowledge further education as one of their core tasks (Kultusministerkonferenz, 2001), respecting the Framework Act for Higher Education. Since Hypothesis B assumes that HEIs not only have the opportunity, but also the incentive to earn private funds, it has to be determined first whether such incentives actually exist for (public) HEIs in the realm of further education programmes, and whether there are other incentives thwarting them.

Investigating this issue, Weiland (2006) finds that by international comparison, German HEIs are not very active in the area of further education, and suggests that aside from the demand-side causes, this might have to do with the high degree of competition in the field of further education, with many non-HEI providers competing in the most sought-after professional fields. The Deutsche Gesellschaft für wissenschaftliche Weiterbildung und Fernstudium e.V. (Deutsche Gesellschaft für wissenschaftliche Weiterbildung und Fernstudium, 2005) observes that many public HEIs lack the possibility to determine the actual cost of their further education programmes and are therefore not in a position to fix realistic prices despite legal requirements to do so. In addition, as noted by Witte & von Stuckrad (2007, p. 92), the provision of further education programmes does not affect an HEI's stipulated capacity, i.e., students in further education programmes do not 'count' in the ministry's calculation of staff appropriations.⁸⁰ This might make it disadvantageous for an HEI to engage in further education, at least as long as there is no unused capacity at the institution.

Summing up the evidence, the reluctance of public HEIs to generate private income through further education programmes appears to be caused by a mixture of a general lack of entrepreneurial drive in such activities on the one hand, and structural conditions that make competing for students in further education unattractive on the other hand.

3.3 Enrolment Composition

The aim of this section is to investigate whether enrolment composition changes as a result of HEIs changing their offer to more profitable areas of study, where private revenues are high.

The general situation with respect to tuition fees in German *Länder* is such that there is no single group of students that has to pay a higher amount of fees than any other. Therefore, maximisation of private income, if at all a goal of public HEIs, cannot be reached by way of attracting (or crowding out) certain groups of students. As a result, any changes to enrolment composition at German HEIs cannot be linked to cost-sharing considerations. A recent and novel development concerns Saxony: in 2013, the Saxonian Parliament passed a law allowing HEIs to charge fees from non-EU international students, if the HEI establishes a concomitant grant scheme for this group (Die Staatsministerin für Wissenschaft und Kunst, 2013). The music college in Leipzig (HMT Leipzig) is the first Saxonian HEI to make use of this option: It charges non-EU international students 1,800 euros per semester (Hochschule für Musik und Theater, n.d.). It is too early to say whether and how this changes enrolment composition at the institution.

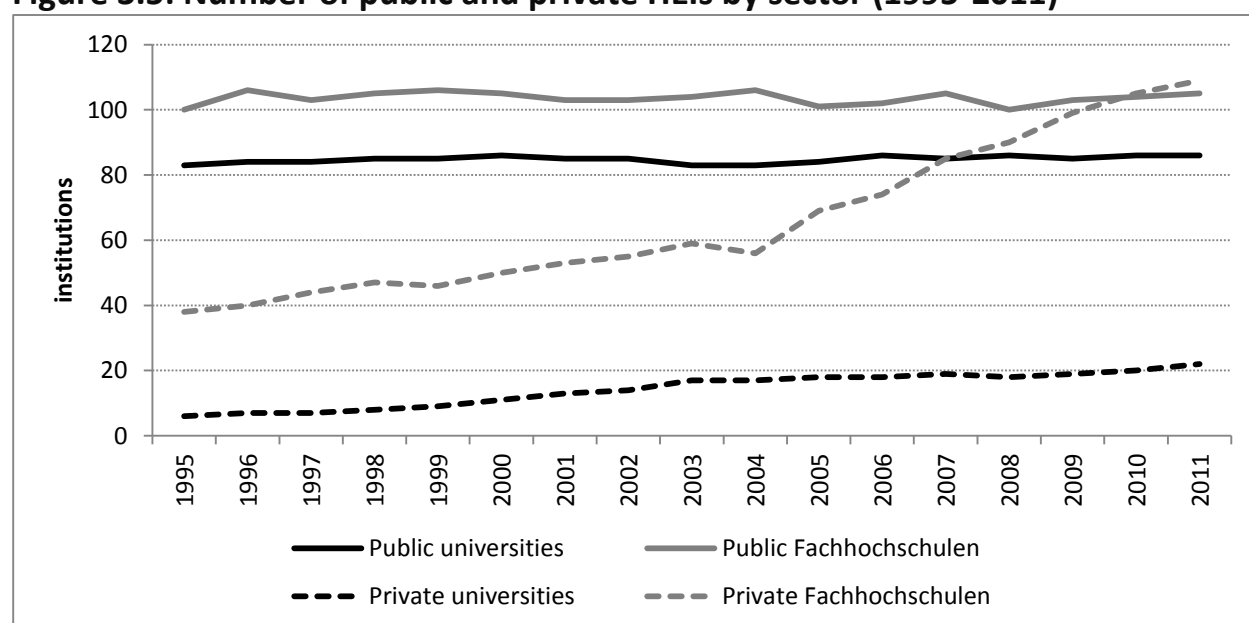
⁸⁰ An exception is Schleswig-Holstein, where HEIs can reserve up to 10% of their total teaching capacity for further education.

3.4 Diversity of Provision

Changes in the number of HEIs

Figure 3.5 shows the number of public and private institutions by sector. While the number of institutions remained relatively stable in the public sector, there was a strong increase in the number of institutions in the private sector, particularly in the 2000s. The number of private *Fachhochschulen* increased from 69 in 2000 to 130 in 2011.

Figure 3.5: Number of public and private HEIs by sector (1995-2011)



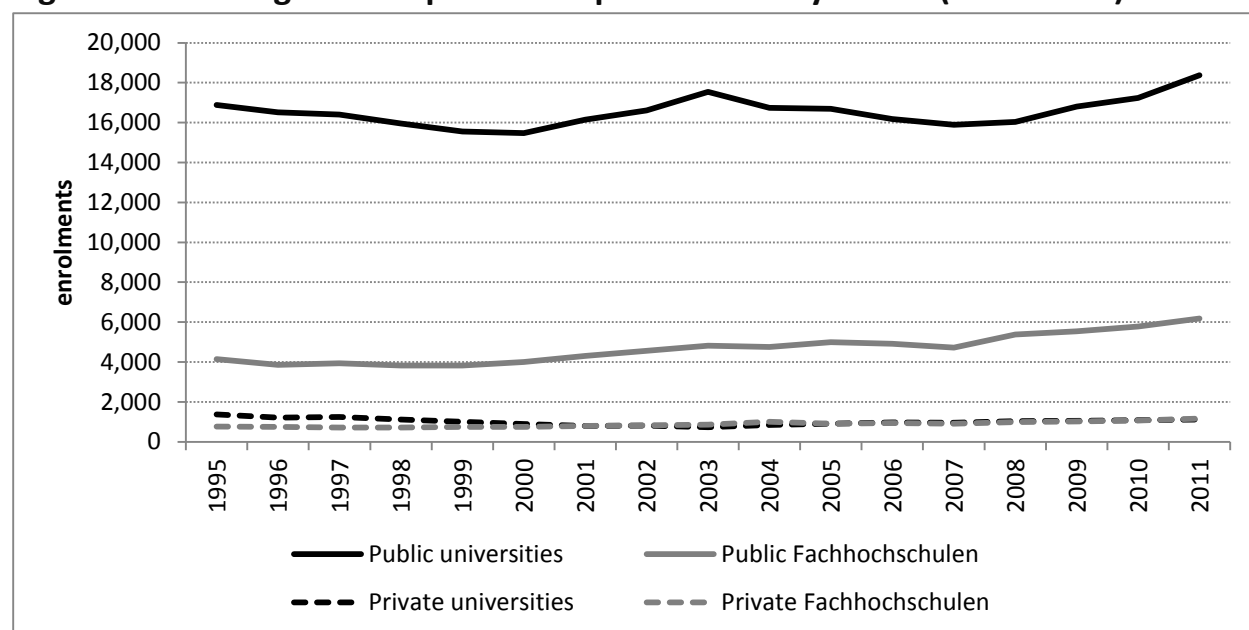
Source: Destatis.

Private HEIs are for the most part financed through tuition fees, which leads to the assumption that they have a high demand-orientation (see Werner & Steiner, 2010, p. 483). In 2013, more than half of all study programmes offered by private HEIs are in business studies, and in 2010 60% of all students at private HEIs were enrolled in a programme with a business-related focus. The second largest group was health and welfare (20% of all programmes). Private HEIs are on average much smaller than public HEIs: The average total student number in private HEIs is roughly 1,000, as opposed to about 8,000 in public HEIs. A typology of private HEIs in Germany is developed in Frank et al. (2010). The most popular types of private HEIs according to this study are, firstly, institutions which offer academic education for professions that were formerly trained exclusively in the non-tertiary sector (mostly health, IT, business, media and design and crafts); secondly, institutions offering flexible programmes, which are attractive to persons who are employed parallel to their studies; and thirdly institutions that offer tightly-organised basic-degree programmes with a focus on a rapid labour-market entry. The authors

stress that only a minority of private HEIs in Germany seek to train elites, and that on the contrary many private HEIs make offers to students to whom public HEIs do not appeal and who otherwise would not have considered higher education at all (Frank et al., 2010, p.7). From this perspective, private HEIs certainly contribute to the diversity of provision in the German HEI landscape. However, as the authors also note, public HEIs have begun to embrace what used to be distinctive features of private HEIs – e.g. a focus on applicability of learning outcomes and a strong service orientation –, thus increasing competition for private HEIs. As Figure 3.5 shows, in the period of investigation the private sector apparently succeeded in bearing up against this competition.

The average size of public and private institutions as measured by enrolment numbers is represented in Figure 3.6. The figure shows great differences between universities and *Fachhochschulen*, and between the public and private sector. Public universities are by far the largest institutions, with about 17,000 enrolled students on average. Public *Fachhochschulen* are much smaller with around 4,000 students on average in the latter half of the 1990s and an increase to below 6,000 in 2010. The private sector has much smaller institutions, with an average of about 1,000 students in both universities and *Fachhochschulen*.

Figure 3.6: Average size of public and private HEIs by sector (1995-2011)



Source: Destatis.

3.5 “Outreach” Practices

Marketing budgets

In the interviews, several experts were asked about HEIs’ changing outreach practices. They agreed that in the period of investigation, there has been a tendency for HEIs to increase investments in marketing. One informant observed that some HEIs intensify marketing activities in order to attract more students, but that this could not be linked to cost-sharing considerations. Rather, in all *Länder* a part of the funds received by HEIs is directly linked to how many students are enrolled. This in turn creates an incentive to attract more students, but not because of additional private revenue.

Another expert commented that ‘his’ institution was trying to focus its marketing activities on special groups of students, but again not because of cost-sharing considerations, but rather in order to attract those students that fit the institution’s profile particularly well. Examples of such target groups would be students with high academic achievement for an HEI with a high quality orientation, or international students for an HEI with an international profile.

Composition of governance and advisory boards

The most prominent advisory boards involving external stakeholders are the ‘university councils’ (*Hochschulräte*). University councils were successively introduced in the organisation of HEIs in all *Länder* beginning in 1995 (Lange, 2010, p. 349). Their function is in some ways comparable to that of supervisory groups of stock companies. In some *Länder*, university councils advise the HEI management; in other *Länder*, they have decision-making power. Their basic domain is in the area of strategy-building. University councils marked a turning away from the idea of academic self-administration, because they are for the most part staffed by representatives of external stakeholders from business, politics, religious and cultural organisations etc. One interviewed expert commented that the establishment of university councils is indeed a sign of increased involvement of external stakeholders in HEI governance, but is not related to cost-sharing in the sense that possible or actual funders are specifically chosen as members of university councils. Contrary to this standpoint, Nienhüser (2012) found that HEIs with above-average third-party funds from business also have an above-average share of business representatives in their university councils. Nienhüser proposes that this is because HEIs with a high share of private third-party funds are more dependent on reliable relationships with business and industry partners. The appointment of top-level managers of private enterprises in university councils signals to other businesses that the HEI is an attractive cooperation partner, which in turn helps to sustain these relationships. Consequently, according to this research, a stronger involvement of business and industry in university governance can be both a cause and an effect of increased cost-sharing.

Relationship with employers

Concerning outreach to employers, one expert commented that there is a growing tendency towards strategic partnerships between business enterprises and HEIs.⁸¹ The parties strive to establish long-lasting collaborations based on the matching profiles of both sides. According to the expert, such collaborations are initiated by the enterprises at least as much as by the HEIs. They pertain to joint projects in research, but at the same time to aspects of teaching and learning (provision of internships, dual study programmes etc.), and hence also involve the business partner in its function as an employer.

Another expert commented that a qualitative change in relationships with employers is not observable from her perspective, and that if relationships with employers have become more important for HEIs in the period of investigation, it is rather due to policy goals (cf. ‘employability’ as a central aspect of the Bologna reforms) than to cost-sharing considerations.

Entrance policies

There is no evidence from either the literature or the interviews that HEIs have changed their entrance policies out of cost-sharing considerations. In fact, such changes can hardly be expected given the framework conditions in Germany: The number of students a public HEI can enrol is state-regulated. Regarding private HEIs, one interviewed expert noted that in general, private HEIs in Germany behave more flexibly with respect to entrance criteria than public HEIs (e.g. in terms of performance records required from applicants to be allowed into a given programme) and linked this to private HEI’s greater dependency on income from tuition fees. Empirical research on this issue was not found to be available. A problem in comparing admission standards of public and private HEI is that private HEIs regularly apply admission procedures that are different in type from those of public HEIs (e.g. interviews and screening tests instead of *Abitur* grades).

3.6 Quality and Relevance

Student satisfaction with study programme and support services

For the years from 2007 onwards, a pertinent source of information about quality measured in terms of student satisfaction is the ‘Study Quality Monitor’ (*Studienqualitätsmonitor*), a survey operated by DZHW. In Heine and Quast (2011), the authors discuss whether judgements regarding student satisfaction differ in fee-charging and non-fee-charging *Länder*. Their conclusion for the period 2007-2009 is that students judge study conditions more positively over time, but not only in fee-charging *Länder*, but also in *Länder* without fees. They conclude that improvements in perceived quality cannot be traced to the introduction / use of fees, but are

⁸¹ This observation is corroborated by (Wissenschaftsrat, 2007, p. 92).

rather a result of general efforts of HEIs to improve their services (Heine & Quast, 2011, p. 75). The authors also point out that students at HEIs in Eastern German *Länder* are generally more satisfied with their study conditions than those in Western Germany, although no Eastern German *Land* ever charged fees in the period of investigation. According to *Autorengruppe Studienqualitätsmonitor* (2012, p. 124), this effect can be explained at least partly by lower use of capacity and thus better student/teacher ratios in Eastern German HEIs. Moreover, the authors of this study conclude that in fee-charging *Länder*, measures financed out of fee income contribute significantly to the improvement of perceived quality in teaching.

Using data from the same survey, Hauschildt, Jaeger, & Quast (2013) find that in Lower Saxony, a fee-charging *Land*, student satisfaction increased between 2007 and 2011 (in particular in 2010 and 2011), and apply a multivariate regression analysis to show that this change can actually be linked to the improvements of study conditions financed through tuition fees (Hauschildt, Jaeger, & Quast, 2013, p. 29).

Rehn, Brandt, Fabian, & Briedis (2011) present survey data on graduates for the period 1989-2009 which includes information on graduates' opinion on various quality related aspects of their degree programme. The data shows that, overall, according to the perception of graduates the quality of higher education programmes has improved throughout the period of investigation. However, the authors do not relate these findings to cost-sharing issues in any way.

Graduate satisfaction with employment outcomes

The survey data presented in Rehn, Brandt, Fabian, & Briedis (2011) includes information on graduate satisfaction concerning various aspects of their employment outcome. Overall, satisfaction has increased over the period of investigation (1989-2009); it is particularly high with regards to the content of tasks performed by graduates as well as their working conditions. Furthermore, graduates report that their degrees have become increasingly valuable in terms of fuelling their professional career: The share of graduates reporting that their degree was highly valuable in this respect increased by around 15 percentage points for university graduates (1989: 42%, 2009: 57%-58% depending on degree type) and 22 percentage points for *Fachhochschul*-graduates (1989: 52%, 2009: 73%-75% depending on degree type). Employer satisfaction with labour market supply

Changes in employer satisfaction over time can be used as an indication of a change in relevance of educational services. In Germany, there is no national survey pertaining to employer satisfaction with HEI graduates, and no studies are known in which employer satisfaction is correlated with cost-sharing issues. A much stronger focus in research on employability in the last decade was on the effects of the Bologna reforms, particularly of the new degree types (Bachelor / Master), see e.g. the survey by Konegen-Grenier, Placke, & Stangel (2011).

With respect to the more general issue of labour-market demand for graduates of HEI programmes, one interviewed expert elaborated that public HEIs wishing to introduce a new programme need to establish that there is a labour-market demand for future graduates of this

programme. But, as the expert also noted, there is no requirement to support this criterion by needs analyses (such as surveys with potential employers), and in recent years accreditation agencies have seldom refused an accreditation based on this criterion.

3.7 Evaluation

Summarising the results of this chapter, a tendency towards stronger consideration of user demand is visible in Germany; however, the main cause of this tendency does not appear to be stronger incentives to increase private revenues, as Hypothesis B suggests.

There is no clear indication that institutional behaviour has changed to maximise private revenue. This result must be contextualised by the framework conditions under which public HEIs in Germany operate. Firstly, HEIs have limited opportunities to act in such a way as to maximise private revenues: Charging general tuition fees has not been an option for most of the period of investigation due to legal and political regulations. Even when general fees were introduced in some *Länder*, they were tightly regulated in terms of the amounts and other settings. The fact that there was no differentiation between fields of study and thus, actual costs of provision, shows that fees were not introduced to allow HEIs to cover their actual costs, but rather to conduct quite specific measures aimed at improving the conditions of teaching and learning throughout the institution. Therefore, any strategic behaviour aimed at attracting more students or focussing on ‘profitable’ fields of study could not be expected from public HEIs in the first place. As was pointed out earlier in Section 2.1, even the maximum tuition fees in Germany covered only a fraction of the actual cost of higher education, which shows that the idea of incentivising HEIs to attract (more) students could not have been the decisive rationale behind the legalisation of fees in the first place: Each additional student *increased* the need for adequate supplementary funding from public sources. Nevertheless, the earmarking of tuition fees to quality-related measures shows that the German fee systems do have a direct link to user responsiveness, although it is mediated by state regulations. In this connection, one of the interviewed experts commented that the tight regulation of the tuition fee regime in Germany can be related to the deep-rooted notion of educational equity, which is hardly compatible with the idea of institutions charging fees in any desired amount to maximise their revenues.

Although a general statement cannot be made to the effect that cost-sharing considerations caused HEIs to increase their responsiveness to student and employer demand, a trend towards an increased user-orientation is nonetheless observable according to various sources, including most interviewed experts. As stated by one expert, this trend is primarily rooted in the ‘academisation’ of the labour market: More and more employers demand a highly skilled workforce, and HEIs play a key role in providing those skills through a scientifically based professional education. According to the expert, the increasing demand of a highly trained workforce on the labour market has an influence on how HEIs define their core mission: Training an elite of future academic researchers is no longer feasible as a primary task of HEIs in such an environment, and has come to be replaced by a stronger responsiveness to the demands of the labour market. According to this line of argument, a higher degree of user responsiveness was not triggered by incentives to increase private revenues, but rather by the necessity to adapt

to a changing socio-economic environment. The same expert also pointed to the integral role of business enterprises in this process, namely as HEI-external cooperation partners in practically-oriented study programmes or study phases. Focussing more on political measures undertaken to link HEIs and the labour market, another expert commented that political agendas, such as the Bologna reform, had a stronger impact on the user responsiveness of HEIs than any cost-sharing-related concerns. This statement was supported by another informant, who commented that the increasing importance of employability as an educational goal of study programmes is not least due to the normative influence of accreditation agencies.

Another, more indirect measure through which user-orientation is incentivised is state funding models allocating funds based on the number of students an HEI services: The more successful an HEI is in attracting students, the better its financial situation. One can say that these financing models follow the logic of demand-orientation even in the absence of a fee system. As noted in Section 1.4, most *Länder* have a performance-based funding component which counts the number of enrolled students (among other things). However, the question of whether and how the introduction of performance-based funding has changed institutional and individual scientific behaviour is under debate; Jaeger (2008) found that performance-based funding schemes have so far had limited incentivising effects (see also Orr & Jaeger, 2009). Some *Länder* even determine recurrent core funding based on the number of enrolled students. Nevertheless, it cannot be assumed that institutions depend entirely on actual student demand even in this latter group of *Länder*, since the calculations are either based on target numbers of students, which are negotiated between the HEI and the ministry in advance (in Hamburg, Hesse and Schleswig-Holstein), or they are supplemented by other, input-based parameters (in Brandenburg and Thuringia).

In *Länder* in which fees were introduced, they did lead to a stronger user-orientation according to the experts and the literature. This can partly be seen as a direct consequence of the legal regulations that were set up when fees were introduced: The laws established that fees must be used to improve study conditions on-site. This in itself can be regarded as an expression of user responsiveness. Additionally, one expert reported that the requirement to pay fees caused students to voice their concerns with more confidence, thereby also affecting the way professors perceive their role as teachers. Another informant noted that tuition fees sparked constructive discussions about the role and quality of teaching in HEIs, involving both students and teachers. In a more sceptical vein, one of the interviewed experts observed that across the German higher education landscape, a negative correlation was discernible between charging fees and allowing for student participation in HEI governance, and linked this to the co-occurrence of ‘managerial’ (as opposed to participatory) governance and the view of students as mere ‘buyers’ of educational services. A piece of evidence supporting this view is that in 2005, four of the seven *Länder* that introduced tuition fees in 2006/2007 were involved in a public lawsuit against a draft framework law which would have guaranteed students a say in the university’s self-governing boards (a status known as *verfasste Studierendenschaft*, literally ‘constituted student body’).

The findings with respect to responsiveness to business and industry are ambiguous: On the one hand, novel forms of collaboration between public HEIs and private business were found to have evolved in the period of investigation, and HEIs’ income from business and industry almost

tripled in the period of investigation. On the other hand, this did not result in an increase in the share of private third-party funding according to the statistics. Again in this area, it is questionable whether it can be assumed on a general level, as does Hypothesis B, that HEIs have received incentives to maximise revenues from private third-party funds. What is quite clear is that external funding as such has become more and more important. But, considering that the growth of public third-party funding authorities like the German Research Foundation (DFG) has outshined the growth of private third-party funding, it cannot be stated that in general HEIs are under exceeding pressure to increase their responsiveness to the business sector.

The interviewed experts agreed that HEI governance has given more attention to outreach activities like fund-raising, sponsoring and alumni-networks, but there was also agreement that the revenues from such activities are still minor compared to other types of funding, and that there is a restricted dynamic in this area. Nevertheless, as one expert noted, some *Länder* have taken steps to strengthen HEIs' possibilities to gain private revenue. In Lower Saxony, for example, commercial accounting was introduced in HEI administration to allow institutions to correctly administer private revenues; and foundation universities (i.e., public universities run in the legal form of a foundation) were established to facilitate the acquisition of private funds. Together with the measures pointed out in Section 1.5 (re-regulation of patent exploitation, extra state funding for academia-business collaborations), these examples show that in the period of investigation, HEI governance concerned itself with enabling institutions to generate and administer private funds, even though this source of income may not be of prime importance.

The observation that HEIs have limited incentives to maximise private revenue does not imply that they do not have incentives to maximise revenue *at all* – only these incentives are given in the context of public funding schemes for the most part, i.e., through performance-based funding schemes or the continual expansion of competitive third-party funding through major funding authorities.

Other than the introduction of tuition fees, no large-scale political initiatives aiming to increase private revenues could be discerned. The intensity of collaboration between business and HEI research is a matter of constant consideration for stakeholders from HEIs, business and higher education policy, but major changes to cost-sharing in this area could not be found using administrative statistical data. One expert commented that the involvement of industry in the financing of HEI research and technology transfer results from a mutual interest and thus does not necessarily depend on political initiatives. The existence of a number of important public funding authorities, like the DFG and the federal state, make it possible for HEIs to attract a lot of external funds even without a dominant industry-orientation, as another expert pointed out. Even in *Fachhochschulen*, which typically have close industry-relationships, the share of third-party funds from the federal state outmatched those from business and industry for the first time in 2009 (Statistisches Bundesamt, 2010, p. 126).

Political incentives for public HEIs to obtain more private income are present but do not appear to be a top priority. The fact that tuition fees were introduced only by some *Länder* and abolished after a few years shows that there is no consensus regarding the necessity of private student contributions to higher education. The availability of public funds to launch large-scale

infrastructural programmes, such as the ones mentioned above, appears to reduce the pressure to seek private income to satisfy the increasing demand for higher education.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

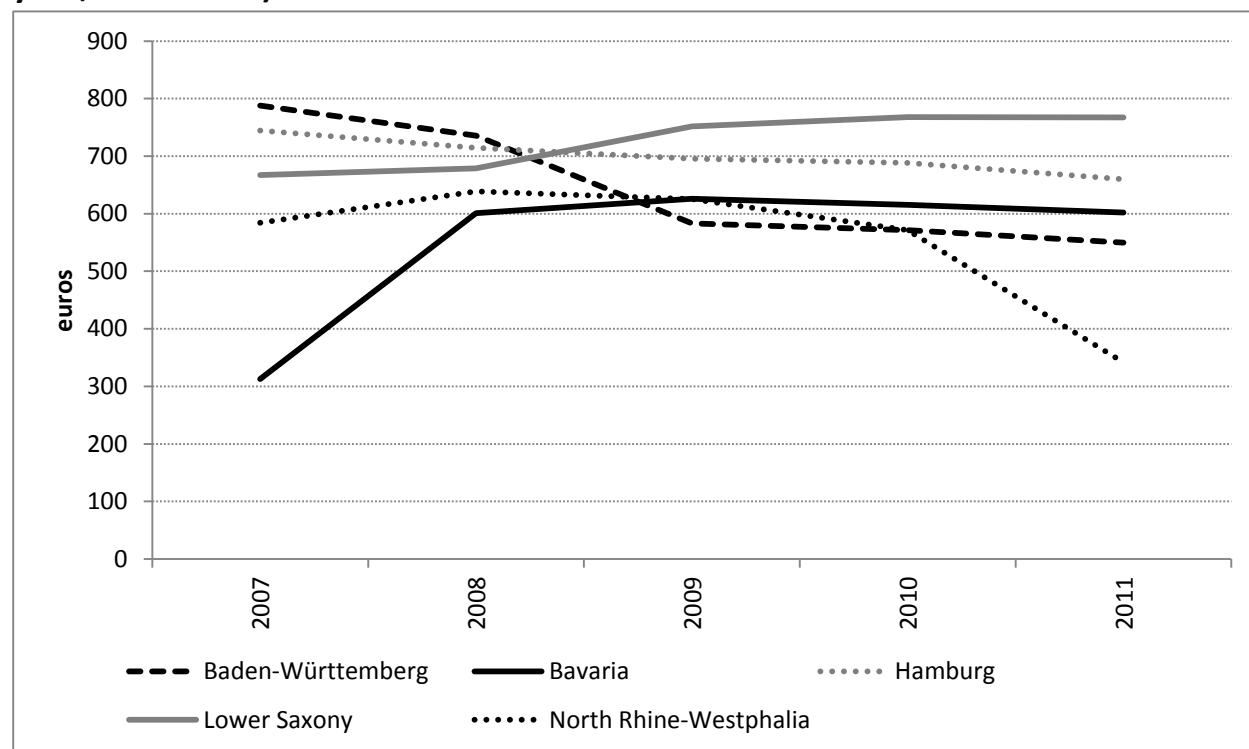
- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

4.1 Students’ Costs for Higher Education

Student fees

The graph below recapitulates the changes of tuition fees per student in the five *Länder* that charged general fees throughout 2007 to 2010.

Figure 4.1: Student fees over time in five *Länder* (average amounts paid per year, 2007-2011)



Note: Constant prices (2011).

Source: Destatis.

To evaluate the impact of tuition fees on overall student costs, one can compare the amounts of fees to the overall cost of living of students. Table 4.1 presents average annual costs to students in the categories learning materials, housing, food, travel, clothing and other costs. The latter category includes cost for insurance, medical care, telecommunication and media and leisure activities.

Overall, the table shows that the cost of living, specified as the sum of the costs represented below did not increase in the period of investigation. Rather, a slight tendency of cost reduction is visible. As a constraint, it must be added that not all student costs are included in this chart (as they are not covered by the HIS/DSW Social Survey), e.g. cost for HEI administrative fees, child care, pets, tobacco, debt payment, insurances other than health insurance, and study-related costs not spent on learning materials.⁸²

⁸² According to Orr, Gwosc, & Netz (2011, p. 134), student cost of living as determined by the German Social Survey captures about 86% of total student expenditure under the assumption that student expenditure equals student income.

Table 4.1: Annual student cost in euros (1994-2009)

	Books	Housing	Food	Travel	Clothing	Other	Total
1994	490	3,284	2,122	1,038	887	2,153	9,974
1997	459	3,402	1,959	987	843	1,981	9,630
2000	472	3,388	1,844	1,191	855	1,872	9,623
2003	506	3,555	2,174	1,176	779	1,436	9,627
2006	470	3,588	1,918	1,070	652	1,866	9,564
2009	409	3,605	1,970	942	632	1,945	9,502

Note: The category 'other' includes costs of health insurance, medical treatment, telecommunication, internet, television and radio fees, and spending on leisure activities, culture and sports. For 2003, the category 'other' excludes spending on leisure activities, culture and sports. Figures refer to the economic situation of unmarried students not living with their parents.⁸³ Constant prices (CPI) 2011.

Source: 15th-19th HIS/DSW Social Survey / own calculations.

Keeping the above mentioned restriction in mind, the result of the above chart is of direct relevance to Hypothesis C as well as Hypothesis D, because it implies that in a general perspective, the costs of student living did not increase in the period of investigation, *except* through tuition fees, which are not included in the table above. Consequently, focusing on the subject of tuition fees is justified for this chapter and the next. For students paying the maximum annual tuition fee of 1,000 euros (excluding administrative fees), fees, as a percentage of total student cost, are slightly above 10% based on the figures of 2006/2009.

Student grants

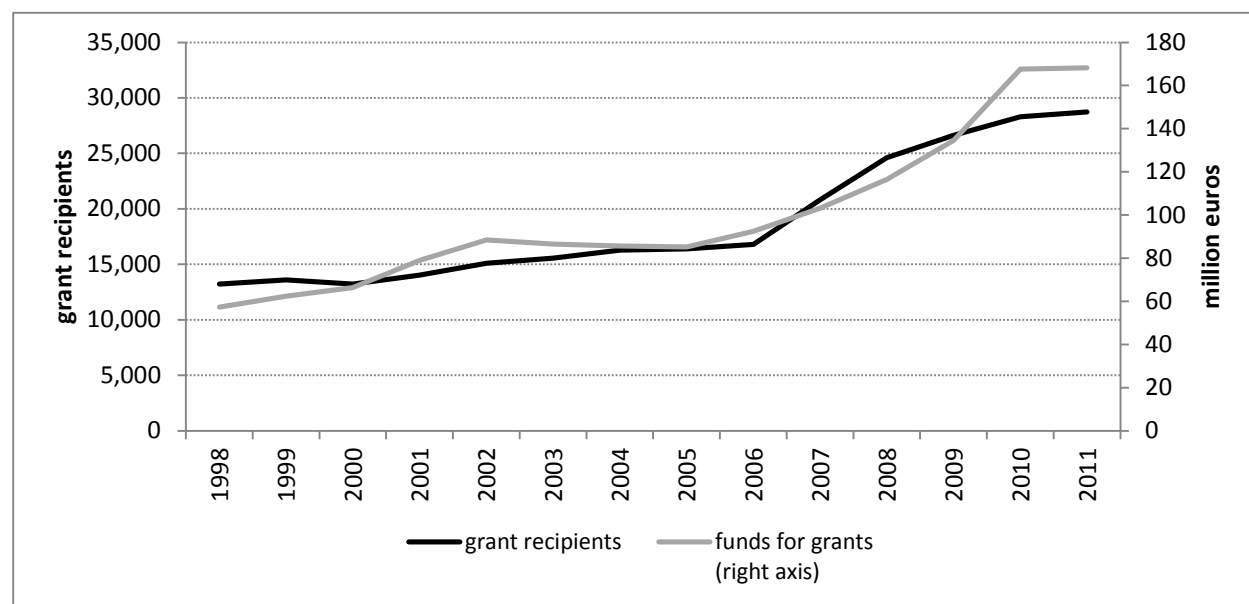
Grants for students fall into two major categories, needs-based and merit-based. The needs-based system is for the most part regulated via BAföG. BAföG is a mixed loan/grant system: Each person receiving BAföG support has to pay back half of the money received through the system when he/she has sufficient earnings of his/her own, whereas the other half is non-repayable, i.e., a grant. The development of the BAföG system will be discussed in the section on loans below. The present section is about merit- and prospect-based grants.

In Germany there are twelve major student grant organisations. The grant organisations represent different political, religious and ideological groups. They are responsible for selecting and supervising the beneficiaries. The funds for the grants are provided by the Federal Ministry of Education and Research. The maximum annual amount a student can get from a grant is at present 670 euros for a student in a Bachelor/Master phase and 1,050 euros for a doctoral student. In addition, stipendiaries receive book allowances. Figure 4.2 represents the funds provided by the Federal Ministry of Education and Research to all twelve grant organisations over time as well as the number of grant-recipients. The figures show that the public funds provided for grants almost tripled between 1998 and 2011 (factor 2.93), and the number of grant-

⁸³ In the period of investigation, between 21% and 24% of all students lived with their parents or relatives (see 19th HIS/DSW Social Survey, p. 401).

recipients more than doubled (factor 2.17). A steep increase is visible in the latter half of the 2000s. The government aims to increase investment into the grant systems in the years to come.

Figure 4.2: Grants for talented students and grant-recipients over time (1998-2011)



Note: Grant recipients includes undergraduate and graduate students. Funds for grants: Constant prices (2011).

Source: Federal Ministry of Education and Research / own calculations.

The grants issued by the organisation considered above are strictly based on merit and prospects. All grant organisations have talent as well as social commitment as their guiding selection criteria. The grant system can thus not be directly related to matters of students' financial needs, and in particular not to the impact of tuition fees. However, the actual monthly amount a grant-recipient receives is calculated based on the income of his/her parents: Children of parents with little or no income receive more than children of parents with more income. This means that on the individual level, a needs-based criterion (and thus, a cost-sharing perspective) is incorporated into the public grant system.

Similar statistics for grants provided by the private sector are not available. Based on survey data, Konegen-Grenier & Winde (2011, p. 58) report that in 2009 business enterprises funded 6,130 student stipendiaries, spending 41 million euros. The authors also note that these figures are presumably too low, because business enterprises tend to channel funds for grants to intermediary organisations (foundations etc.) or to HEIs instead of giving out grants directly; the quoted survey is only concerned with the latter category. Based on a series of interviews with

HEI representatives, Konegen-Grenier (2009, p. 55) estimates that the number of grants provided by business and industry has been increasing.

Regardless of these issues, it is apparent that only a minority of German students receive income from merit-based grants. The 19th HIS/DSW Social Survey (p. 14) reports that in the period 2006-2009, about 3% of all students received such grants (period before: 2%).

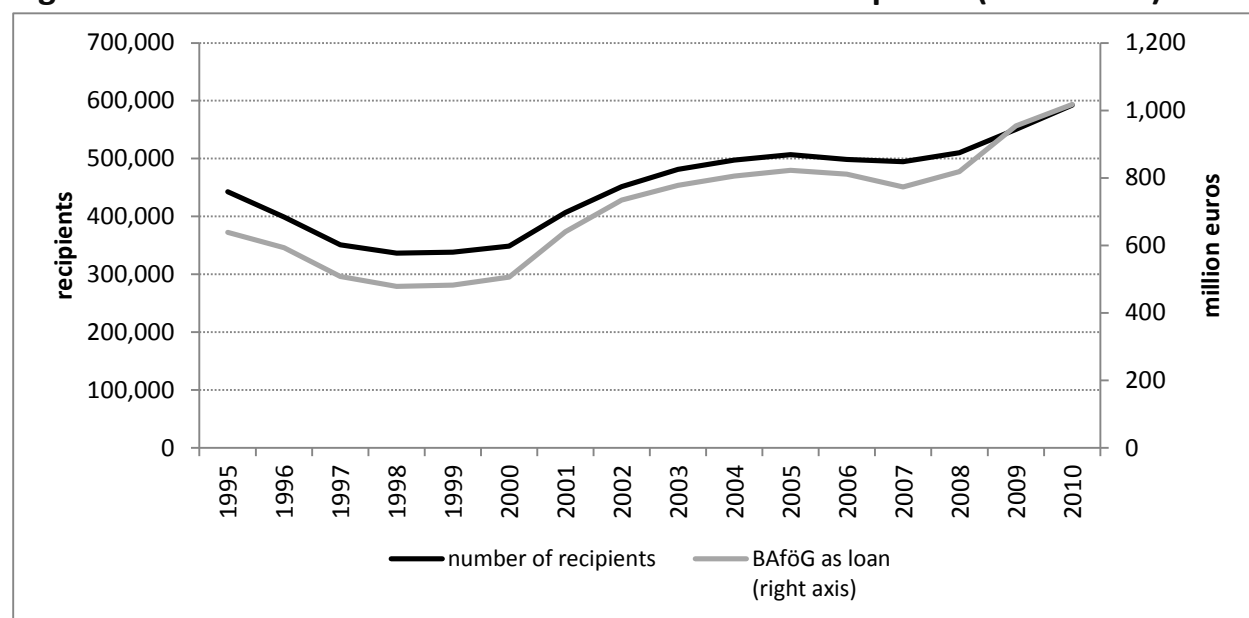
Debt levels

No information could be retrieved concerning debt levels and percentage of students with debts at graduation.

Student loans

The most important student loan system in Germany is the state-run BAföG system. As was explained in Section 1.5, BAföG is a mixture of grants and loans. In the standard case, 50% of the financial support to an individual is provided as a grant, whereas the other 50% is a loan. Based on this assumption, BAföG-as-loan will be portrayed in the following.

Figure 4.3 shows a non-linear pattern for both the number of recipients and the absolute amounts of BAföG distributed. The increases in the early 2000s are basically due to reforms that facilitated access to BAföG support. Except for a drop in the years 2005-2007/08, BAföG support has increased since then. The average BAföG loan per person and month increased from 386 euros in 1995 to 445 euros in 2010 (constant consumer prices 2011). When relating the number of BAföG recipients to the total number of students, one sees that across the period of investigation, between 19% and 23% of all students benefitted from BAföG system.

Figure 4.3: Student BAföG loans and student BAföG recipients (1995-2010)

Note: Recipients of partial and full BAföG support summated. Constant prices (2011).

Source: Destatis / own calculations.

To see whether BAföG support has kept up with the expansion of the HEI system, one can compare BAföG support funds with student numbers. From this macro-perspective, one can see that after a critical phase in the latter half of the 1990s, when student numbers were growing but BAföG support was decreasing, BAföG support has indeed kept up with the growth of the system: Between 1995 and 2010, BAföG support grew by 59% in constant prices, whereas the number of students in the same period grew by 19.6%. Since BAföG loans are usually supplemented by a grant of the same amount, this conclusion carries over to the needs-based grants system as well.

As with the merit-based grant system, it is important to stress that BAföG is not linked in any way to the charging of tuition fees. The BAföG funds are jointly provided by the federal state (65%) and all *Länder* (35%), and the system dates back to a time when general tuition fees at public HEIs were prohibited in public HEIs in Germany. When fees were introduced in some *Länder*, executive and judiciary bodies made it clear that BAföG support was not going to be increased because of the requirement to pay fees, pointing out that other, specialised loan providers were available to cover the cost of fees (see below). However, all fee-charging *Länder* introduced a regulation according to which the sum of debt accumulated through BAföG loan and loans taken out with a state-owned bank to cover tuition fees is cut at a certain limit, usually 15,000 euros (except North Rhine-Westphalia: 10,000 euros, and Hamburg: 17,000 euros).

BAföG is by far the most widespread student loan type in Germany, which can be explained by its history as well as its attractive conditions: The loan is interest-free and coupled with a grant. Nevertheless, there are other loan offers particularly aimed at students. The *Kreditanstalt für Wiederaufbau* (KfW), a state-owned bank, has been offering ‘education loans’ for students since 2000. The maximum loan is 300 euros per month for a period of at most 24 months. *Länder* which introduced tuition fees in 2006/2007 all established special loans for students covering their fees, some of them in cooperation with the KfW. Other banks, public and private, have been providing study loans as well. The Centre for Higher Education (CHE) has been publishing annual evaluations of study loan providers since 2006 (most recently: Müller, 2013). These evaluations show that there is a variety of banks and funds offering loans to cover the costs of living or, in more specialised offers, costs of tuition fees. One expert interviewed for this study commented that the introduction of tuition fees in several *Länder* catalysed the development of a student loan system across the country, even though not all offers are aimed at fee-paying students.

According to the 17th HIS/DSW Social Survey, only 1% of the ‘typical’ student population (unmarried, living away from their parents) took out a loan with the KfW in 2003. In 2006, the percentage had increased to 1.5%, and 0.8% of the normal student population reported to have taken out a loan with another bank. In 2009, the number of students taking out KfW ‘education loans’ had dropped again, but 3% had now taken in a ‘study loan’ (another product offered by the KfW), and 1% had taken out a loan with another bank. In fee-charging *Länder*, 11% of the student population took out a loan between 2006 and 2009 to cover tuition fees (19th HIS/DSW Social Survey, p. 24).

Indirect assistance

The term ‘indirect assistance’ is used here to subsume any type of public expenditure from which students benefit but which is not provided in the form of loans or grants. The two most important elements in this respect are child benefits and reductions in, or exemptions from health insurance contributions (see Schwarzenberger & Gwosc, 2008).

As elaborated in Section 1.4, child benefits are granted for parents of studying children below the age of 27 (until 2007) or 25 (from 2007 onwards). Data pertaining to total sums spent on students are available for 2004 (from Schwarzenberger & Gwosc, 2008) and for 2005-2010 from the incumbent revenue authorities. Data for earlier years are not available.

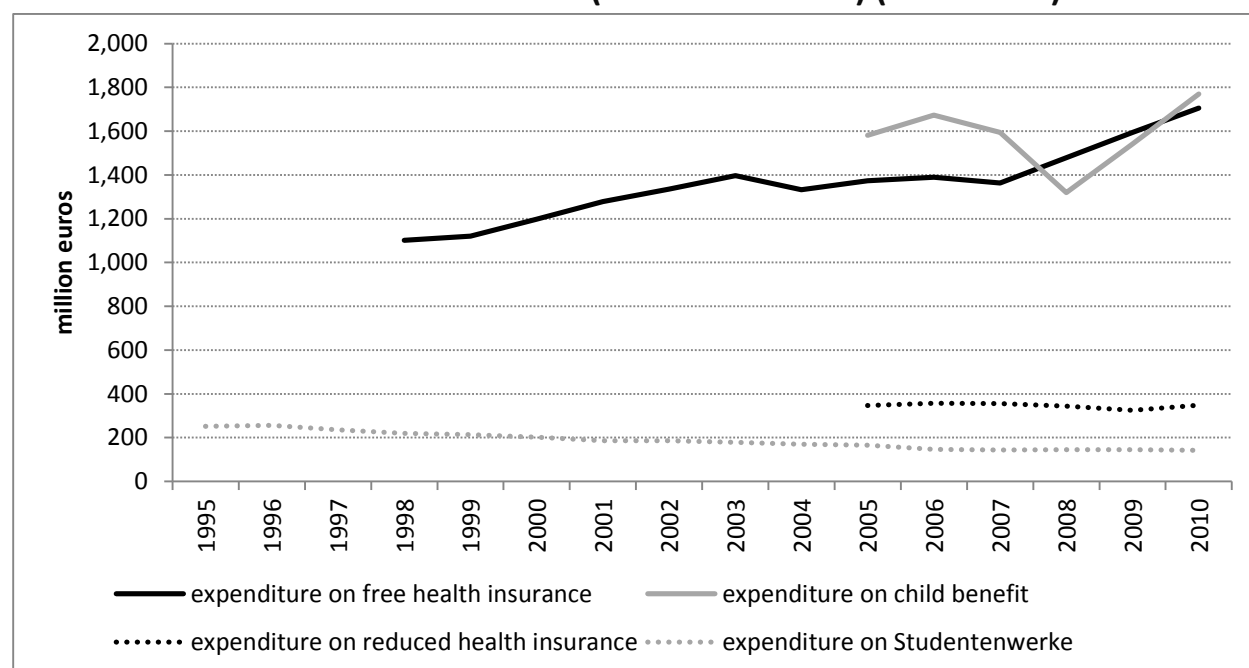
Data on benefits from reduced health insurance and for exemption from health insurance were calculated by the authors using a method proposed by Schwarzenberger & Gwosc (2008): It was assumed that state subsidies for those students who are insured on a non-contributory basis equal the minimum amount a voluntarily insured person must pay. For those students who pay reduced contributions (basically students older than 25), it was assumed that the state subsidies amount to the difference between the minimum amount for voluntarily insured persons and the amount the students have to pay. Both of these monetary amounts were multiplied with the estimated number of students insured in the one or the other category in order to obtain the absolute

amounts of state subsidies. The estimates of shares of students insured in either category were based on the figures for 2004 taken from Schwarzenberger & Gwosc (2008).

Figure 4.4 shows that the expenditure on non-contributory health insurance increases by about 54% between 1998 and 2010. Within the same time period, the total number of students increased by about 23%. The disproportionate growth of expenditure on non-contributory health insurance is due both to increasing insurance costs and to a rising share of students benefitting from this type of assistance.

The pattern for expenditure on child benefit for parents of students is non-linear. A decrease of about 18% is observable in 2008, which can be attributed to the lowering of the eligible age of students from 27 to 25. The increased spending in the years following 2008 is due both to an increased number of recipients and increases in the monthly benefits.

Figure 4.4: Public expenditure on reduction / exemption from health insurance, child benefit and on student services (*Studentenwerke*) (1995-2010)



Note: Data on child benefit and reduced health insurance only available from 2005 onward. Constant prices (2011).
Source: Bundesagentur für Arbeit (child benefit), Federal Ministry of Health (health insurance) / own calculation.

Total student cost

The following graph summarises the central findings of this chapter by representing three types of student costs for the years 2005-2010 (for which all necessary data were available):

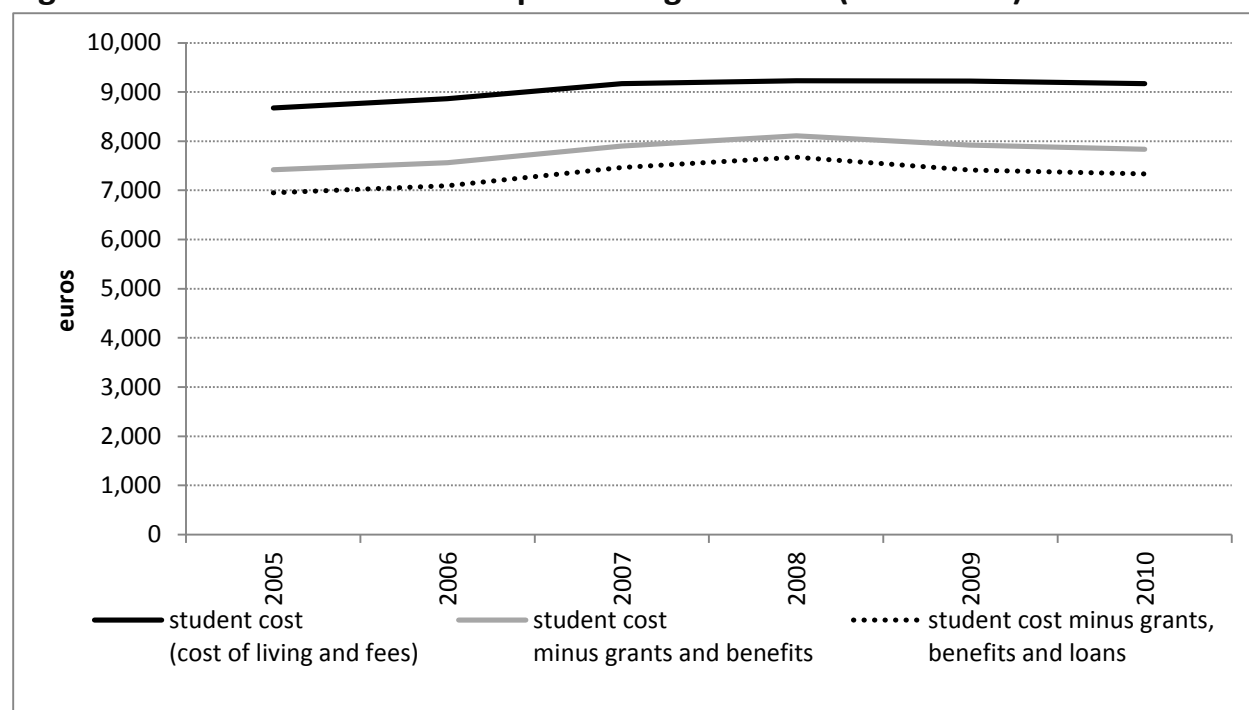
Total costs given as the average cost of living of students plus the average amount of fees paid

Costs minus public grants (BAföG and grants for talented students) and student assistance (child benefit)

Costs minus grants and assistance minus public loans (BAföG and KfW education loan *Bildungskredit*) – also called ‘out of pocket’- costs.

Figure 4.5 shows that both annual gross and net costs for students have increased by about 500 euros, from 8,678 euros in 2005 to 9,172 euros in 2010. The largest part of the increase took place between 2005 and 2007 and can clearly be traced to the introduction of tuition fees in several *Länder*. After 2007, the pattern is almost stable. The pattern for costs minus grants and benefits is similar, aside from a decrease after 2008 (from 8,137 euros in 2008 to 7,914 euros in 2010). Likewise the costs minus grants, benefits and repayable loans also decrease slightly within the same period. The overall decrease in costs after 2008 in the latter categories are due to decreasing costs of living, but also to rising BAföG and child benefit expenditures during a time when tuition fees remained relatively stable.

Figure 4.5: Annual student costs per average student (2005-2010)



Note: Student cost of living for 2005, 2007, 2008 and 2010 interpolated from 2003, 2006 and 2009 Social Survey data assuming linear progression of cost. Constant prices (2011).

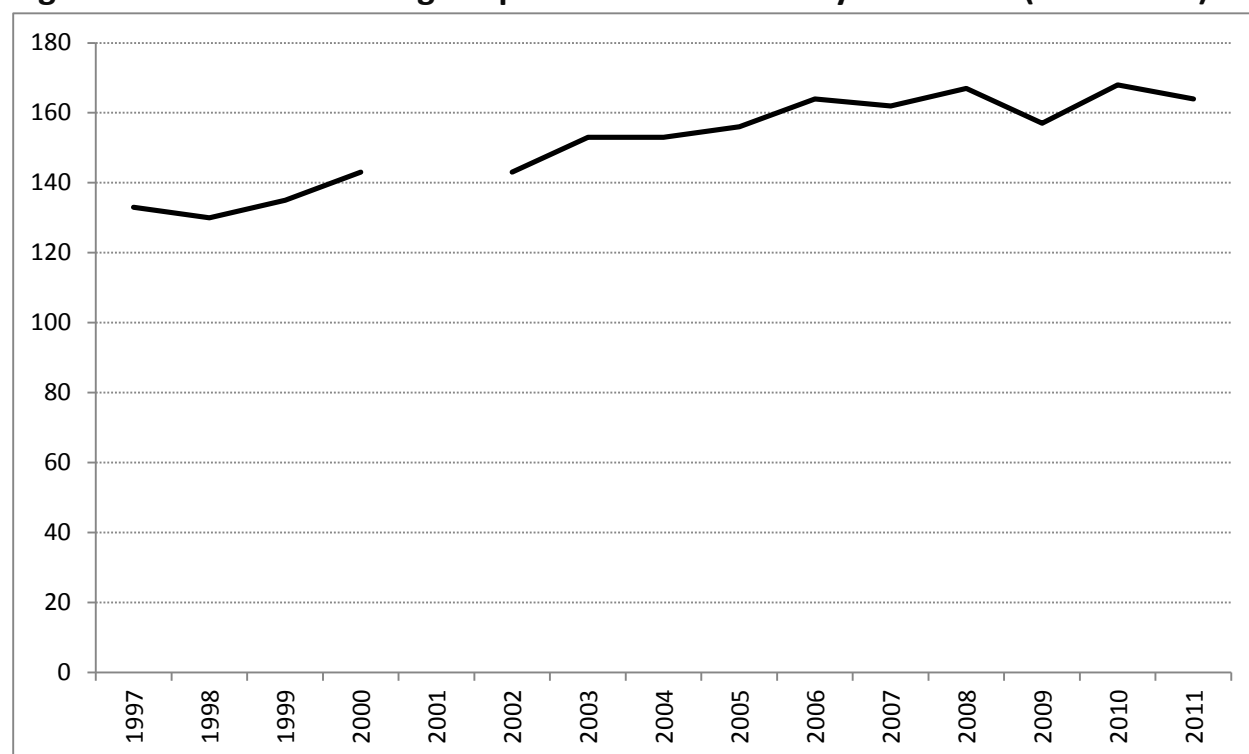
Source: 17th – 19th HIS/DSW Social Survey (cost of living) / Destatis (tuition fees) / Bundesagentur für Arbeit (BAföG) / BMBF (grants for talented students) / KfW (education loans) / own calculations.

When aggregated, public grants and loans amount to 16% to 19% of the total student costs in the years 2005 to 2010. Also of note is the fact that average student income through the public grant and assistance system (BAföG grants, grants for talented students and child benefit) amounts to more than double the average sum of costs through tuition fees. However, as was pointed out earlier, care must be taken in drawing such comparisons, since the grant systems and fee systems are not interconnected, neither in administrative nor in political terms, and the high level of aggregation used here makes it impossible to draw inferences about how these systems effect the financial situation of individual students.

In order to see how students actually deal with rising costs caused by tuition fees, the 19th HIS/DSW Social Survey (p. 24) includes survey data on how students paying fees cover the additional cost: The majority covers fees entirely (41%) or partly (18%) with parental financial assistance. The second-largest group covers fees through their own income entirely (9%) or partly (21%). Some students use savings to cover fees entirely (24%) or partly (9%), and 11% use a special loan to cover the fees.

Relative earnings

Finally, the question of whether the cost of studying is justified by the earnings realised in a subsequent employment will be investigated. Assuming that the basic choice with respect to employment is whether to take up higher education studies or to enter a profession which does not require such studies, the relevant comparison is between earnings of different populations with income, as does e.g. the OECD's 'Education at Glance' series. The reference case (=value 100) is the earnings from employed persons with a secondary or post-secondary, non-tertiary education. Figure 4.6 represents the results for employed persons with tertiary education in Germany. The data show that at all times, the relative earnings of a tertiary education are clearly higher than an alternative non-tertiary education. The gap between the two alternatives even widens over time. One can conclude from this that from an economic point of view, higher education studies have become a more attractive choice in the period of investigation.

Figure 4.6: Relative earnings of persons with a tertiary education (1997-2011)

Note: Data indexed to earnings of a person with secondary and post-secondary, non-tertiary education (=100).

Source: OECD Education at a Glance. Data for 2001 missing.

The OECD data presented above do not distinguish between fields of study. Consequently, it might be the case that graduates of some fields of study benefit more from the increase in relative earnings than others. This matter cannot be fully clarified using the available data. Results from a HIS-graduate survey (Grotheer, Isleib, Netz, & Briedis, 2012) conducted every three years show that there are differences between fields of study in terms of earnings (most notably between graduates of arts and humanities and educational sciences on the one hand and engineering and health on the other hand), but that the relative differences in income five years after graduation remain relatively stable throughout surveys conducted between 1998 and 2010.

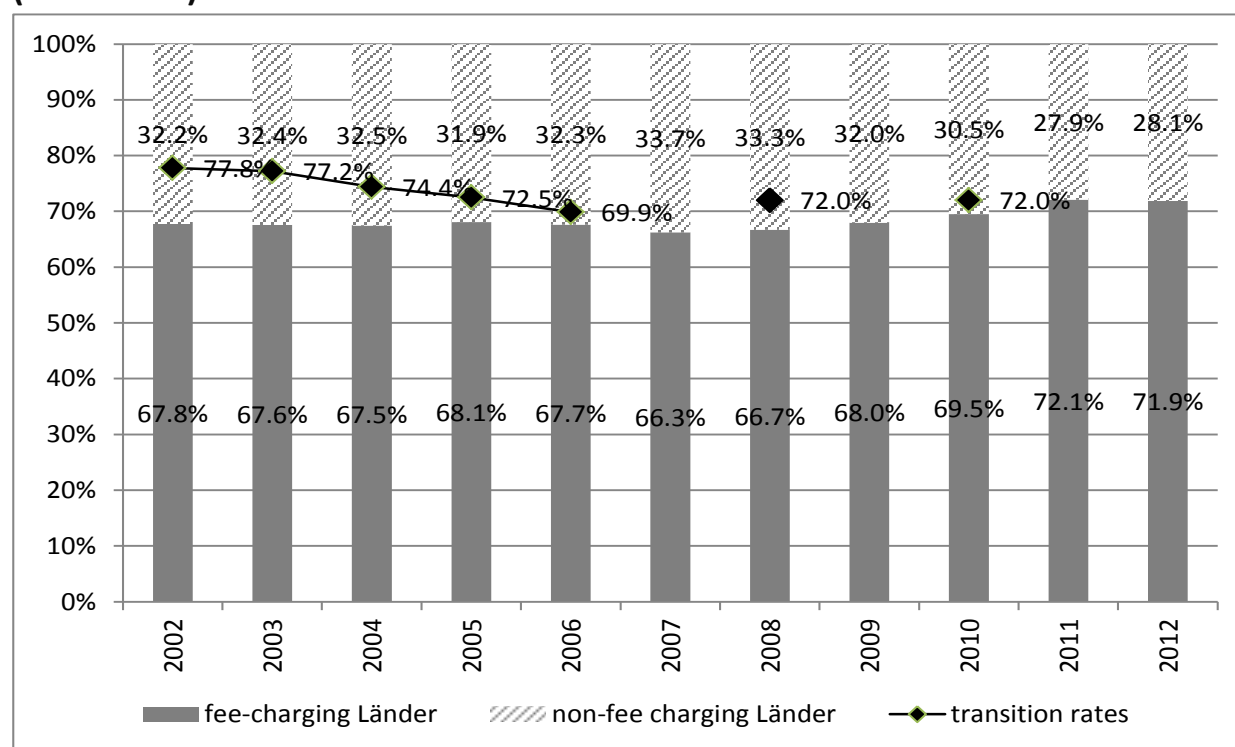
4.2 Participation Rates

A graph charting participation rates for Germany as a whole was given in Chapter 1, Figure 1.3. It shows that transition from secondary school decreased in the first half of the 2000s and increased again in the second half. This development is relevant here if it can be shown that the introduction of tuition fees, and thus the increase in private funding, acted as a trigger. Investigating this in detail is rather complex for several reasons, the two most important being a)

changes in the share of persons attaining university entrance qualifications (see Figure 1.2), which makes participation rates *per se* an unreliable indicator of propensity to enrol at an HEI, and b) a pre-existing tradition of intranational study migration for non-cost-related reasons, which makes looking at transition rates per *Land* inappropriate.

A simple, if somewhat indirect, way to approach the issue is to look at the ratios of new entrants in fee-charging and non-fee charging *Länder* before, during and after the introduction of tuition fees in some *Länder*. The reasoning is as follows: If after 2006/2007 the proportion changes in favour of the *Länder* not charging tuition fees, then this suggests that the decrease in transition we see before and during this period can at least partly be attributed to the introduction of fees. Figure 4.7 shows this proportion (as the total of domestic and international students), with the national transition rates overlaid. We see that the share of entrants in fee-charging *Länder* decreased by 1.8% between 2005 and 2007, but recovered in the years after and reached a new high in 2009, with a continual increase in the years after.⁸⁴

Figure 4.7: Share of new entrants in fee-charging and non-fee-charging *Länder* (2002-2012)



Note: Hesse and Saarland excluded.

Source: Destatis / own calculations.

⁸⁴ The number of new entrants in fee-charging *Länder* benefitted from a one-time increase in 2008/2009, when Baden-Württemberg upgraded its professional academies (*Berufsakademien*) to higher education institutions (*Duale Hochschule*).

This result suggests that the introduction of fees could have played a role in the drop of transition rates in the middle of the 2000s, although the fact remains that transition rates had started to go down years before general tuition fees were even debated, and the changes in question were rather small in absolute terms (1.8% of new entrants equals roughly 5,000 individuals). Additionally, and curiously, the trend between the groups reversed after a short time although there were no more substantial changes to the fee systems. The same pattern (parallelism of increase in private funding and decrease in higher education participation, but only for a short stretch of time) is also observed in some studies focussing on the number of international students coming to fee-charging *Länder* (see Section 4.3), and in Austria after the introduction of fees in 2001 (although much more pronounced).

Due to the relatively short period of time during which some public HEIs charged fees, and due to the simultaneity of this phenomenon and other, related developments (like the Bologna reform), it is difficult to arrive at definite conclusions as to whether fees deter potential students from enrolling based on standard administrative data. A number of studies have been carried out on this issue, but they have not resulted in unified findings:

- Heine, Quast, & Spangenberg (2008) report survey data from the 2006 cohort of university entrance qualification holders. They conclude that the share of university qualification entry holders not taking up studies due to tuition fees is between 1.4% and 4.4%, equalling between 6,000 and 18,000 persons (Heine, Quast, & Spangenberg, 2008 p. 15).
- Hübner (2009) analyses data from the Federal Statistical Office. He investigates changes in enrolments between 2006 and 2007 and concludes that a fee-induced decline in first-year students by about 2.74% across the country (equalling 5,000 students) can be determined using statistical methods. For fee-charging *Länder*, Hübner estimates a deterrent effect of at least 6.9%.
- Based on survey data with secondary school graduates from between 2006 and 2008, Heine & Quast (2011, p. 58) calculate that between 3.6% and 5.9% of all secondary school graduates of the 2008 cohort (in absolute numbers: between 14,000 and 26,000) will not take up higher education studies due to the financial burden caused by tuition fees.
- In a study on the effects of tuition fees in Bavaria, Gensch and Raßer (2011) report that the introduction of fees in Bavaria did not result in a sustained decline of enrolments. Monitoringbeirat (2011) likewise report that in Baden-Württemberg like in other fee-charging *Länder*, enrolment ratios did not decrease faster than in non-fee-charging *Länder*. Niedersächsisches Ministerium für Wissenschaft und Kultur (NMWK, 2010, p. 210) also reports that no decline in demand for higher education was observable after the introduction of fees.
- Helbig, Baier, & Kroth (2012) base their study on the same data source as Heine & Quast (2011). Using a differences-in-differences statistical approach, they come to the conclusion that the propensity to enrol at an HEI is not significantly lower in fee-charging *Länder* than in non-fee-charging *Länder*.
- Quast, Spangenberg, Hannover, & Braun (2012) use survey data from university entrance degree holders to examine whether the general likelihood to study differs between

university entrance qualification holders before and after the introduction of fees in fee-paying students. They find that the likelihood to study does not decrease disproportionately in fee-charging *Länder* compared to non-fee-charging *Länder*. The authors conclude that the parallelism between the decreasing likelihood to study and the introduction of tuition fees in several *Länder* could be explained by a ‘general effect’ of uncertainty which spread across the country after some *Länder* chose to charge fees, and which led to a general decrease in the propensity to study.

- Hauschildt et al. (2013, pp. 45-47) show that propensity to enrol at an HEI declined in the years following the introduction of general tuition fees (2006-2010), but they also observe that this tendency affected fee-charging and non-fee-charging *Länder* alike, and that a causal influence of tuition fees on this trend can therefore not be deduced. Nevertheless, the authors suggest congruence between the declining likelihood to study and survey results (discussed in Heine & Quast 2011) indicating that a certain percentage of potential students refrain from studying due to the financial burden caused by tuition fees. They conclude that the introduction of fees in some *Länder* may have raised cost-awareness of potential students in all *Länder* and therefore also may have caused some students to refrain from enrolling at an HEI.

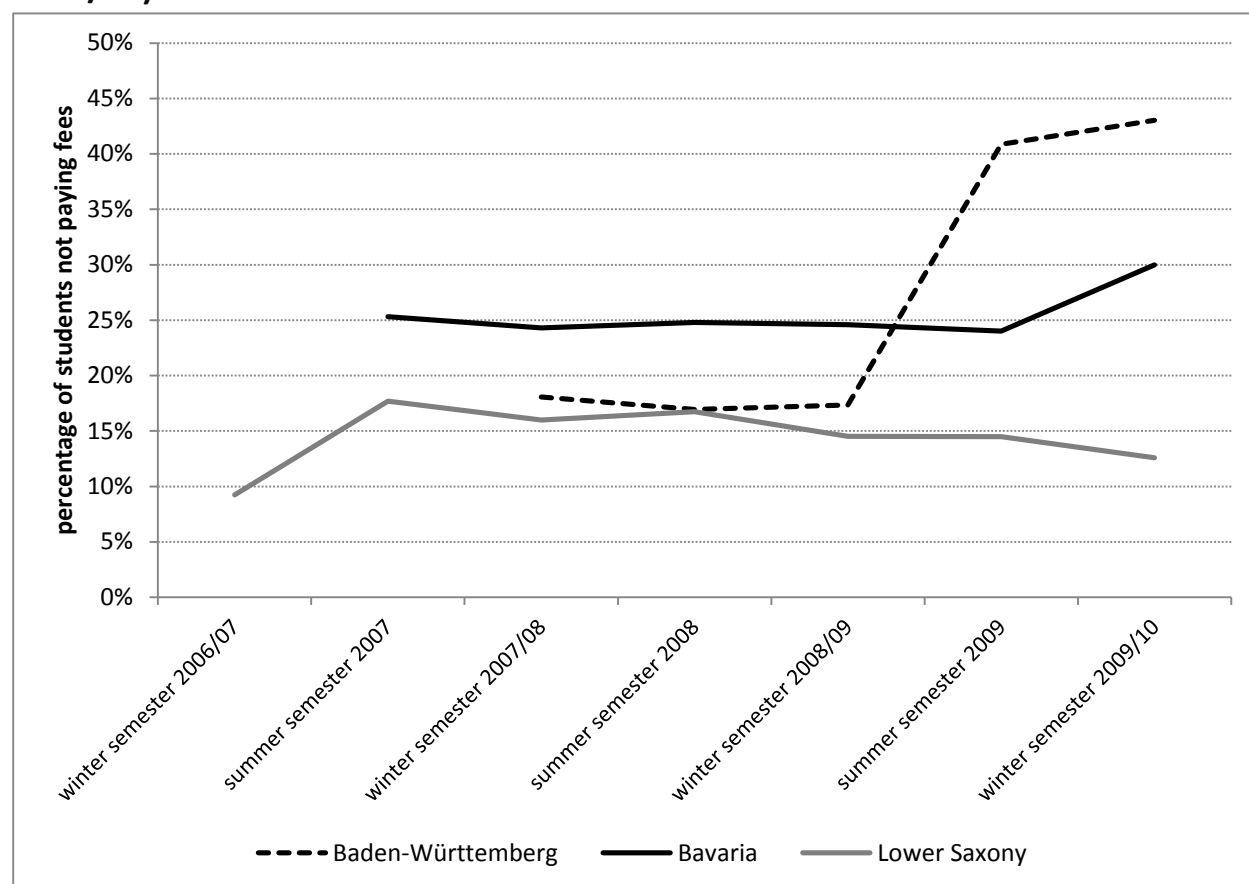
4.3 Composition of the Student Body

Continuing with the notion that tuition fees were the most important change in student cost in the period of investigation, this section mainly focusses on whether and how the introduction of tuition fees affected different social groups.

Given the assumption that some student groups would be explicitly disadvantaged by having to pay fees, all *Länder* in which general tuition fees were introduced established rules for the exemption from fees for special groups. Exemptions were granted for practical reasons (e.g. if a student passed a semester abroad to serve an internship), but especially in order to prevent social disadvantages. The definition of the latter group varies across *Länder*; most of them include students caring for their children or with care-dependent relatives, disabled students, and students from large families. In Baden-Württemberg, the latter criterion was defined so that students with two or more siblings studying and paying fees would be exempt from fees. As was explained above, the mere financial situation of a student as such was not a criterion of being exempt from fees, because it was argued that the BAföG system and additional loans provided by state banks offered sufficient opportunities to secure the cost of living even if a student had to pay fees.

Figure 4.8 gives an overview of the shares of students who were exempt from fees in three fee-charging *Länder* from which data were available. The chart shows a considerable degree of variation between *Länder*: Whereas Lower Saxony had a comparatively low share of exemptions (between 9% and 16%), the figures are about twice as high in Bavaria. Baden-Württemberg shows a peculiar pattern: Exemptions increase sharply in the winter semester 2008/09 as a consequence of a regulation introduced that semester, exempting students with two or more fee-paying siblings. With this regulation in place, exemptions amounted to no less than 43% of all students.

Figure 4.8: Share of students exempt from fees in three *Länder* (2006/7-2009/10)



Source: Gensch & Raßer, 2011 (Bavaria); Monitoringbeirat, 2011 (Baden-Württemberg); NMWK, 2010 (Lower Saxony).

Further data for Bavaria show that of all students exempt from fees, about 70% are exempt for social reasons. For Baden-Württemberg, the share of students exempt for social reasons was around 50% in the first three semesters charted in the graph above, and rose to more than 80% in 2009 when the law was introduced that exempted students with two or more fee-paying siblings from fees. For Lower Saxony, the share of students exempt for social reasons is roughly two thirds (19th HIS/DSW Social Survey, p. 277).

Table 4.2 shows how fee exemptions for social reasons affected different social groups in five *Länder*. The table shows that across *Länder*, there is no direct correlation between social status as defined by the HIS/DSW Social Survey and being exempt from fees for social reasons. This is essentially because the laws concerning exemption from fees for social reasons focus on concrete conditions in which a person is, e.g. caring for a sick family member or acting as an equal

opportunity commissioner, whereas the definition of social group as used by the HIS/DSW Social Survey is focussed on parents' educational degree and professional status.

Table 4.2: Percentage of students exempt from fees for social reasons among all students, by social groups in five *Länder* (summer semester 2009)

Social group	Baden-Württemberg	Bavaria	Hamburg	Lower Saxony	North Rhine-Westphalia	Average
Low	37	14	5	7	5	14
Mediate	31	15	1	5	3	12
Higher-intermediate	32	19	5	3	3	14
High	35	24	4	4	4	16
<i>Total</i>	<i>34</i>	<i>19</i>	<i>3</i>	<i>4</i>	<i>4</i>	<i>14</i>

Note: Social status (low, mediate, higher-intermediate, high) is determined by a combination of father's / mother's highest educational qualification and professional status, see 19th HIS/DSW Social Survey, p. 564.

Source: 19th HIS/DSW Social Survey.

The literature on social impacts of tuition fees, which will be reviewed below, mostly focusses on how (potential) students from different social backgrounds are affected by tuition fees in their study choice. The standard criterion used to assign students to a social background is the educational status of their parents. The literature thus represents a different perspective on social composition when compared to the laws on tuition fees.

- Heine et al. (2008) observe that social inequalities in enrolment increased visibly, although not (technically speaking) significantly in the year (2006) in which general tuition fees were introduced in two *Länder* and enacted for the next year in five *Länder*. The results are based on survey results showing that between 2004 and 2006 the probability of taking up higher education studies decreases more markedly for university entrance qualification holders with at least one parent without an HEI degree than for those having at least one parent with an HEI degree. However, the authors also point out that a direct causal link between the introduction of tuition fees and the probability to study cannot be established due to other interfering factors, in particular study reforms (Heine et al. 2008, p. 52).
- The 19th HIS/DSW Social Survey includes a section on student financing of tuition fees. It does not deal directly with the impact of tuition fees on students from different social backgrounds, but it discusses how students' judgements concerning their financial security during their studies varies between students from different social backgrounds. The result is that the lower a student's social background, the less secure he/she judges his/her financial situation (19th HIS/DSW Social Survey, p. 243). However, the results also show that between 2006 and 2009, judgements of financial security increased throughout social groups. From this contradictory finding one may conclude that the

introduction of tuition fees in 2006/07 did not have a marked influence on judgements of social security.

- Monitoringbeirat (2011, p. 14) compares the social composition of fee-paying and non-fee-paying students and finds that in the fee-charging *Länder*, the share of students from low and medium social backgrounds did not decrease between 2006 and 2009, and that in Baden-Württemberg, the share of students from lower social backgrounds even increased by 2%.
- Gensch & Raßer (2011, pp. 47-75) report that in Bavaria (a fee-charging *Land*) the social composition of the student body did not alter considerably after the introduction of tuition fees. One effect the authors do observe is a slight decline in the share of students from higher social backgrounds between 2006 and 2009. The share of students from lower and medium social backgrounds increased in the same period.
- Heine & Quast (2011) come to different conclusions with respect to the national situation: They find that deterrent effects of fees are more prominent with women, with persons from a non-academic background, with persons who graduated from a vocational school, with persons with lower grades and with persons who judge their career prospects as medium or bad (Heine & Quast 2011, pp. 59-60). Taken together, these results would entail a restriction of the social diversity of the student body caused by tuition fees over time. An increased cost-sensitivity specific to women is also a reason for increasing social selectivity of universities according to Lörz (2013).
- Quast et al. (2012) work with data from the same panel as Heine et al. (2008) and Heine & Quast (2011), in which university entrance degree holders are surveyed. The propensity to study is determined by asking whether respondents have already enrolled at an HEI or have the firm intention to do so. The authors find that since the introduction of fees in some *Länder*, a general decline in the likelihood to study has taken place, and explain that this decline is caused by an increase in the general cost-awareness of potential students, which may have had deterrent effects. They also observe that likelihood to study decreased more with women and with persons from lower social backgrounds. Following the authors' line of argument, one can infer that tuition fees have the potential to aggravate the social disparities in the German higher education system.

In Germany, international students do not (with few exceptions) pay additional fees for attending German universities, irrespective of where they come from. This also means that German higher education was free to foreign students until the introduction of the tuition fees in some *Länder*. For this reason, it is also interesting to examine if foreign students were affected by this fee change. The question whether the introduction of tuition fees caused fewer international students to come to a German HEI to study is dealt with in Gensch & Raßer (2011) and Monitoringbeirat (2011). Gensch & Raßer (2011, p. 3) report that in Bavaria, the share of international students dropped by roughly 7% after the introduction of fees, and state that this can be linked to the rising cost caused by fees which students are not willing to pay. Monitoringbeirat (2011, p. 21) reports that in Baden-Württemberg, the evolution of the share of international students does not differ significantly from Germany as a whole. The authors point out that there is a national trend towards smaller shares of international students, and that this trend started well before the introduction of tuition fees in some *Länder*. DAAD & HIS-HF (2011, p. 8) shows that for Germany as a whole, the general evolution of international student numbers is an increase of

about 80% between 2000 and 2006 and stagnation between 2006 and 2010, with a minor drop in 2008. This general trend is mirrored quite closely by most individual *Länder*, fee-charging or not, although a more dynamic increase is visible for most Eastern German *Länder* (DAAD & HIS-HF 2011, p. 11).

4.4 Completion Rates

The literature on completion / dropout rates is surveyed below, and comments from the experts are reported.

- Heublein, Hutzsch, Schreiber, Sommer, & Besuch (2009) discuss results from a study in which HEI dropouts from 2008 were surveyed. The authors report that 19% of all dropouts report that financial difficulties were the main reason for dropping out (in 2000, the rate was 18%). 39% of all dropouts named financial difficulties as one reason for terminating their studies. There is a difference between universities and *Fachhochschulen*: Whereas 17% of dropouts of universities name financial difficulties as the main reason for terminating, the percentage is 27% at *Fachhochschulen*. The authors link this difference to differences in social composition of the student body in these two types of HEIs. Overall, the study shows that financial difficulties are an important influencing factor of success in studying, although the influence of fees in particular is not a subject of this study.
- Heublein, Richter, Schmelzer, & Sommer (2012) study changes in completion rates between the 2006/07 enrolment cohort and the 2004/05 enrolment cohort. They find that with the Bachelor students, dropout rates increased by 3 percentage points from 25 to 28, a change which is mostly due to universities, where the dropout rate for Bachelor students is 35% (*Fachhochschulen*: 19%). The study also looks at different fields of study and finds that dropout rates in engineering are particularly high (50% for Bachelors at universities for the 2006/07 cohort), whereas they are much lower (11%) with students in *Staatsexamen* (degrees with state examinations) programmes. The authors discuss the results exclusively in the context of the Bologna reforms and how they affect different study programmes and HEI types; no distinction is made between fee-charging *Länder* / HEIs and non-fee-charging *Länder* / HEIs.

According to several interviewed experts, any changes in duration (and mode) of study are probably more closely related to the Bologna reform, particularly the introduction of the Bachelor/Master system, and to performance-based funding schemes in which HEIs are paid per numbers of graduates or students in their standard period of study, than to cost-sharing-related factors.

4.5 Evaluation

Overall, clear evidence supporting the deterrent effects of increasing private revenues on participation could not be found in this review.

The most important cost-sharing related change in student financing was the introduction of tuition fees in some *Länder*. The data show no unambiguous effects on participation levels in fee-charging *Länder*, but literature was also reviewed which provided more in-depth investigations. The findings of current research on this question, however, deliver no clear picture. Whereas most authors find that a certain (low) percentage of students are deterred from studying because of the obligation to pay tuition fees, others find no such effects. Those authors who find a deterrent effect of tuition fees specify this effect as concerning between 1.4% and 5.9% of university entrance qualification holders, depending on the source and reference year.

The discussion of social effects of tuition fees showed that women and persons from lower social backgrounds are generally more cost-sensitive than other social groups, and are therefore more susceptible to deterrent effects caused by tuition fees. Analyses are complicated by the fact that other profound changes in the organisation of studies were on-going in the same period of time: The implementation of the Bologna reforms was at its peak in the middle of the 2000s.

This chapter also showed that, aside from tuition fees, costs for students did not increase in the period of investigation. Specifically the cost of living as specified by the most important types of expenditure did not increase, and total public expenditure on support systems for students did not decline. Since the fees themselves were not very high and large shares of the student population in the fee-charging *Länder* were exempt, this could explain the small effects of the fees on participation.

No clear relationship could be discovered between changes in completion rates and the introduction of tuition fees. This is partly due to the short period of time during which tuition fees were charged in the *Länder* concerned, and presumably, once again, to the relatively small share of tuition fees in total student costs. The interviewed experts agreed that the study reforms were probably more important in bringing about changes in this area than the introduction of tuition fees – a conclusion which is mirrored by the literature, which also focusses on the effects of study reforms on dropout rates, time-to-completion etc.

5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study (but not necessarily on the share of students studying). Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

5.1 Student Study Patterns

This section examines changes in study patterns based on changes in time spent on studying during the time enrolled at an HEI, and based on the age of students.

Time spent on studying

The average time students spend on studying and employment are represented in Table 5.1:

Table 5.1: Hours per week spent on studying and employment and share of students in employment (1994-2009)

	Hours spent on studying	Hours spent on gainful employment	Share of students in gainful employment
1994	36	7	70
1997	36	8	69
2000	36	8	67
2003	34	7	68
2006	34	7	63
2009	36	8	67

Source: 15th -19th HIS/DSW Social Surveys.

The data show no substantial changes in the times spent on studying and employment over the years. The most interesting question with respect to Hypothesis D is, again, how the introduction of tuition fees changed study patterns of fee-paying students. The 19th HIS/DSW Social Survey (pp. 278-280) includes a section investigating how fee-paying students cover their additional costs through fees, and finds that the largest share (48%) use income from parents to cover fees

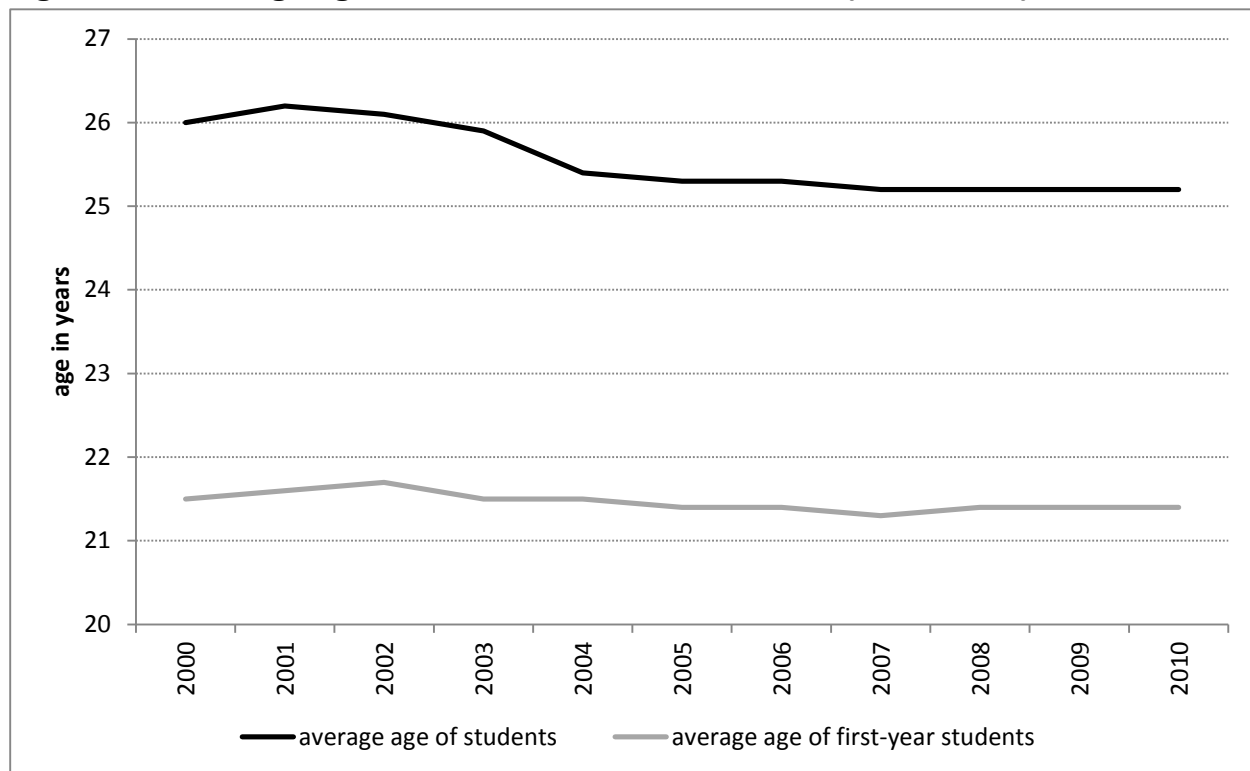
fully or partially. The second largest group consists of students who use income from employment to cover the cost of fees (30%). Other students use savings (24%), and a minority uses special loans from state banks (11%). It is not certain, however, whether those who use income from employment work exclusively to cover the cost of fees, or whether they would also work if they did not have to pay fees. The survey also shows (19th HIS/DSW Social Survey, p. 238) that fee-paying students do not gain a greater share of their total income through work than non-fee-paying students. One can conclude that the introduction of fees did not lead to a significant increase in time spent on employment for the concerned students.

The HIS/DSW Social Survey also investigates the share of full-time versus part-time students based on how much time a student actually spends on studying versus other occupations, like employment, child care etc. This definition of full-time / part-time is different from the definition used in Section 3.2, in which this category was associated with the official status as full-time / part-time student as defined by the study programme in which he/she is enrolled. Part-time students are defined by the Social Survey to be those spending less than 25 hours per week on study-related activities (i.e., attending lectures or self-study periods).

With respect to the actual time spent on studying, the 19th HIS/DSW Social Survey (p. 343) finds that the share of students studying full-time (2009: 79%) increased between 2006 and 2009, whereas the share of students studying part-time (2009: 21%) decreased in the same period of time – for the first time since 1988. This goes to show that the introduction of tuition fees did not lead to an increased share of students studying part-time. On the contrary, the share of students studying full-time (with or without an additional employment) increased by 4% between 2006 and 2009. Whether this tendency is caused by an increasing desire to finish studies quickly to save on tuition fees cannot be inferred from the data. The 20th HIS/DSW Social Survey (p. 346) shows that in 2012, the trend does not continue: The share of students studying full-time decreased by 1%.

Distribution of students by age

Figure 5.1 shows that whereas the average age of students decreased by about one year in the period of investigation, the average age of first-year students roughly stayed the same. An effect of cost-sharing, and specifically tuition fees, on the average age of (first-year) students is thus not observable. In particular, there is no evidence that tuition fees cause students to choose a non-tertiary education first and delay higher education until they have sufficient means to be able to pay tuition fees from their savings.

Figure 5.1: Average age of students and new entrants (2000-2010)

Source: BMBF Data Portal.⁸⁵

5.2 Location of Study

Given the fact that some *Länder* introduced tuition fees in 2006/07, whereas others did not, one could expect that this led to shifts in enrolments as a consequence of students avoiding fee-charging *Länder*. This issue has been investigated in the recent literature. The following text surveys the main results.

- Hetze & Winde (2010) compare the shares of incoming and outgoing students between *Länder* and find that in the years 2005 to 2008, there are no significant changes in the relative incoming- versus outgoing measures between *Länder* that can be related to the introduction of fees.
- Jaeger & Quast (2010) explore potential mobility effects of charging tuition fees on secondary school graduates from fee-charging and non-fee-charging *Länder*, and find no increased migration from fee-charging to non-fee-charging. An effect that they did

⁸⁵ On-line at <http://www.datenportal.bmbf.de/portal/de/K25.gus?rid=T2.5.20#T2.5.20> (24.07.2013).

observe is a decreased share (by about 4%) of migration from students who earned their university-entrance qualification in a non-fee-charging *Land* to a fee-charging *Land*.

- Heine and Quast (2011) show that fees do not cause secondary education graduates in fee-charging *Länder* to escape into *Länder* without fees. However, they report an increased reluctance of secondary education graduates to move from non-fee charging *Länder* to fee-charging-*Länder* to study, starting from the period of time when fees were introduced. This result is corroborated by the 19th HIS/DSW Social Survey (pp. 63-64).
- Using applicant data from the Central Office for the Allocation of Study Places, Dwenger, Storck, & Wrohlich (2012, p. 16) find that university entry qualification holders from fee-charging states have “a significantly lower probability of applying for a university in their home state once tuition fees have been introduced”. They estimate that the probability of applying at a fee-charging HEI is reduced by roughly 2 percentage points for applicants from a *Land* charging fees.
- Bruckmeier, Fischer, & Wigger (2013) use administrative data to investigate how the introduction of fees changes enrolment on the institutional level. They find that overall, HEIs in fee-charging *Länder* face an overall decline in demand of between seven and eight percent (Bruckmeier et al., 2013, p. 27); moreover, they find that the further away an HEI in a fee-charging *Land* is from a non-fee *Land*, the weaker the out-migration effect. The authors argue that this finding can be explained by the concept of ‘mobility costs’, which are lower for students living near borders.
- Heine (2008) reports survey data in which students were asked for the reasons why they chose to study at their present HEI. 33% of the respondents in the Western German *Länder* and 77% in the Eastern *Länder* specified absence of fees as one reason why they chose their present HEI. Other, more prominent reasons were, in particular, the selection of study programmes and closeness to the student’s home town.

Besides these studies considering several or all German *Länder*, there are also a number of studies each focusing on one specific fee-charging *Land*:

- Monitoringbeirat (2011, p. 12) reports that in Baden-Württemberg, a *Land* charging fees since 2007, incoming migration from non-fee-*Länder* did not decline, but rather increased by 4% between 2006 and 2008. Statistisches Bundesamt (2012, p. 29) reports that of the five *Länder* charging fees in 2010, two had a positive incoming-outgoing ratio, whereas three had a negative one.
- Gensch and Raßer (2011, pp. 33-34/41-42) report that the share of outgoing students from Bavaria increased slightly since the introduction of fees (2007-2009), and that except for a decrease in 2008, enrolments from students having received their university entrance qualification in one of the other *Länder* increased in Bavaria, except for students from Eastern German *Länder*. They conclude that no clear correlation can be established between the introduction of fees and migration behaviour, both in the incoming and outgoing directions.
- Hauschildt et al. (2013) show that in Lower Saxony, a fee-charging *Land*, the incoming/outgoing ratio developed negatively since the introduction of fees in 2006/07, but they also point out that this trend began years before the introduction of fees and can thus not be directly related to the avoidance of higher costs through fees.

In sum, the literature on changes in mobility caused by tuition fees is not conclusive. One finding that seems to be supported by most of the literature is that the introduction of fees is linked to a slight decline in inward-mobility from non-fee-*Länder*. The findings with respect to the behaviour of secondary school graduates from fee-charging *Länder* are ambiguous. If there is an effect on outward-mobility caused by fees, it appears to be in a very low percentage range.

5.3 Field of Study

This section looks at changes in enrolment behaviour to examine whether students tend towards different programmes in the face of changes to cost-sharing. The relevant administrative data used to answer this question were presented in Section 3.1, where new entrants by field were examined as a proxy for supply of study programmes. No clear indications were found that tuition fees influence the choice between fields of study.

The question of whether students are influenced by fees when choosing between fields of study is less frequently dealt with in the literature on fees than questions concerning the place of study or the decision to study at all. Monitoringbeirat (2011, pp. 23-24) reports that no clear changes to enrolment behaviour by field of study could be discerned between 2006 and 2009 in Baden-Württemberg, a *Land* which introduced fees in 2007. In Gensch and Raßer (2011), a decrease of students of arts and humanities in Bavaria between 2006 and 2010 amounting to 4% is reported. This result is verified by the data presented in Section 3.1. However, as pointed out earlier, it is difficult to link such findings to the introduction of tuition fees, since changes of a similar order can be observed in non-fee-charging *Länder* and in different periods of time, too.

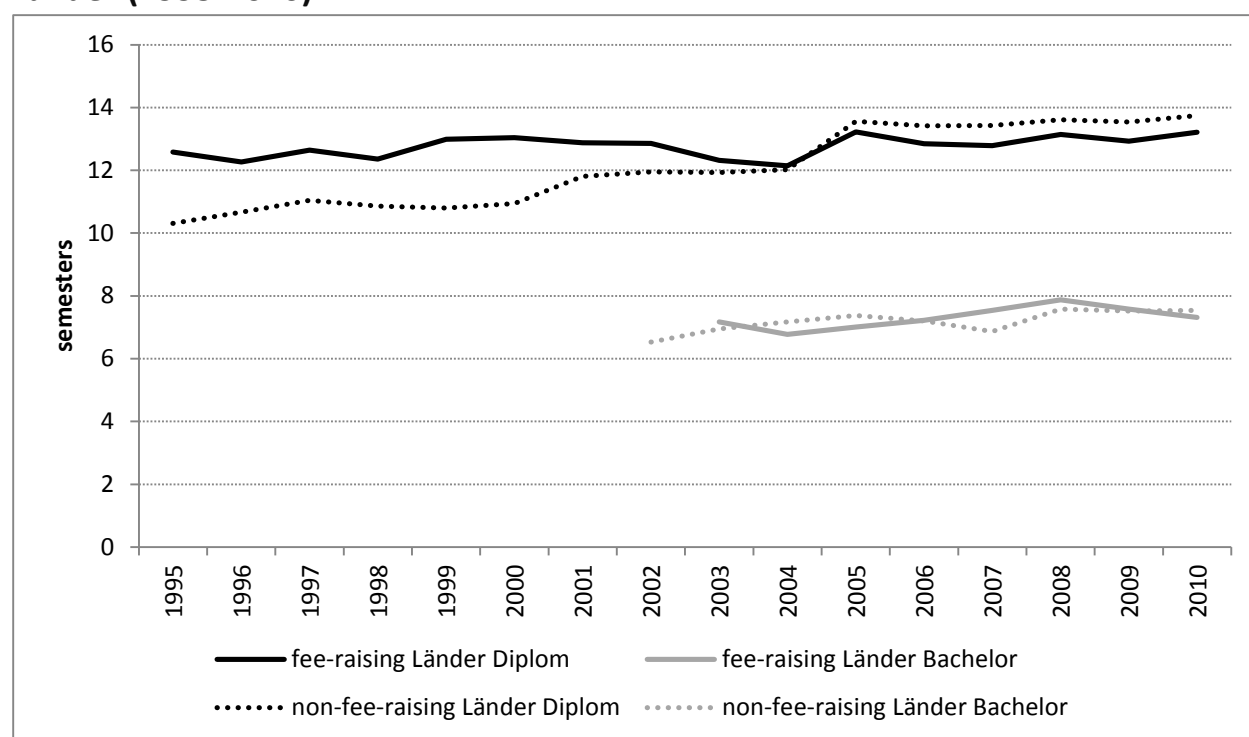
The issue whether tuition fees influence enrolment behaviour was also integrated into the expert interview series. Several experts at both the institutional and ministerial level reported that no clear correlation was visible between the introduction of tuition fees and choice between fields of study. What is important in this context is that no *Land* charges/charged differential fees in terms of fields of study, i.e., there was a single fee for all students studying at the same HEI, no matter which subject they were enrolled in. According to one interviewed expert, by standardising fees policymakers explicitly wanted to prevent tuition fees from influencing individuals' choices of their study subject.

5.4 Time-to-Completion

The question of whether and how tuition fees have changed completion rates is difficult to answer because of the concomitant reforms which aim at shortening study periods (among other things). Figure 5.2 charts average length of studies over time of both *Diplom* and Bachelor students at fee-charging versus non-fee-charging *Länder*. Since Hesse and Saarland introduced and abolished tuition fees during the period of investigation, they do not fit neatly into either category and were thus excluded from the calculation.

The graph shows that for *Diplom* students, the average length of studies decreased in fee-charging *Länder* after 2005 (although it remained higher than in the 1990s), which could be a consequence of the introduction of fees, considering that the average length of studies in the non-fee-charging *Länder* is higher (the difference is about half a semester). For bachelor students in fee-charging *Länder*, the average length of studies dropped by about half a semester between 2008 and 2010, whereas there was no such trend in the non-fee-charging *Länder*. Whether this can be related to the introduction of fees is questionable, not least because the students who graduated in 2008-2010 spent most of their studying time without paying fees.

Figure 5.2: Average length of studies in fee-charging and non-fee-charging *Länder* (1995-2010)



Note: Hesse and Saarland excluded. *Länder* were not weighted by student numbers for calculation of average values.

Source: Destatis / own calculations.

A study that touches on times-to-completion is Heine and Quast (2011). Based on survey data, the authors report that in 2008, 62% of the surveyed students intend to finish their studies as quickly as possible in order to save costs through tuition fees (2006: 66%) (Heine & Quast, 2011, p. 63). 18% (2006: 13%) report that they will not change the speed of studying due to tuition fees. Another group of 17% intends to take up a job in order to pay additional cost caused by fees (2006: 20%). One can assume that this strategy will not shorten the duration of studies.

5.5 Evaluation

This Chapter investigated whether changes in cost-sharing lead to changes in study behaviour in terms of time spent on studying, age of enrolment, location of study, field of study and time-to-completion. An important background assumption, carried over from Chapter 4, was that the crucial event in terms of cost-sharing in the period of investigation was the introduction of fees in some *Länder* in 2006/07.

A methodological constraint worth repeating here arises from the fact that the introduction of tuition fees in several German *Länder* coincided with other political initiatives likely to have affected study behaviour. Interviewed experts most frequently noted the implementation of the Bologna reforms and their influence on matters such as average length of study, choice of field of study etc. This contextual constraint makes it difficult to come to definite conclusions as to the influence of cost-sharing on student behaviour in the German case.

That being said, the conclusion that emerges is that tuition fees had little influence on the observed aspects of behaviour. The most studied aspect of changes in study behaviour in the German case is location of study. As the data and literature review showed – not surprisingly perhaps – there is evidence that a certain percentage of students from non-fee-charging *Länder* are deterred from moving to a fee-charging *Land* to study due to the introduction of fees. The existence and significance of the complementary effect, i.e., secondary-school graduates being driven to a non-fee-charging *Land* because of fees, is more ambiguous. In any case, it can be stated that fee-charging *Länder* did not suffer a drastic decline in enrolments (nor a disproportionate increase) in the four years after the introduction of fees. This can again be related to the observation made in Chapter 4 that in Germany fees are only a minor part of students' total costs (especially for a large share of students who are supported by their parents), so that the behaviour-changing effect of fees is not likely to be pronounced. What is missing in Germany is an in-depth, substantive study on the effects of cost-sharing on the behaviour of certain student types. The available evidence suggests no strong effects, for instance, on students from low socio-economic groups. However, Germany is known to have socially selective access to higher education (see Orr, Haaristo, & Little, 2011) and fees may, relatively speaking, have additional effects on this group of students.

6. CONCLUSION

The analysis of cost-sharing in Germany has shown that the introduction of tuition fees in seven *Länder* in the years 2006/07 was the single most important discontinuity in the private-public cost-sharing balance. Tuition fees led to a significant increase in income of HEIs, verifying Hypothesis A. However, the introduction of general tuition fees did not entail a radical change in the higher education funding architecture comparable to what took place in e.g. England: For universities in fee-charging *Länder*, the share of income through tuition fees was calculated to be in the range between 5% and 7% of HEIs' total income; for *Fachhochschulen*, the share was higher. Put differently, tuition fees in Germany made an additional contribution to the actual cost of higher education in the *Länder* in which fees were charged. In all *Länder*, the largest part of the growth of the higher education system was accommodated through increases in institutional core funding for HEIs and, more recently, a special state programme to fund additional study places.

Concerning Hypothesis B, some indications of increased responsiveness were found, but the role of tuition fees in this development was arguably limited. From the point of view of HEIs, receiving adequate institutional core funding remains the most important factor in covering the basic costs of training students. Interviewed experts stated that the rationale behind the introduction of tuition fees was not to generate responsiveness through the creation of new programmes and courses, but rather to improve quality in teaching. Two informants reported that even though the financial effects of tuition fees were limited, there was a marked change in the attitude of both students and teachers towards a stronger user or 'customer' focus.

One segment of higher education in which public HEIs can charge fees to cover the full cost of education is further education programmes. The study has highlighted that public HEIs appear nevertheless reluctant to use this opportunity. Several reasons for this were discussed, among them the fact that HEIs may not see it as their core task to offer further education, and disadvantageous framework conditions such as capacity constraints limiting the ability to offer further education programmes.

The growing importance of third-party funding was discussed as the most important change in the financing structure of HEIs. In this area, HEIs (particularly those with a strong research-orientation) do have incentives to act strategically to maximise funds. However, this development is not directly related to the cost-sharing balance in Germany, because the share of income through public third-party funds has increased as much as income from private third-party funds, with the former making up a larger part of the total income of HEIs.

Like income through tuition fees, income through third-party funding is tied to performing quite specific tasks – mostly the implementation of research projects. For this reason, it cannot take the place of institutional core funding, which is largely used to fund teaching activities. Indeed, as was shown in Chapter 2, funding per student did not effectively decrease in the period of investigation even when third-party funds are dropped from the picture. The rationale behind the

increase in third-party funding in the German system is to increase efficiency in research through competition and to foster clear profile differences between institutions. These objectives are typical desired outcomes of privatisation in other higher education systems. In Germany, it is the government that tries to encourage these processes by strengthening funding in a competitive mode. The idea of establishing a state-controlled, quality-oriented competition between HEIs has recently been transferred to the realm of teaching: The Quality Pact for Teaching (*Qualitätspakt Lehre*, 2011-2020) provides two billion euros on a competitive basis for innovative teaching projects.

Concerning the student side of cost-sharing, the study has shown that the introduction of tuition fees was the most notable factor in changing student cost. The complexity of determining effects on participation (Hypothesis C) was discussed in Chapter 4. The majority of studies on this issue suggest that the effects on participation were relatively minor or even inexistent, a result which is often ascribed to the relatively small amounts students had to pay. However, some studies did observe deterrent effects of tuition fees, particularly where cost-sensitive groups are concerned. Women and persons from lower social backgrounds were named as examples.

There is only sparse evidence of behaviour changes caused by the introduction of fees (Hypothesis D, Chapter 5). This result might again be linked to the moderate share of fees in students' total expenditure, and to the fact that in some fee-charging *Länder*, a large proportion of all students were exempt from paying fees.

It is notable that many of the interviewed experts highlighted that both the introduction of fees and their subsequent abolition was a 'political project'. Indeed, the recent abolition of tuition fees was a consequence of a change of government in all *Länder* except Bavaria⁸⁶. Nevertheless, without this source of funding additional public funds will have to be provided in order to keep funding per student steady. An important context information, however, is that Germany's total spending on the tertiary education sector was below OECD-average throughout the period of investigation.

⁸⁶ In Bavaria, the government decided to abolish general tuition fees in early 2013, after a petition for a referendum had been passed which with some degree of probability would have resulted in the abolition of fees.

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APPENDIX: LIST OF INTERVIEWED EXPERTS

Name	Position/Affiliation	Interviewed
Brigitte Göbbels-Dreyling	Head of Department Financial and Legal Affairs, Deputy Secretary General HRK (German Rectors' Conference)	June 2013
Achim Hopbach	At time of interview: Managing Director Agency for Quality Assurance and Accreditation Austria (AQ Austria) Formerly: Managing Director German Accreditation Council	June 2013
Christiane Konegen-Grenier	Senior Researcher Cologne Institute for Economic Research Department for Vocational and Academic Education	July 2013
Matthias Kreysing	At time of interview: Head of Controlling University of Göttingen Presently: Vice President University of Hildesheim	June 2013
Volker Kück	Vice President Ostfalia University of Applied Sciences	August 2013
Erik Marquardt	Board member German Student Association	July 2013
Stefan Niermann	Head of controlling and higher education economy Lower Saxony Ministry of Science and Culture	June 2013
Frank Ziegele	Managing Director CHE Centre for Higher Education / Professor of Higher Education and Science Management Osnabrück University of Applied	June 2013

	Sciences	
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HUNGARY

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- Prof. József Temesi, Director, Corvinus University of Budapest, Hungary
- Zsuzsanna Veroszta Ph.D., Senior researcher, Educatio Nonprofit LLC, Hungary.

1. INTRODUCTION

1.1 Overview of Higher Education in Hungary

The Republic of Hungary has a population of around 10 million inhabitants. Currently, there are 360,000 students in Hungarian higher education, around 87% of whom are studying at public HEIs. The share of students in public HEIs has remained very stable for the past decade. After a period of consolidation in the higher education institutional landscape, Hungary now has 26 universities and 44 colleges (public and private). The colleges tend to be more specialised and smaller than the universities, and whilst both HEI types can offer titles at Bachelor and Master level, colleges cannot confer doctoral titles.

Hungarian law recognises three categories of HEI: public, private and church-maintained (owned), which each have a mixture of universities and colleges, see Table 1.1.

Table 1.1: HEIs by type and sector

	Public	Private	Church-maintained
Universities	19	2	5
Colleges of higher education ⁸⁷	10	12	22

Source: Ministry of Human Resources, 2013.

All three types of HEI can receive public funding on condition of a successful accreditation of their study programmes by the Hungarian Accreditation Committee for Higher Education (established 1993). Church-maintained HEIs are private according to the law. There are two larger comprehensive church-maintained universities. The smaller colleges tend to specialise in theological and pastoral-related study programmes (e.g. social work). Private higher education institutions tend to be colleges and can broadly be characterised as non-profit organisations.⁸⁸

According to the European University Association's autonomy scorecard, Hungarian universities have a medium-low level of autonomy (EUA, n.d.-b). Due to the amalgamation of the different types and ownerships of HEIs in the current system, this characterisation can broadly be applied to all HEIs in Hungary. Unlike many other EU countries on the autonomy scorecard, this low assessment of institutional autonomy is not based on fiscal regulations, which are relatively loose. It reflects limitations related to organisation, staffing and academic control. The employer of the executive head of a university is the minister. Membership of the governing boards (the so-called 'financial councils') are controlled externally. This restricts the organisational autonomy of the HEIs. In terms of staffing, whilst universities can choose their staff freely, the contracts they have to use are based on regulatory contracts for civil servants, which dictate

⁸⁷ In both English and Hungarian sources these are variously titled university colleges, universities of applied science and colleges of higher education. In the following text, these will simply be termed colleges.

⁸⁸ For examples: the Kodolányi János Főiskola with 10,000 students:
http://www.kodolanyi.hu/en/university_college/mission (14.02.2014)

wages and the rules for employment termination. Academic restriction pertains to the fact that new study programmes have to be accredited beforehand and accreditation regulations and the accrediting body is set and financed by the central authority. Furthermore, the entrance requirements for more than half of all students (i.e. those on state-funded places) are set and administered by a central authority and not the HEI in question.

Most Hungarian students now follow a Bologna-type programme at Bachelor, Master or doctoral level. These entered into law in 2004 and were implemented at institutional level from 2005. Before this, universities and colleges were part of a binary system and university degrees took four to five years, whilst college degrees took three to four years. Some long duration (one-cycle) programmes still exist. They end in a Master qualification and tend to be in the subject fields of medicine, engineering and law.⁸⁹

1.2 Key Higher Education Stakeholders

The regulations and procedures for higher education are set by the State Secretary for Higher Education, who, since 2010, has been affiliated to the Ministry of Human Resources, which also incorporates the portfolios for public education, health, social welfare, culture and sports.

In the case of the determination of specific reforms to higher education, the initiative often comes ultimately from the prime minister (on recommendation of the Minister of State for Human Resources), including the determination of the public funding of higher education and the number of state-funded study places.

The Hungarian Accreditation Committee for Higher Education (*Magyar Felsőoktatási Akkreditációs Bizottság – MAB*) was set up in 1993. It is an independent body of experts with national competence set up to evaluate the quality of study programmes, academic research and creative activities of higher education institutions and to assess the operation of institutional quality improvement systems.

The Higher Education and Research Planning Board (*Felsőoktatási Tervezési Testület – FTT*) is an independent advisory body of experts, who express opinions and make proposals on issues relating to funding and development activities of higher education.

The application procedure to HEIs is administered centrally by the Higher Education Authority (*Oktatási Hivatal*), with Educatio Nonprofit LLC (*Educatio Társadalmi Szolgáltató Nonprofit*) coordinating and executing the admission procedure.

Student fees are a major issue for Hungarian higher education, therefore, the Office of the Commissioner for Educational Rights (*Oktatási jogok biztosa*) is often required to act as an ombudsman in cases in which applicant students feel that they have been unfairly treated in respect of entrance to higher education and/or the award of state-funded study places.

⁸⁹ Since 2013, this list also includes teacher-training.

The higher education institutions are represented on a national level by the Hungarian Rectors' Conference (MRK), which advocates the interests of their member institutions. It is expected to act as a consultative organization on issues related to governance and development of the higher education sector.

The National Conference of Students' Self-Governing Bodies (HÖÖK) and the National Association of PhD Students represent students at national level and make proposals on higher education issues concerning their members.

The Student Loan Centre (*Diákhitel*) provides student loans to applicant students at a preferential rate. It is a non-profit bank, which itself is funded inter alia through a European Central Bank loan.

1.3 How Governments Fund Institutions

Public funding of HEIs today is a formula based funding. It has three main components: funding of instruction, research support and covering the maintenance costs. The first component mainly depends on the number of students (about 70% of the state support). The second one is based on the number of qualified teachers and PhD students (10-30%). The third one is based on historical data (about 10%). Investment decisions are made on governmental level.⁹⁰ In addition to the regular state support for HEIs there are competitive state funds for research projects.

The mechanism to distribute the majority of the state support has been based on the so-called state-funded places since 1997. Students obtaining state-funded places, based on their school grades, are able to study for free. The state funding is paid from the state budget to the HEI through the Treasury in lieu of the tuition fees students otherwise pay. Before 1997, state grant allocations were based on historical data and the amounts were negotiable.

Since the early 2000s, around half of all students (see Figure 2.4) receive a state-funded place. The funding was based – at the time – on the standard costs for such study programmes, but due to the lack of any kind of adjustment it has lost its relation to the actual costs. As it was described earlier, the standard costs are divided into cost categories (operating expenses for instruction, research, management and specific tasks). The number of state-funded places in a particular field of study and the minimum score for an applicant to obtain a state-funded study place is determined by the ministry annually and places are allocated to the HEIs individually. Universities and colleges may enrol a higher number of students, but these must cover their own costs through self-financed tuition fees. These fees are set autonomously by each HEI, subject to the ceilings set by law. However, according to the interviewees, institutions tend to keep fees low due to high levels of competition.

Until 2010 private HEIs made contracts with the state to get state-funded places (the amount was equal to the amount given to state-owned institutions). Church-maintained institutions have got

⁹⁰ A new system is planned to be introduced from 2014: all three components will depend on the number of students (per capita funding). It has not been approved by parliament yet.

maintenance support, too, based on an agreement with the Vatican. Since 2010 the number of state-supported places for private institutions are minimal, close to zero. Out of those students studying on state-funded places, the best students receive additional state scholarships to cover general living costs. That money also goes to the budget of the HEI, however, this is a formality only, because it must be passed on directly to the students.

A smaller amount of funding is available to universities based on research applications. However, according to the Higher Education Act from 2005 this amount may not exceed 5% of the total amount allocated on the basis of teaching costs in the main budget.

Project funding (especially from the European Union) is becoming increasingly attractive for HEIs, which see them as a further way to cover, in particular, the costs of incumbent staff.

In the Higher Education Act from 2005, the state introduced an instrument to make the public funding of HEIs more transparent. Public HEIs have to negotiate a three-year maintenance agreement with the ministry. The maintenance agreement – in other jurisdictions often called a performance agreement⁹¹ – determined the performance requirements for the HEI over the subsequent three-year period, the fixed components as well as the amounts for the variable components of state funding (determined by performance indicators). The hope was that this system would also provide a certain amount of financial security for the HEIs. However, the economic crisis in 2008 resulted in a mid-term reduction in the state funding for HEIs and the agreement system was abolished in 2010.

One of the most recent developments has been the attempt of the state to calculate future demands of the economy and the labour market and specifically target the state-funded student places to these fields. Since 2011 the number of state-funded places has declined significantly and it is expected that this number will continue to decline over the coming years.⁹² An increasing differentiation by subject field is evident due to the efforts of the government to only fund study places with a clear future impact. In 2012 there were practically no state-funded places in the fields of humanities, art, law and business, whilst there was a slight increase for the subjects science, engineering, informatics and medical studies.

1.4 History of Cost-Sharing

Tuition fee policy

Tuition fees appeared in Hungarian higher education in 1996 and soon became a significant source of funding for HEIs. Despite a large share of the student population being on state-funded places from the early 2000s, HEIs often required these students to pay additional charges. Indeed, in 2007 the incumbent government tried to introduce so-called annual student improvement contributions to be paid by all students as part of its deficit cutting reform package.

⁹¹ See reports for Finland and Austria.

⁹² This may, in turn, increase the number of fee-payer places again, which has been decreasing over the past five years – see Figure 2.4 below.

However, a nationwide referendum in March 2008 rejected the package and Parliament voted to ban such additional fees in agreement with the outcome of the referendum, thus making state-funded places totally free to the student.

Tuition fees for those students not obtaining state-funded places and for non-EU students, who are ineligible for state-funded places, may be set autonomously by HEIs and usually vary by individual institution, subject area and qualification level. Current information for the academic year 2013/14 shows that the fees tend to range between 600 euros and 1,200 euros per semester, although there are outliers, which are much higher or lower.⁹³

Study aid policy

Students in Hungarian higher education have access to grants and loans. Only students on state-funded study places, i.e. students who do not pay tuition fees, are eligible for study grants (state scholarships) which aim to help those students to cover their living costs. The grants go as a lump sum to the HEIs based on a list of eligible students by set criteria (e.g. merit, but also to a lesser extent, orphans, disabled students, students from certain backgrounds etc.) and the HEIs decide on the allocation within the HEIs. Often the student councils are involved in these decisions.

The usual amount in 2011 was 230 euros per annum (assumption of cover for 10 months of study), but a needs-based assessment could lead to an increase to 450 euros per year (Eurydice, 2013). A controversial new law from 2012 required recipients of this grant to sign a contract which stipulates that it will only remain a grant if the recipient stays in Hungary after graduation for twice the duration of his/her studies. The government changed the rule in 2013, and now the duration is the same as the supported period, and there are several exemptions.

All students have additionally had the possibility of taking out a government guaranteed loan from the Student Loan Centre (*Diákhitel*) since 2001 (Havelda, 2010). It was a small amount for living expenses until 2010. From 2010 a new scheme was established (Student Loan 2) where the students could apply for funding to cover the tuition fee. The loan is offered at a preferential interest rate, which covers government costs of borrowing and operating the system. Payment starts after graduation from university or college irrespective of the employment of the graduate, but deferment is possible. Recent figures from the Student Loan Centre (Havelda, 2010) show that the loan can make up around one third of a recipient student's income. Despite this, take-up is low and has remained relatively stable since the loan's introduction at around one quarter of the student population.

Policies designed to increase private investment in higher education

The New Hungary Development Plan from 2007, which is funded through a European grant, promotes the role of higher education in innovation and supports cooperation between HEIs and business (National Development Agency, 2007). Besides this direct support, the Higher

⁹³ See information from the admissions service on: http://www.felvi.hu/felveteli/egyetemek_foiskolak (13.02.2014)

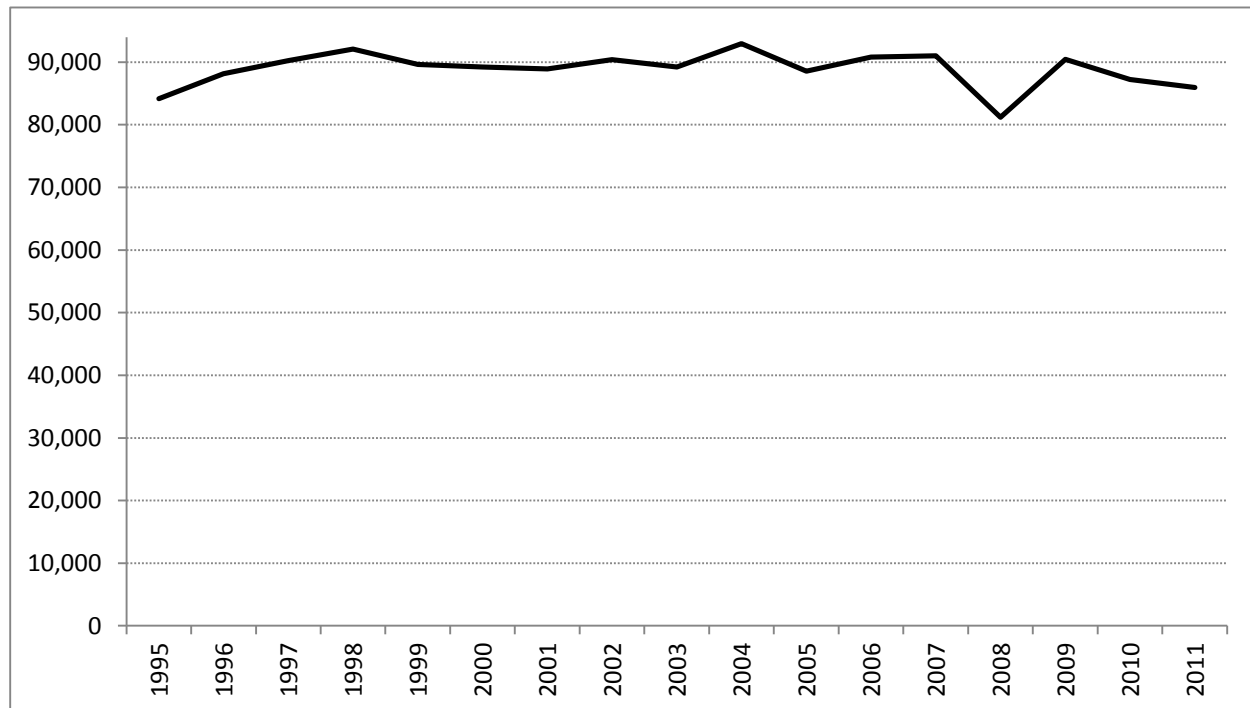
Education Act of 2005 further facilitated the possibilities of public HEIs to establish cooperation and joint ventures with business. The Innovation Fund allowed companies to transfer money designated to innovation to universities as a tax benefit. For instance, the Széchenyi István University in Győr and Audi work closely together supported by the government's Innovation Fund, which allows Audi to invest a portion of its business tax into university research and development. This has led to the creation of the Audi research centre. However, overall income from enterprises and entrepreneurial activities remains modest on system level, see Section 2.1 (particularly Figure 2.3 and Table 2.1).

1.5 History of Enrolment

Regulation of enrolment

The requirement for admission to Bachelor and undivided one-cycle Master courses is the secondary school leaving examination taken – as a rule – after the completion of the 12th grade of a secondary school, certified by *Érettségi bizonyítvány* (secondary school leaving certificate). The number of state-funded places for each study level and study field is annually determined by the government. HEIs are free to enrol further students, but these are then on fee-paying places. An applicants' ranking, and therefore, their chance of getting a state-funded place in a certain field of study at a certain HEI, is based on their secondary school grades and their secondary school leaving examination results (*érettségi vizsga*) or, in some cases, based solely on the latter. Previous to this system, HEIs used their own entrance examinations, but these were abolished in 2005.

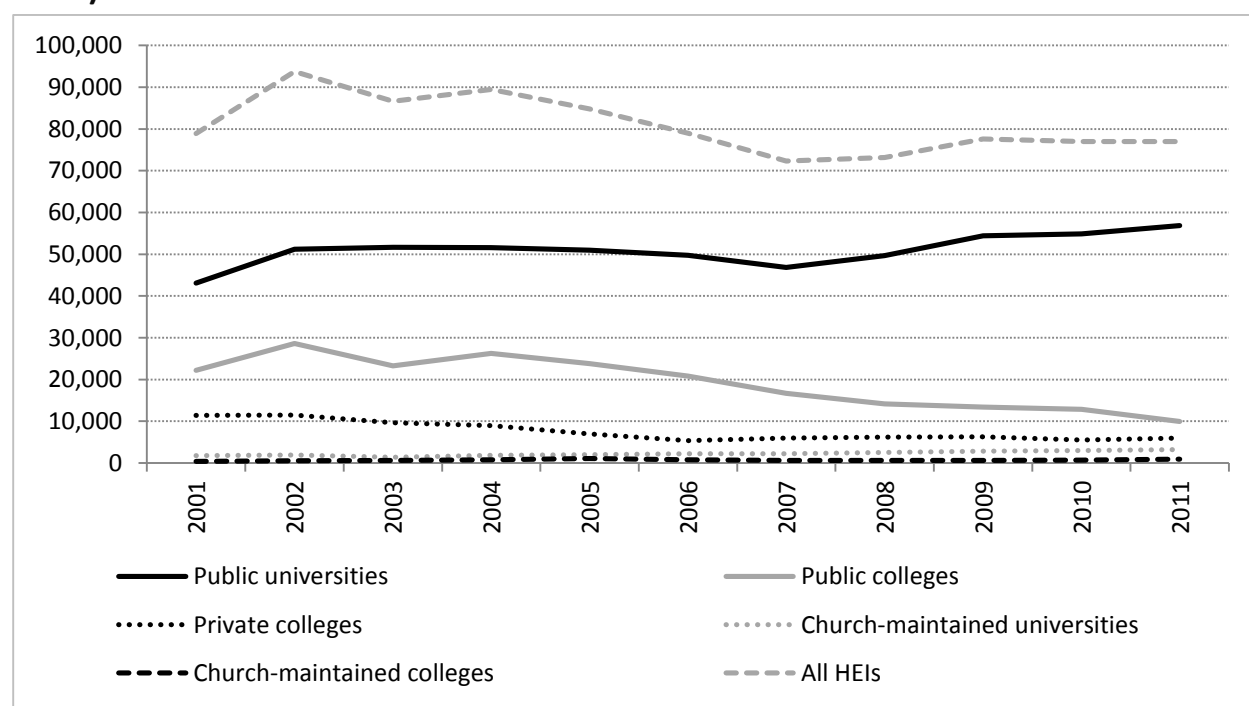
The number of school-leavers qualifying to enter higher education stayed relatively stable in the period 1995 until 2011 at around 90,000, as shown in Figure 1.1. However, the data also show the year 2004 with a peak in secondary school graduates and, following a large drop in 2008, a continuing decline into 2011.

Figure 1.1: Total number of secondary school graduates (1995-2011)

Source: Statistical Yearbook, various years.

The number of entrants to higher education highlights that at the start of the 2000s almost all school-leavers were entering higher education, while the number started to drop off from 2005, see Figure 1.2. The data also shows that the number of public university entrants stayed relatively stable until 2006 and then began to increase, whilst the college public sector has been losing entrants relatively speaking since 2004.

Figure 1.2: Total number of entrants to higher education, by type of HEI (2001-2011)

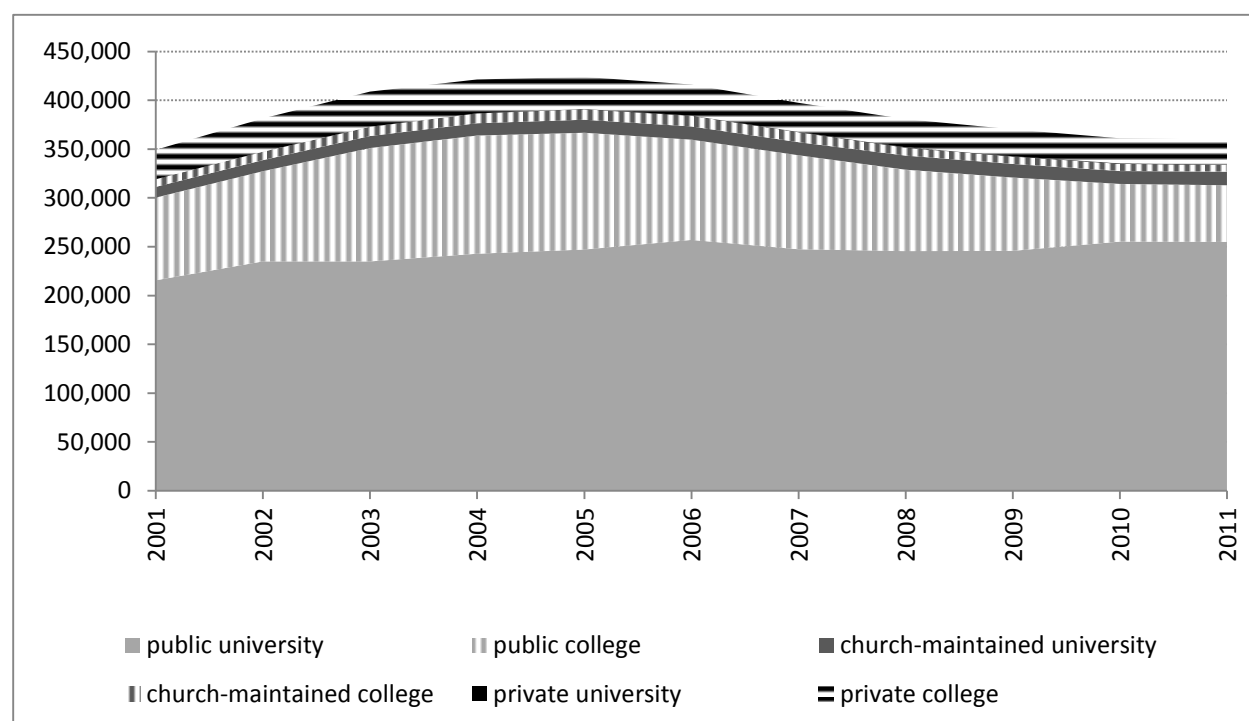


Note: Admitted students on undergraduate courses in a 'normal' admission process (BA/BSc, traditional university or college, one-cycle courses), new entrants= first degree.

Source: Higher education application and admission data – Educational Authority.

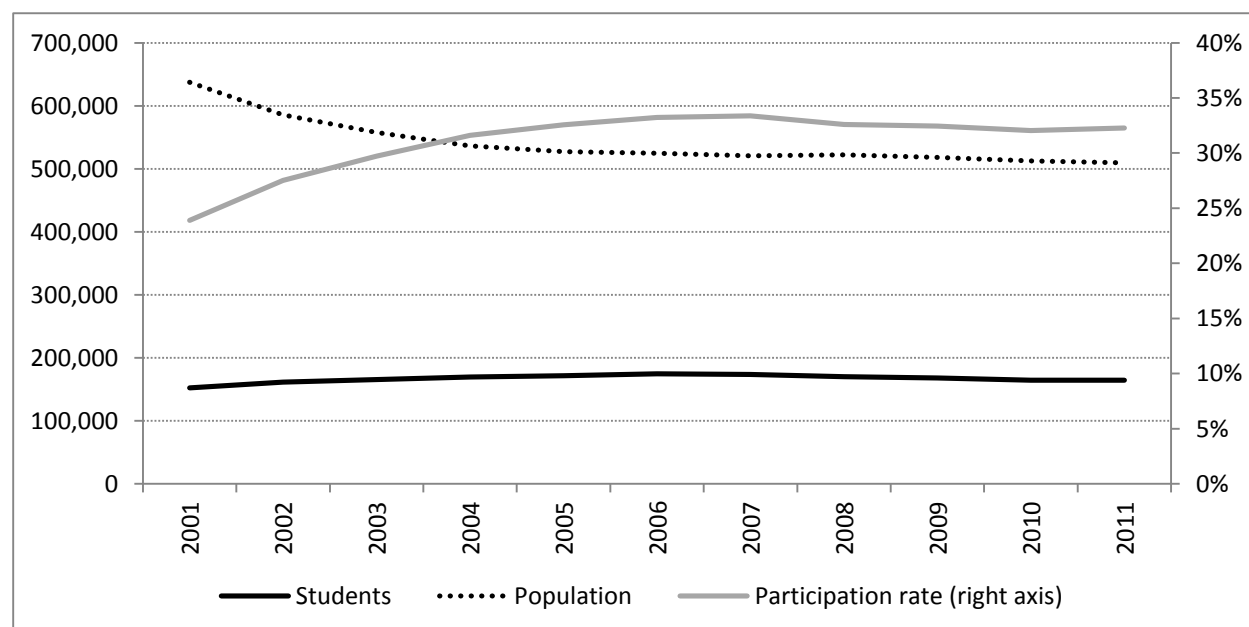
Figure 1.3 reflects the same trend for all students in the system. It can be seen that it is actually the public college sector, which has decreased in size since the high in 2004 and 2005. Indeed the size of the sector has depleted by 52% or 62,000 students since 2005. The size of the private sector has decreased also by 35% or 7,000 students.

Figure 1.3: Total number of students at all HE levels in universities and colleges (2001-2011)



Source: Higher education application and admission data – Educational Authority.

Despite a net loss in the number of students of around 65,000 or 64% since 2005, the participation rate has actually increased. Figure 1.4 shows an increasing participation rate from 24% in 2001 to 32% in 2011. However, it also shows that this increase is directly related to demographic changes. The number of people in the Hungarian population who could have been studying (within the best-four-years for student participation) has decreased by 20% in the decade between 2001 and 2011.

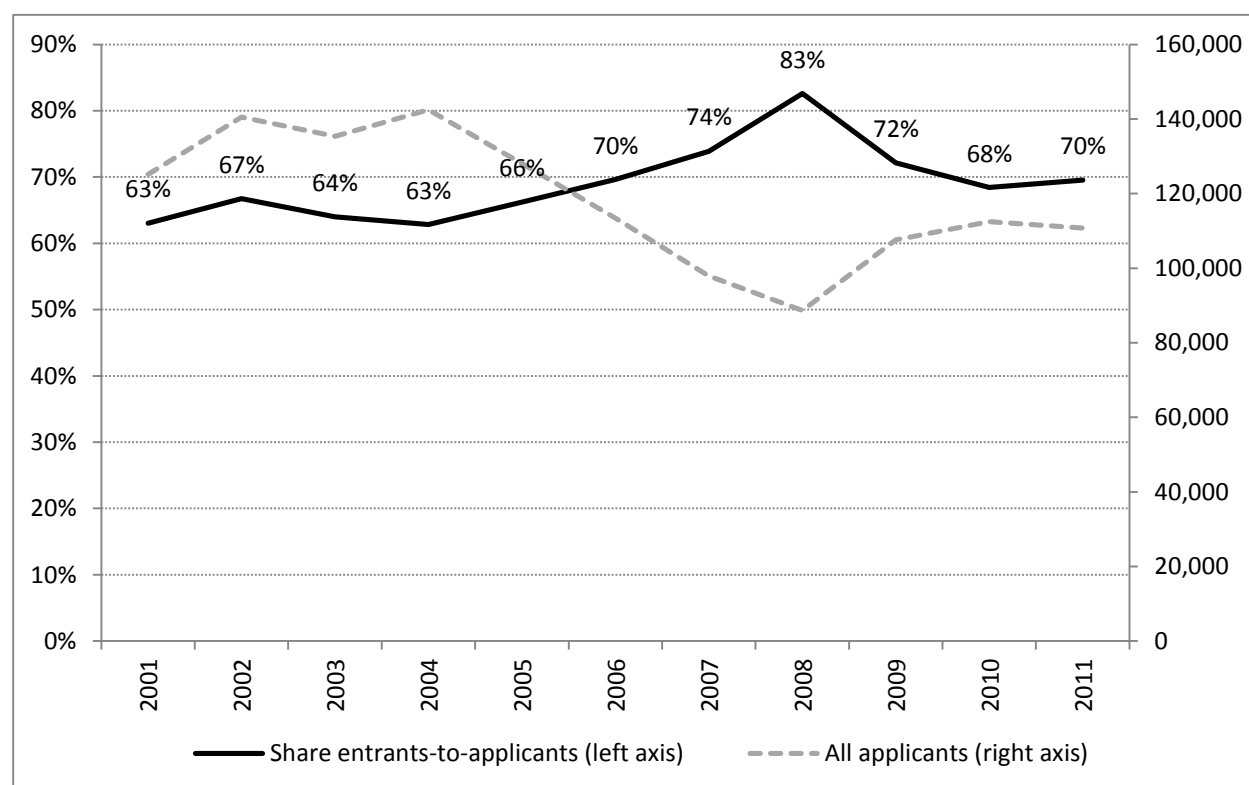
Figure 1.4: Enrolment rate for best-four-years (2001-2011)

Note: Best-four-years were 19-22 years old for 2002-2007; 20-23 years old for 2001, 2008-2011. The best four years account for about 45% of all students.

Source: Statistical Yearbooks of Hungary, 2001-2011 / own calculation.

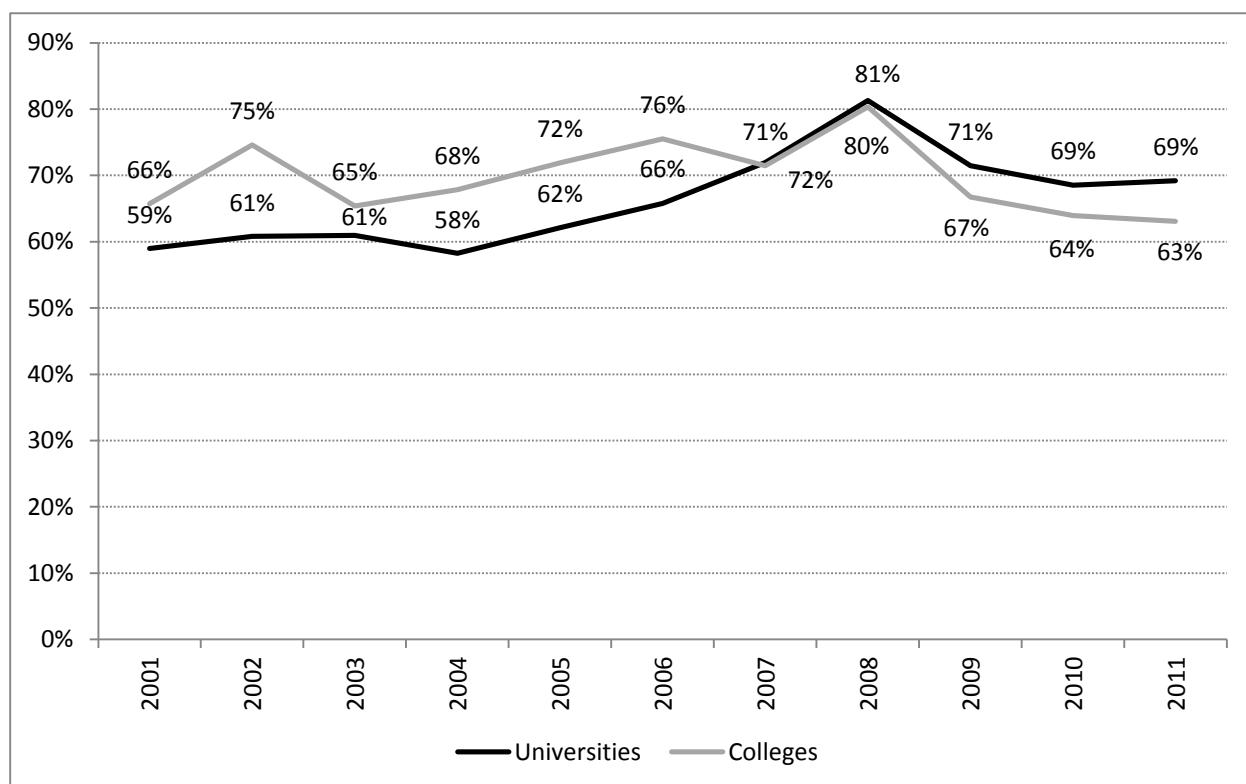
The central statistics for applicants to final number of entrants in Figure 1.5 shows that this change, which can be formulated as a weaker demand for study places, has led to a lower number of applicants in the system and consequently a higher share of acceptances. In 2001 only 63% of applicants found a study place, whereas in 2011 this share has risen to 70% and indeed reached a high-point in 2008 at 83% (at the time of the start of the financial crisis). A differentiation between public HEI types shows that universities were more selective than colleges on this measure at the start of the 2000s, but have been less selective than the colleges (which now have less study places on offer) since 2008. The ratio of applicants to study places also varies by field of study, which will be looked at below in Section 5.3.

Figure 1.5: Total number of applicants and share entrants-to-applicants for all HEIs (2001-2011)



Source: Higher education application and admission data – Educational Authority.

Figure 1.6: Share entrants-to-applicants by type of HEI (2001-2011)



Source: Higher education application and admission data – Educational Authority.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

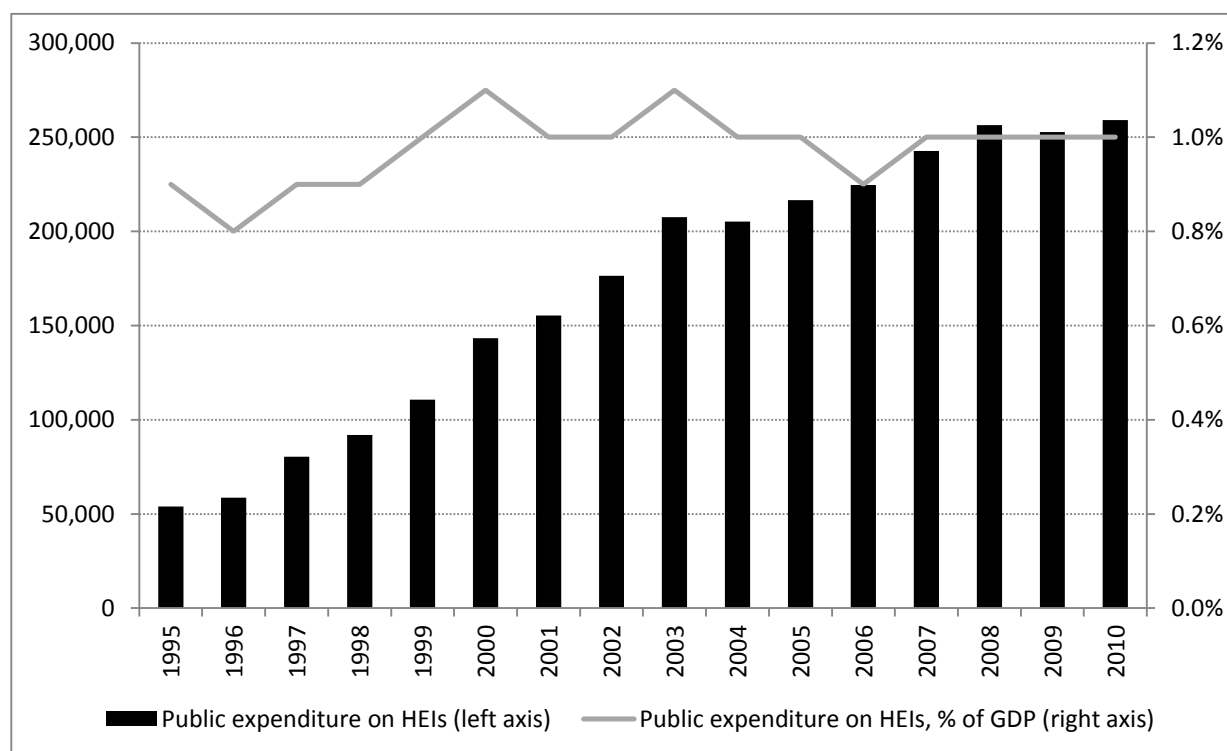
2.1 Changes in Institutional Revenues over Time

Figure 2.1 shows that total public funding on HEIs grew strongly at an average of 18% until 2004 and then continued to grow at a lower level around 6% until it stagnated in 2009, following the financial crisis. This means that the introduction of tuition fees in 1996 did not result in a decline in public investment, but complemented it.

With reference to the economic ability of the country, it can be seen that Hungary has tended to invest around 1% of GDP in higher education. The financial crisis of 2008, which caused a drop in the GDP, is clearly visible in the difference between constant investment by GDP, but absolute financial drop in investment.

The decline in the total number of students has meant that public funding per student has in fact increased since 2001, see Figure 2.2.

Figure 2.1: Public expenditure on HEIs in million HUF⁹⁴ and as a percentage of GDP

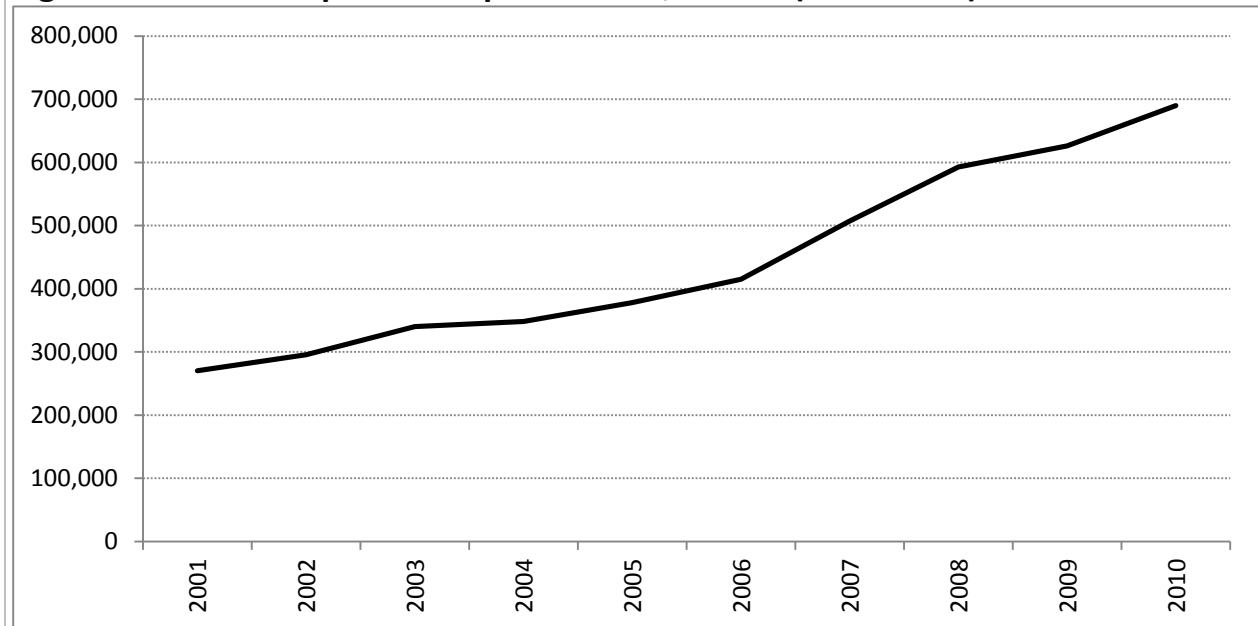


Note: Constant Prices (2011).

Source: Statistical Yearbook of Education, 2001-2011.

⁹⁴ One euro equals 312 Hungarian forint (HUF), as of March 2014.

Figure 2.2: Public expenditure per student, in HUF (2001-2010)

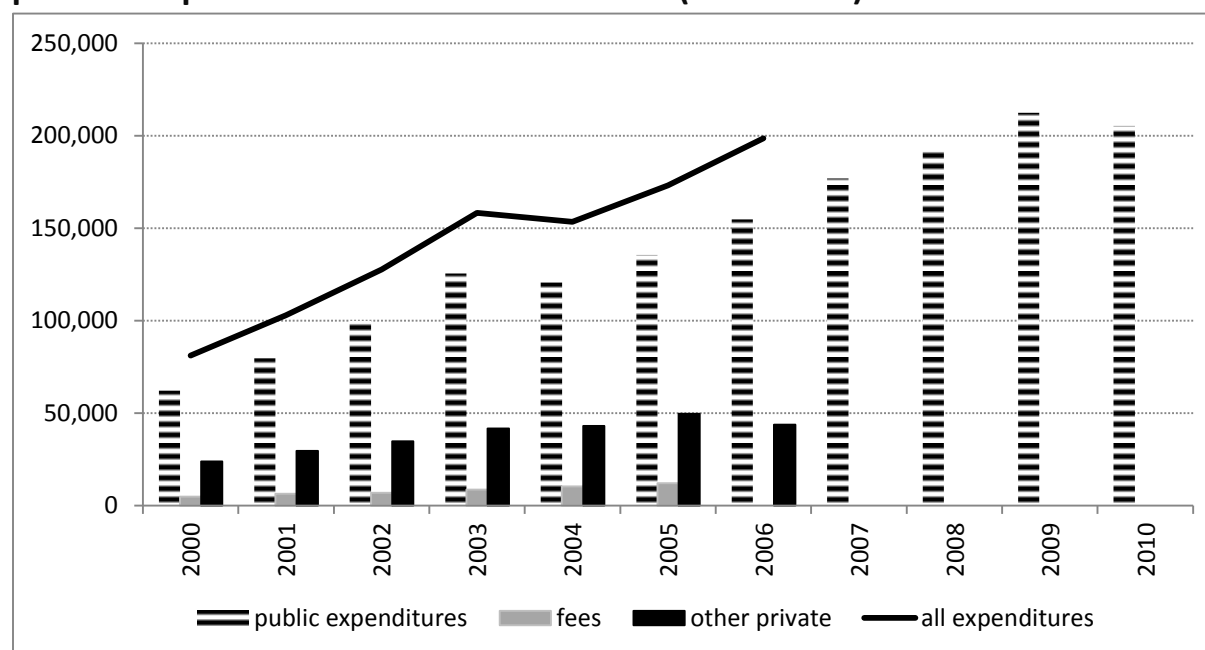


Note: Constant prices (2011).

Source: Statistical Yearbook of Education, 2001-2011.

There is little detailed administrative data on the income of HEIs in Hungary, and the most reliable source appears to be the data prepared for the international UOE dataset, which only includes data for Hungary until 2006. This is presented in Figure 2.3. It highlights the importance of public funding, even in this dual-track tuition fee system.

Figure 2.3: Income of all HEIs in public and private sectors differentiated by public and private revenues in million HUF (2000-2010)



Note: No data available after 2006, other than for public expenditures. Only direct transfers to HEIs. Constant Prices (2011). The total fee income appears to be underestimated, since it reflects the total income given for public HEIs in Table 2.1..

Source: UOE dataset, 2013.

A special analysis by the Hungarian Audit Office in 2009 provided a more detailed breakdown of income data for public HEIs in the years 2005 and 2008. These are shown in Table 2.1. At least for these two years the composition of income remained relatively stable, with around three-quarters of the public HEIs' income coming from public sources and half of this from the state-funded study places (normative financing). Fee revenue made up 9% of income, and entrepreneurial income (through services) no more than 1% in the public sector.

The interviews carried out with university leaders and experts on higher education funding confirm that this picture has not changed much since 2008. Experts see in general that state-funded study places (normative financing) make up around 50% to 60% of a public university's total income, and an interviewed university leader confirmed that public funding has remained near to 75% of total income over the past years.

Table 2.1: Composition of income of public HEIs

	2005		2008	
	million HUF	%	million HUF	%
Total income	241,704		339,198	
Public funding	177,400	73%	251,571	74%
a) normative financing	117,253	49%	174,790	52%
b) grants awarded by tender	20,707	9%	22,856	7%
c) based on agreement (discretionary)	9,911	4%	17,962	5%
Private revenues	64,304	27%	87,627	26%
a) fee-revenue	21,842	9%	31,869	9%
b) entrepreneurial activities	2,256	1%	3,779	1%
c) rental	1,754	1%	3,177	1%

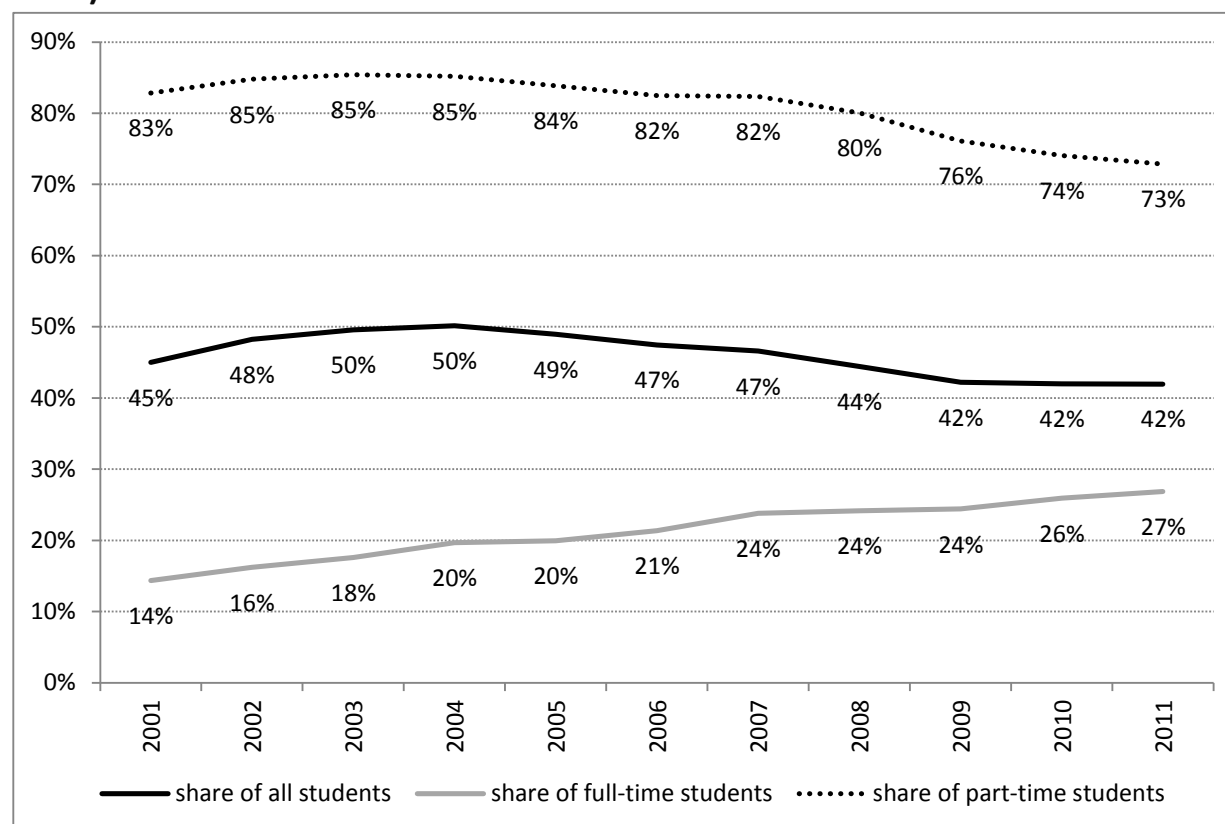
Note: In both the case of public and private funding, only the major categories are further differentiated (i.e. a+b+c does not equal the sum). Constant prices (2011).

Source: State Audit Office of Hungary in 2009, cited in Mészáros (2012, p. 281) / own calculation.

The income from tuition fees is based on the share of students on fee-paying places, which is influenced by both the field of study and the mode of study (full or part-time). Figure 2.4 below shows that the share of fee-paying places has decreased over the period observed, from 45% in 2001, rising to 50% in 2003 and 2004 and then dropping to 42% in 2011.

The share of fee-paying students on full-time courses in 2001 was 17%, but rose to 27% in 2011. In the same period, the share of part-time students on fee-paying places dropped from 85% to 73%. It should be noted that part-time students do not – in general – pay lower fees per semester than full-time students; they simply have a different enrolment status. On the basis of this information, a decline in the number of part-time students has a substantial impact on the chances of a HEI earning additional private revenues via fees.

Figure 2.4: Share of students on fee-paying places by mode, all HEIs (2001-2011)

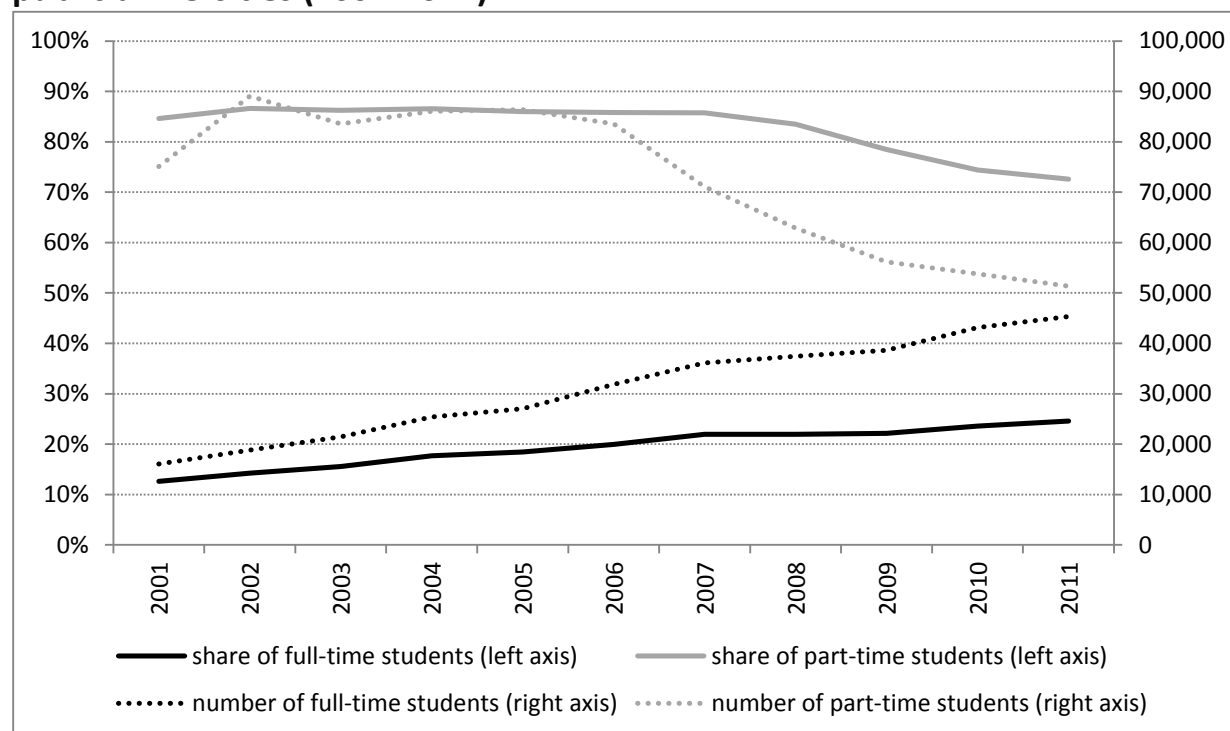


Source: Higher Education Statistical Data Collection System - Ministry of Human Resources.

Figure 2.4 shows an overall drop in the number of part-time students, and Figures 2.5 and 2.6 show that the colleges were especially affected by this and were, in contrast to the universities, not able to increase the share of full-time fee-paying places in the same period.

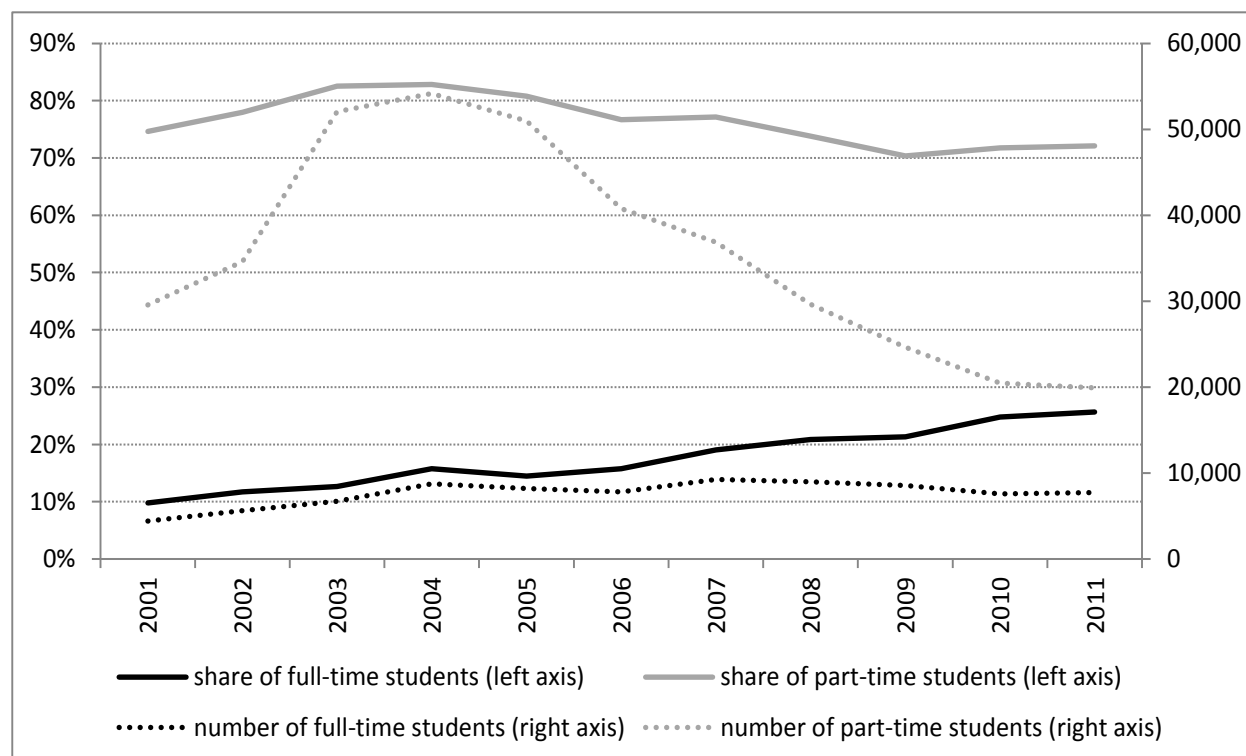
Additionally, since both revenue via fees and state funding via state-funded places inject volatility into HEI revenues when student numbers are not kept stable, it can be expected that the colleges have been struggling to keep their expenditure under control since at least 2006.

Figure 2.5: Share and number of entrants on fee-paying places by mode in public universities (2001-2011)



Source: Higher Education Statistical Data Collection System - Ministry of Human Resources.

Figure 2.6: Share and number of entrants on fee-paying places by mode in public colleges (2001-2011)

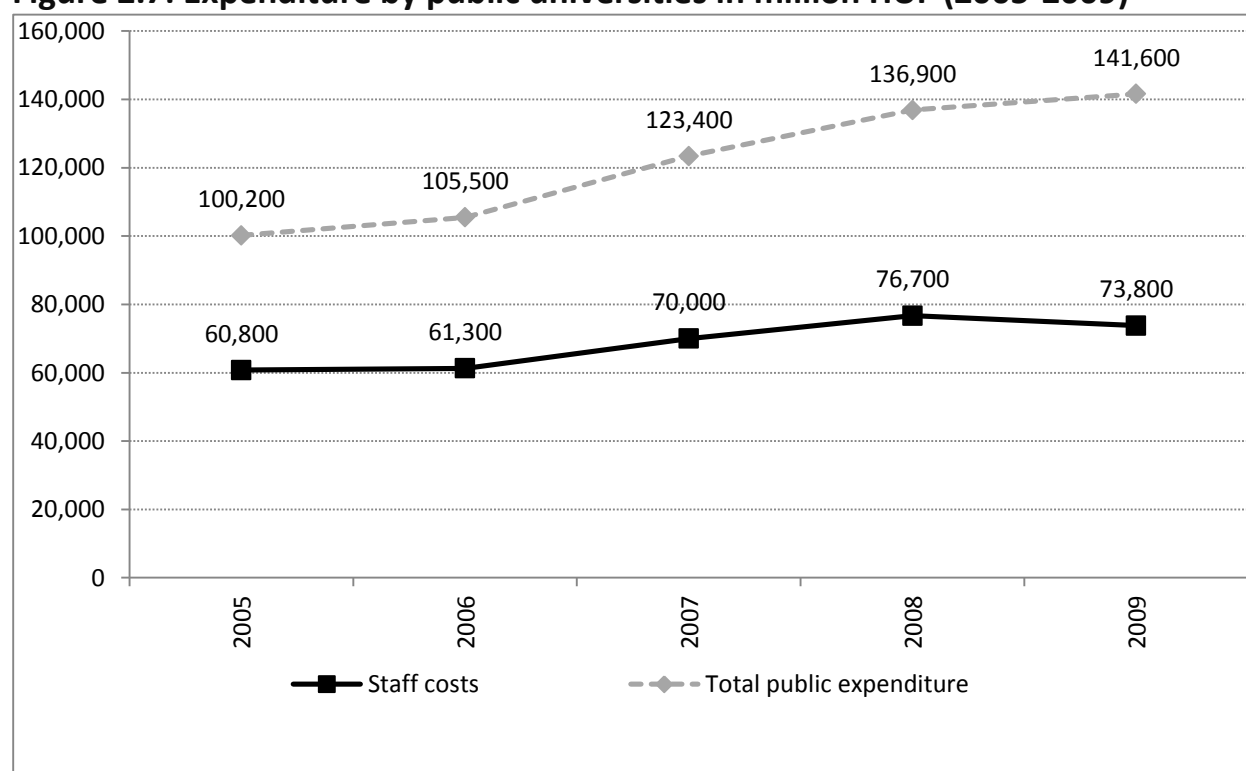


Source: Higher Education Statistical Data Collection System - Ministry of Human Resources.

2.2 Institutional Expenditures

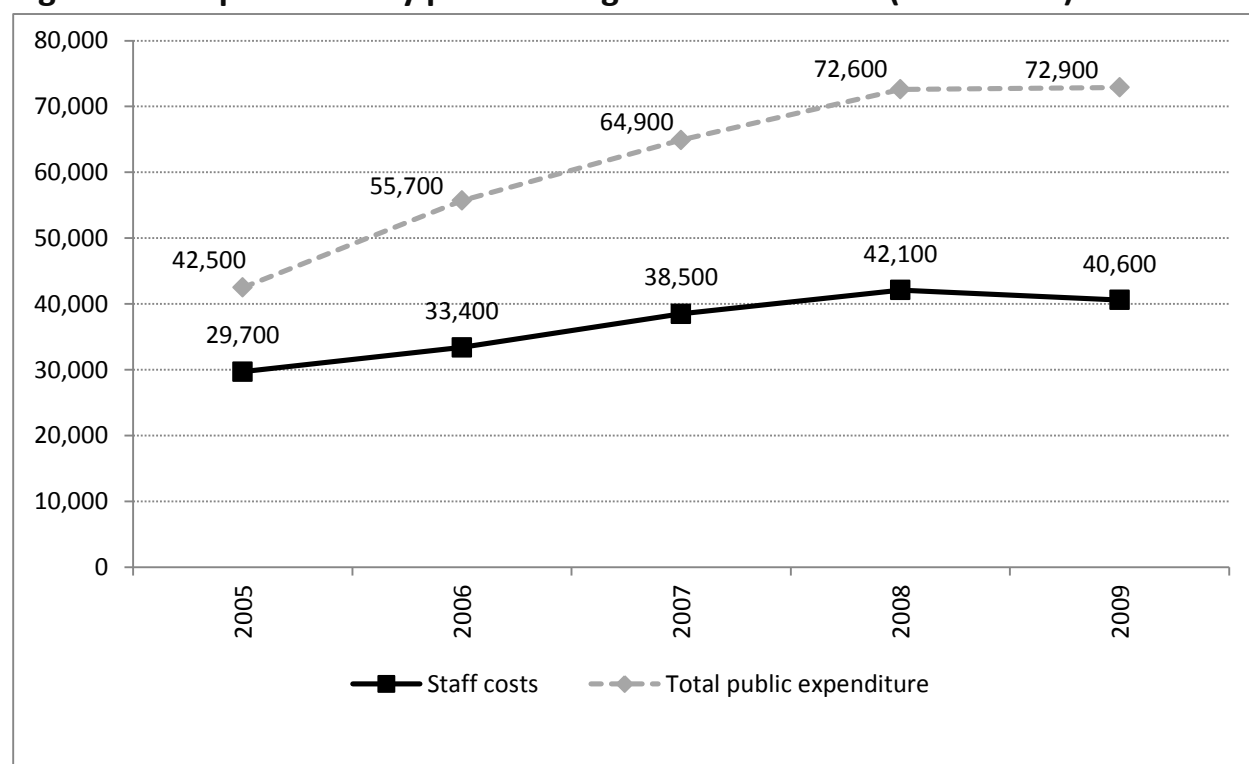
The data in Figure 2.7 and 2.8 show the total and staff expenditure for public HEIs, differentiated between universities and colleges. The data show a flattening in total public expenditure from 2008 and a decline in the public spending received to cover staff costs. This issue was raised often in the Hungarian interviews, where HEI leaders spoke of the challenge of covering staff costs. For instance, it was stressed how important it has become for staff to win grant tenders in order to cover their own staff costs. Indeed the expert stated that around 25-33% of staff costs are covered in this way.

Figure 2.7: Expenditure by public universities in million HUF (2005-2009)



Note: Constant prices (2011).

Source: Statistical Yearbooks, 2006-2010. Most recent data available.

Figure 2.8: Expenditure by public colleges in million HUF (2005-2009)

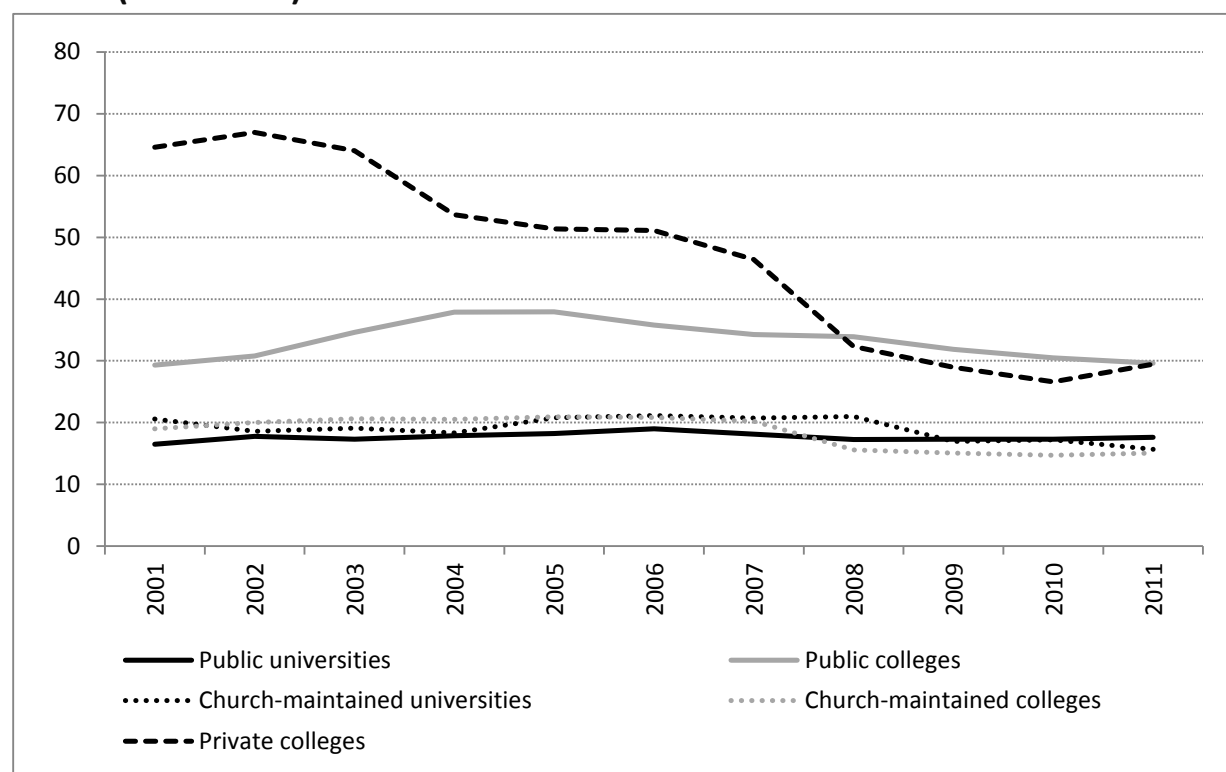
Note: Constant prices (2011).

Source: Statistical Yearbooks, 2006-2010. Most recent data available.

Despite the constraints on the public budget, the student to staff ratio has been able to remain relatively stable in the public university sector (see Figure 2.9). The increased enrolments in the early 2000s visibly affected the index in the college sector, but it has returned to the ratio at the start of the decade.

At the same time, there seems to be a convergence of lines for universities – at around 20 students per academic staff – and colleges – at around 30 students per academic staff. It is particularly remarkable to see the convergence rate of colleges from the private sector, which now have similar ratios to the public colleges. This would suggest that these colleges have been holding on to staff despite the declining student numbers. This is likely related to the obligation to for all HEIs to have their courses accredited, which means that certain quality norms are applied. Additionally, in a number of the interviews HEIs leaders talked about an expected future growth in student numbers, which may also account for them retaining these staffing levels, although it is proving a challenge at the present.

Figure 2.9: Students per (full-time equivalent) academic staff by HEI type and sector (2001-2011)



Source: Higher Education Statistical Data Collection System - Ministry of Human Resources.

2.3 Evaluation

The main question raised under Hypothesis A is whether cost-sharing has led to increased revenues for HEIs or whether those new revenues have simply compensated for missing public investment.

It is remarkable that public investment grew steadily throughout the 2000s and broadly in-line with economic growth in Hungary. Indeed, there was a continual and relatively stable public investment in HEIs throughout the period observed until 2008, when the global financial crisis affected funding. Even in this period, the funding as share of GDP remained the same, but the drop in GDP led to a drop in absolute public funding.

In order to evaluate this development, it is important to understand how public spending is allocated and how private income is earned by HEIs. Public funding is generally provided through the state-determined number of state-funded study places per subject area and HEI and private revenue through the number of fee-paying places, which is autonomously determined by the HEIs. Tuition fees from fee-paying students are therefore an integral part of HEI funding. It

does seem that fee-revenue enabled the higher education sector to deal with the growth in the enrolment early 2000s, as the share of students on fee-paying places increased in this period.

This so-called dual-track system enabled public universities, particularly, to take a steady course through this period. Income share from the public purse remained at around 75% for HEIs, with fee-paying students a stable source of private revenue.

On an institutional level, both revenue via fees and state funding via state-funded places inject volatility into HEI revenues when student numbers are not kept stable. Therefore, the overall drop in the number of students and the share of students on part-time places (for which there are few state-funded places, see Section 1.6) will have affected the revenue of individual HEIs, and as shown in the analysis, particularly colleges will have been struggling to keep their expenditure under control since at least 2006.

At the same time, the number and share of full-time students who are paying fees has increased throughout the 2000s, which may signify efforts of universities and colleges to increase their fee revenues. In the limited comparison of income revenues presented above, fee revenues have also increased by two-thirds between 2005 and 2008 (although the total contribution to HEI income remained broadly unchanged). In sum, fee income appears to provide an important revenue source for HEIs, which has become an integrated component of the total higher education funding system.

Fees are necessary, inter alia, to cover staff costs. Overall, the student-to-staff ratio has remained stable throughout the period observed. This is not the case for colleges, where it has significantly improved. However, this improvement is likely related to both the efforts to set threshold quality standards, but also to the large drop in enrolment in this sector.

Despite this, the interviews with HEI leaders highlighted the struggle to cover staff costs in many HEIs. For this reason, some HEIs require staff to obtain project-based funding from competitive tenders (often from the EU) to help cover their own costs.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO USER DEMAND

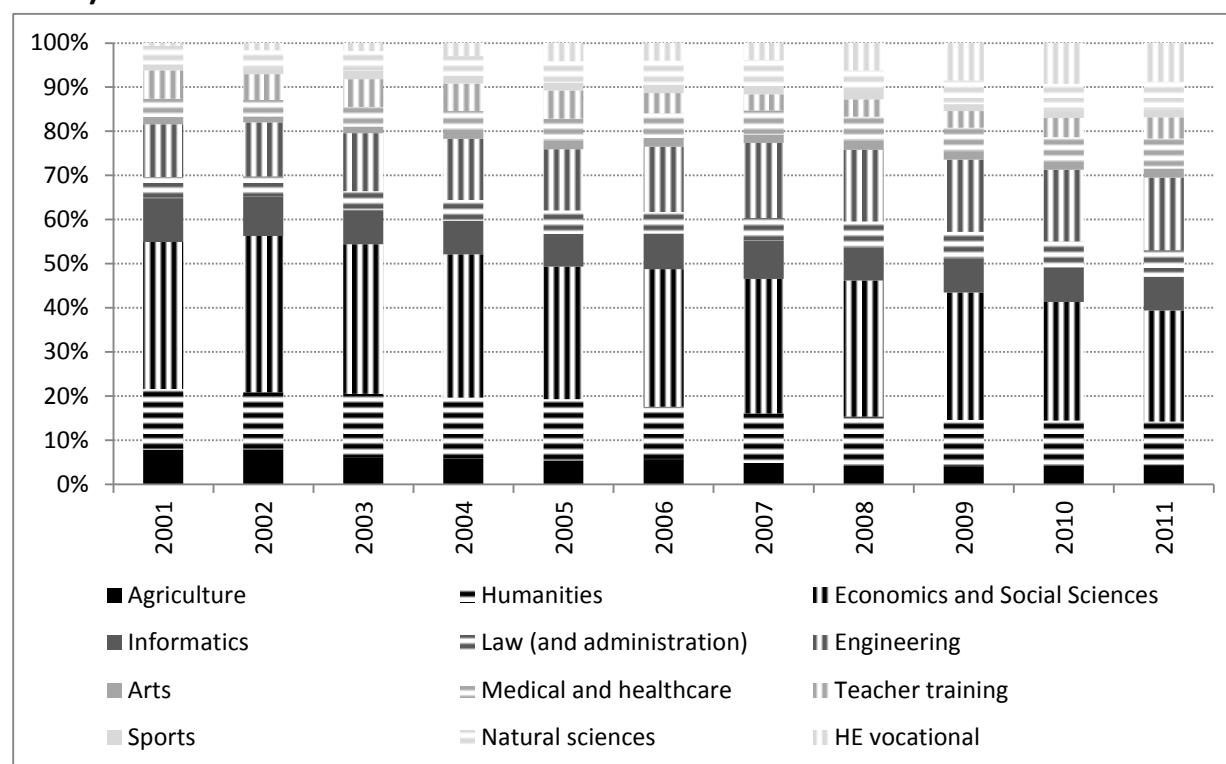
This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

3.1 Enrolment by Discipline

Between 2001 and 2011, the share of new entrants studying various disciplines has changed, as shown in Figure 3.1.

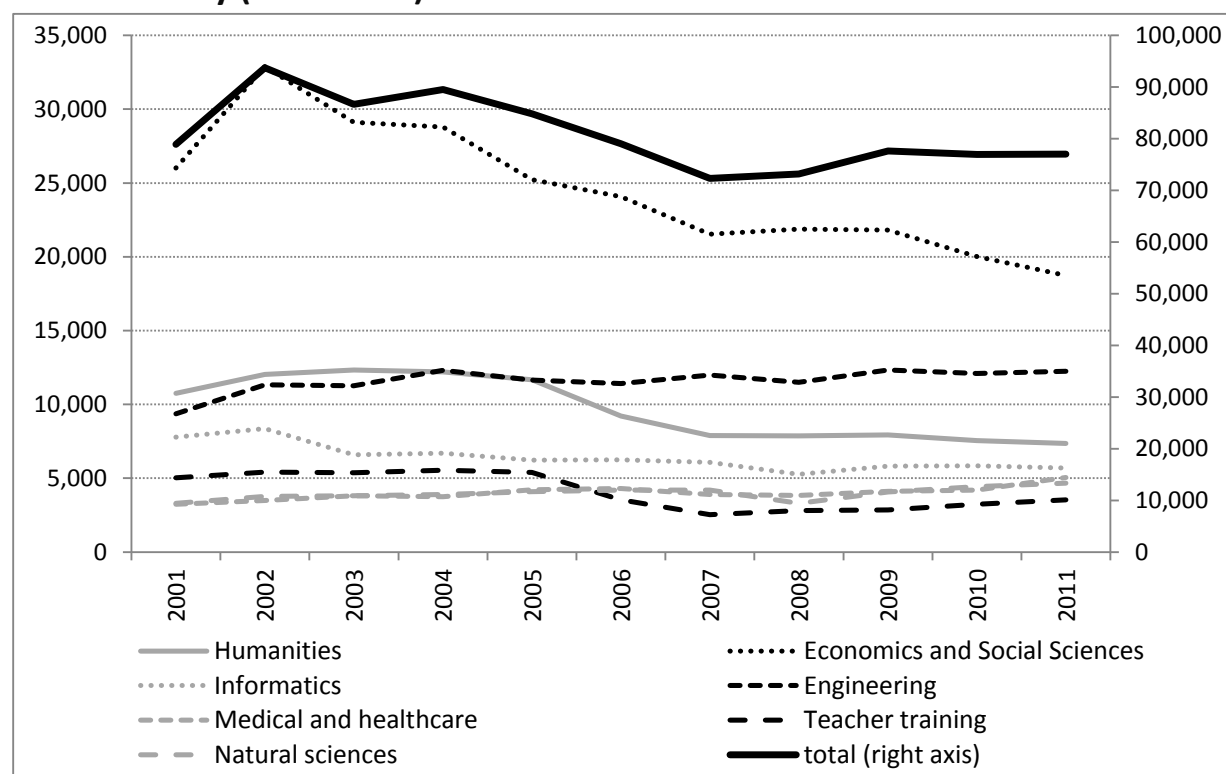
Figure 3.1: New entrants by field of study, all HEIs – all fields of study (2001-2011)



Source: Higher education application and admission data – Educational Authority.

These developments are highlighted in Figure 3.2 for selected fields of study. The thicker line shows the general trend in the absolute number of new entrants, which showed a decline between 2005 and 2007 followed by a moderate increase. This trend was not followed by all fields of studies. The most dramatic decline (although from a relatively high level) is for the field of economics and social sciences, which already began in 2001 and stabilised in 2007. The same trend was followed by the field of humanities, although it was not so dramatic. In contrast, the number of new entrants in the field of engineering, medical and health care and natural sciences remained very stable throughout the whole period.

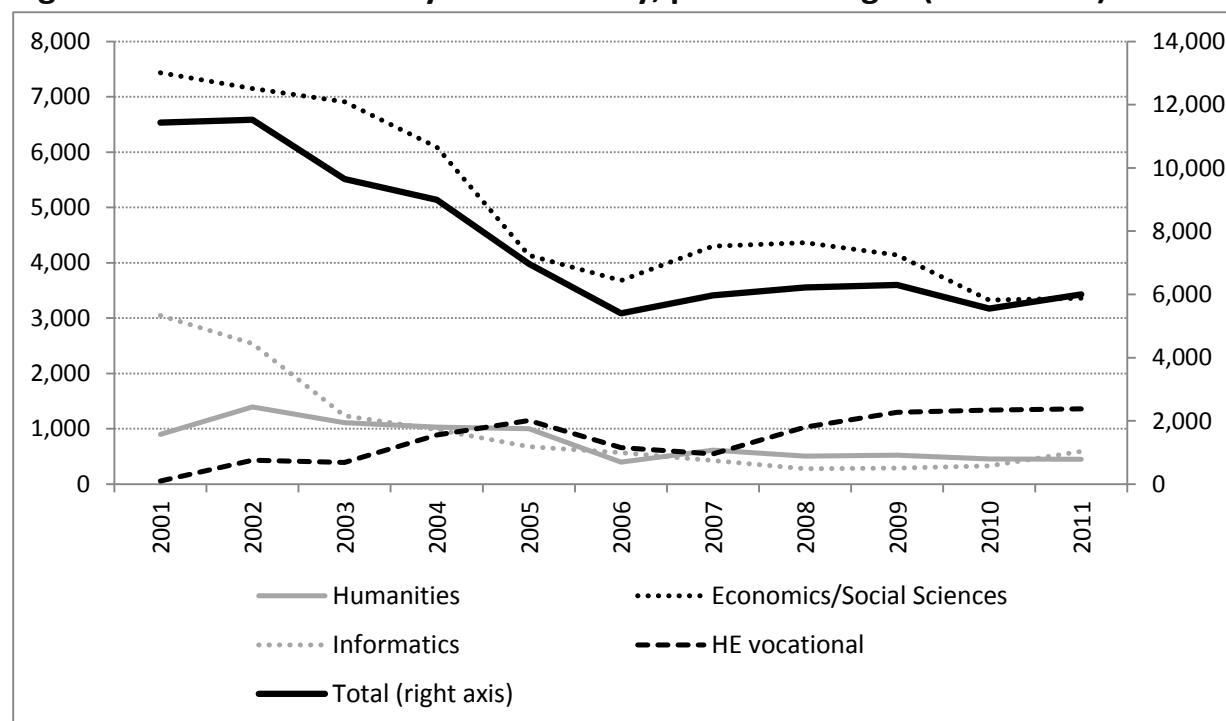
Figure 3.2: New entrants by field of study, all HEIs– development in selected fields of study (2001-2011)



Source: Higher education application and admission data – Educational Authority.

These developments are likely to be most heavily influenced by the ratio of fee-paying places to state-funded places. In the former case, supply and demand is likely to determine the number of places, whilst in the latter case it is the state which determines the number of entrants. In fact, the largest fluctuations in the number of new entrants by field of study are evident in the private HEIs, which are (almost exclusively) colleges.

Figure 3.3 shows, in turn, that the dramatic drop in the number of new entrants to private HEIs is tied to a decrease in the number of economics and social science students and, to a lesser extent, to the number of students of informatics. New developments since the mid-2000s are to be seen in the field of vocationally-orientated higher education.

Figure 3.3: New entrants by field of study, private colleges (2001-2011)

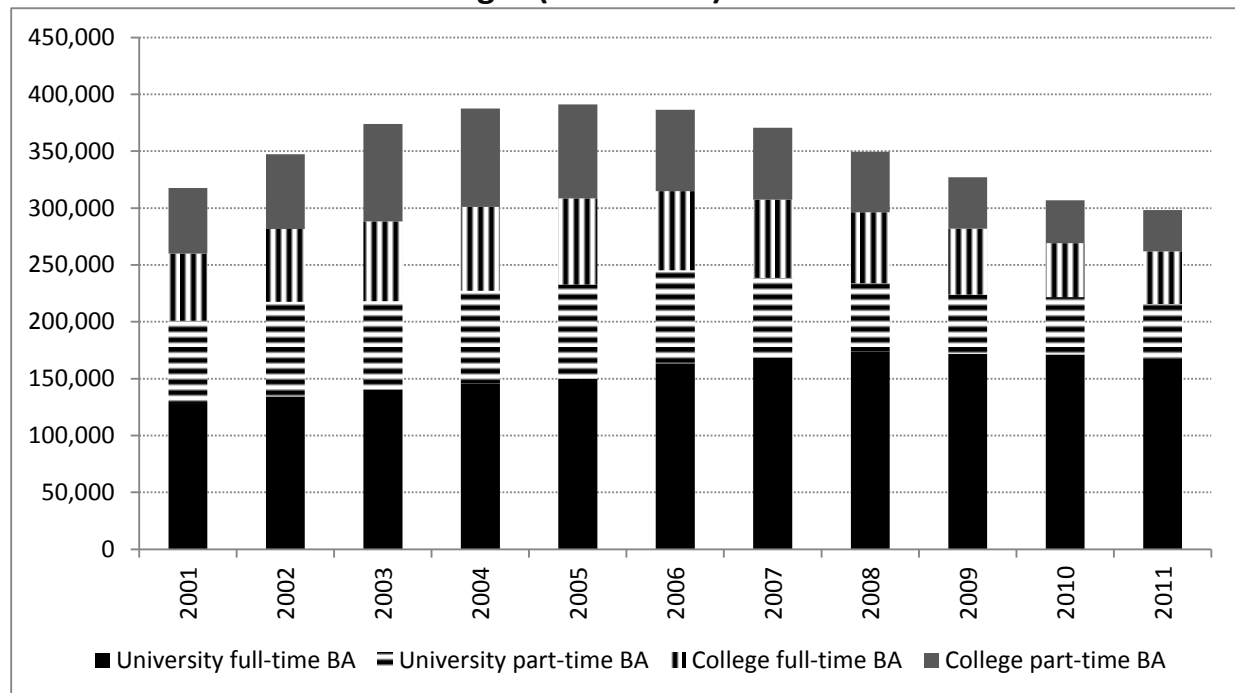
Source: Higher education application and admission data – Educational Authority.

3.2 Enrolment Patterns by Mode

The changes in the mode of study have already been alluded to in the previous sections. However, in Figures 3.4 and 3.5 these changes are also differentiated by qualification level, since there are likely, for instance, to be more part-time students on a graduate course (e.g. Masters). Figure 3.4 shows that the rise in number of students culminating in the peak for the years 2004 and 2005 was very much fuelled by increases in the number of part-time students in both university and college sectors (public and private). Indeed, whilst the total number of students in 2011 has returned to a level similar to the starting point one decade earlier in 2001, the overall share of full-time students has risen. This is likely to be related to the rise in the provision of state-funded study places, which are predominantly full-time places (see Figure 2.5 above).

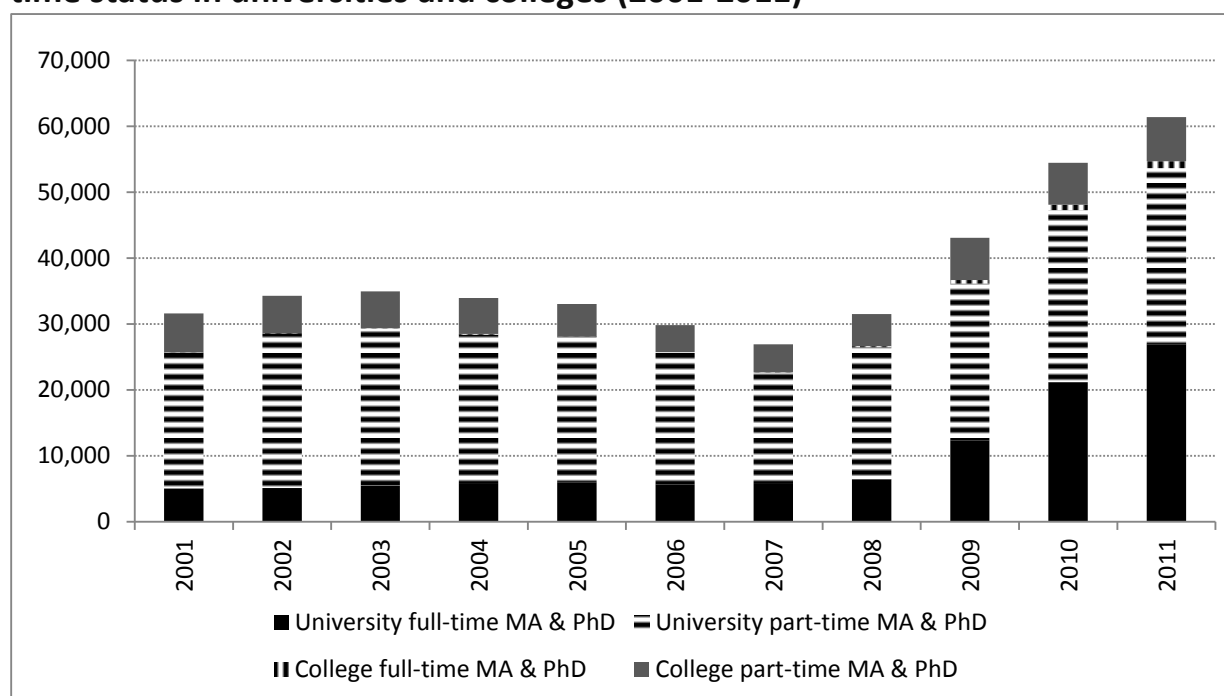
The development for graduate studies shown in Figure 3.5 shows that these courses are most often offered as full-time courses in universities. Again, this is clearly related to the provision of state-funded full-time places, which provide a secure funding source for the universities.

Figure 3.4: Total number of Bachelor students with full-time and part-time status in universities and colleges (2001-2011)



Source: Statistics Hungary.

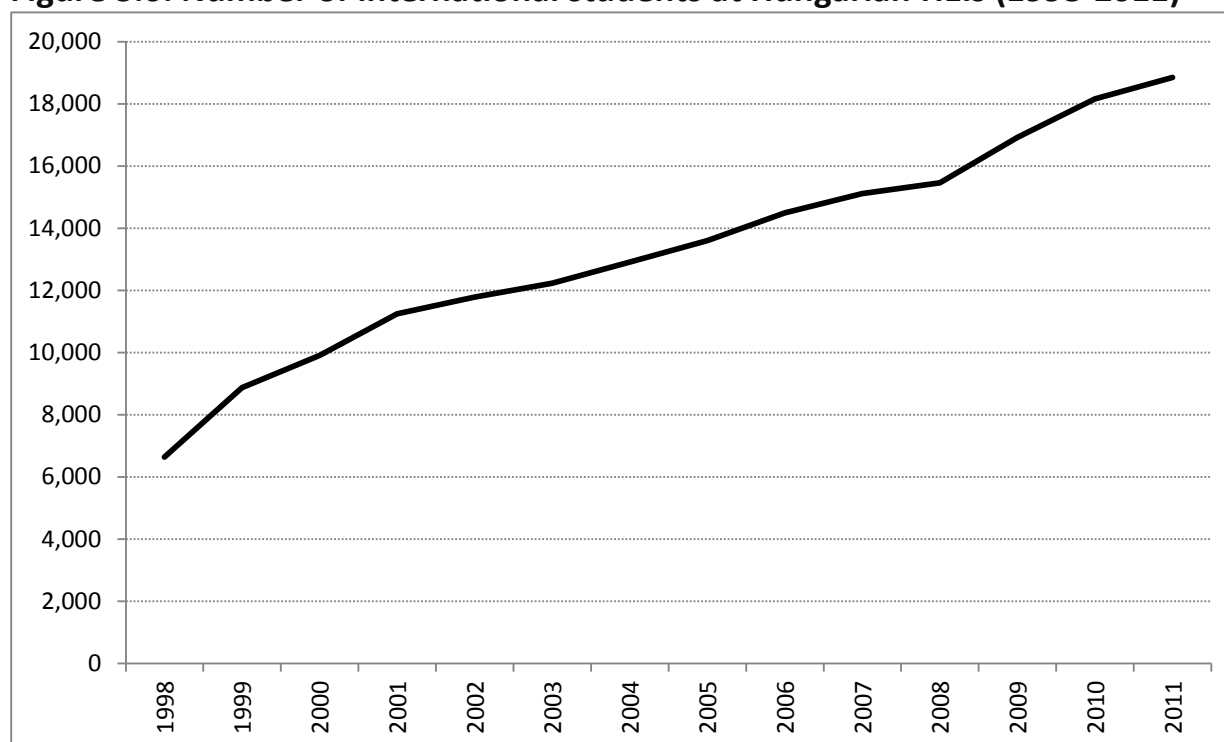
Figure 3.5: Total number of Master and Ph.D. students with full-time and part-time status in universities and colleges (2001-2011)



Source: Statistics Hungary.

3.3 Enrolment Composition

Figure 3.6 shows the number of international students at Hungarian HEIs. While the absolute number of non-citizen students has almost tripled between 1998 and 2011, the share of international students has remained very low, increasing from about 3% in 1998 to about 5% in 2011.

Figure 3.6: Number of international students at Hungarian HEIs (1998-2011)

Note: International students are defined as students without Hungarian citizenship.

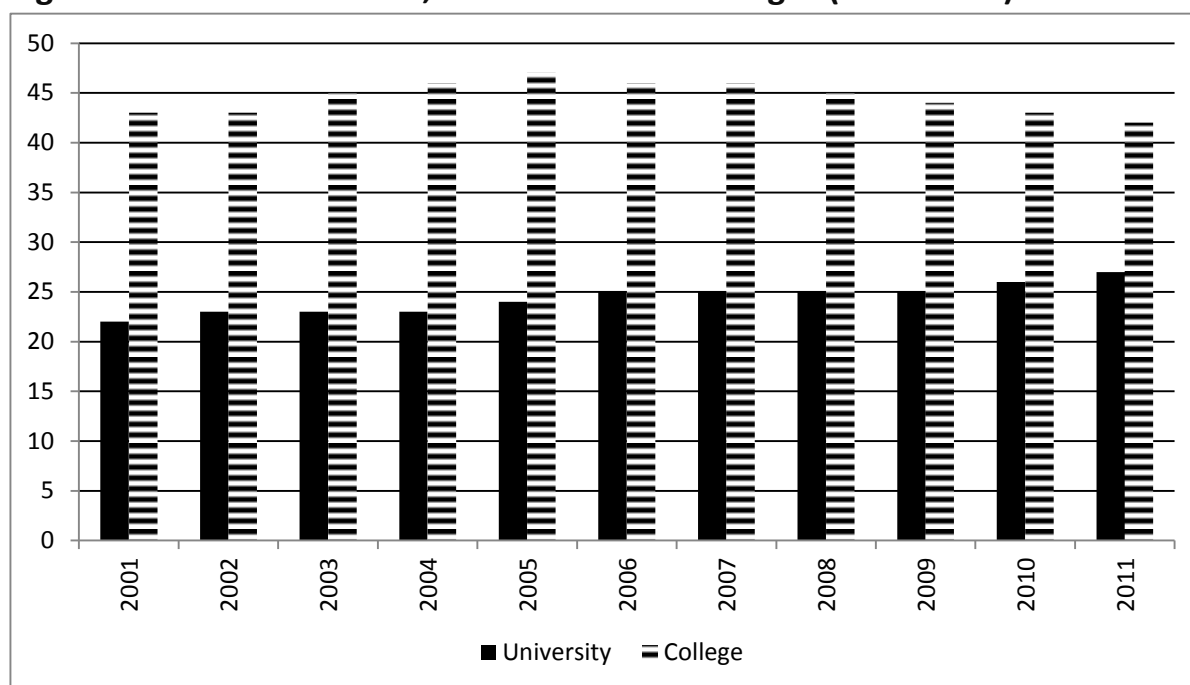
Source: OECD.

Given that Hungary has a dual track system where home students who do not obtain state-funded places can be charged tuition fees which are set autonomously by the HEI, there is no particular incentive for HEIs to attract international students for reasons related to cost-sharing.

3.4 Diversity of Provision

Changes in the number of HEIs

Viewing the total higher education sector, Figure 3.7 shows that the number of colleges has declined over time from 43 to 42, with a high in 2005 of 47. The number of universities has grown from 22 to 27 in the same period.

Figure 3.7: Number of HEIs, universities and colleges (2000-2011)

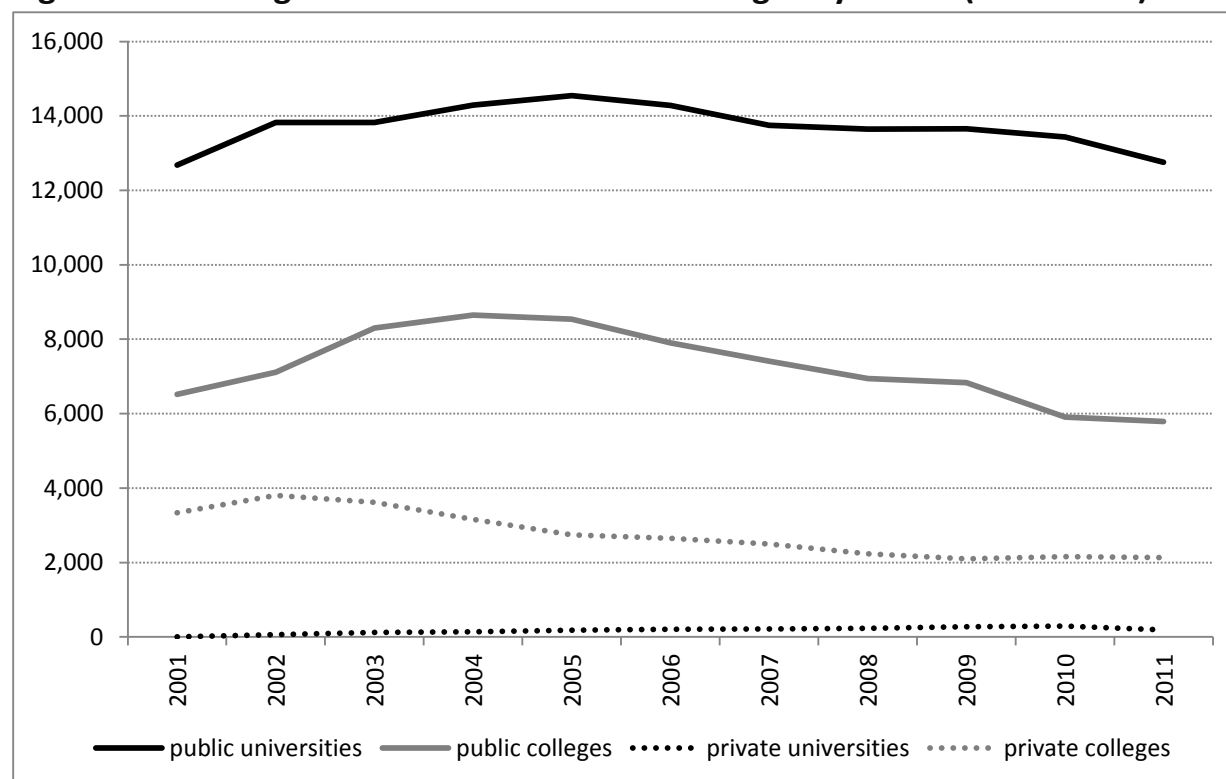
Source: Statistics Hungary.

In combination with enrolment statistics, it is possible to calculate the average size of each of these HEIs at any time and to differentiate between the public and the private sector, see Figure 3.8. It clearly shows a decline in the average number of enrolled students for all HEI types in both the private and public sector of the higher education system after a high in 2002 for the private colleges and in 2004 or 2005 in the public sector.

In the private sector, the number of colleges has grown marginally between 2001 and 2011 from 9 to 12, with a high in 2008 and 2009 of 13. In the public sector, the number of colleges has declined more substantially from 13 to 10. These changes have led to changes in the average size of HEIs (Figure 3.8).

Whilst the number of private universities has grown to two, Figure 3.8 shows that these are still of a very small size indeed (around 200 students in total). Similarly the size of the private colleges is much smaller than in the public sector. In 2010 these colleges had on average 2,700 students, but more importantly there has been a decline in the average size from 3,300 to 2,100 students (-36%). This reflects how institutions have been coping with the total decline in enrolments in the private sector.

The public universities have remained roughly the same size at 13,700. The colleges have declined in size in the public sector by around 11%.

Figure 3.8: Average size of universities and colleges by sector (2000-2011)

Source: Statistics Hungary / own calculations.

3.5 Outreach Practices

Marketing budgets

The interviews have shown that HEIs do use marketing to recruit students. There are both private and public HEIs which have marketing directors and explicit policies. One college representative reported that the institution realised that its catchment was becoming smaller in its location outside of Budapest and so it set up a special branch campus in Budapest to counteract this. Another HEI representative stated that his institution does not have a marketing manager, but it does send students into local schools to promote its higher education provision.

In the case of public and private HEIs, the motivation for marketing services is similar – since they want to get the best students – but not identical. Whilst recruiting a certain number of students may be sufficient for a private HEI, recruiting the best is important for public HEIs, since it enables them to have a higher share of state-funded study places. This is because the best performing applicants are also those which can receive a state-funded place. One interviewee reported that, a rising profile of the institution enabled it to recruit more high performing students, which in turn increased the share of state-funded places at the institution. In another

case, the expert explained that marketing is important, but maintenance of prestige will always be more important. Indeed, one HEI explicitly stated that its ultimate goal would be to receive so many high performing applicants that all its students would be on state-funded places.

Composition of governance and advisory boards

Students play an important role in the governance structure of an HEI according to the interviewed expert. He stated that student representatives have up to a 25% weight in most decisions of the academic senate. This is, however, not a result of the increasing responsiveness of the HEIs, but common in post-communist higher education systems and, in the case of Hungary, prescribed by the law.

Since the mid-2000s all public HEIs now have an economic council, which is there to supervise the institutions regarding their spending. Various interview partners reference this body and one of the national experts interviewed has been a member of such a council. This expert, however, doubts the impact of this board on the actions of an HEI, especially since many actions are influenced by academic considerations, on the one hand, and tight budget constraints, on the other. He states that the councils have not been able to make significant changes to the income levels and sources of the HEIs which they serve.

Relationship with employers

A number of the interview partners mentioned that providing short courses and training for private sector businesses would be an interesting way to intensify the relationship with potential employers and to gain additional income. However, this source of funding has become scarce following the financial crisis. One of the experts also argues that HEIs tend to be reluctant to enter into cooperation with employers.

Entrance policies

Since 2005, there is a central entrance examination, which means that HEIs cannot determine their own criteria for entry to higher education. This is criticised by a number of experts from HEIs.

3.6 Quality and Relevance

Satisfaction of students with study programme and support services

There is no regular student satisfaction survey in Hungary. In 2009 full-time students were surveyed. It showed students to be most satisfied with the infrastructure (especially the library) and the academic atmosphere and to be least satisfied with the opportunities to work alongside studies. In a differentiation between universities and colleges, the data showed a higher

satisfaction in the universities and a high level of satisfaction with the opportunities to work and with cooperation between HEIs and business in the colleges. This highlights the profile differences between these institution types. Due to lack of time series data, it is not possible to investigate how these assessments have changed over time.

However, a study by Róbert (Róbert, 2000) points to a differentiation in the type of study programmes that HEIs offer, which was already occurring at the start of 2000. He differentiates between ‘marketable’ and ‘non-marketable’ programmes, the latter being those with a low value on the labour market. Using this concept, (L. Kiss, 2013) distinguishes between ‘non-marketable’ or – his term – ‘low status Bachelor programmes’ and others in an analysis of applicant, student and graduate data. On his definition, he finds 18 full-time programmes with around 7% of all full-time participants which tend to have low average score requirements for entry. These programmes are largely vocationally orientated programmes in the areas of agriculture, technology and teacher training.

L. Kiss confirms that graduates of ‘low status’ Bachelor programmes tend to be less successful in the labour market, with a higher share of unemployed persons (53.9% vs. 39.9%) or, if employed, a lower net income (L. Kiss 2013, p. 67f). This suggests that the lower entry requirements are reflected in the exit outcomes of these students. This is an interesting development, since it calls into question the ultimate quality of courses being offered by HEIs. Indeed interview sources have pointed out that, whilst quality assurance practices work relatively well in general, there remains a problem with some private providers of higher education. However, on the basis of available studies it is not possible to investigate the change in size of this issue over time.

Satisfaction of graduates with employment outcomes

P. Kiss (2013) uses graduate career tracking data to analyse graduates’ job satisfaction. He finds that “new graduates tend to be satisfied with the personal conditions and the content of their jobs, while feel less happy with the opportunities of professional and career development, and are most dissatisfied with their income” (P. Kiss 2013, p.281). But since no data on the development of graduates’ satisfaction over time were found to be available it is impossible to make inferences regarding the impact of cost-sharing.

Satisfaction of employers with labour market supply

In the absence of available data on graduates’ satisfaction with employment outcomes, information on employers’ satisfaction with recruited graduates can be used as a proxy for the relevance of degree programmes at HEIs. A 2010 study on employers’ perception of graduate employability (Gallup Organisation, 2010, p. 24) reports that 89% of all interviewed employers agreed that recruited higher education graduates had the skills required to work in their companies. This figure suggests that Hungarian higher education is thoroughly relevant to the demands posed on graduates on the labour market. However, since no longitudinal data are available it is not possible to track changes over time or relate the finding to cost-sharing issues in any way.

3.7 Evaluation

Hypothesis B looks at the responsiveness of HEIs and whether they have changed their provision or clientele in relation to market or environmental requirements. The Hungarian case provides evidence of significant changes. When looking at this topic it is important to differentiate between the public and the private sectors and between universities and colleges.

One of the responses to demand in the late 1990s, particularly taken up by the private college sector, was to enrol high levels of economics and business study students and, to a lesser extent, students of humanities. These fields of study receive only few state-funded places, so changes here are equal to increases in private revenues. The share of new entrants in these fields of study shrank heavily during the 2000s.

Other fields of study, particularly engineering and informatics at public universities, have tended to have stable enrolment figures. Since these fields receive a high share of state-funded places, this stability is related to public revenues. It is unlikely that these fields of study are of interest as source of private revenues, because of the high necessary investment in equipment and laboratories involved in offering study programmes in these fields.

Since it is largely full-time study places which receive state funding, the provision of part-time courses – which is not regulated by the state – is another way for HEIs to gain private revenue by satisfying student demand. Indeed the data shows large fluctuations in part-time provision in both public and private sectors, which has echoed general demand (higher in the early 2000s, dropping off from the mid-2000s).

The number of HEIs in public and private sectors did fluctuate marginally over the period observed, and a high was achieved at the height of enrolment numbers. In the public sector, the number of colleges declined by three over the period observed, whilst the number in the private sector increased by three. In this context, the statistics on average size of HEIs have also shown how the overall decline in student numbers has affected HEIs. On average, HEIs are smaller than they were at the peak of demand. Although the public HEIs have returned to the average size they were at the start of the 2000s, the private sector colleges are on average one third smaller than in 2001. This effectively means that the private sector, which is predominately funded through private revenues via fee-paying study places, has not been able to gain a stable portion of the market. Instead it appears to expand and contract due to quantitative demand.

This is related to the attractiveness of study places in the public sector. Due to the enrolment regulation (Section 1.6) which determines that good school pupils get state-funded places in public universities and colleges, public universities and colleges tend to have a higher prestige value than private HEIs. This makes a study place in a public institution more attractive than one in a private HEI for students, and a downturn in overall quantitative demand will mean that lower performing students will have better chances of getting a state-funded place in a public HEI.

Besides this, the participation rate of students stayed relatively stable after expansion until the mid-2000s, despite an absolute decline in the number of students. This means that universities

and colleges collectively did not manage to increase their relative participation rates, even with the emergence of what researchers have called ‘low status Bachelor programmes’ at the time of expansion. These are more open than other programmes (e.g. for lower scoring pupils), but graduates often secure lower income jobs. This aspect of the quality of provision could not be further investigated because of a lack of time series on quality change.

Overall there is evidence for HEIs responding to a changing environment, but the coping strategies appear to be most closely related to changes in government policy and not market-led demands.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

4.1 Students’ Costs for Higher Education

Student fees

As shown in Table 2.1 above, the fee income rose in the period between 2005 and 2008. Based on this information and the known share of students paying fees (i.e. not on state-funded places), it is possible to make an approximation for the average tuition fee costs per student for the public sector. In 2005 this was 126,598 forints and in 2008 it had risen by 81% to 229,374 forints (equivalent to approx. 760 euros per annum). This change affects around half of the student population, who are required to pay fees (but only around 20% of full-time students – see Figure 2.4). Current information from EUROSTUDENT V (based on 2013 data) indicates that the average fee for fee-payers is now 316,430 forints per annum (1,050 euros). This would suggest a further increase in fees over the last six years. Information from the website of the Higher Education Authority in Hungary shows that fees can be much higher for, for instance, medical and engineering courses.

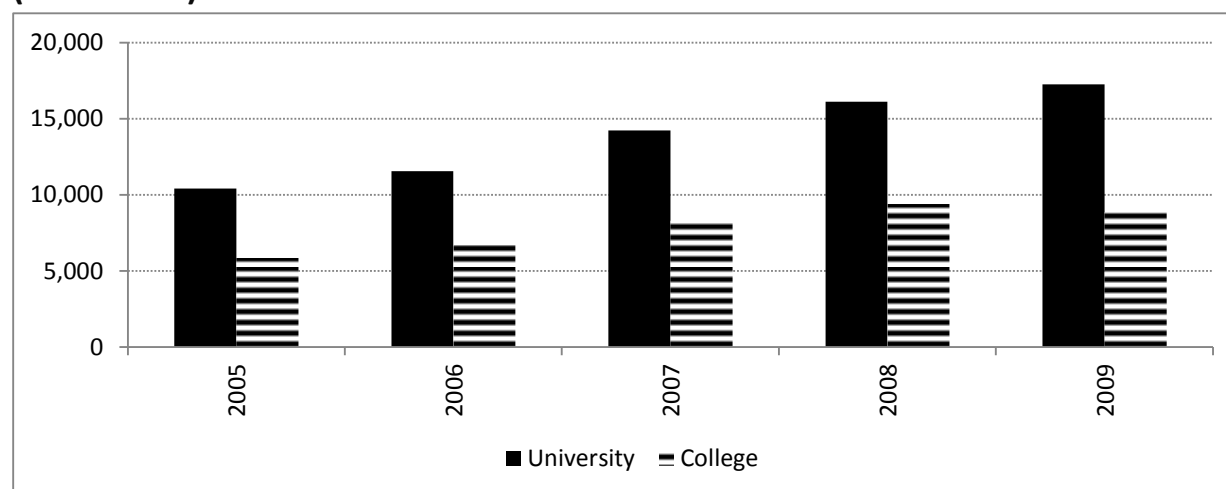
Although, therefore, fees may impact students differently depending on their field of study and their HEI, fees currently make up around 16% of a student’s monthly expenditure on average (EUROSTUDENT V). The data further shows that on average 43% of the fee is paid for by a student’s parents and not directly from their monthly income.

Student grants

Whilst average fees were rising up until 2008, so was the real value of student grant aid. It went up 66% in the university sector and 51% in the college sector in 2009 compared to 2005 (constant prices). However, since the grant aid is largely only available to those who have

obtained a state-funded study place, this only reduces the total net costs for students already studying without fees.

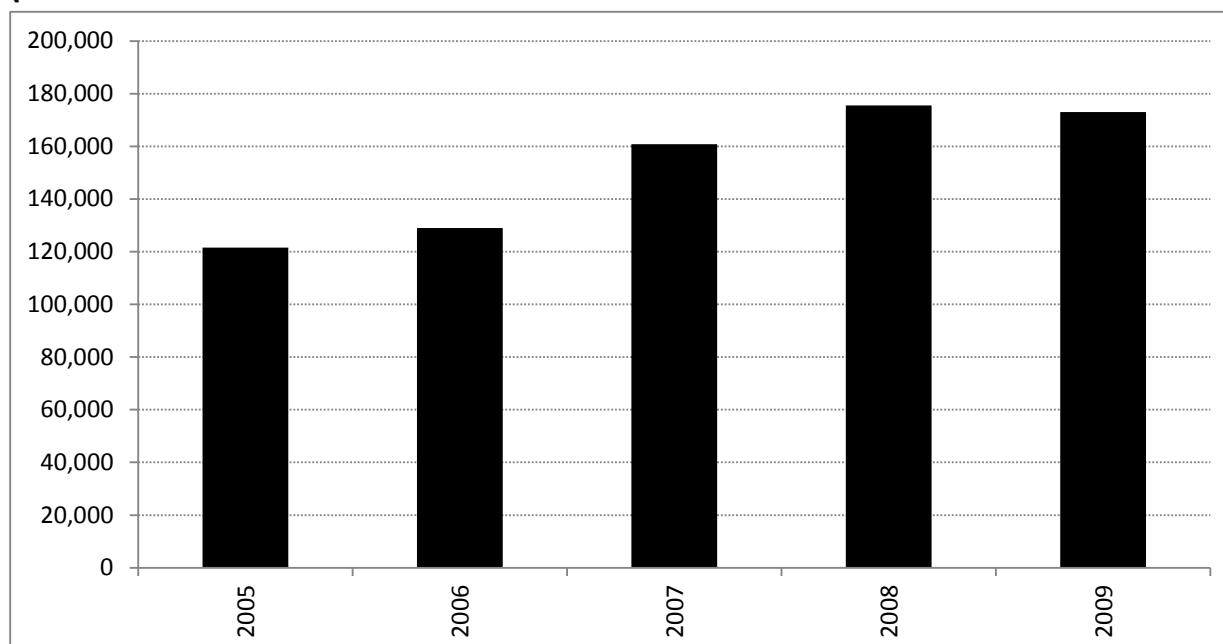
Figure 4.1: Total grant aid to students in million HUF, by type of public HEI (2005-2009)



Note: Constant prices (2011).

Source: Statistical Yearbooks / own calculations.

Figure 4.2: Average grant aid to students per annum in HUF, all public HEIs (2005-2009)



Note: Constant prices (2011).

Source: Statistical Yearbooks / own calculations.

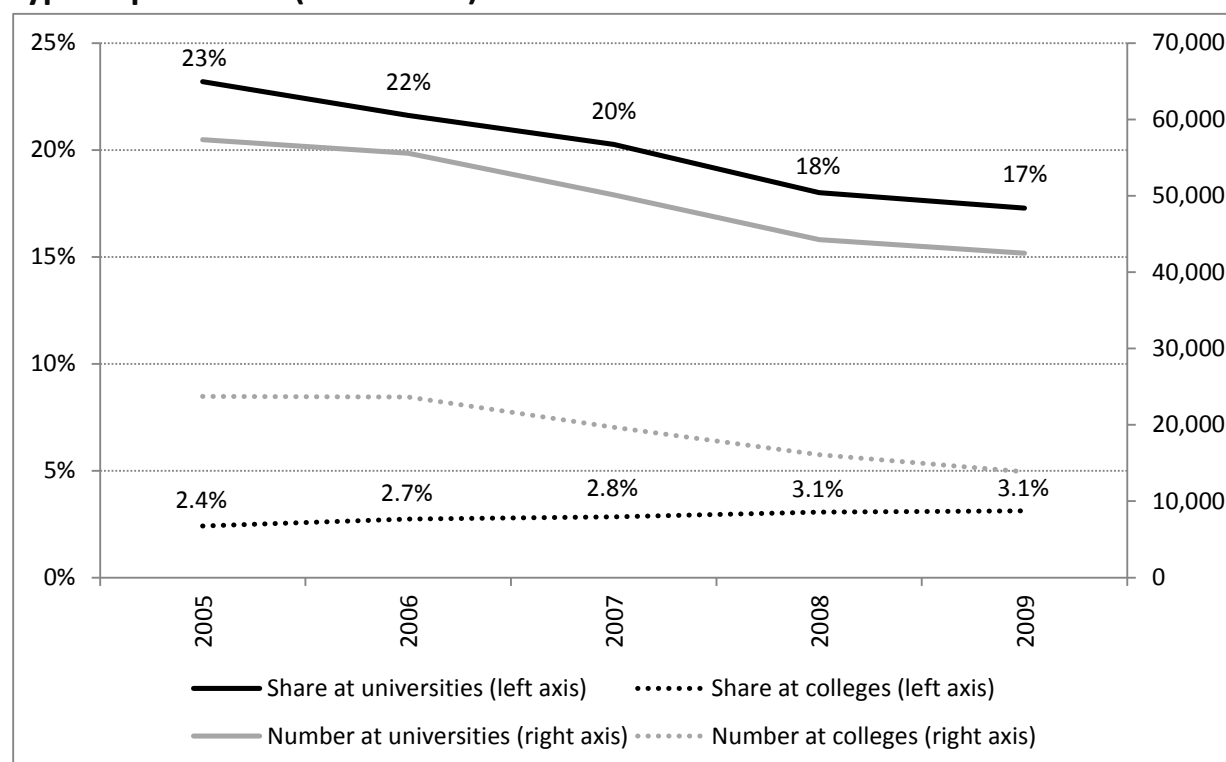
Debt levels

Not data on student debt was found to be available.

Student loans

Around 25% of all students were receiving a loan in 2005, but this share dropped to 20% in 2009. Almost all of the recipients are in public sector universities, where in 2009 17% of students were in receipt of a loan. See Figure 4.3.

Figure 4.3: Share and number of students receiving state-guaranteed loans, by type of public HEI (2005-2009)



Source: Hungarian Student Loan Center.

Indirect assistance

There is no indirect assistance for students or their families in Hungary.

Total student cost

Those students on fee-paying places do not receive a state-grant and seldom have a state-guaranteed loan. This means that their total costs are tuition fee plus living costs during studies. In contrast, students on state-funded places receive a merit-based grant and are often recipients of state-guaranteed loans. Their total costs during their studies are gross living costs minus state grant – see Table 4.1. This means that the costs for a student on a state-funded place are roughly two-thirds of those of a student paying fees and students paying fees tend to spend around 23% of their monthly expenditure on tuition costs.

Table 4.1: Net student costs per month (in forints), estimation 2013

	Fee-paying students	Students on state-funded places
Living costs	107,004	107,004
Tuition fees	31,643	
State grant		-14,258
Total net monthly expenditure	138,647	92,746

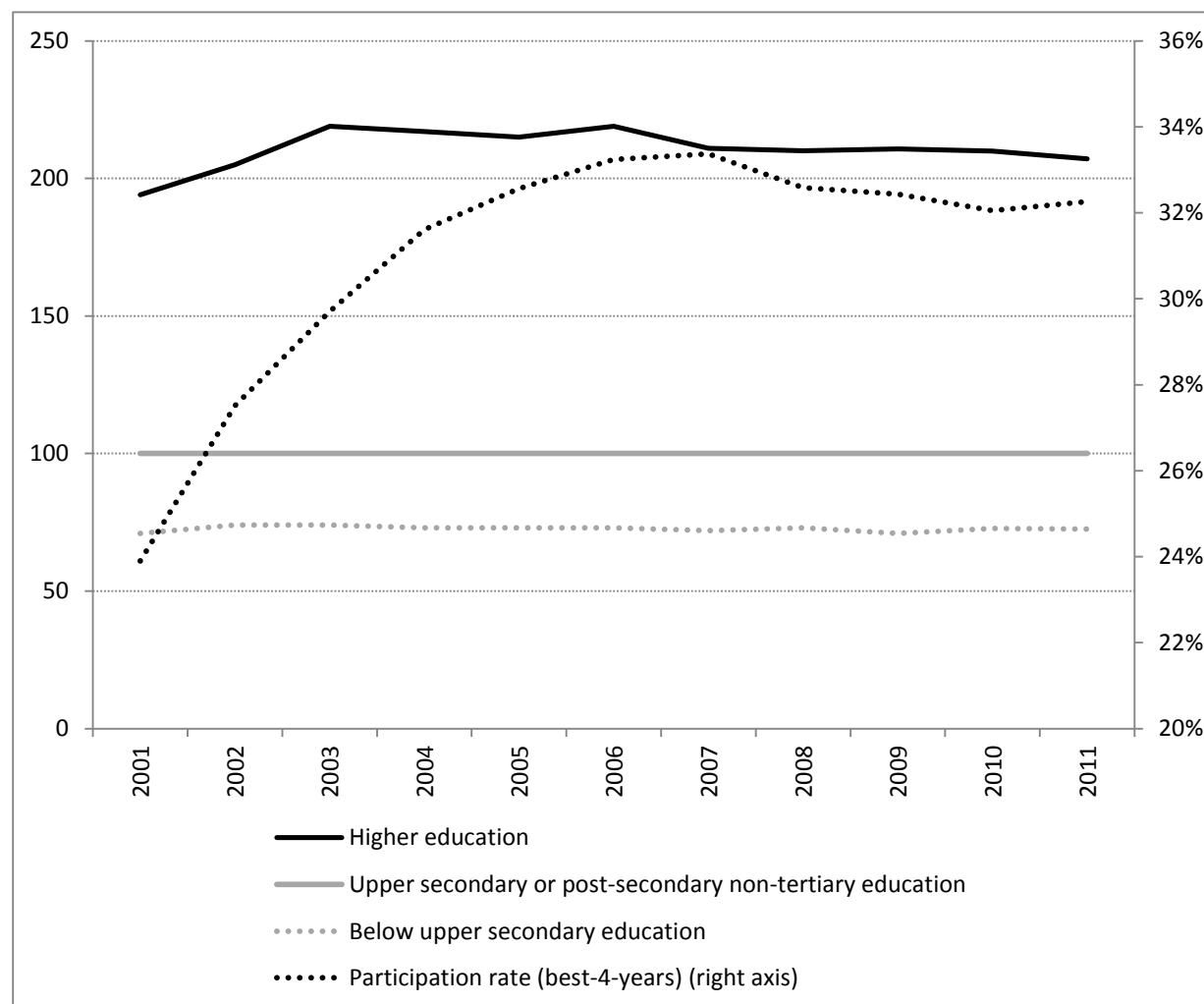
Source: Estimates based on EUROSTUDENT V (2013) and own calculations for students not living with parents.

Relative earnings

The relative earning potential of a higher education graduate has remained relatively stable throughout the observed period. Graduates tend to earn around twice as much as persons, who have completed upper secondary school level, but not gone on to higher education, see Figure 4.4. Using data from graduates in both 2008 and 2010 shows that certain subject areas – especially informatics, economics and engineering – have a very high earning potential (Varga, 2013). This might partially explain the dominant role that the economics enrolments played in the college sector until around 2006, since it would seem a good investment for students.

Figure 4.4 shows the relative earnings of tertiary education graduates compared to persons without a tertiary degree. The relative earnings of academics in Hungary are much higher than in any other European country included in the OECD's comparative data set, and among the non-European countries are only surpassed by Brazil and Chile (OECD, 2013, pp. 113-114). The peculiar evolution of participation rates (dark dotted line in Figure 4.4) suggests that there is no direct correlation between relative earnings and participation in higher education.

Figure 4.4: Relative average earning benefit of higher education graduates (2001-2011)



Note: Data indexed to earnings of a person with secondary and post-secondary, non-tertiary education =100.
Source: OECD data set.

4.2 Participation Rates

Since the decline in the overall number of entrants from around 2004 is largely in the private and in the public college sectors (see Figure 1.1), both of which having high levels of fee-paying students, a rise in fees may be affecting participation. Indeed the number of students has decreased by 15% between 2005 and 2011. However, at the same time, as mentioned above, since there is a concurrent demographic decline, the participation rate has not declined, but held relatively steady in the period (see Figure 1.2).

That is to say that the changes to the cost-structure of higher education with only 42% of students paying fees in 2011 instead of 49% in 2005 may have increased the propensity for someone to go into higher education slightly, but not substantially.

4.3 Composition of the Student Body

At present Hungary does not have systematic data on enrolment composition stretching back over a substantial period. One of the most recent international studies using labour force data showed Hungarian higher education to be socially selective (data from 2009), with the chance of entering higher education for a student whose parents have not attained higher education themselves being around 0.6, i.e. the share of students with this background is only 60% of the share of the total population with this background (OECD, 2012, p.102). The authors of a Hungarian study, which used the results of institutional surveys on their respective student populations give similar findings and state that the composition of the study body did not change much between 2007 and 2011 (Garai & Veroszta, 2013).

This is of itself interesting: since the average net costs to students has been dropping due to the increased share of students now able to get a state-funded study place, it could be expected that the more cost-sensitive students would have the chance to enter under such conditions. However, it would be necessary to have more in-depth research, which is not currently available, in order to see any big changes at the margins.

4.4 Completion Rates

There is no information available on this issue.

4.5 Evaluation

On the basis of the available data, it is difficult to evaluate the causes of the change in demand of students. There are now fewer students than at the start of the 2000s, but there are also fewer 'potential students' in the sense that the typical student age group has declined by nearly 20%. Indeed on this relative measure, the participation rate has actually increased (from 24% in 2001 to 32% in 2011, Figure 1.2).

At the same time, the share of students receiving state-funded places has increased, and the fee revenue generated on average by HEIs has increased. This means that there are two very distinct groups of students in Hungary: (i) the student group, which is growing, who are on state-funded places and also receive state grants and (ii) the student group on fee-paying places, who cannot receive state support and are subject to rising fee levels.

We would certainly expect these student groups to have different participation rates, but the sparse evidence suggests that the composition of the student body has remained stable throughout the second half of the 2000s.

It is remarkable to note in the context of these developments and the relatively stable earning benefits of higher education graduates that the share of students taking out a student loan dropped substantially between 2005 and 2009. Whilst this may be related to the insecurity caused by the financial crisis in 2008, it actually began already in the mid-2000s. This suggests concerns on the real return on investment of a higher education diploma and may be related to the growth or impact of the so-called 'low status' Bachelor programmes mentioned in section 3.6.

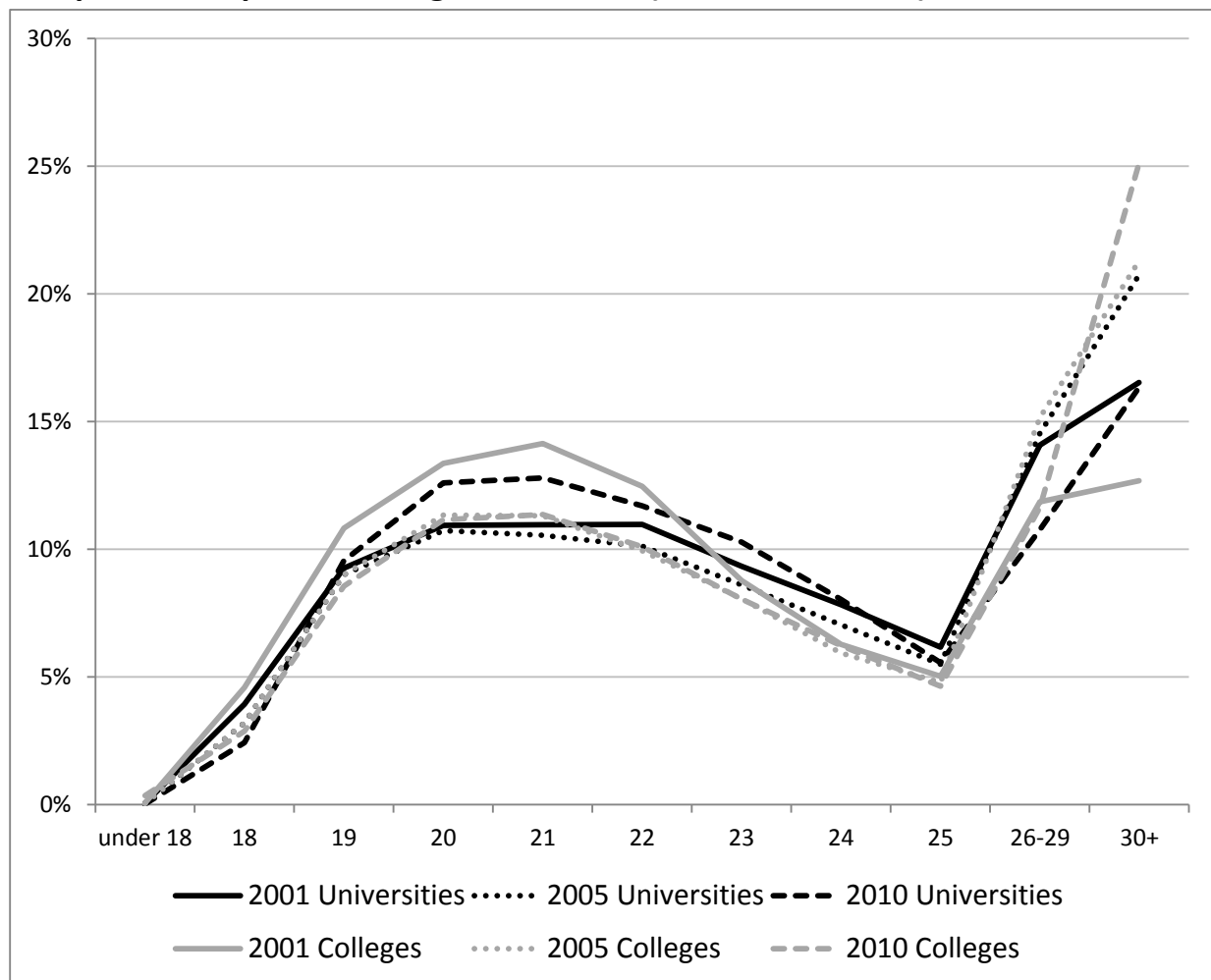
5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study. Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

5.1 Student Study Patterns

Hungarian higher education has a broadly stable average age profile (specified below by the median, i.e. maximum age of 50% of students) for all three main sectors of Hungarian higher education – public universities, public colleges and private colleges. However, there have been some changes to the age profiles of the two types of higher education institution – universities and colleges. Over time, the share of younger students (19-22) has decreased in the college sector (public and private combined), whilst it has increased in the university sector (public sector). This provides some evidence for students entering colleges at a later age. However, it is unclear whether this is the result of different student behaviour or new recruiting strategies of colleges. In both public and private sectors the age group of 30 plus is the only age group to show a real increase in the number of enrolled students (+39% for public colleges and +7% for private colleges).

Figure 5.1: Share of students in the respective age groups for public universities and public and private colleges combined (2001, 2005, 2010)



Source: Statistics Hungary.

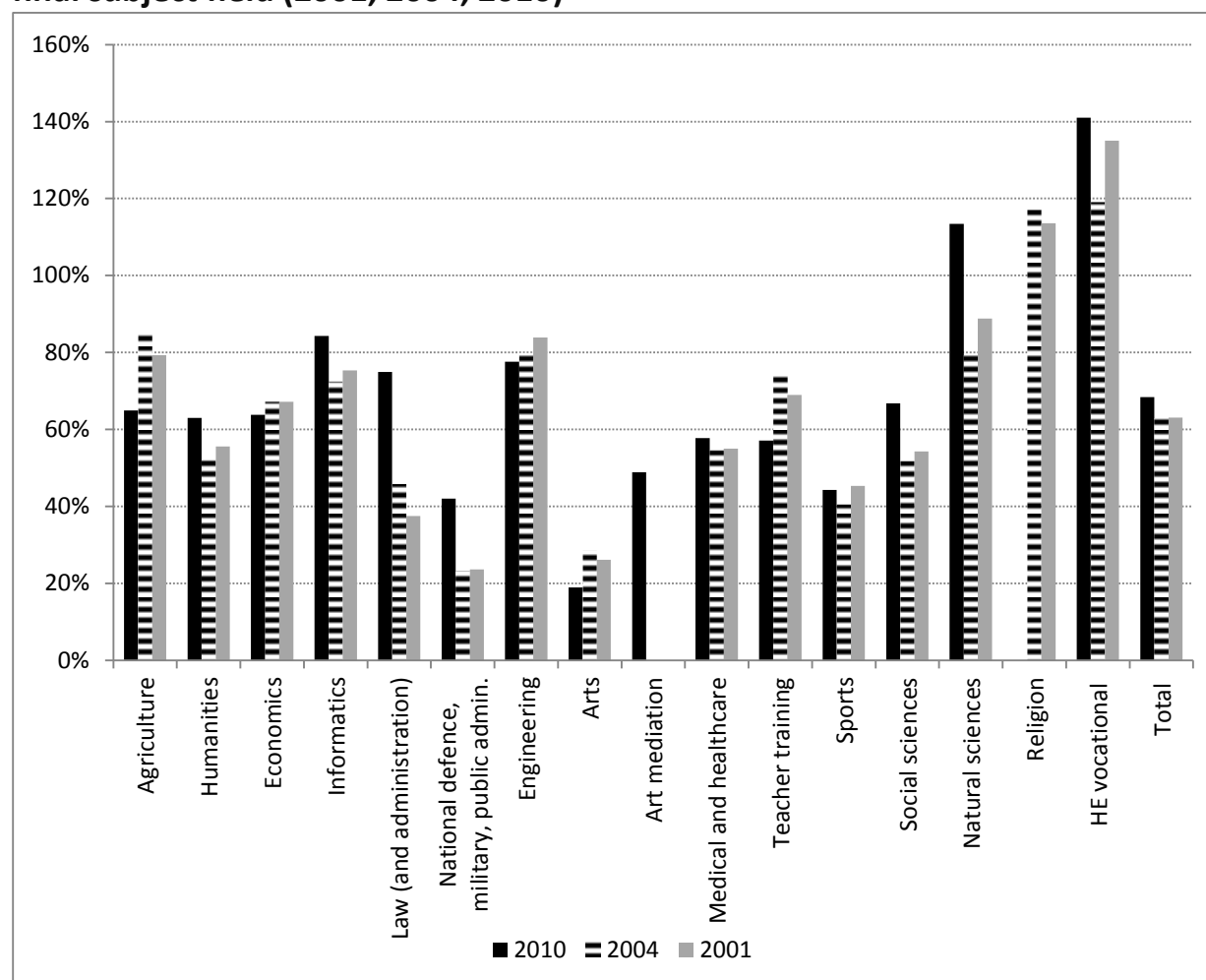
5.2 Location of Study

Based on the data available from the Higher Education Authority, there have been no changes to the mobility of students between regions of Hungary since 2005 (the first year of data available) – around one-fifth of students have had the same permanent address as the address of the HEI to which they have been admitted. This is, in fact, more a reflection of the importance of the capital Budapest as the centre for many of the most prominent Hungarian universities.

5.3 Field of Study

In section 3.1 we have already seen the change to the enrolment by field of study, and particularly the decline in the number of students studying economics and humanities. Since we have data on the number of applicants to certain fields of study and the number of entrants to a field of study, it is possible to observe how this change has occurred. Figure 5.2 shows that the number of applicants to a field of study broadly echoes the changes to the total number of enrolments in that field of study. For instance, in 2001, 67% of applicants to economics obtained a study place for economics. Despite the drastic change in the number of entrants for economics between 2001 and 2010 (-46%), the selectivity index of the study programmes in that area has only increased slightly from 67% to 64%, i.e. 64% of applicants receive a place. This shows that the student demand has already been influenced by the chances of obtaining a study place. This is likely to be related to the two central mechanisms of higher education policy in Hungary – the number of state-funded places and the central application system. This suggests, in turn, that it is not the ‘pure’ demand of students which has affected the provision of study places.

Figure 5.2: Index of share of applicants by first subject choice to entrants by final subject field (2001, 2004, 2010)



Note: Values greater than 100% mean that students who did not have the relevant subject as a first choice accepted a place later (e.g. after failing to be admitted to another subject).

Source: Higher education application and admission data – Educational Authority / own calculation.

5.4 Time-to-Completion

There is no information available on this issue. However, all interview partners highlighted a recent change that students are more and more frequently working alongside their studies. They associated this phenomenon with the increasing challenges students have to cover the costs of studying through other income sources.

5.5 Evaluation

The assumption behind Hypothesis D is that changes to cost-sharing may not simply affect the number of students, but instead affect what students are studying and where.

There is an argument that students are more likely to stay close to home concerning their choice of HEI if they are trying to cut costs due to rising fees, for instance. However, the available data for Hungary provide no evidence for this, nor any systematic changes in students' place of residence.

The same hypothesis also assumes that a rise in costs might lead to a rise in part-time studies, so that students can work alongside their studies. The interviews do indeed highlight the problems of students working alongside their studies. There is no systematic evidence for students studying in a less intensive manner, since the status of part-time student is not always equivalent with less intensive studies, but simply a different status of programme (e.g. there are no regulations on how many part-time students can be enrolled at an HEI).

A further effect could be that students begin to apply to different types of study programmes based on their information or assumptions on the specific rate of return for certain fields of study. The data presented here shows a high congruence between applicants and chances of gaining entry (Figure 5.2) since the index values by field of study remained relatively stable in the last ten years despite changes to the number of entrants (and therefore: study places) by field.

Another way to say this is that the HEIs and especially the state – through state-funded study places – determine the provision by field of study more strongly than does student demand. Indeed there is evidence that the provision of state-funded study places is being used increasingly strategically by the state. Overall, therefore, the Hungarian case presents a mixed model between market-like elements and relatively interventionist steering by the state.

6. CONCLUSION

The study of Hungary has shown the use of a dual-track funding system in order to extend higher education capacity beyond a size which could feasibly have been supported through public funding alone. Additionally, it shows a country which has had a strong expansion in provision until the mid-2000s, but is now subject to a stagnation largely dependent on the demographic shrinkage of the young population in Hungary.

With respect to Hypothesis A, there has been an increase in public and private spending throughout the 2000s, so that institutional revenue was on the increase until 2008, when the global financial crisis effected funding. Funding revenue is generally provided through the state-determined number of state-funded study places per subject area and HEI and the number of fee-paying places, which is autonomously determined by the HEIs. Tuition fees from fee-paying students are therefore an integral part of HEI funding. It does seem that fee-revenue enabled the higher education sector to deal with the growth in the enrolment early 2000s, as the share of students on fee-paying places increased in this period. In this period, increases in private revenues led to the higher education system being better off, supporting Hypothesis A.

After the financial crisis, the funding as share of GDP remained the same, but the drop in GDP led to a relative and proportional drop in absolute public funding. In this context, the concurrent drop in the number of students actually led to an increase in public funding per-student. In total then, there was no substantial increase in private revenues, meaning that Hypothesis A is not directly applicable to this latter period.

On an institutional level, both revenue via fees and state funding via state-funded places have injected volatility into HEI revenues since neither the student numbers nor the rules for state-funded study places remained stable. Therefore, the decrease in the overall number of students and the share of students on part-time places (for which there are few state-funded places) affected the revenue of individual HEIs, particularly for colleges. There is some evidence that HEIs are struggling to cover their staff costs. This point was also raised in the interviews, where it was pointed out that some HEIs require staff to obtain project-based funding from competitive tenders (often from the EU) in order to cover their own staff costs.

Despite this, the student-to-staff ratio for public universities and colleges has remained stable throughout the period observed. This is not the case for private colleges, where it has significantly improved. It is likely that this improvement is related to the quality assurance requirements, but also more simply to the large drop in enrolment in this sector. The interview partners expect more mergers and closures of HEIs within the coming years.

With respect to Hypothesis B, there have been some developments at HEI level, but both the analysis and the interview partners point to these being related more closely to state regulations than to market influence.

The discipline profile has changed over the period observed, with the initially large share of students studying economics decreasing to about half the initial size by 2010. These students studied largely in the private colleges. At the same time, there is evidence that graduates of this subject area were successful in gaining well-paid jobs following graduation. Other disciplines – such as engineering and medicine –, which are predominantly financed by the state (state-funded places), have had relatively stable enrolment figures over the period.

Part-time provision grew during the growth phase of Hungarian higher education and dropped off in the mid-2000s. During expansion, the share of students on fee-paying places grew and then shrank post mid-2000s. This suggests that the provision of part-time places – which is not regulated by the state – was used to satisfy student demand not met by the public sector.

There has been no growth in the number of HEIs in both public and private sectors over the period observed, although a high was achieved at the height of enrolment numbers. In the public sector, however, the number of colleges declined by three over the period observed, whilst the number in the private sector increased by three. The resulting HEIs are of a lower average size in both sectors and in both types of HEI in 2010, following contraction of the system. During the period of expansion, researchers noticed the emergence of what they call ‘low status programmes’. These are more open than other programmes (e.g. for lower scoring pupils), but graduates often secure lower income jobs. Contrariwise – according to the interviews – there is a common argument in Hungary that a decline in the size of the sector may entail improvements in quality.

Under the circumstances of contraction, it would be a rational strategy for HEIs to strengthen their recruitment strategies. However, the participation rate of students stayed relatively stable after expansion in the early 2000s. This means that universities and colleges did not manage to increase their relative participation rates and were therefore significantly hit by a declining base of potential students. In 2010, for instance, Hungary had 64,000 less students than in 2005.

With respect to Hypothesis C, the assumption of increasing private funding having a negative effect on student demand cannot be supported. However, this has to do – to some extent – with the dual-tracking tuition fee system. This means that there are two very distinct groups of students in Hungary: (i) the student group, which is growing, who are on state-funded places and also receive state grants and (ii) the student group on fee-paying places, who cannot receive state support and are subject to rising fee levels.

We would certainly expect these student groups to have different participation rates, but the sparse evidence suggests that the composition of the student body has remained stable throughout the second half of the 2000s.

It is remarkable to note in the context of these developments and the relatively stable earning benefits of higher education graduates that the share of students taking out a student loan dropped substantially between 2005 and 2009. Whilst this may be related to the insecurity caused by the financial crisis in 2008, it actually began already in the mid-2000s. This suggests concerns on the real return on investment of a higher education diploma and may be related to the growth or impact of the so-called ‘low status’ Bachelor programmes.

With respect to Hypothesis D, some changes to how and what students study are observable, but they cannot be directly linked to the issues of cost-sharing. Over time, the share of younger students (19-22) has decreased in the college sector (public and private combined), whilst it has increased in the university sector (public sector). This provides some evidence for students entering colleges at a later age. However, it is unclear whether this is the result of different student behaviour or new recruiting strategies of colleges. In both public and private sectors the age group of 30 plus is the only age group to show a real increase in the number of enrolled students – +39% for public colleges and +7% for private colleges.

It is also somewhat unclear as to whether changes to the provision of programmes by field of study (and especially economics) is related to changes in supply and demand, mediated between HEIs and students, or due to state policy. Indeed it seems that the provision of state-funded study places is being used increasingly strategically by the state.

Overall, therefore, the Hungarian case presents a mixed model between market-like elements and relatively interventionist steering by the state at the centre.

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Statistical Yearbooks of Education available at <http://www.nefmi.gov.hu/miniszterium/oktatasi-statisztikak>

APPENDIX: LIST OF INTERVIEWED EXPERTS

Name	Position/ Affiliation
György Andor	Vice rector of Budapest University of Technology and Economics
Zsolt Barthel-Rúza	Századvég Economic Research Co.
György Bazsa	Former rector of University of Debrecen
Gábor Bolvári-Takács	Professor of Hungarian Dance Academy
György Drótos	IFUA Horváth & Partners Management Consultants and Head of Department of Management Control, Corvinus University Budapest
Zoltán Hauser	Rector of the HEI Eszterhazy Karoly University College
Dávid Nagy	Chairman of National Student Union Conference
István Ónodi	Marketing director of John Wesley Theological College
János Rechnitzer	Vice rector of Széchenyi István University
Péter Szabó	Rector of the HEI Kodolányi János University College
József Vörös	Professor and former vice-president of University of Pécs
Gabriella Wágner-Tomcsik	Director of education and training, Confederation of Hungarian Employers and Industrialists

All interviews were conducted in March 2013.

SOUTH KOREA

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1. INTRODUCTION

1.1 Overview of Higher Education in South Korea

Korea's higher education system is of relatively recent origin. Although Korea has had 'academies' of the Chinese model dating back to the sixth century (to which some can point to – dubiously - as kinds of proto-universities), the only modern higher education to predate the Japanese occupation of 1910-1945 is Ehwa Women's University, founded by American missionaries in 1886.⁹⁵ Two other private universities (Yonsei and Korea) were founded during the Japanese occupation. Together, Ehwa, Yonsei and Korea had a grand total of 7,000 students when liberation came in 1945. For obvious reasons, Korea's higher education system was heavily influenced by the Japanese system, which itself was mostly a copy of an earlier German system. It promoted a very hierarchical version of higher education, with universities essentially run by a few very powerful professors. This happened to fit well with the traditional Confucian heritage of Korea's indigenous system of higher education, which was based around a model of mentors-and-disciples.

Education was a major preoccupation of the post-World War II Korean government. Denied their own system of education under the thirty-five year Japanese education (the occupiers placed heavy restrictions on access to education and at the higher levels ensured that it was conducted almost entirely in Japanese), there was an enormous pent-up demand for education as a means of social and economic advancement. Among the population at large, there was a Confucian view about education – that it was a marker both of virtue and of social status. Additionally, the government had some explicit ideas about how to use education in the service of national development, both in terms of human resources and the development of national culture. These two perspectives combined to create the phenomenon popularly known as '*Gyoyuk yolgi*' or 'Education Fever' (Seth, 2002), a term Koreans use to describe the extremely high demand for education at all levels in their country.

In the immediate aftermath of the war, a decision was made to create a single 'model' public university. Keijo Imperial University, established as an elite institution for Japanese students in 1925 and modeled on Tokyo University, was shut in 1945 but re-born in 1946 as Seoul National University, which today ranks in the top 100 research universities in the entire world. Since this occurred under American occupation, the re-founded institution had a distinctly American flavor in terms of its mission and organisation. This was not an entirely alien tradition; both Ehwa and Yonsei (originally known as Chosun Christian University) had some American ties through their missionary origins, and a significant number of Korean academics had received their training in the United States.

⁹⁵ Sung Kyun Kwan University, now owned by Samsung, is indirectly descended from a fourteenth-century Confucian academy. However, to call this institution, as it existed in the early twentieth century, a university would be a stretch. It was 'refounded' as a college in 1946.

The basic structure of the higher education system was set very early. In 1948, Bachelor degrees were defined as consisting of 180 credit hours of classes (later reduced to the current 140), and the tripartite division of university studies (i.e. Bachelor/Master/Doctorate) was confirmed in 1952. The development of higher education was given an unexpected stimulus by the Korean War. A number of colleges were founded in refugee camps in the period 1951-1954, and many of these colleges were given legal status retrospectively; the government gradually began introducing quality standards after active hostilities ceased. Access to universities was governed through a set of competitive national exams. In a country that was very poor (per capita GDP in South Korea was lower than in Ghana in 1956) and which lacked a native ruling or commercial class, the exam system acted as a guarantee for open access by merit, and was zealously protected by government.

Student numbers rose quickly in the 1950s. Roughly 55,000 students were in place by 1957 and nearly 100,000 by 1960. Much of this occurred in private universities which were allowed to open in increasing numbers, though their curriculum offerings were tightly monitored. In 1961, after enrolments in four-year colleges jumped 33% in a single year (to 134,000), the government made a deliberate attempt to reduce university numbers by closing some private institutions and reducing intake at public ones. This was partly a reaction to students increasing political power (they had helped to overthrow Syngman Rhee in 1960) and partly because the government was at the time increasingly worried about the supply of skilled labour and wanted to divert enrolments from 'less productive' degree-level studies in the humanities towards vocational qualifications which appeared more useful to industrial development. This was largely unsuccessful; demand for education was – as might be expected in a Confucian society – more about acquiring social status than it was about achieving a high rate of return, and so parents were highly resistant to a reduction in access. The plan gradually unraveled in the face of this public pressure; by 1970 enrolments were back up to 200,000 and further increased to 300,000 by 1975.

After President Chun Doo Hwan came to power in a coup in 1981, enrolments began to increase rapidly. Seeking to buttress his legitimacy, Chun sought popular approval by drastically increasing access to higher education; by 1985, enrolment had quadrupled to nearly 1.3 million. Partly, this was a function of allowing new private universities to open, and partly it was a function of opening a large number of new public regional universities.

By this time, two significant patterns had been set in higher education: the first being one of funding and the other of prestige. The funding model was set largely by the pattern of public/private allocation of seats: since the late 1950s, the share of students at private universities has fluctuated somewhat but generally has stayed between 66% and 75%. Private universities are, of course, almost entirely reliant on private tuition revenue for their income. However, even in public universities, students account for between 40-50% of total institutional income. Korea is thus an outlier among OECD countries in that only about 20% of funds in the higher education system come from government. In this sense, it is a much more market-driven system than that seen in any other country, including the United States.

As for prestige, Seoul National remained the country's 'model institution' that everyone else wished to emulate. It was, as model institutions tend to be, highly selective, and highly focused

on research. Within the capital, two other private universities (Yonsei and Korea) were also considered to be at the top of the prestige ladder.⁹⁶ After that came other public ‘national’ universities – notably the Korea Advanced Institute for Science and Technology, and a few more private institutions either with long histories (e.g. Ehwa Women’s University) or very specific high-technology mandates (such as the Pohang University of Science and Technology, also known as POSTECH). At the bottom were public regional universities and the remainder of the public universities, and below them are the country’s junior colleges.

Korea has also a significant system of non-traditional delivery of higher education. This is both because of the fact that access to regular universities was restricted and because of universal conscription, which forces most males to interrupt their studies. It therefore has a system of ‘Self-Study’ Bachelor degrees in which students are required to read widely and follow texts along something like traditional curricula, but their progress is measured simply through a set of four challenge exams which must be passed in order to obtain a degree. Since 1972, it has had an Open University for long-distance learners (Korea National Open University, or KNOU) which awards 30,000 degrees annually. And, since the late 1990s, it also has a unique post-secondary institution called the Academic Credit Bank, which is a kind of degree-granter of last resort that allows students to obtain degrees by putting together credits from many different institutions. It is the country’s largest provider of degrees – with over 50,000 per year, or roughly 8% of all degrees awarded.

As of 2011, there are 156 private universities and 143 ‘junior colleges’ (two-year institutions awarding associate’s degrees in the American style) which collectively educate about 75% of the student body. This is a deliberate government policy; since the 1950s, the government has always preferred to spend public money on lower levels of education, leaving higher education largely in the hands of private non-profit entities. There are just 30 public universities, of which 10 are considered to be flagship comprehensive research universities. Collectively they teach 25% of the student body, but about 30% of that is in non-traditional institutions such as the Korea National Open University and the Academic Credit Bank. In addition, there are 24 public non-university HEIs. These tend not to be equivalents to the private sector’s ‘junior colleges’, but rather are mostly cultural education institutions. Thus ‘non-university’ HEIs in Korea differ significantly between the public and private sector.

1.2 Key Higher Education Stakeholders

Korean Higher Education is organised on a much simpler basis than most European Systems. At the top of the system is the Korean Ministry of Education, which provides funding to public institutions through an annual budget. Another important government agency is the Korean Educational Development Institute (KEDI), a rather unique organisation that is both the government’s main research centre and a kind of independent experimental laboratory for new education schemes. The Academic Credit Bank, for instance, was once a branch of KEDI before

⁹⁶ Later, in the 1990s, two specialised institutes - POSTECH and the Korea Advanced Institute of Science and Technology (KAIST) - also rose to the top of the prestige ladder, but at this time the focus was almost entirely on institutes inside the capital.

it was spun-out into its own organisation. The other significant government agency is the Korea Scholarship Foundation, which operates the bulk of the loans and scholarship programmes in the country (though there are a number of institutions, including the Ministry of Labour, the Government Employees Pension Corporation and the Korean Teachers Pension Fund that all provide various forms of loans and scholarships for targeted segments of the population).

A number of other ministries also have a role in the field of higher education. The Ministry of Science and Technology, for instance, has spent heavily to develop the Korea Advanced Institute of Science and Technology (KAIST) and the Ministry of Labour has invested considerable sums of money in the Korean University of Technology.

The other major body of note is the Korean Council for University Education (KCUE). This is a membership organisation of Korean Universities (though membership is mandatory by law). In addition to representing the views of universities on higher education policy to government, it is also the de facto national accrediting agency, conducting both institutional and program-level assessment of universities. They also coordinate institutional admissions policies and practices and provide information on college admissions to the public, and try to develop in-service programmes for faculty and administrative staffs.

1.3 How Governments Fund Institutions

Private institutions are essentially entirely self-funded, with only 4% of funding coming from governments (mainly for research). However, there is substantial non-student funding. Major corporations own certain universities: Hyundai owns SyunkyunKwan, while POSCO owns POSTECH; they subsidise these universities as they in part serve as training and research and development facilities. A number of religious colleges – particularly Christian ones - receive substantial funding from the communities they serve. In addition, institutions reap the usual income from sale of goods and services.

Roughly sixty percent of total funding for public universities comes from government, primarily the Ministry of Higher Education (MoHE). According to Lee (2002), roughly 75% of government funding comes from MoHE, with other funds coming from the Ministry of Science and Technology, the Ministry of Commerce and Industry, and the Ministry of Labour. Interestingly, over 50% of government transfers to institutions are for research rather than teaching. It should be noted, however, that a 2006 OECD report on Korea remarked that given how many different agencies were involved in providing operating funds to universities, it was almost impossible to tell how much they were receiving in total.

1.4 History of Cost-Sharing

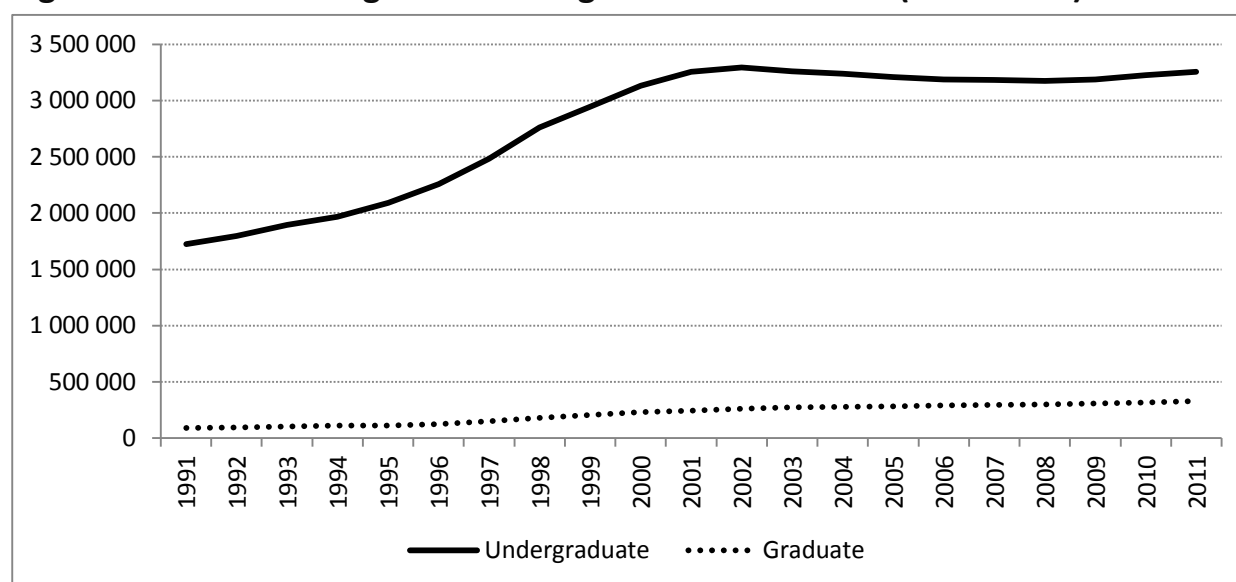
In South Korea, there has always been a significant element of cost-sharing. From the beginning (that is, from the formation of Seoul National University in the 1940s), tuition fees have played a substantial role in the funding of public universities. More importantly, though, private

universities have always played a major role in the South Korean university system. At independence, the main universities were private (Yonsei, Korea, Ehwa Women's University) and the government has always substantially relied on private universities as a way to meet demand. In part, this was a deliberate modeling on the Japanese system (which is also substantially private), but in part too it was a reflection of government priorities. The Korean government very deliberately delayed expanding higher education until about 1980, the better to focus its attention on developing primary and secondary education (to a certain degree, there was also a political dimensions to keeping student numbers low as students had played a significant role in the overthrow of Syngman Rhee in 1960 and in the Gwanju uprising of 1979). As a result, the government was quite happy to see private institutions – which were almost entirely funded by tuition fees – take on the role of 'demand absorption'.

Thus, Korea has more or less always been in a situation where 75% of students are in private universities – (i.e. where student revenue has constituted nearly 100% of the budget) and the remainder are in more publicly subsidised, but still fee-paying institutions. In general, students at public institutions pay about half of what students at private institutions pay, though tuition can vary significantly both by institution and by program.

1.5 History of Enrolment

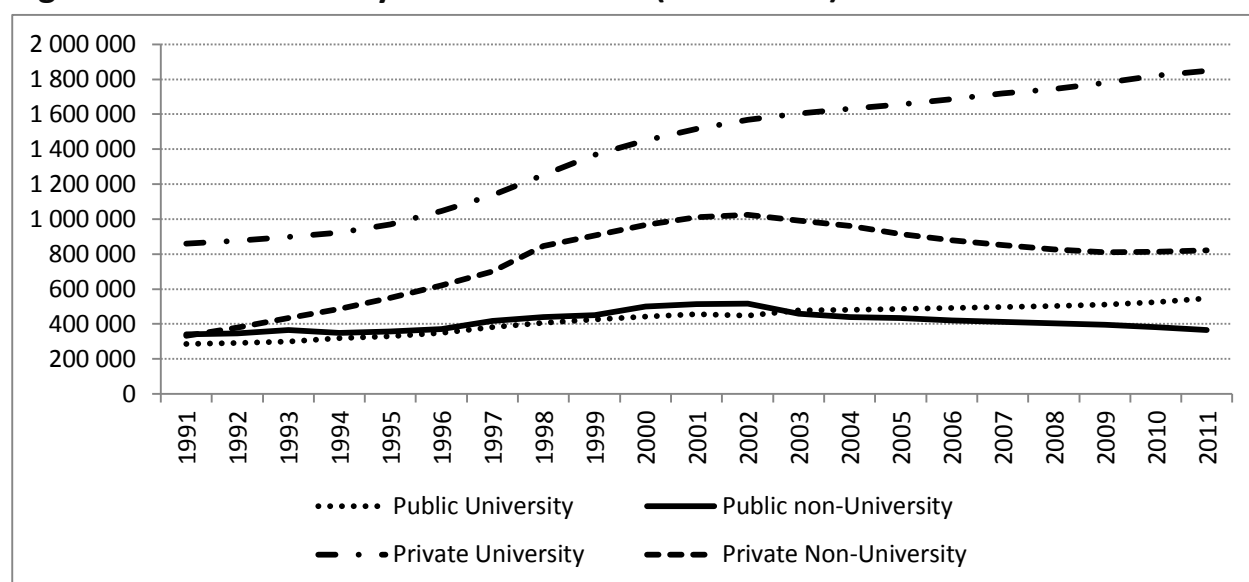
In the 1990s, attendance at Korean HEIs nearly doubled, going from just over 1.8 million in 1991 to an all-time high of 3.55 million in 2002. After that, enrolment fell somewhat, mainly due to demographic shifts.

Figure 1.1: Total undergraduate and graduate enrolment (1991-2011)

Source: Korean Education Statistics Service.⁹⁷

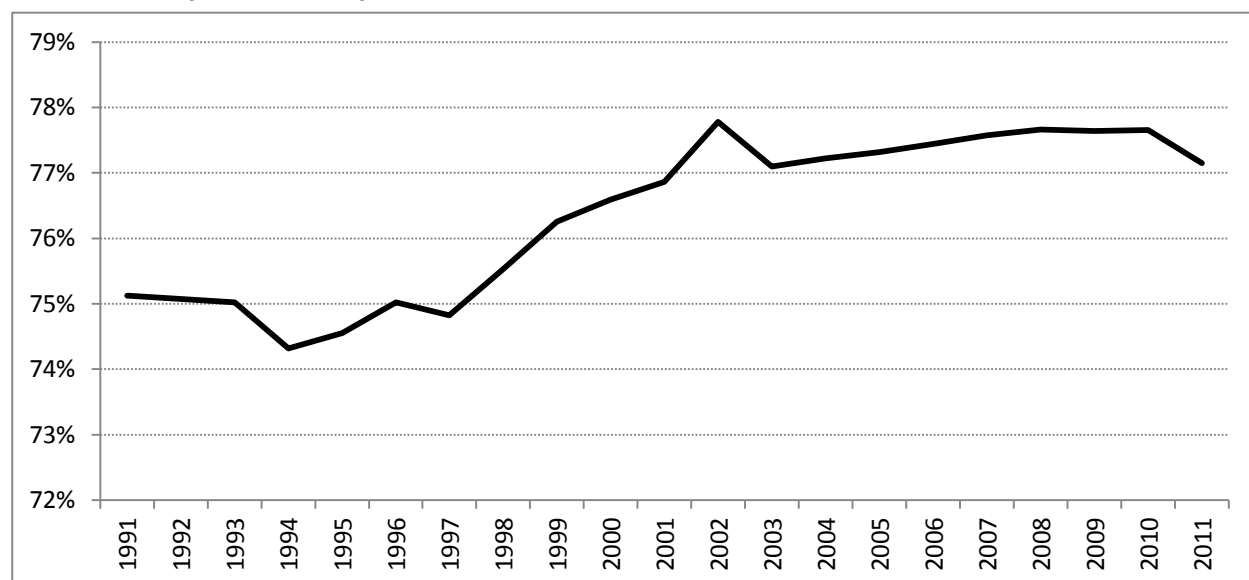
While the flattening of overall enrolment may have been driven by demographics, Figure 1.2 shows that there were still large changes occurring in the composition of enrolment. Basically, students migrated out of two-year junior colleges and into four-year institutions. The most significant movement was in the private sector where enrolments in universities went up by 200,000 while enrolment in private colleges dropped by an equivalent amount over the period 2002-2011. The shift in the public sector was slightly less pronounced but in absolute numbers was of roughly the same magnitude.

⁹⁷ Available at <http://cesi.kedi.re.kr/>

Figure 1.2: Enrolment by sector and level (1991-2011)

Source: Korean Education Statistics Service.

Within the university sector (that is, excluding junior colleges), enrolment in public and private universities have moved more or less in tandem over the last two decades. During both the period of enrolment growth and the period of enrolment consolidation, the proportion of students in the private sector crept up only slightly, from 75% to 77% - See Figure 1.3.

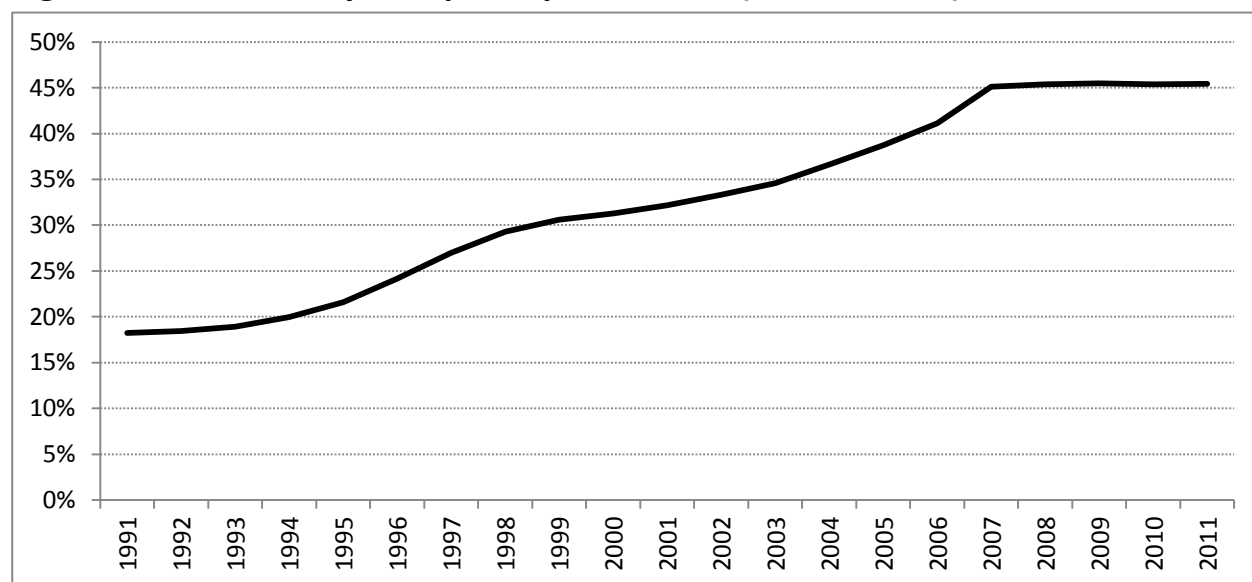
Figure 1.3: Private university enrolment as a proportion of all university enrolment (1991-2011)

Source: Korean Education Statistics Service.

Figure 1.4 shows participation rates of students in the ‘best four years’, that is the four age years with the highest participation rate, from both university and non-university institutions. In terms of participation rates, South Korea’s performance is slightly more spectacular than it is in terms of raw numbers, as the former almost tripled while the latter only doubled. Part of this has to do with demographic decline – nationally, this age cohort *decreased* in size by 27% over the decade in question; this would have increased participation rates even without any growth in the number of students. In fact, something else is at work here –an increasing proportion of the student body is made up of ‘traditional’-aged students, particularly 18-19 year olds.

This may reflect a changing pattern of military service. Young Korean males must spend roughly 24 months in the military (slightly longer at the beginning of our period), though the actual enlistment period depends on the service. Generally speaking, males tend to do this service *within* their undergraduate period – that is they transition from secondary to tertiary, spend a couple of years in higher education, perform their military service and then return to higher education (this is why the age-distribution of Korean students is somewhat flatter and more extended than what one sees in most other countries). However, it is also possible that this pattern has changed over time. If twenty years ago more youth began their conscription period at 18, it would explain the change in the age profile. Similarly, the fact that an increasing number of women (who are not subject to conscription) are attending higher education in Korea would also have the effect of changing the age profile.

Figure 1.4: ‘Best four years’ participation rates (1991 to 2011)



Note: For 2006 and 2007, the best four years were 18-21; otherwise 19-22.

Source: Korean Education Statistics Service.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

2.1 Changes in Institutional Revenues over Time

Korea is an anomaly among countries in our study with respect to data availability. In most countries, data on public spending in public institutions is the easiest data to retrieve, with data about private spending (either in public or private institutions) generally less easily obtainable. In Korea, data on private institutions' revenues are easily available but data on public institutions is not published in a coherent or consolidated manner. This appears to be due to the fact that expenditures on higher education are divided between the Ministry of Education, the Ministry of Labour, the Ministry of Science and Technology and the Ministry of Industry.

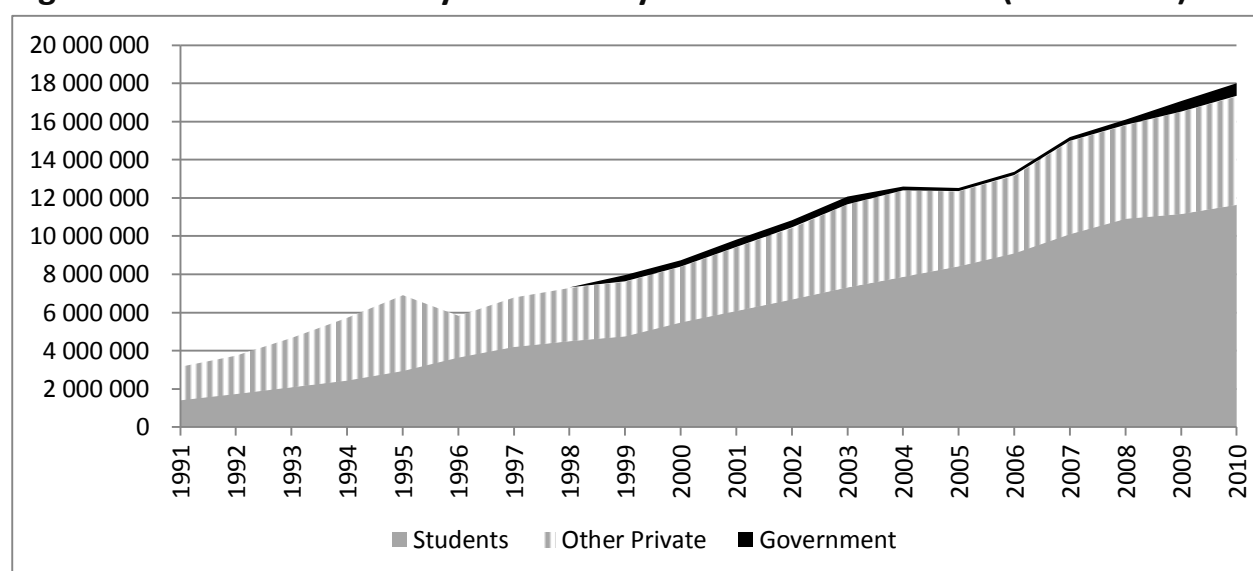
In order to estimate public funding at public institutions, this study relies on OECD data on public financing, subtracting the amounts known to have been spent in the private sector. Private spending at public universities has been estimated simply by multiplying enrolments by average tuition fees, both of which appear to be reliable indicators. However, the result of this exercise leads to some results that are quite at odds with what the secondary literature indicates to be the actual situation in South Korea (namely, that public institutions receive 60% of their funding from government). Given the detail and apparent reliability of the private university data, it seems likely that the data South Korea provides to the OECD is substantially under-estimating public contributions to public HEIs. A possible reason for this may be that it includes only the Ministry of Education expenditures, in which case it is probably underestimating total expenditures by between 30% and 35% (see Section 1.4), which would put it very close to figures quoted by the secondary sources. There is no way of verifying this independently.

Because of this irregularity, in this section the data for the public and private sectors will be presented separately and together. Readers should keep in mind the caveat about the reduced reliability of the data for public institutions.

Figure 2.1 shows revenue by source in the private institutions that house 75% of all Korean students. As can clearly be seen, government revenue does not enter the scene until about 1999, and then only in tiny amounts, never amounting to more than 0.4% of total funding. In the early 1990s, more than half of all funds in these institutions came from non-student sources – such as support from religious communities or related industries. However, in the second half of the 1990s, the student portion of funding jumped from about 45% to about 65% which is roughly where it has stayed since.

Overall, funding in private sector institutions has increased tenfold in real terms. This looks like an enormous jump, much larger than in other countries in the study. What is worth keeping in mind, though, is that GDP grew enormously in Korea during this period and that these kinds of increases are quite normal in a growing economy.

Figure 2.1: Private university revenues by source in million won (1991-2010)⁹⁸



Note: Constant prices (2011).

Source: Ministry of Education; Korean Education Statistics Service.

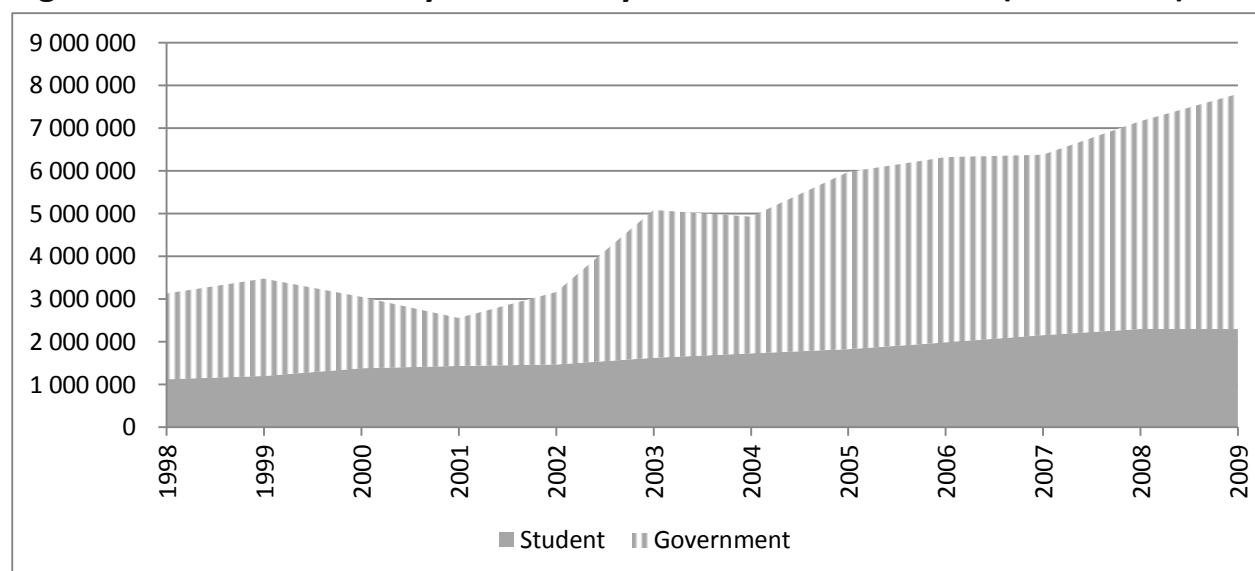
Figure 2.2 shows the same data for public institutions. Because OECD data is required to calculate the figures, the time series can only start in 1998, which is the earliest date for which it is available. To reiterate: the student figure is a simple multiplication of students enrolled by average fees, the government figure is based on OECD data (adjusted for known expenditures in private institutions), and it is likely that the government figure is an underestimate, possibly on the order of 30-35%.

What the data shows is an increase in total funding in real terms from 3 trillion to 8 trillion won between 1998 and 2009. Student contributions over this period increased slowly; government contributions fluctuated wildly. There was a sharp decrease in government funding coinciding

⁹⁸ As of October 2013, 1 euro = 1452 won.

with the Asian currency crisis of 1998, in which Korea was quite badly affected. After that, however, contributions began increasing quite rapidly. In real terms, government increased its funding five-fold between 2001 and 2009.

Figure 2.2: Public university revenues by source in millions won (1998-2009)



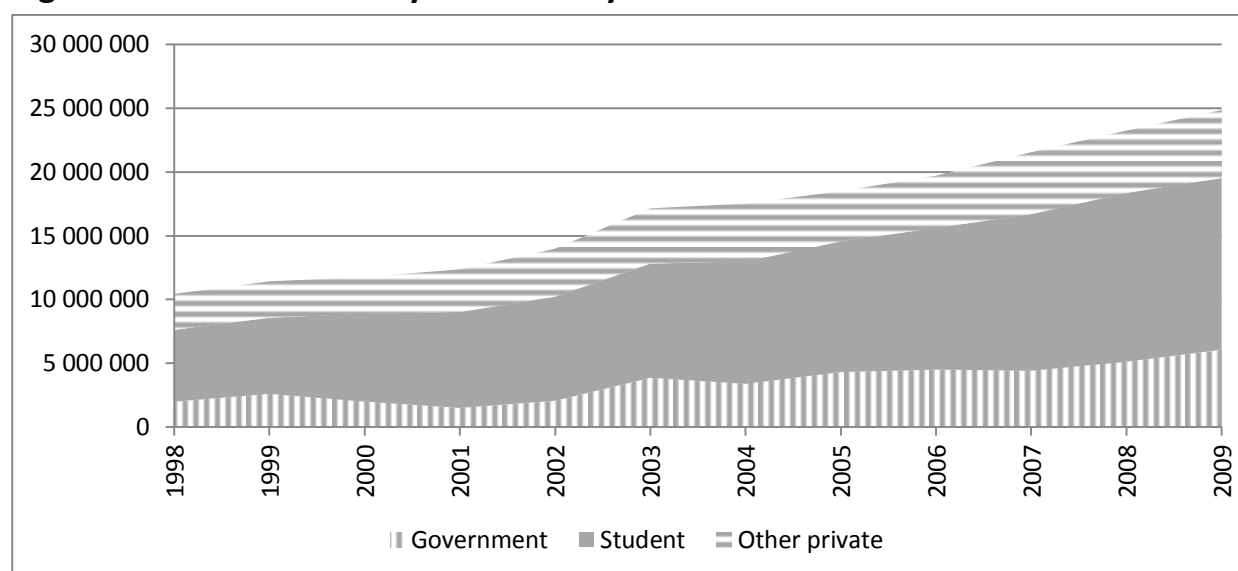
Note: Constant prices (2011).

Source: Ministry of Education; Korean Education Statistics Service ; Higher Education in Korea⁹⁹.

Figure 2.3 simply combines the two sets of data. Overall, sector-wide income rose from 10 to 25 trillion won in real terms. Growth came from all three revenue sources, but it was the student portion that increased the most. In absolute terms, the largest growth came from increasing student fees, which rose from 7.3 to 15.6 trillion won; however, in proportional terms it was government funding which rose fastest (if also most unevenly).

⁹⁹ Statistical service, available at <http://academyinfo.go.kr>.

Figure 2.3: Total university revenues by source in million won

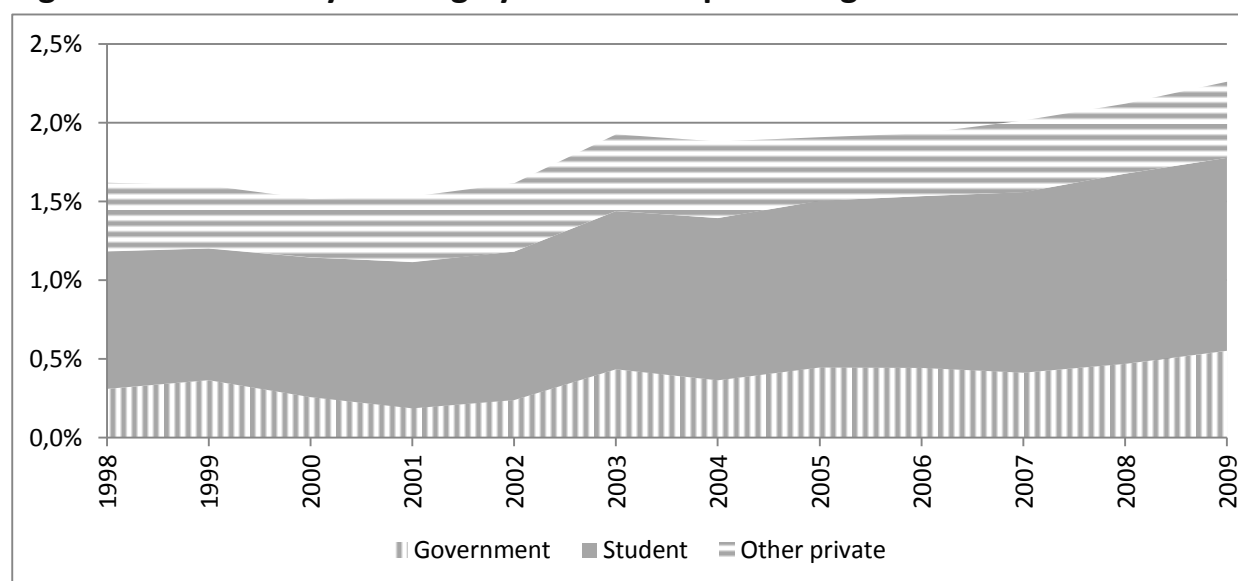


Note: Constant Prices (2011)

Source: Ministry of Education; Korean Education Statistics Service; Higher Education in Korea.

Figure 2.4 shows the same data in a slightly different way, by displaying university funding as a percentage of Gross Domestic Product (GDP). Here, the increase in funding looks considerably less dramatic, though the increase is still impressive. In the wake of the currency crisis, there was a dip in expenditures, but apart from that, expenditures have been increasing steadily from 1.6% of GDP to 2.2% of GDP.

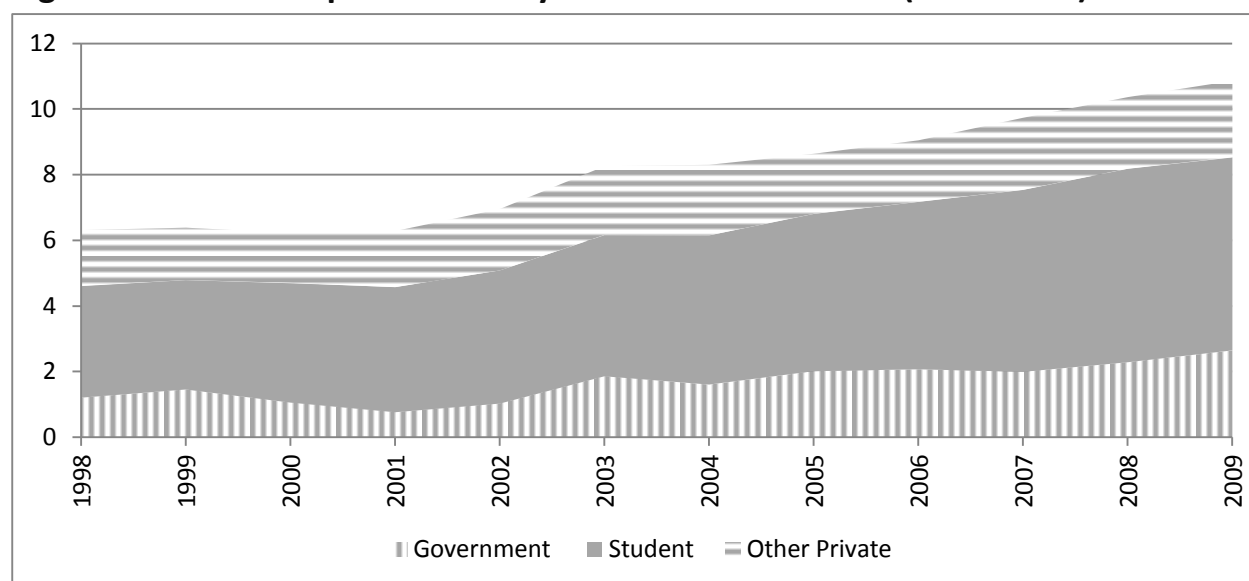
Figure 2.4: University funding by source as a percentage of GDP



Source: Ministry of Education; Korean Education Statistics Service; Higher Education in Korea.

Finally, we can look at revenue per student, shown in Figure 2.5. Because student numbers have grown so much, the increase in real funding per student has not increased nearly as quickly as total revenues. Still, in real terms, revenues per student were up by roughly two-thirds between 1998 and 2009. As with total revenues, the absolute increase was largest for student income, but proportionately largest for government income.

Figure 2.5: Revenue per student by source in million won (1998-2009)



Note: Constant prices (2011).

Source: Ministry of Education; Korean Education Statistics Service; Higher Education in Korea.

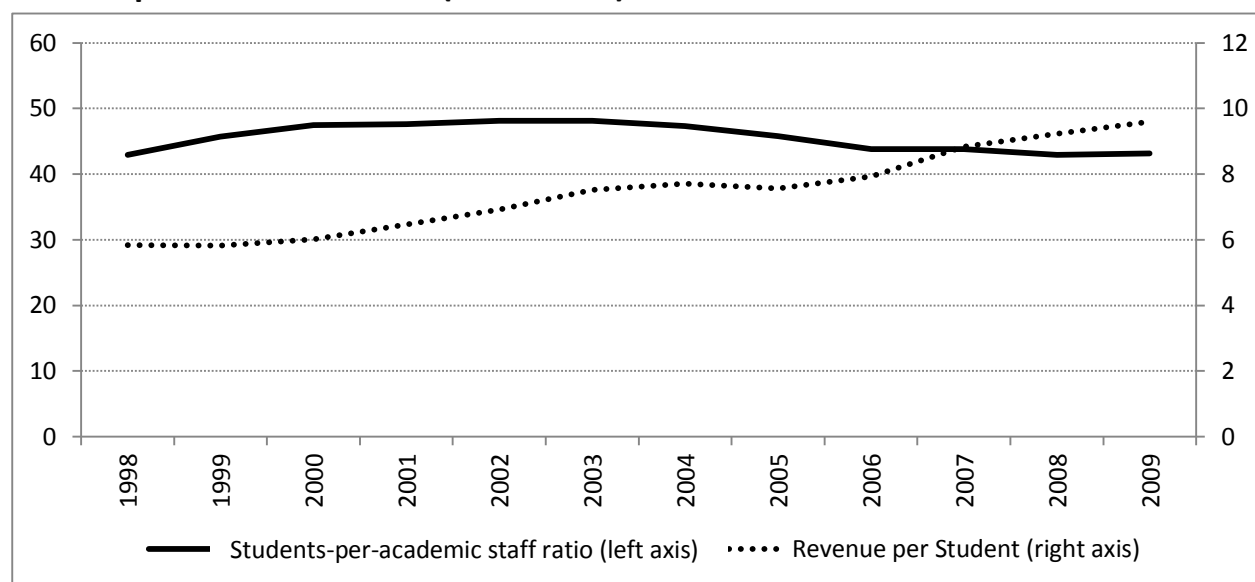
In summary, there can be no doubt that the amount of funding, both public and private, has increased immensely during the period in question. Apart from a blip in public funding which followed the currency crisis of 1998, all forms of income have been increasing steadily, regardless of how they are measured.

2.2 Institutional Expenditures

In the previous section we found that institutional income rose. In this section we explore how that revenue was used.

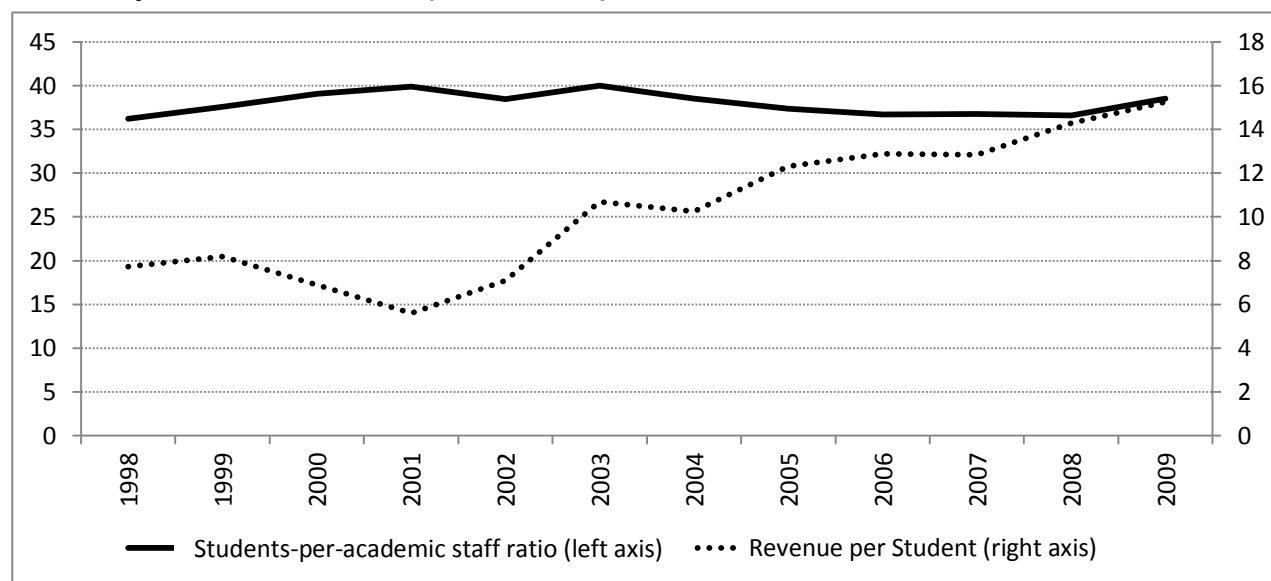
Unfortunately, there is not much in the way of available data on spending in Korean HEIs. What can be done, however, is look at changes in students-per academic staff ratios. Figure 2.6 looks at this for private universities, 2.7 for public universities and 2.8 for the system as a whole.

Figure 2.6: Revenue per student in million won and students-per academic staff ratio at private universities (1998-2009)



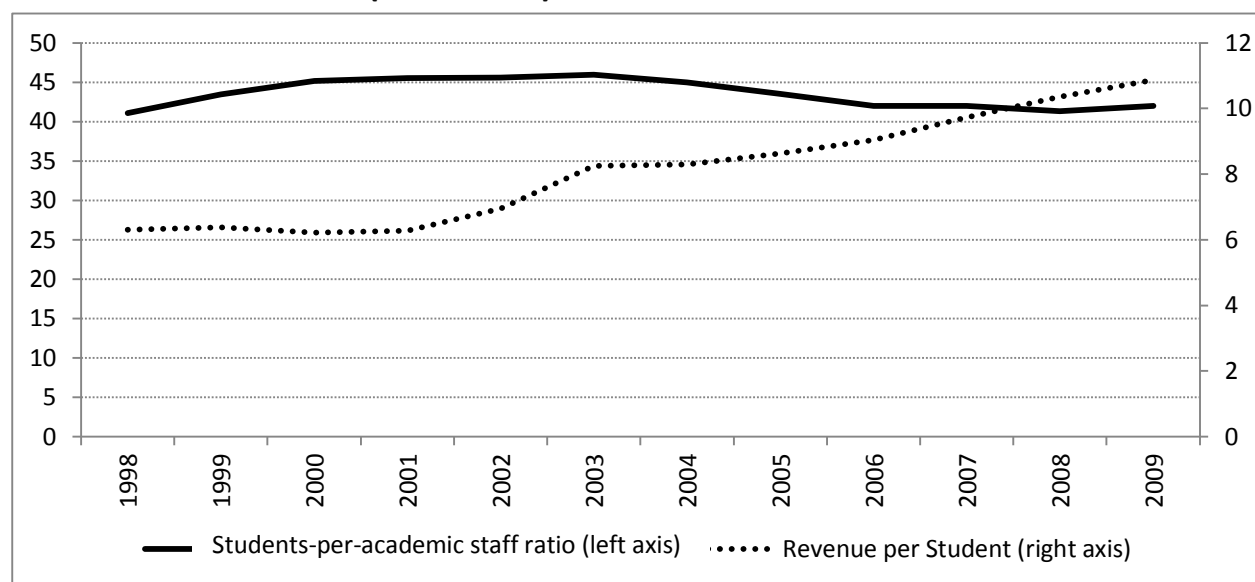
Source: Ministry of Education; Korean Education Statistics Service; Higher Education in Korea.

Figure 2.7: Revenue per student in million won and students-per-academic staff ratio at public universities (1998-2009)



Source: Ministry of Education; Korean Education Statistics Service; Higher Education in Korea.

Figure 2.8: Revenue per student in million won and student-per-academic staff ratio at all universities (1998-2009)



Source: Ministry of Education; Korean Education Statistics Service; Higher Education in Korea.

In both the public and private university sectors, the number of students per academic staff followed the same trajectory – up slightly in the early 2000s and then down slightly in the latter half of the decade so that the ratio in 2009 was virtually identical to the one in 1998. However, this occurred at the same time as university revenue – particularly from students – was increasing fairly sharply. To the extent that low student-teacher ratios are indicative of a quality learning environment, this is an odd result as it implies that learning conditions were getting worse even as income was rising. The explanation for this seems to be that a substantial amount of the new money going into universities was for purposes other than teaching. This was, after all, an era when the Korean government was sharply increasing its investments in scientific research (through programmes such as Brain Korea 21), graduate studies and the like. Presumably also, professors would have needed significant increases in pay roughly in line with overall economic growth, which would have limited funds available for reducing student-teacher ratios.

2.3 Evaluation

This section posed two questions at the outset: “did cost-sharing increase total funding?” and “how was additional income spent”? The answer to the first question is clearly yes. Student funding through tuition fees increase substantially, but so too did government funding and income from other sources. Indeed, one of the reasons that there can be no suggestion that private funding displaced public funding is that there was almost no public funding to begin with.

As for the question of how extra money was spent, it seems to have been spent on a combination of higher professor salaries and increased research-intensity. It does not, for the most part, seem to have resulted in improvements in student-faculty ratios.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO STUDENT DEMAND

This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

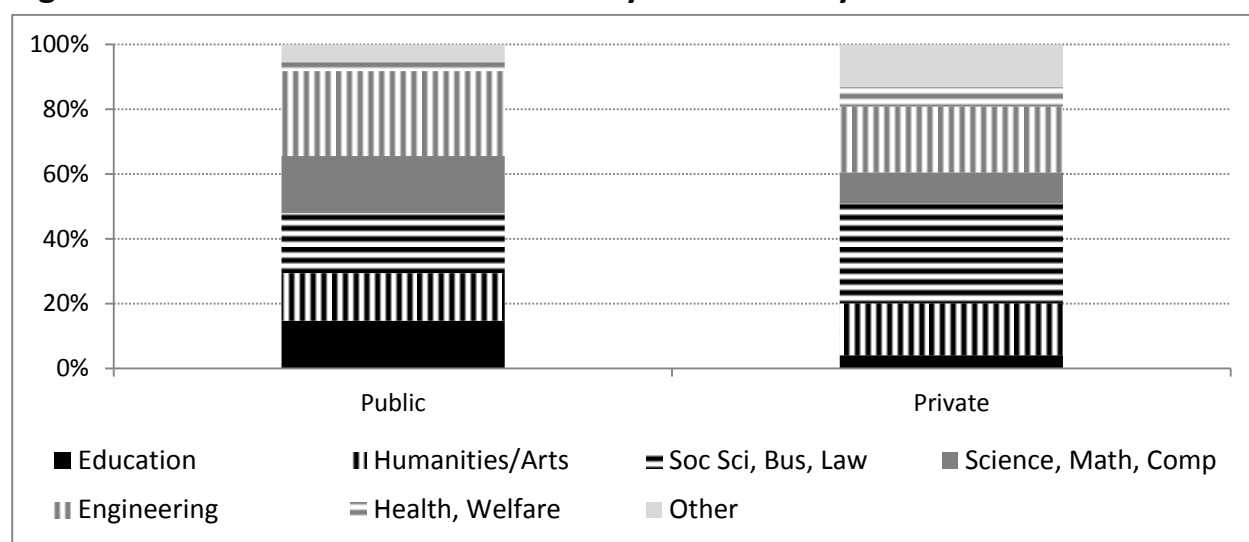
Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

3.1 Enrolment by Discipline

One hypothesis about the effects of fees is that they make institutions desirous of increasing revenues by focusing on programmes which are popular or lower-cost courses (these tend to be ‘soft’ disciplines, paper and pencil subjects-areas). This may lead to overall changes in the discipline profile of a national higher education system.

This hypothesis is to some extent moot in South Korea. The country’s very large private university sector is already heavily tilted towards cheaper fields – notably social science, business and law. Very little teaching is done in education or science, though engineering enrolments are a major component of private institutions.

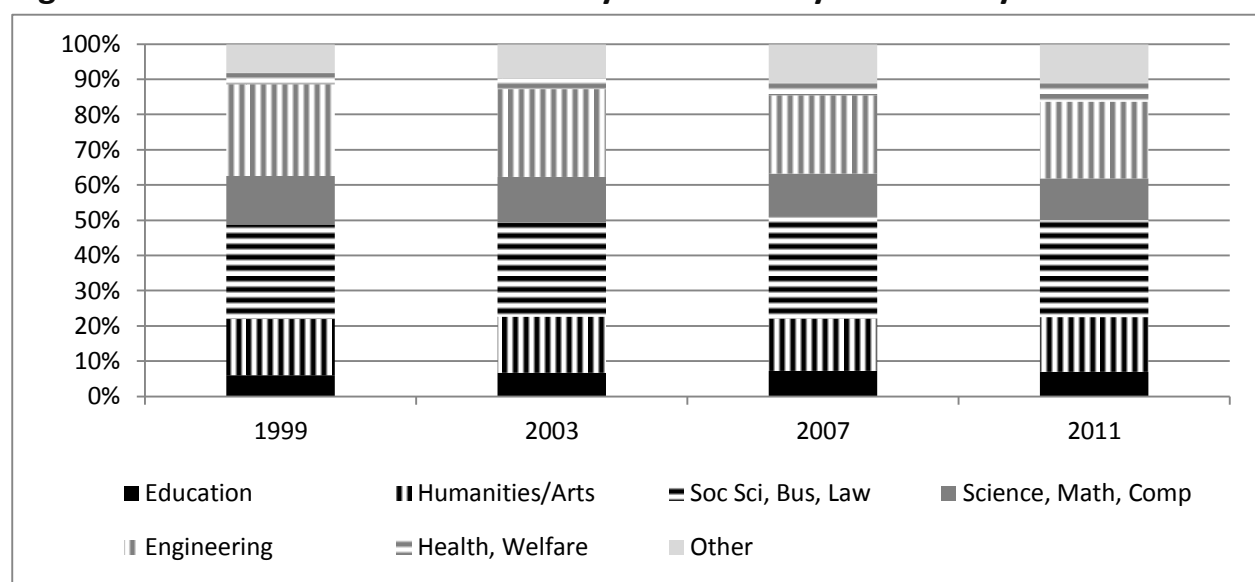
Figure 3.1: Distribution of enrolments by field of study and sector



Source: Korean Education Statistics Service.

Looking specifically at changes in enrolment, we see very little evidence of any kind of enrolment shift over the past decade. Engineering is down slightly; health and ‘other’ are up slightly. This is despite the fact that tuition does vary somewhat by fields of study, both in the private and public sectors, with fees in engineering and performing arts being substantially higher than in other fields.

Figure 3.2 Distribution of enrolment by field of study in various years



Source: Korean Education Statistics Service .

3.2 Enrolment Patterns by Mode

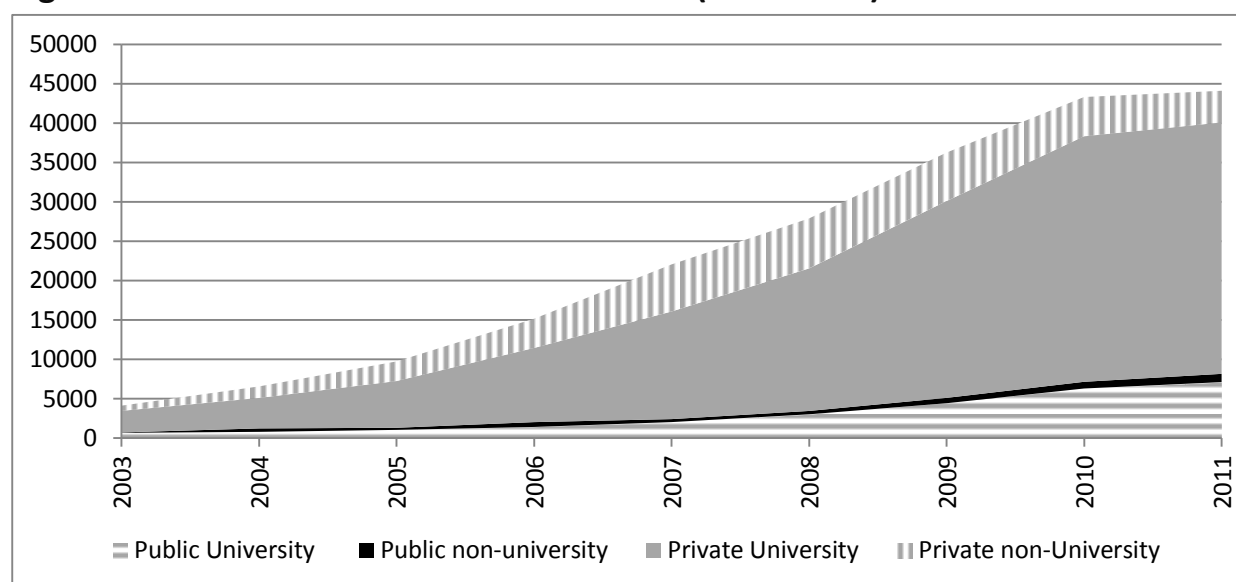
In some countries the fee structure may make it advantageous for institutions to increase the number of part-time students. One hypothesis about the effects of cost-sharing is that it may lead to a shift of students from one mode of study to another.

However, this hypothesis is difficult to test in Korea because the country's statistical system does not distinguish between students who are full- and part-time. Nonetheless, it has been observed that while part-time studies are becoming more popular in Korea at the graduate level (particularly for MBAs), they are relatively rare at the undergraduate level (except at the Korean National Open University)

3.3 Enrolment Composition

Another hypothesis about fees is that they will encourage institutions to be more active in selecting students who are associated with higher revenue streams. This is something of a moot point in Korea, as 75% of students are already in full-fee-paying programmes at private universities.

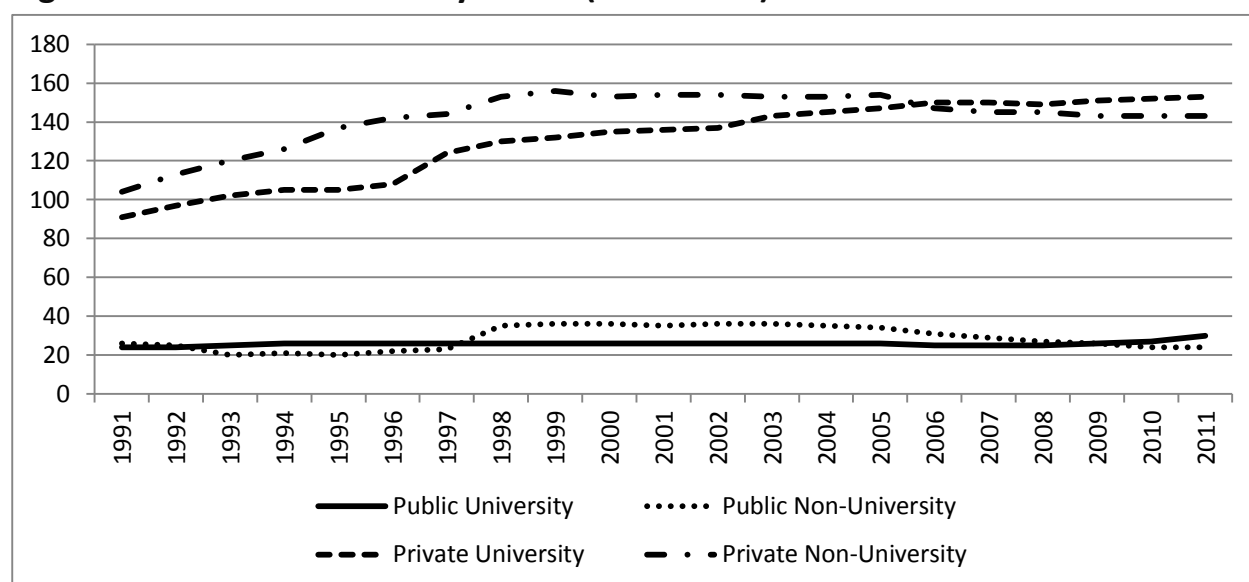
However, there are certainly indications that Korean universities have become more entrepreneurial as domestic student numbers have stopped rising. Figure 3.3 shows the rapid increase of international students at Korean universities over the past decade. These enrolments rose more than tenfold between 2003 and 2011, from 4,000 (0.2% of total enrolment to 44,000 (2% of total enrolment). Universities do not receive 'extra' money from these students as a result of higher fees – their tuition rates are the same as for domestic students – but they represent extra revenue nonetheless.

Figure 3.3: International student enrolment (2003-2011)

Source: Ministry of Education.

3.4 Diversity of Provision

Another way in which cost-recovery affects institutional behaviour is in the way it creates incentives for new universities and new programmes to proliferate and diversify. Clearly, in South Korea, the system was diversifying through the 1990s through the proliferation of both four- and two-year institutions in the private sector. When demand stopped increasing, so too did the number of university-level institutions – indeed, in the two-year sector, the number of institutions decreased slightly in the 2000s, presumably due to the fall in enrolments noted earlier. Public 2-year institutions closed as well, though this was mostly due to mergers made for reasons of efficiency.

Figure 3.4: Number of HEIs by sector (1991-2011)

Source: Korean Education Statistics Service.

With respect to diversity in programming, it is difficult to reach many conclusions as Korea does not centrally record the number of programmes on offer. Institutions do have considerable autonomy in offering courses, so one might come to the conclusion that diversity must have increased over time. On the other hand, some of the central agencies which oversee accreditation have fairly tight rules about what constitutes a degree programme, so this would limit the urge to diversify too much.

3.5 Outreach Practices

There is no information available on outreach practices in South Korea.

3.6 Quality and Relevance

A final hypothesis about whether cost-sharing affects institutions has to do with whether it pays greater attention to ‘customers’, whether those are defined as students or businesses. Unfortunately, there do not appear to be any surveys in place to measure this in South Korea.

3.7 Evaluation

The broad hypothesis that was tested in this section was “have institutional strategies changed to maximise revenue from private sources”. This was done by looking at six sub-hypotheses, which

will be briefly reviewed here before attempting to assess whether there was an overall effect. There is very little evidence on which to base many conclusions on this subject.

The first sub-hypothesis relates to whether 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) in response to a change in cost-sharing policies. The evidence here appears to be “no”. There has been no notable shift in enrolment from one field of study to another.

The second sub-hypothesis relates to whether there has been any change in modes of study, such as an increase in part-time provision, with the aim of increasing private revenue. While part-time studies are becoming more popular in Korea at the graduate level, they are relatively rare at the undergraduate level. The third sub-hypothesis has to do with institutions changing in enrolment composition to maximise revenue, such as by recruiting more international (non-domestic) students paying international student fees. Here, fairly clearly, the answer is yes. As soon as domestic expansion slowed, institutions began focusing more on recruiting international students. These students were not as lucrative as they are in jurisdictions like England and Canada, because they do not carry a higher fee than domestic students, but they represent extra revenue nonetheless.

The fourth sub-hypothesis is related to any change that had occurred in the degree of diversity in higher education providers, such as more private institutions, or more programmes offered by public institutions. Here there are some difficulties in analysis. Clearly, Korea’s free market system, which is essentially entirely powered by private funds, provides the possibility of much wider availability of programmes – if new money exists to support them. However, as student numbers have started to level off, some institutions are disappearing. Also, while the vast profusion of private institutions has given students a much greater choice of institution, the level of regulation over programme offerings limits the extent to which that translates into greater choice of programmes.

The fifth and final sub-hypothesis has to do with quality and relevance. Did students and graduates become more satisfied with the options available to them? Did graduates become satisfied with their employment outcomes? And were employers satisfied with quality of recent graduates? Unfortunately, no data were available either from employers or students on this question.

In summary, it is difficult to say that much has changed in Korea as a result of policy changes in our period of interest, partly because of a lack of data but partly also because of a lack of policy changes. Although fees are high and rose throughout this period, there was the accumulation of a number of changes in fee levels at the institutional level rather than a change in government policy. To the extent that there are data, there does not appear to be much change in strategy, but then neither was there any change in cost-sharing policy.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

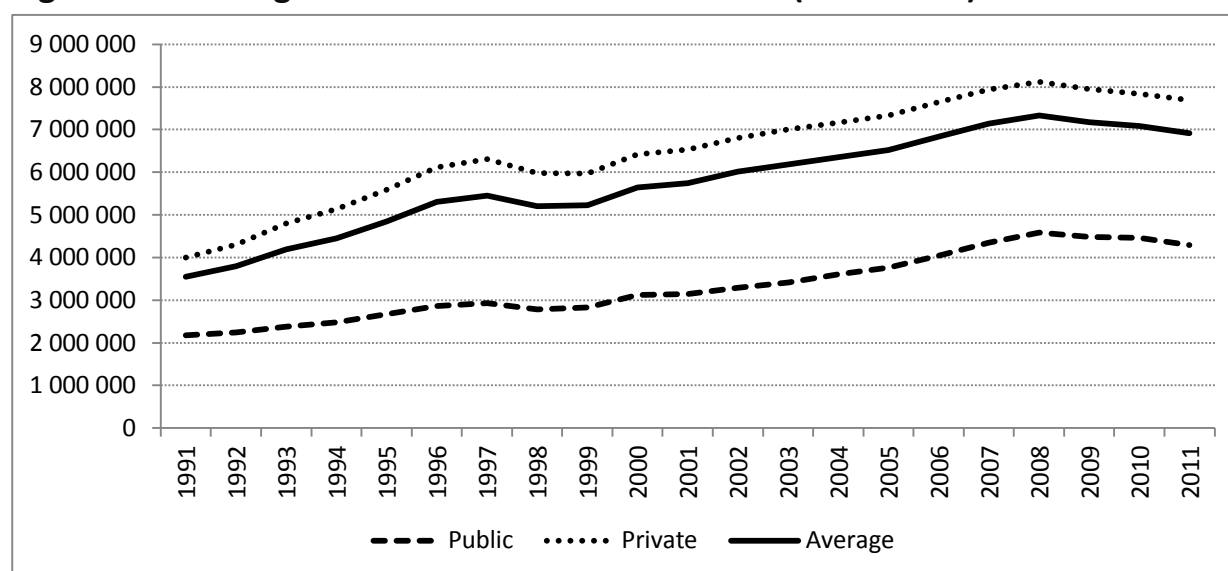
In order to assess this, it is important to look at:

- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?

the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

4.1 Students’ Costs for Higher Education

South Korea differs from some of our case studies, in that there was no sudden change in tuition policy. Rather, tuition fees have risen steadily in both public and private sectors over the past twenty years. In the private sector, where roughly 75% of students are enrolled, fees rose fairly steadily from 4 million won (2,750 euros) to 7 million won (4,820 euros) in 2009, with only a slight pause during the Asian currency crisis of 1998. Fees at public institutions more or less mirrored this evolution, with fees moving from about 2 million won (1,375 euros) to 4.5 million won (3,100 euros).

Figure 4.1: Average student fees in won over time (1991-2011)

Source: Ministry of Education.

Since 2009, fees have been roughly steady in nominal terms. There are two reasons for this. The first is that with declining youth numbers, competition between institutions is genuinely becoming more intense and they fear that raising tuition will cost them new students. The second reason has been an upsurge in political pressure surrounding the issue of tuition. In 2008, Lee Myung-bak was elected to the Presidency in part on a promise to reduce tuition at both public and private institutions. In late 2010 and 2011, a protest movement began in order to force the President to honour his commitment. This culminated in June 2011 when the President announced that tuition would be reduced. However, as of late 2013, no move had been made to implement the promise.

Other Student Costs

Since 2005, the Korean Education and Employment Panel has run an annual survey on living expenses. The results of this survey are shown below. Since 2006 the survey has separately asked questions about accommodation costs for the roughly 30% of students who indicated they move away from home. On the whole, these findings seem to indicate that student non-education costs are rising.

Table 4.1 – Living costs in constant 2011 won

	Books & other learning materials	Accommodation costs – living away from home only (monthly)	All other living costs (monthly)	Total if living away from home (annual)	Total if living at home
2005			250,354	n/a	2,002,829
2006		419,987	287,024	5,656,090	2,296,190
2007		328,407	314,666	5,144,583	2,517,325
2008		419,434	319,663	5,912,774	2,557,300
2009		409,217	343,908	6,025,003	2,751,267
2010	14,197	389,724	365,767	6,058,128	2,926,137

Note: From 2005-2009, the 'books' category was included in 'living costs'.

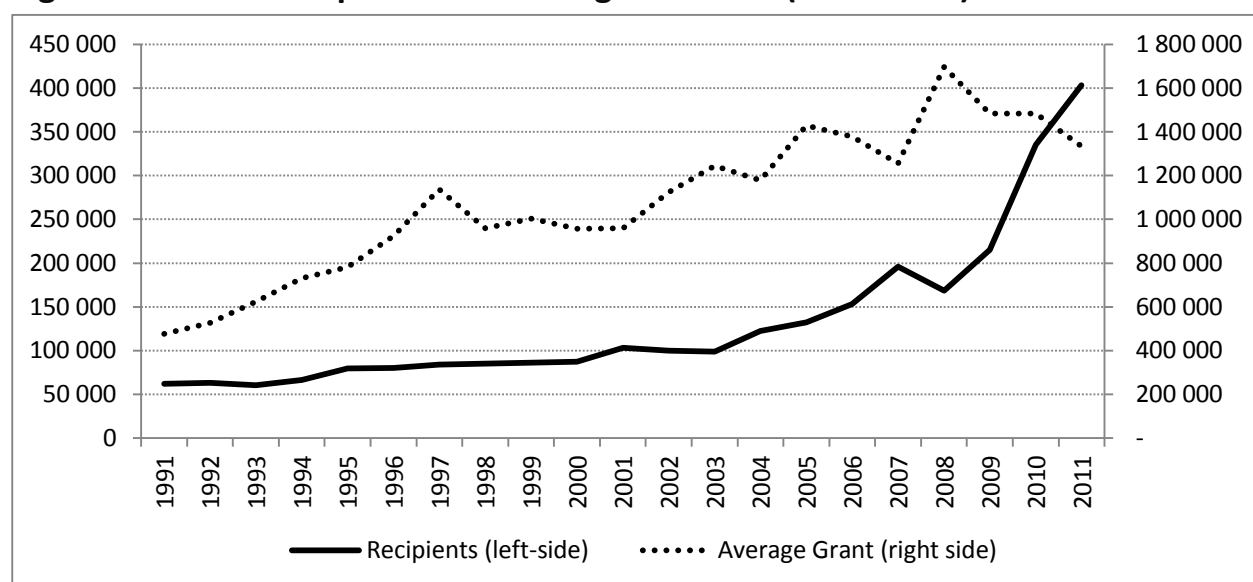
Source: KEEP (Korean Education and Employment Panel)¹⁰⁰.

Study aid

Grants

Figure 4.2 shows the evolution of government scholarship and grant programmes over the past twenty years (scholarships from universities themselves and any other entities such as employers are excluded from these figures). As can clearly be seen, there has been an increase both in the number of grants given out and in their size. The number of grants (solid line, measured on the left axis) were still below 100,000 (or about 4% of the student body) as late as 2001. Since then, they have become much more plentiful, doubling to 200,000 by 2007 and doubling again to 400,000, or nearly 18% of the student body in 2011. The size of the grants also increased, nearly tripling from 500,000 won to 1,400,000 won over the two decades.

¹⁰⁰ Available at http://www.krivet.re.kr/ku/ha/prg_kuFGADs.jsp (13.10.2013).

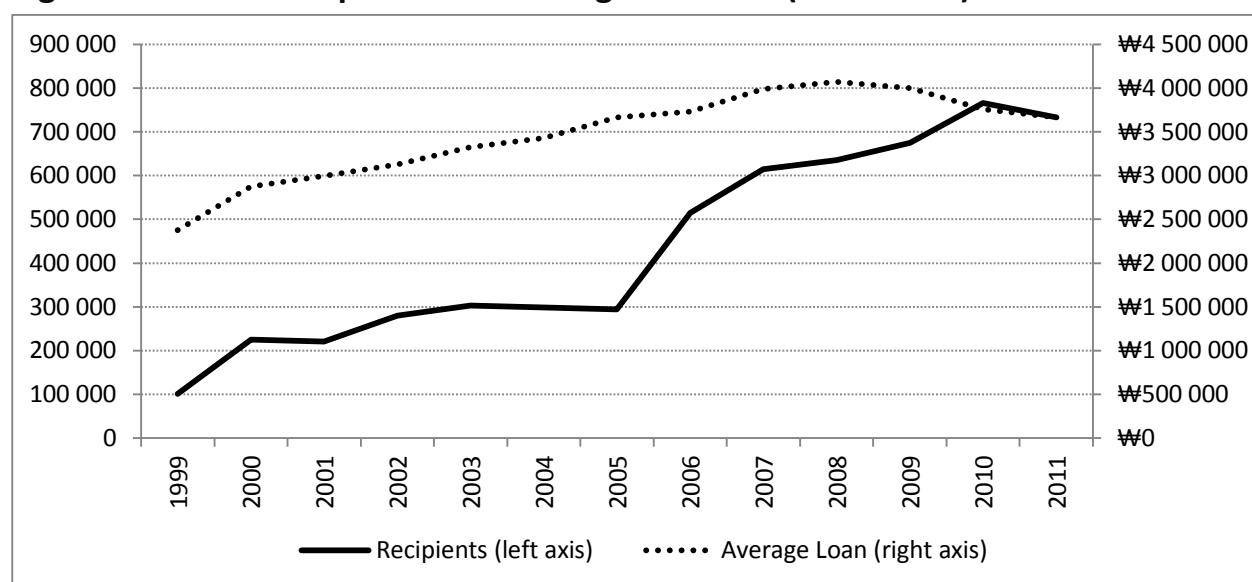
Figure 4.2: Grant recipients and average amounts (1991-2011)

Source: Country Index.¹⁰¹

Loans

Loans, too, have increased significantly since centralised records became available in 1999, as shown in Figure 4.3. While Korea has had student loans since the early 1960s, until 1985 they functioned mostly on the same terms as scholarships – that is, available only to students with very high records of achievement. In 1985, they were made more widely available based on need, although this was financially possible only by removing the full interest subsidy and requiring students to pay some of the interest themselves. But still, the numbers were relatively limited. It was only after 1997, the Asian currency crisis and the election of President Kim Dae-jung, that the expansion of loans became a real priority. After that, loans to university students skyrocketed in number, from just over 100,000 in 1999 to 750,000 in 2011. The size of the average loan increased as well, though not as quickly, with average loans rising from 2,500,000 won in 1999 to 4,000,000 won in 2008 before falling back slightly to 3,700,000 won in 2011.

¹⁰¹ Available at <http://www.index.go.kr/>

Figure 4.3: Loans recipients and average amounts (1991-2011)

Source: Country Index.

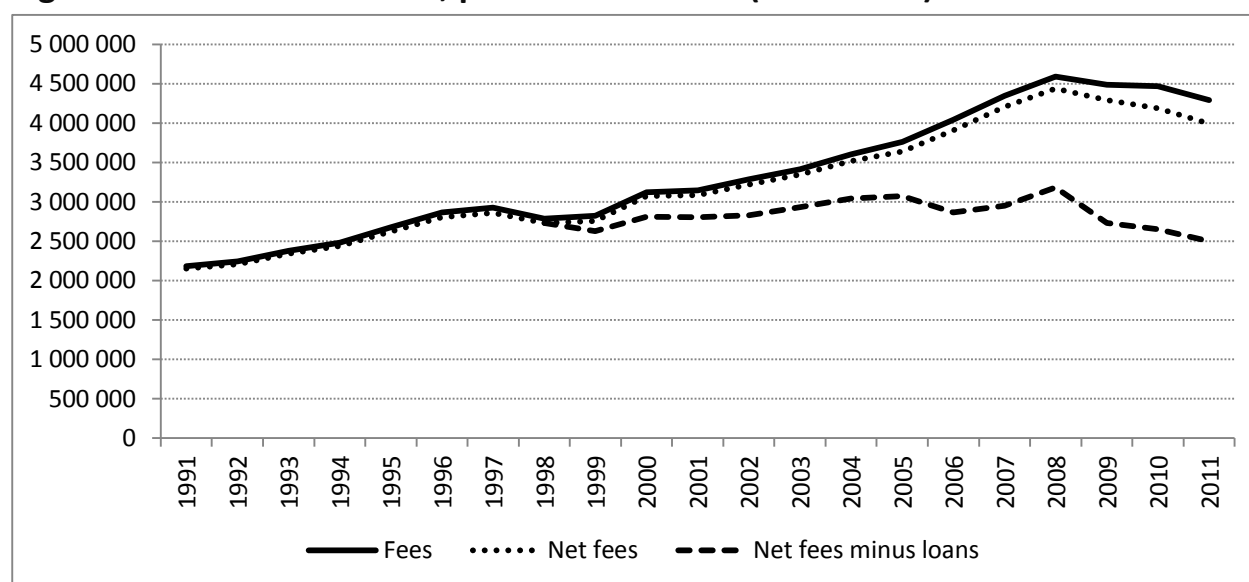
Tax Expenditures

In addition to loans and grants, there is also a relatively generous system of tax support for families with children in higher education. Families may deduct tuition payments from their taxes, up to an annual maximum of 9,000,000 won. Because Korea has a progressive income tax system where higher-income individuals pay a greater percentage of marginal income in tax, these expenditures are quite regressive. As a 2006 OECD report noted, the value of these deductions are not tracked on a systemic basis (the 2012 National Assembly Budget Office report on tax credits puts the figure for expenditures in 2011 at 19 trillion won, but this figure seems to include the value of deductions for primary and secondary education as well).

Within the scope of this report, it is impossible to impute the value of these credits. The reader should simply be aware that whatever amount of aid is given through loans and grants is substantially augmented in practice by large and fairly regressive tax subsidies which cannot be measured here.

Net Costs

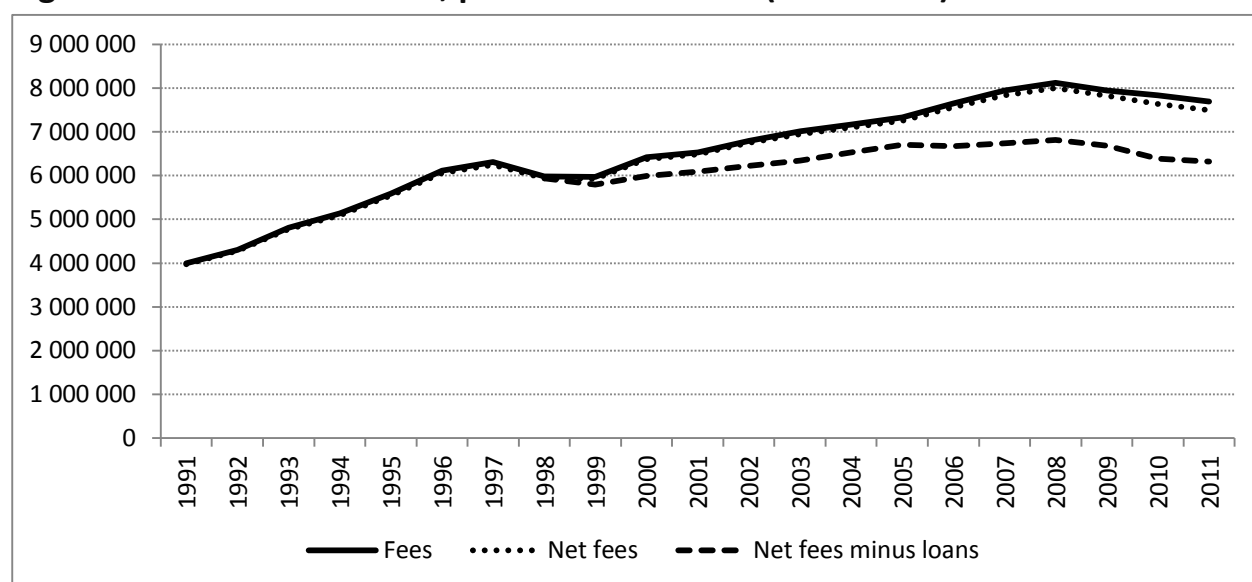
Using this information a summary of how the net costs to students have changed over time can be portrayed. Figure 4.4 shows how net costs have evolved for the 25% of students in the public system. Fees, as we saw in Figure 4.1, have increased substantially over time. Grants and scholarships, because they are not very large and are not distributed to very many students, have only a very small impact on net prices. However, the expansion of the loan programme since 1999 has actually had very important effects on affordability. In effect this growth has completely negated the growth in fees over the past decade, so that families on average are not paying any more out of pocket than they were at the time of the Asian currency crisis.

Figure 4.4: Net costs in won, public universities (1991-2011)

Note: Net student fees is student fees minus grants. Constant Prices (2011).

Source: Country Index; Ministry of Education.

Figure 4.5 shows that a similar story is true among private universities. The absolute increase in fees since 1999 was slightly smaller in private universities than in public ones, and as in the previous graph we see that scholarships and grants made almost no difference to net fees. In terms of out-of-pocket costs – that is, net costs after loans in 2011 were roughly equal in real terms to where they were in 1997.

Figure 4.5: Net costs in won, private universities (1991-2011)

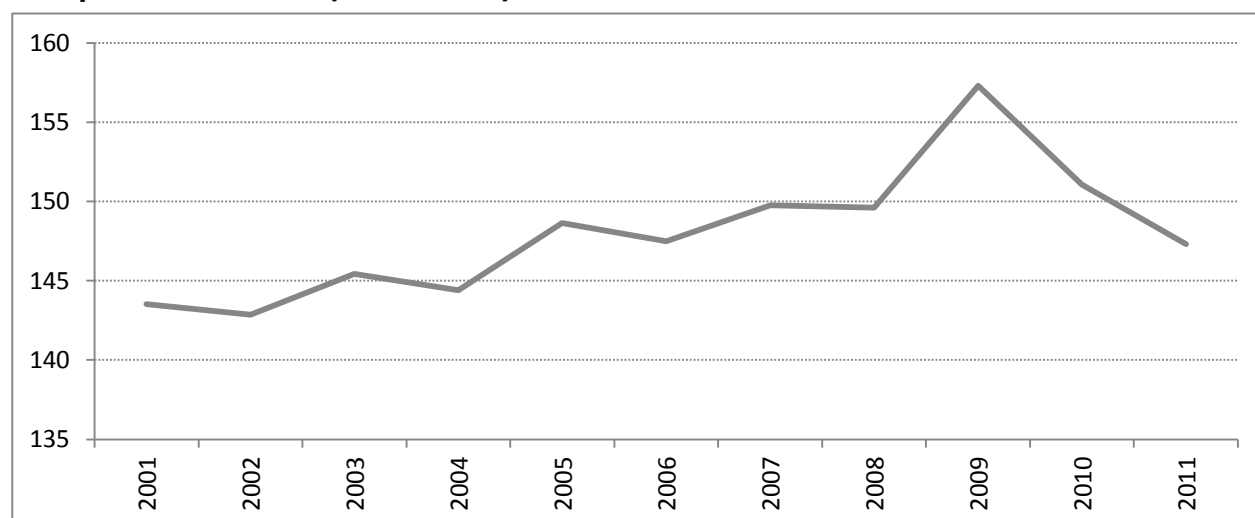
Note: Net student fees is student fees minus grants. Constant Prices (2011).

Source: Country Index; Ministry of Education.

Relative Earnings

A final issue of note here is the attractiveness of higher education as an investment. As Figure 4.6 shows, higher education has become an increasingly advantageous investment for most of the last decade, right up until the financial crisis, at which point the earnings premium for graduates fell rapidly. The reason for the fall is relatively easy to explain: graduate permanent employment fell very rapidly in the wake of the crisis, as shown in Figure 4.7.

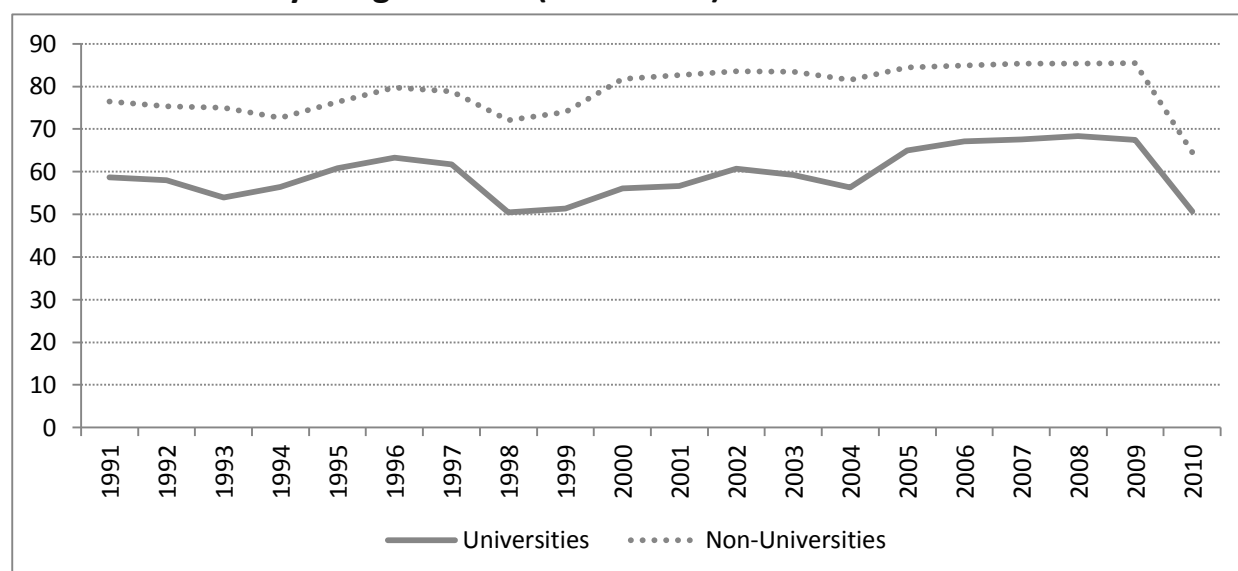
Figure 4.6: Higher education graduate incomes relative to secondary school completers' income (2001-2011)



Note: Indexed to the earnings of secondary school graduates (=100).

Source: Korean Education Statistics Service.

Figure 4.7: Permanent employment rate two years after graduation, university and non-university HEI graduates (1991-2010)



Note: The graph shows permanent employment only; employment that does not include health benefits is not considered permanent and is not captured in this figure.

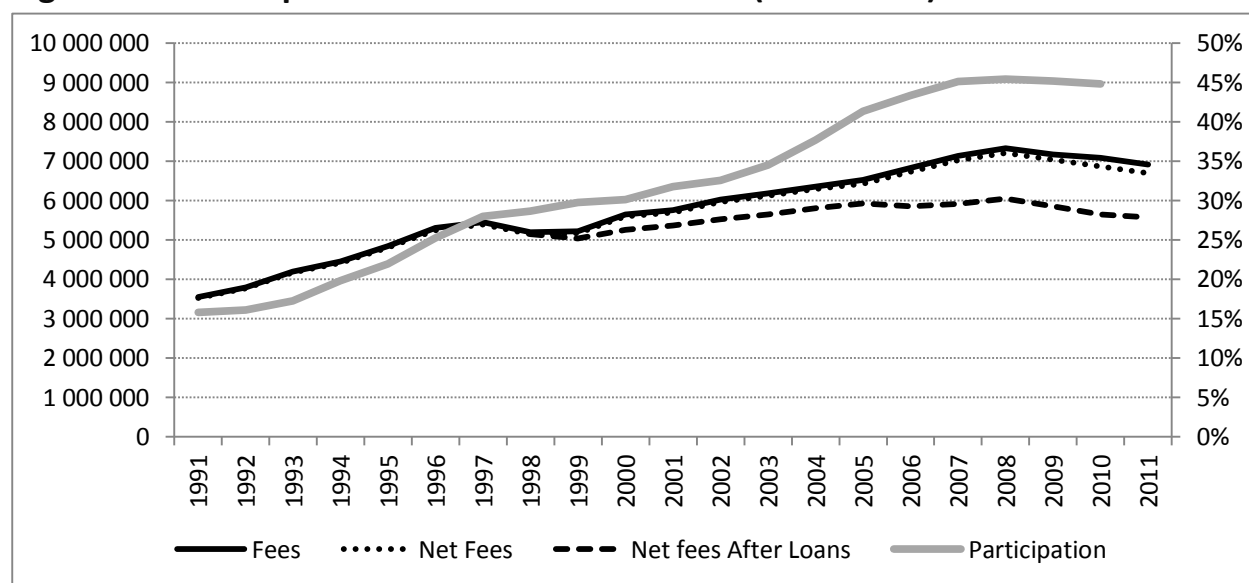
Source: Korean Education Statistics Service.

It is quite typical that graduates of shorter programmes have higher rates of permanent¹⁰² employment than university graduates; the latter have a number of reasons not to be in the labour force, including graduate school and in some cases military service. But what is very clear from Figure 4.7 is that the effects of the recent downturn on graduates' employment rates were even more severe than that of the Asian financial crisis of 1997. Since the graph is portraying permanent employment, the big drop in 2010 does not mean a big fall in all employment, just permanent hiring, probably a normal response in a recession. None the less, the recession had a negative effect on earning premiums and may also account for institutions' reluctance to raise fees after 2009.

4.2 Participation Rates

A key question – perhaps the key question of this study – is whether or not the change in cost-sharing and fees had any effect on participation. Figure 4.8 suggests strongly that they did not. The heavy line represents participation rates (right-axis), which tripled from 15% to 45%. This occurred at the same time as tuition (left-axis) doubled. True, the introduction of loans and the moderation of net fees after loans post-2000 may have helped. But even prior to the introduction of loans, participation still doubled from 15% to 30%.

Figure 4.8: Participation vs. various cost indices (1991-2011)



Source: Country Index; Ministry of Education; Korean Education Statistics Service.

¹⁰² Employment that does not include health benefits is not considered permanent and is not captured.

4.3 Composition of the Student Body

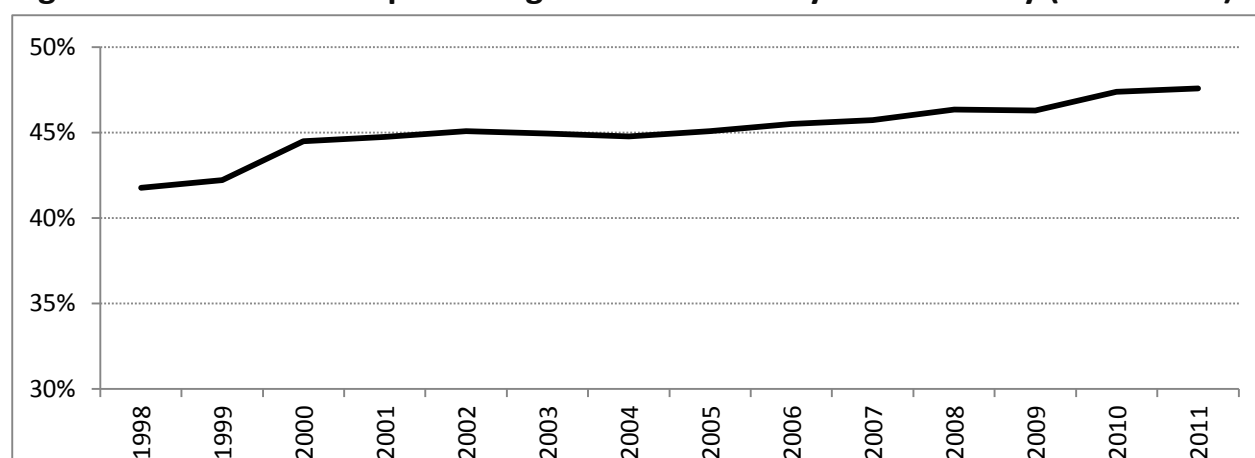
Ethnicity

In many countries, a prime concern about raising fees is the effect that this might have on ethnic minorities, which are frequently socio-economically disadvantaged. However, because of the degree of homogeneity in the population, differences by ethnicity are not an issue in Korea.

Gender

The proportion of the university student body that is female increased gradually throughout the period for which we have data. In 1998, 42% of university students were female; by 2010, this figure had risen to 48%. Because this change happened in a relatively steady manner, there is little to suggest that the pace of change was much affected by any changes in fees.

Figure 4.9: Females as a percentage of the university student body (1998-2011)



Source: Korean Education Statistics Service.

Socio-economic status

The effect of socio-economic status on access to higher education is a topic that has been the subject of some academic investigation, but which has not been the subject of consistent statistical investigation. In other words, we know that socio-economic status matters a great deal, but we do not have enough time-series data to see how it might have changed over time.

Park (2007) used data from the Korean Labour and Income Panel Study (KLIPS) to look at the relationship between parental education and access over time and noted that parental education actually seemed to have a greater influence on who managed to access education in the 1990s than in previous decades. In a similar vein, OECD (2006) noted that class played a very large

role in stratification *within* higher education; nearly 75% of students at top-level institutions were from what were termed the ‘upper’ and ‘upper-middle’ classes; that same group made up just 1.1% of enrolments at the lowest status institutions.

However, it is far from clear that fees have much to do with this. Most observers suggest the cause is the country’s system of university exams, which – as is the case in many Confucian countries – are highly tilted towards a set of high-stakes exams taken at the end of secondary school. These have spawned a massive tutoring industry which at times the central government has tried to ban because they were seen as giving an advantage to students with wealthier parents.

4.4 Completion Rates

There do not appear to be any studies on the subject of attrition or time to completion because it is a generally accepted convention that virtually all students who start university complete it. However, the OECD’s 2006 country review noted that there were in fact little data available to buttress this argument and that the data they saw suggested that completion rates might be as low as 77%. Unfortunately, it appears that there have been no follow-up studies to shed more light on this subject.

4.5 Evaluation

The evaluation consists of answering four separate sets of questions.

First, how have increases in private funding changed costs to students? The answer here is straightforward. Over the two decades of our period, fees roughly doubled in real terms in both the public and private sectors. The government did make attempts to reduce net costs through increasing scholarships, but these were relatively small. More important was the sharp increase in loans, which in effect covered most of the increase in costs after 1999. Net costs and debt increased substantially – the amount South Koreans had to pay out of pocket for their higher education changed very little.

The second question here is: what effect does an increase in private funding have on participation rates? The answer here, seemingly, is a positive one. Real fees doubled; participation tripled. Since most of the increase occurred in private higher education, increased government funding cannot have played a role; quite simply, private institutions which were allowed to charge what the market would bear increased their fees and ploughed them back into their operations in order to meet burgeoning demand. There is no other possible explanation here.

A third question is “how have increases in private funding affected the composition of the student body”? This is not a question which can be answered well due to a scarcity of data. We know that the Korean higher education system is highly stratified socially, but there is no

evidence which would suggest that tuition is a cause. We know that female participation rates have grown faster than male ones since 1998.

Finally, the Korean system does not systematically capture data on student success, so there is no data on which to base any conclusions with respect to time-to-completion.

5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study (but not necessarily on the share of students studying). Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

5.1 Student Study Patterns

As noted earlier, Korea only records students as studying full-time, so this is not an issue that can be addressed.

5.2 Location of Study

One hypothesis about the effects of tuition is that they make it more difficult for students to study away from home. As costs rise, so the theory goes, less money is available for other living costs and so students become more likely to stay at home in order to economise.

Geography has been a major aspect of policy in higher education. Korea is a highly centralised country, with both the country's financial and government centres being located in Seoul. The government has made considerable effort to ensure that quality public higher education is available in all parts of the country. It has also recently tried to limit the number of students studying in the capital by placing a moratorium on new HEIs opening undergraduate programmes in the capital. If this has been a major policy pre-occupation, we can conclude at the least that the phenomenon of students travelling from outside Seoul to the capital has not been perceived to have in any way been abated by higher fees.

As far as quantitative data go, there are only data from 2005 onwards on whether students study away from home. These data consistently show that roughly 30% of students are in this position.

5.3 Field of Study

One hypothesis that is frequently advanced about the impact of fees is that to the extent that fees vary across fields of study, they may induce students to move towards ‘cheaper’ subjects and away from (potentially) more valuable subjects that happen to be more expensive.

As noted earlier in Chapter 3, there have been no notable changes in the distribution of students by field of study. As a result, there does not appear to be any reason to believe that fees are driving any change in this area.

5.4 Time-to-Completion

As noted earlier, there is no data available with which to answer this question.

5.5 Evaluation

Hypothesis D suggested that rather than having an absolute effect on the level of participation, the liquidity issues that stem from increased tuition levels 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. Specifically, four sub-hypotheses about the potential impact of higher tuition were elaborated, which will now be examined:

First, with respect to ‘how’ students study, we have noted that Korea only records students as being full-time. If this is accurate, then there cannot have been a change.

Second, with respect to whether increases in private funding have affected students’ choice of study location either in terms of where within a country they choose to study or whether it has affected plans to study internationally, there is little direct evidence on the question and what there is suggests no change in mobility. Moreover, the Government’s moratorium on new undergraduate programmes in the capital suggests that the perception is that there has been no reduction in the flow of students to the capital.

Third, with respect to whether increases in tuition have affected what students study, as we noted earlier, there does not appear to have been many significant changes in the main fields of study enrolment over our period, so it is difficult to conclude that tuition has caused any changes.

Fourth, with respect to increases in fees making students more efficient and taking less time to complete their education, there are no data available on which to test this proposition.

In sum, though the data are admittedly limited, the increase in tuition fees in Korea appears not to have had any adverse effects on study mode, study timing or choice of field of study.

6. CONCLUSION

With respect to Hypothesis A, we can say that cost-sharing most certainly increased total funding to higher education.

With respect to Hypothesis B, it is difficult to say that much has changed in Korea as a result of policy changes in our period of interest, partly because of a lack of data but also partly because of a lack of policy changes. To the extent that there are data, there does not appear to be much change in strategy, though the increased emphasis on international students at the same time as domestic enrolments began to flag is certainly evidence that institutions remain revenue-maximising.

With respect to Hypothesis C, the evidence is very strong that higher fees, far from limiting participation, in fact abetted its growth. Most students are enrolled in private institutions, which can only increase capacity if they are receiving sufficient tuition funding money to expand. Government funding can take no credit for the expansion of this sector. As for changes in the composition of enrolment, there is little data on which to base a conclusion one way or the other.

Finally, with respect to Hypothesis D, though the data are admittedly limited, the rise in tuition fees in Korea appear not to have had an adverse effects on study mode, study timing or choice of field of study.

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POLAND

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1. INTRODUCTION

1.1 Overview of Higher Education in Poland

Poland has a population of about 38.5 million people. The Polish higher education consists of 1.7 million students, studying in roughly 450 institutions. Up until 1990, all institutions but one were state-run (the other being the Catholic University of Lublin). In September 1990, however, the Sejm passed an Act concerning 'non-state' higher education which allowed the establishment of private institutions. These then flourished and quickly came to outnumber the state universities (see Section 1.4, below).

Education in Poland is compulsory until age 16 and completion of lower secondary (*gimnazjum*). Upper secondary schools are not compulsory, but are nonetheless attended by the vast majority of the population in the age group 16-19 years. There are a number of possible pathways after lower secondary. The ones that lead most directly to university are the lyceum, but technical and vocational options are also available. After the completion of any of these pathways, students may take what is known as the 'maturity' examination and receive a secondary school leaving certificate. Results on the maturity examination also determine eligibility for entrance to higher education. Those who achieve the best results are permitted to enrol in full-time programmes (which are fully subsidised), while other candidates who passed the exam but were ranked lower in the list are offered places in other types of degree programmes, for which tuition is charged. In some fields of study, winners and finalists of national competitions in a given school subject can be offered places irrespective of final examination results. This system of maturity examinations is still relatively new; prior to 2006, each higher education institution (HEI) had its own entrance examination.

The education system in Poland is centrally managed by the Ministry of Science and Higher Education (though this is a new ministry; prior to 2005 the Ministry of Education was responsible for higher education in addition to primary and secondary). However, the ministry delegates a number of its powers with respect to specialised HEIs to a number of other ministries: the Minister of National Defence for military HEIs, the Minister for Internal Affairs for government service HEIs, The Minister for Culture for HEIs for art studies, the Health Minister for medical HEIs and the Minister responsible for Marine Economy for HEIs for maritime studies.

Tuition in public universities is nominally free (though all students pay a fairly nominal 180 zloty/year – equals 43 euros - in various types of administrative fees). However, Poland has what is known as a 'dual-track' system in its public sector in that while some of its students have state-funded places, a substantial portion of students – those who did not meet the necessary standards in their secondary-school matriculation exams and have sufficient financial resources - do in fact pay fees. In addition, Poland's substantial private sector is nearly entirely funded through tuition fees.

1.2 Key Higher Education Stakeholders

In addition to the Ministry of Science and Higher Education, there are a number of key actors in the higher education system.

The State Accreditation Committee (SAC), advises the Minister with respect to the establishment of HEIs and authorisations to be granted to them to provide degree programmes in a specific field and at a specific level of study. It is also responsible for the assessment of the quality of degree programmes.

The SAC is not the only body with a quality control function; another key central agency is the Central Commission for Academic Degrees and Titles at the Office of the Prime Minister, which grants authorisations to award doctoral degrees. The Commission also defines areas and disciplines of science and fine arts in which academic degrees and the academic title of professor can be awarded

Organisations representing the academic community include: The Conference of Rectors of Academic Schools in Poland (a representative body of public universities) and the Conference of Rectors of Non-University HEIs in Poland (an analogous body for private HEIs). A Students' Parliament is made up of representatives of student organisations from individual HEIs. The Parliament has the right to be consulted on draft legislation concerning students and to present proposals concerning student matters. There is also a General Council for Higher Education, an elected body representing the academic community, which co-operates with the Minister in all matters relating to higher education.

1.3 How Government Funds Institutions

Roughly two-thirds of public institutions' budgets come from government subsidies. These are divided into several funding envelopes, with the two largest being teaching (82%) and research (14%). Universities are also provided with a budget from which they can provide financial assistance to students (including dormitory subsidies). Since 2001, private institutions have also been eligible for state funding for research and student support, but not teaching. Universities have a substantial amount of autonomy in terms of how they budget and how they manage finances from year to year.

Between 1993 and 2001, the Ministry of Education divided the teaching subsidy on the basis of an algorithm that for the most part was based on a combination of current year student numbers, current year academic staff numbers and the previous year's allocation. Both staff and student numbers were weighted; the former according to the level of qualifications of the teaching staff and the latter by faculty, with higher cost subjects receiving higher amounts of subsidy. This algorithm was a contributing factor in the growth of the number of students as it rewarded institutions that grew at a rapid rate. In 2001, a new set of rules were adopted. The main effect of these rules was to increase the size of the subsidy to institutions (mainly to increase salaries so as

to improve quality and reduce the practice of public university professors taking up a second job at private institutions); the only substantial change to the formula was to make a very small amount of money available to award academic units that have been rated highly by SAC in its regular reviews.

Research funding is distributed in a number of ways. All public institutions receive at least some money via the funding formula; in addition, substantial sums are awarded to researchers on a competitive basis. The formula funding is awarded partly on the basis of staff size and qualifications, but is partially performance-based as well, with performance indicators including peer-reviewed publications, patents awarded, monographs and textbooks produced. Since 2004, the government has introduced a number of research funding lines which reward institutions that have been able to find industry sponsorship.

1.4 History of Cost-Sharing

Article 70 of the Constitution of the Republic of Poland guarantees that public higher education is free; however, tuition fees still make up a fairly important portion of higher education financing in Poland. Fees play a role in two ways.

The first is in private higher education (in Poland, the term for this is technically ‘non-state education’ but to preserve continuity across national reports we will here refer to this as ‘private’). A private sector was established in Polish higher education very quickly after the end of the socialist period, with the first law being passed in September 1990. As in many other former socialist countries, the private sector ended up concentrating particularly in areas such as law, economics (a term which can also encompass areas known as ‘business’ or ‘commerce’) and other social science-related fields of study. Partly, as in all countries with a significant private sector in education, this was because these areas of study were less capital-intensive and thus had lower barriers to entry for new institutions. But partly, also, it was due to the special conditions that existed in former socialist countries in the early 1990s; namely, that it was precisely in social sciences where older (and more prestigious) universities had the least prestige, since their curricula were so infused with Marxist-Leninist thinking which was ill-suited to the new market economy. As we shall see in more detail later in this paper, the private sector grew to be one of the largest in Europe, with over 300 private institutions and over 600,000 students, a third of the national total.

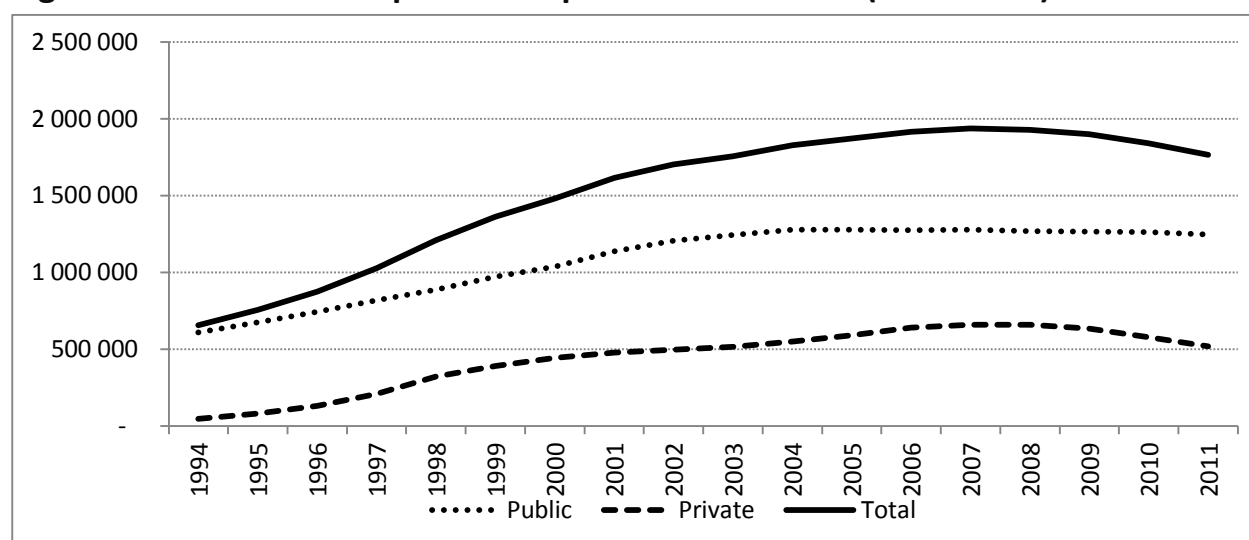
The other way that cost-sharing has taken effect has been through tuition fees at public institutions. Students taking full-time studies in the Polish language attend free of charge (though they may be charged fees for entrance exams and other administrative processes). However, students taking continuing education courses, studying part-time, retaking a class because of poor performance, or taking courses in a foreign language may all be charged fees. The level of such fees is determined by the rector of each higher education institution and within a single institution fees can vary significantly from one programme to another. Poland is thus a prime example of what some scholars term a ‘dual-track’ tuition policy (free for some, not free for others).

These policy changes all happened very soon after the move away from socialism in the 1990s, before the start of the period under examination in this report. Unfortunately, statistics from these years are scant. Few statistics, in fact, are available prior to 1994, by which time fees had already risen to levels close to what they are today. As a result what is under examination in this paper is what has occurred with a relatively steady-state cost-sharing regime that involves both a significant private education sector and a dual-track policy in public institutions involving significant fees for some.

1.5 History of Enrolment

The Polish higher education system increased enormously in size over our period. In 1994, when centralised statistics began to be collected again, the size of the entire system was just over 650,000 students. By the time enrolment peaked in 2007, the system had tripled in size to just over 1.9 million students. Some of this was due to an improvement in participation rates (see Figure 1.2, below), but to a large extent this was a case of a system having to meet deferred demand. In Poland, as in many of the former socialist countries, opportunities for higher education were limited; when the transition to democracy and a market economy came, many who had previously not been able to attend higher education immediately after leaving secondary school chose to do so.

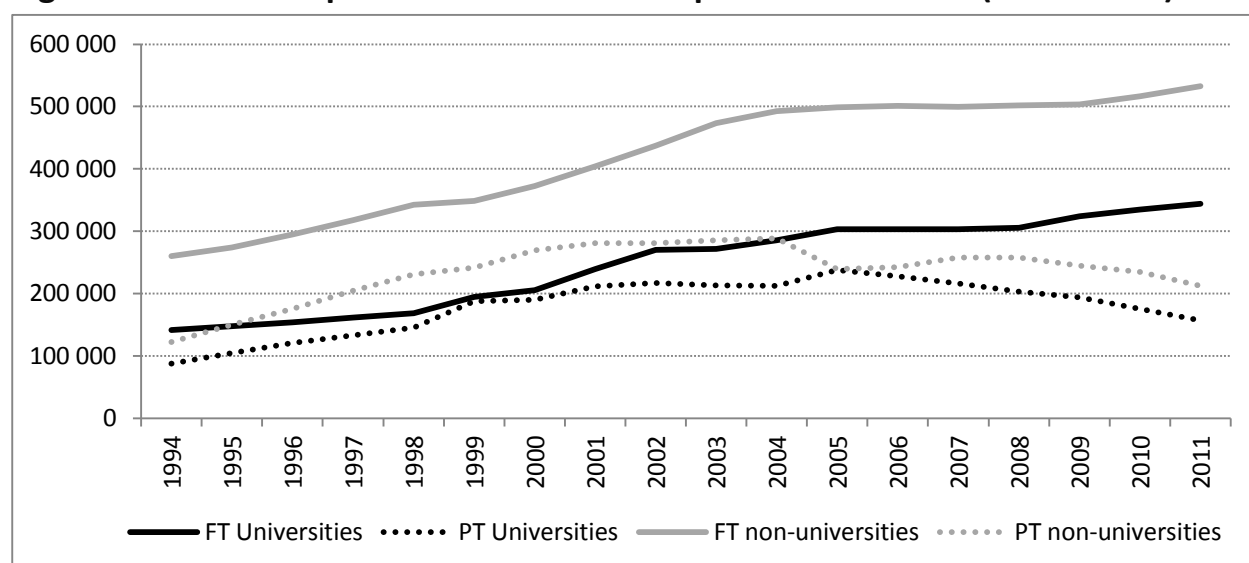
Figure 1.1 shows the changes in enrolment from 1994 to 2011. Growth was continuous and extremely rapid in the period 1994 to 2000, during which enrolments tripled from 650,000 to 1.94 million. Moreover, growth was balanced between the two sectors, with roughly half the new enrolments going to the private sector and half going to the public sector. Of course, these two systems were starting from very different bases; an increase of 600,000 in the public sector implied a doubling of enrolments. In the private sector it meant roughly a fifteen-fold increase.

Figure 1.1: Enrolment in public and private institutions (1994-2011)

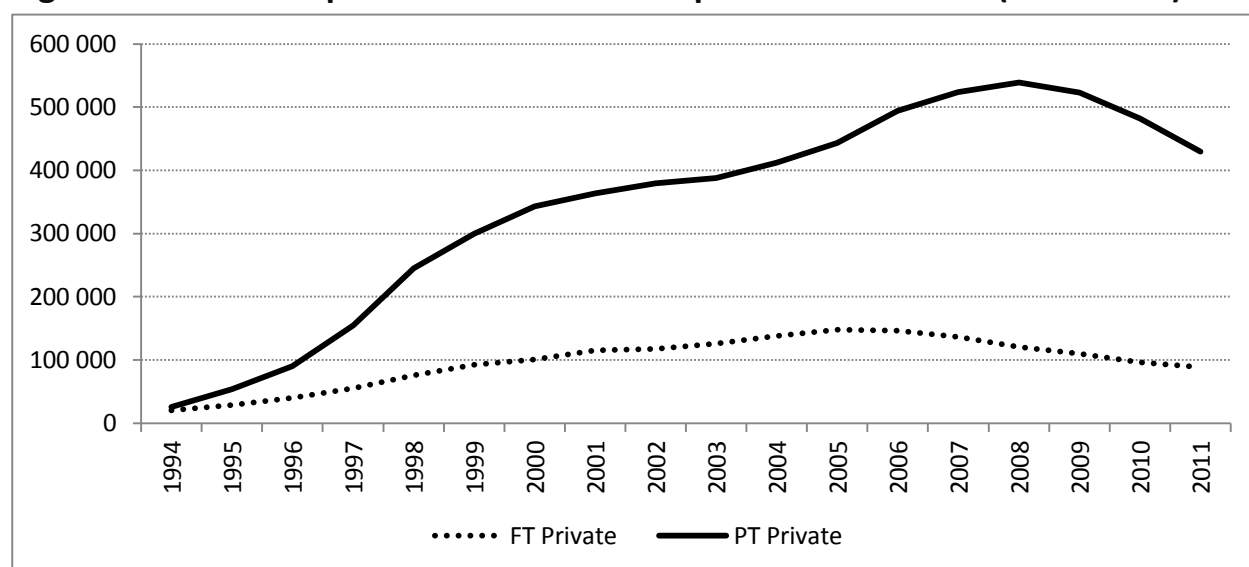
Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

Within the public sector, growth can be examined both by status (full-time vs. part-time) and by type of institution. 'Universities' in Poland are not very numerous – just 11 at the start of our period and 19 at the end of it. There are what we might term 'classic' HEIs (i.e. comprehensive and with a strong emphasis on research), though in fact only three of them – Jagiellonian, Wrocław and Warsaw – were founded before 1945. 'Non-university tertiary institutions' include a number of institutions which bear the name 'university' but are not comprehensive (technical universities, universities of life sciences, etc.) as well as a number of technical institutes, military and police academies and schools devoted to various Fine Arts.

Figure 1.2 shows that until around 2005, enrolment in both public universities and non-universities were increasing at relatively similar paces. This is somewhat deceptive as a substantial part of the increase in university numbers came from institutions changing classification, but nevertheless the overall pattern holds. For the five following years, however, full-time enrolment held level or increased slightly, but part-time enrolment started to decrease significantly. As shown in Figure 1.3, a somewhat similar pattern can be seen in private universities as well in that enrolments started to decline from about 2005. The difference is that in the private universities, both full-time and part-time enrolments were affected.

Figure 1.2: Full- and part-time enrolment at public institutions (1994- 2011)

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

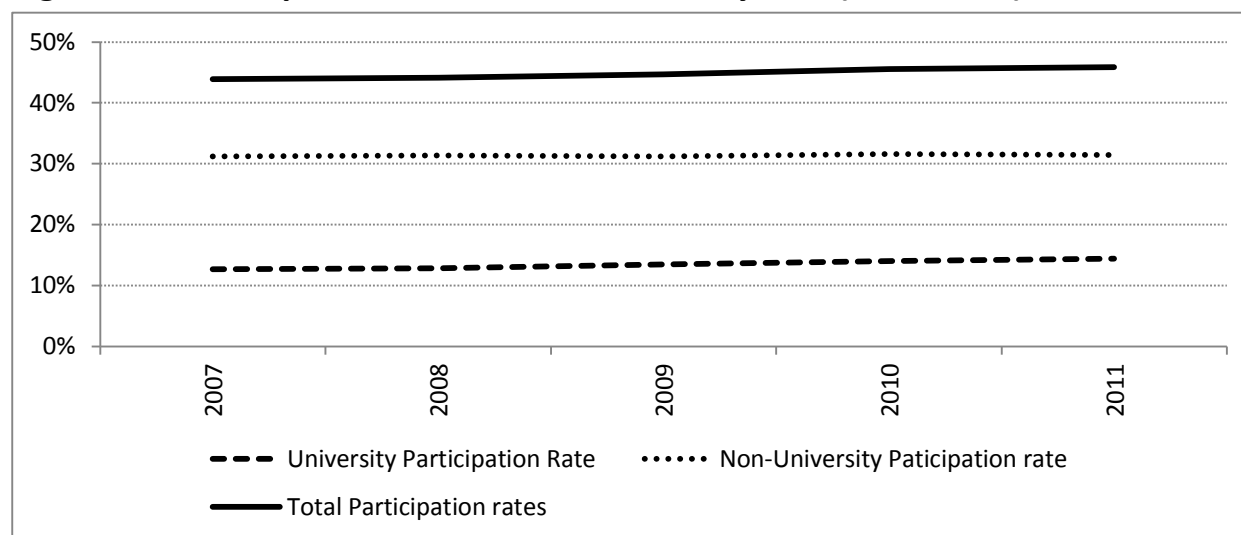
Figure 1.3: Full- and part-time enrolment at private institutions (1994-2011)

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

Although enrolments began to fall significantly in the latter half of the last decade, participation rates did not follow suit. Figure 1.4, below shows participation rates for the 'best four years,' that is, the four years with the highest participation, 19 to 22 year olds. The 'best four years' participation rates are only available for the period from 2007 onwards because data on the age of students was not collected until that time. However, the years for which they are available are important because they coincide with the years when enrolments began to fall. The data shows clearly that youth participation rates stayed quite stable over this period; the main reason for

declining enrolments was a fall in participation from students in their mid-20s (which may reflect a faster completion rate).

Figure 1.4: Participation rates of the ‘best four years’ (2007-2011)



Note: Best four years are the years with the highest participation: 19 to 22.

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *‘Szkoly wyższe i ich finance’*.

What the foregoing four figures show is the unwinding of ‘deferred demand’ phenomenon. From 1990 to 2005, demand for higher education soared because of older students who had been denied study opportunities under the previous regime. By and large, these students were not given free places, which tended to go to students arriving directly from secondary school. As a result, they ended up paying for their education, either in the private or the part-time public sectors. As this clientele is now drying up, the total number of fee-paying students – and hence private revenue, is now falling in Poland.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

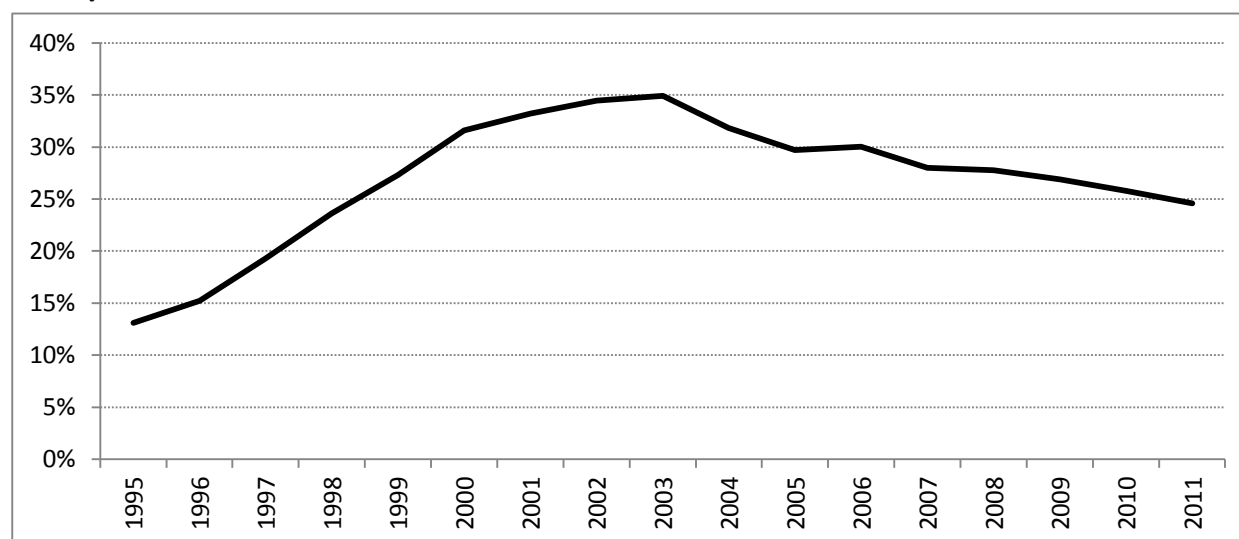
This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

2.1 Changes in Institutional Revenues over Time

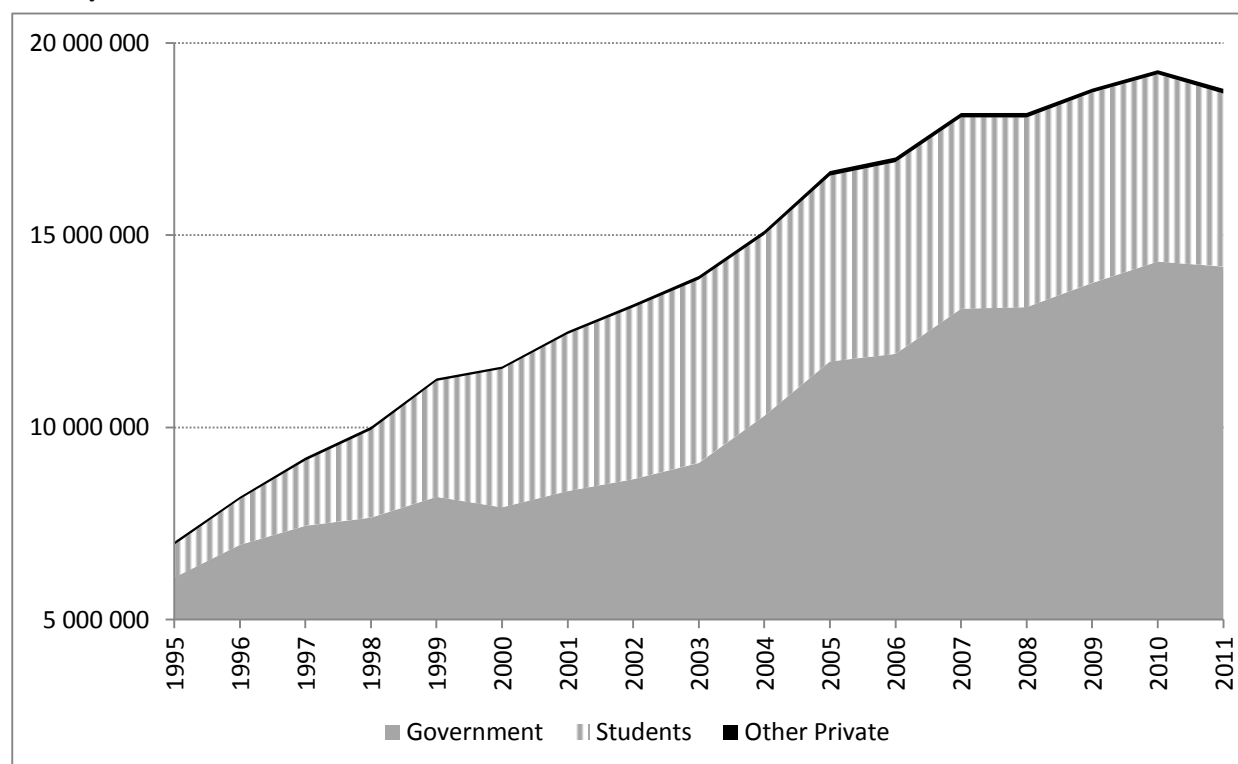
At the end of the socialist period in 1990, higher education was 100% funded by the state. The arrival of private universities in 1990-91 and the subsequent introduction of fee-payable part-time studies in public institutions meant that the higher education sector increasingly looked to private funding to maintain itself. As Figure 2.1 shows, by 2003, the proportion of funds from private sources, which in Poland mean mainly tuition fees, reached as high as 35%. However, after that, the proportion began to fall again until, by 2011, it was a shade under 25%.

Figure 2.1: Percentage of higher education funding from private sources (1995-2011)

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

It is important to recognise that the decrease in the percentage of funds coming from private sources does not stem from an absolute reduction in the amount of private funds. Income from private sources remained more or less unchanged in constant terms between 2003 and 2010 at between 4.7 and 4.9 billion zloty. What changed was public investment, which rose by nearly 58% in constant terms over the same period, from 9 billion to 14 billion zloty.

Figure 2.2: Total funding to institutions by source, in thousands of zloty (1995-2011)

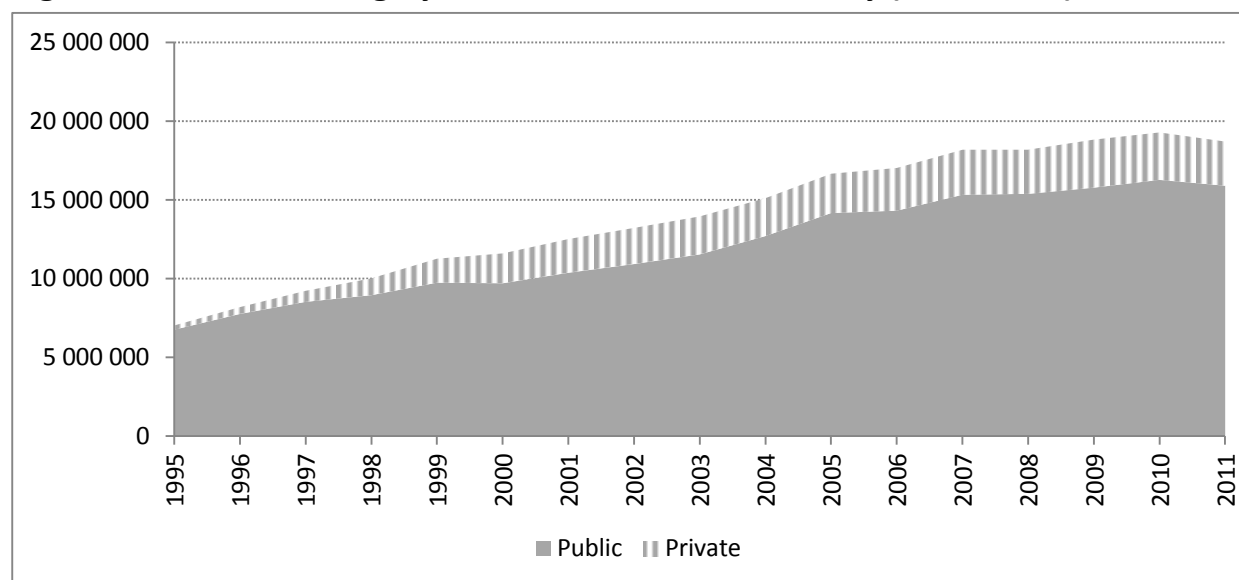


Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*

A slightly different way of portraying this is shown in Figure 2.3, which graphs total funding by sector. The proportion of total funding going to the private university sector peaked in 2003 at 17.3%. This was up significantly from just 4% in 1995, and of course was entirely due to the enormous increase in fee-paying students the private sector was enrolling. After 2003, fee income to private institutions continued to increase in real terms, but more slowly than the increase in income that public institutions were receiving, mostly from public sources. As a result, by 2011, the funding obtained by the private sector had fallen back somewhat to 15%. Figures 2.4 and 2.5 show the same data, separately for public and private universities.

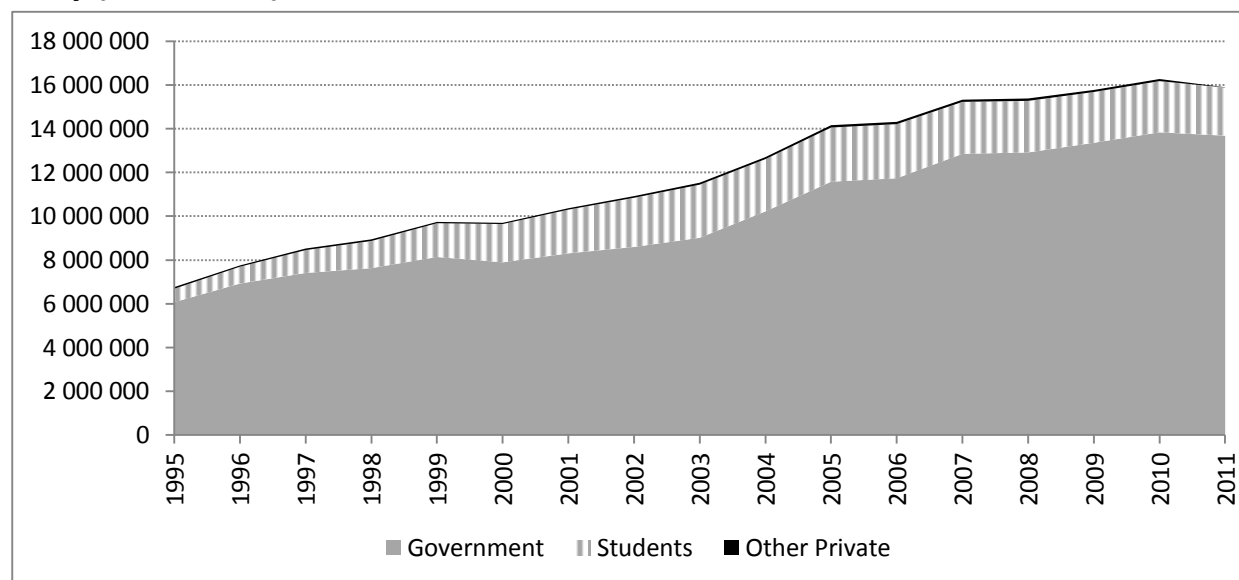
Figure 2.3: Total funding by sector, in thousands of zloty (1995-2011)



Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

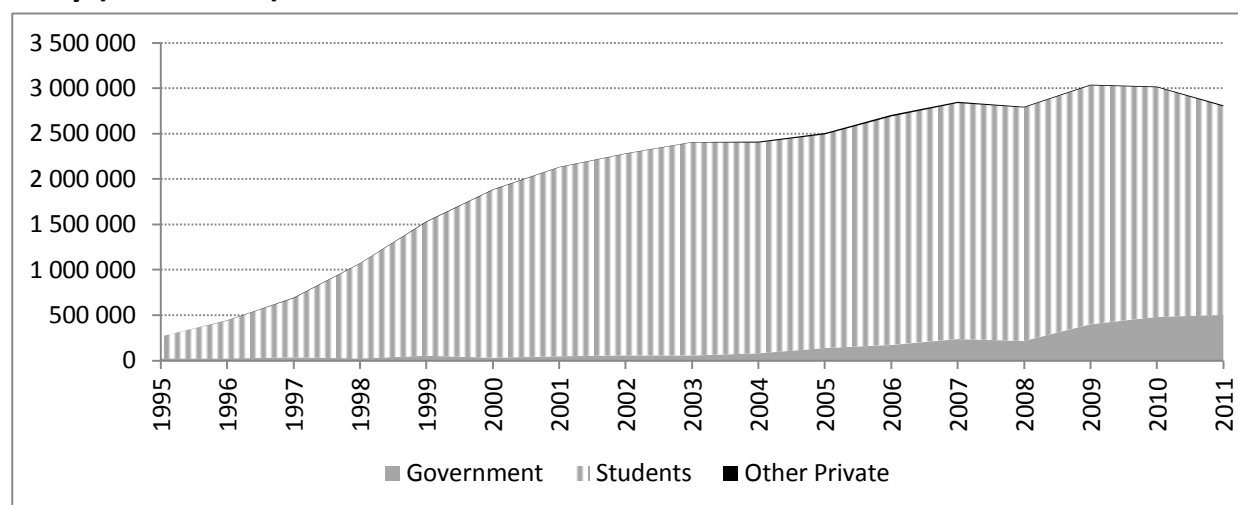
Figure 2.4: Total funding by source, public universities only, in thousands of zloty (1995-2011)



Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

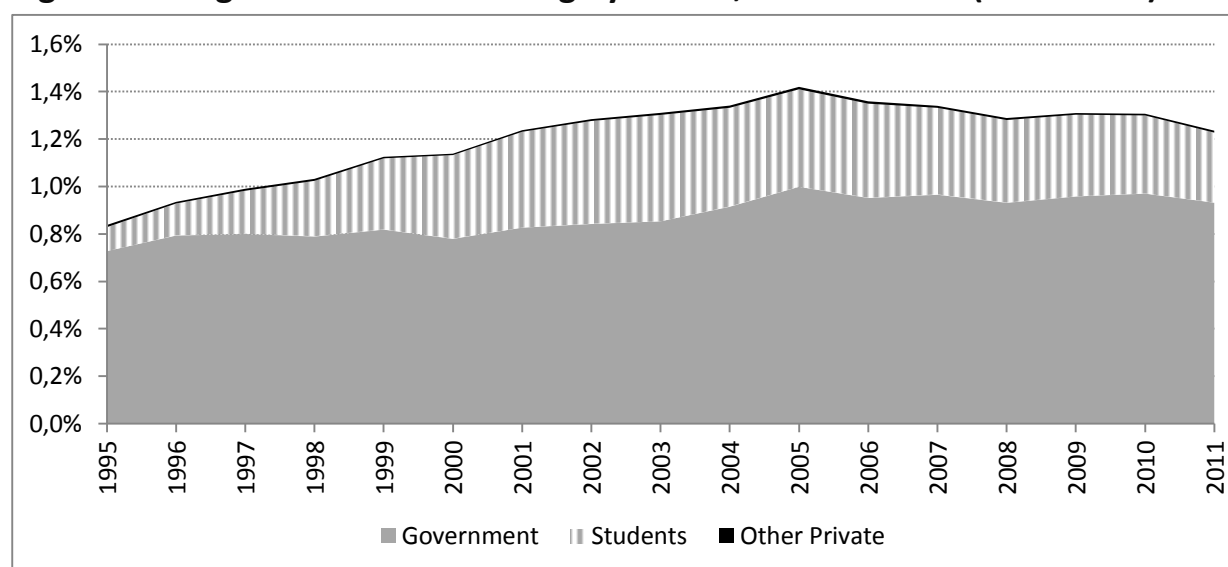
Figure 2.5: Total funding by source, private universities only, in thousands of zloty (1995-2011)



Note: Constant prices (2011).

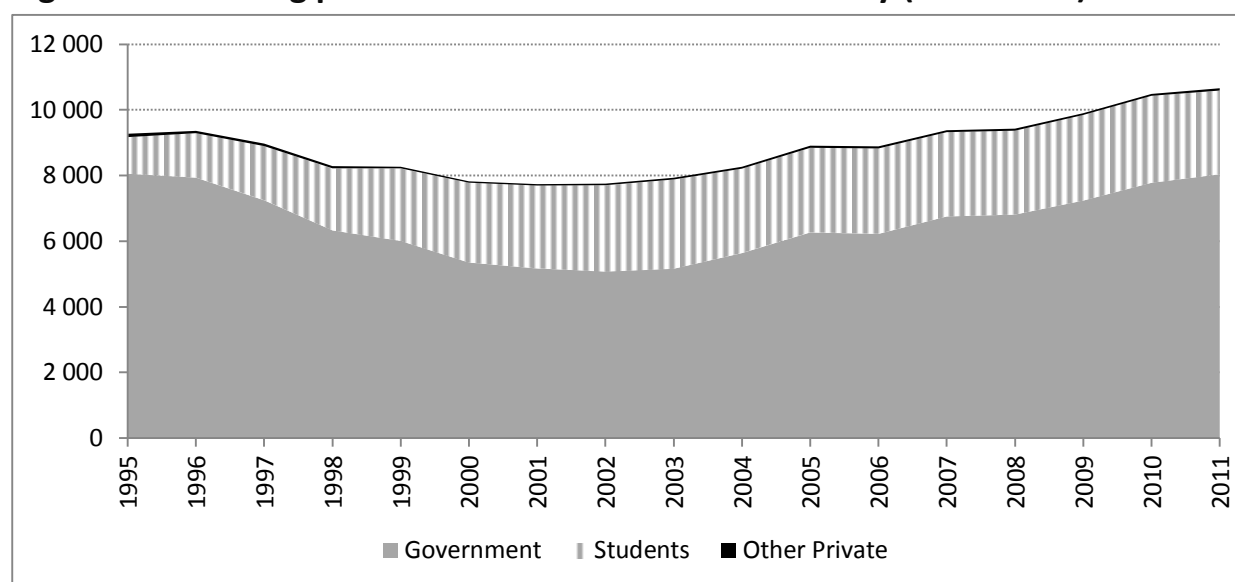
Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

Another way of looking at investments in higher education is to look at spending as a percentage of GDP, which is portrayed in Figure 2.6. Between 1995 and 2003, both public expenditure and private expenditures expanded as a percentage of GDP; in 2003, student expenditures (fees) as a percentage of GDP peaked at 0.45% and started to decline thereafter. Public expenditures on institutions peaked two years later at 1% of GDP and declined thereafter. As of 2010, higher education expenditures as a percentage of GDP were 0.93% from public sources and 0.34% from private ones.

Figure 2.6: Higher education funding by source, as a % of GDP (1995-2011)

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, 'Szkoly wyższe i ich finance', EconStats database.

Yet another way that expenditures in higher education can be measured is through spending per student. We have already seen that both enrolments and total expenditures were rising during the period 1995-2003. However, as Figure 2.7 shows, the former was increasing faster than the latter. Thus, even as total revenues in the higher education sector were increasing strongly both in real terms and as a percentage of GDP, they were declining in per-student terms. Conversely though, after 2003, even as sector revenue was falling as a percentage of GDP, it was increasing in per student terms because of steady or falling enrolments.

Figure 2.7: Funding per student from each source in zloty (1995-2011)

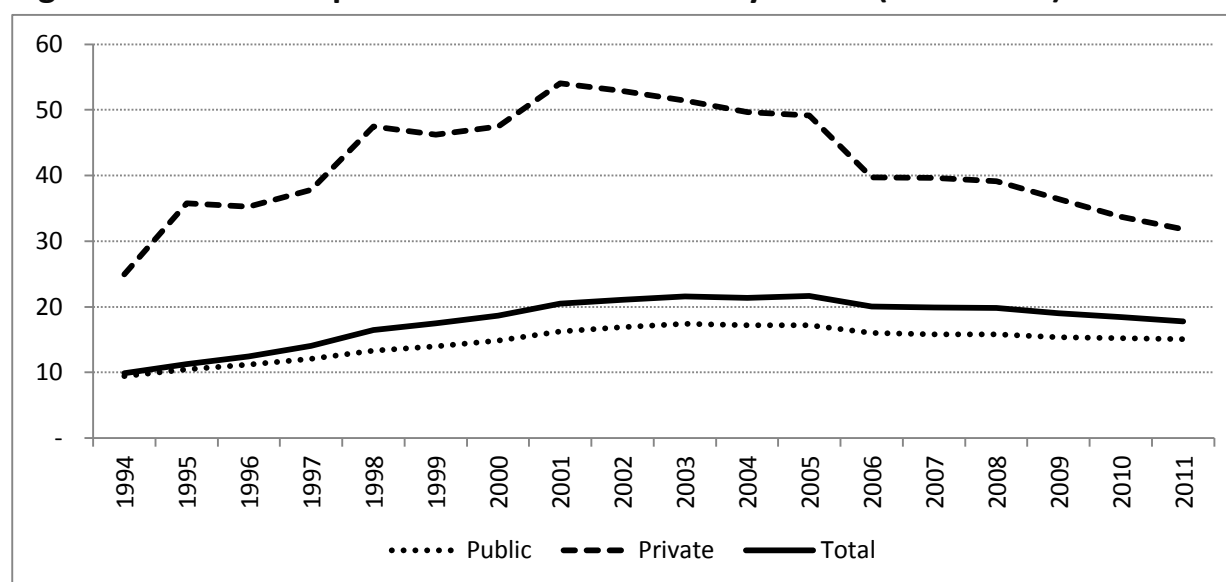
Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, 'Szkoly wyższe i ich finance'.

2.2 Institutional Expenditures

As we have seen, institutional income rose and then fell, while per-student income fell and then rose over our period. However, the fact that institutional income has been rising in recent years does not mean that it has necessarily been invested to the benefit of students: money might be invested in non-instructional missions.

One way to examine this is to look at changes in students-per-academic staff ratios and relate them to changes in funding. Figure 2.8 shows the ratio of full- and part-time students to full-time academic staff in Poland for both public and private institutions.

Figure 2.8: Students-per-academic staff ratios by sector (1994-2011)

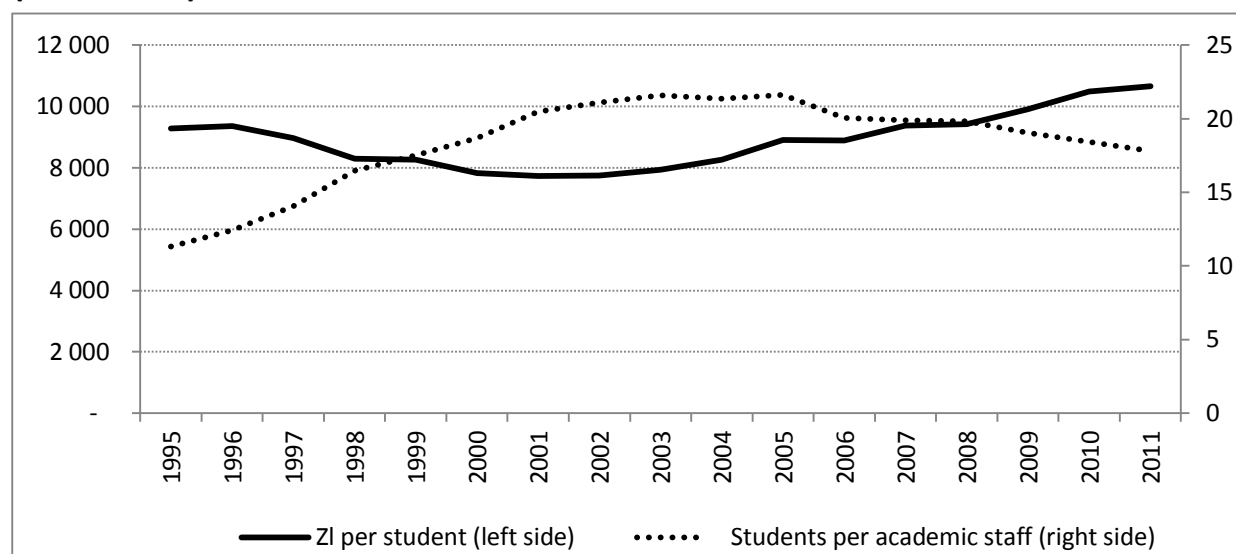
Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *Szkoły wyższe i ich finanse*.

Figure 2.8 shows more or less what one would expect. Students-per-academic staff ratios rose substantially during the period of heaviest enrolment growth, in both the public and private sectors. At their peak in the mid-2000s, students-per-staff ratios in both sectors were about twice what they had been in 1994. Then, as enrolments began to steady or even falter, these ratios began to decline. While they did not return entirely to the previous levels, students-per-staff ratios did fall by 41% in private universities and by 14% in public ones. For most of the period, the ratio of students to academic staff members in the private sector was about 2.5 times what it was in the public sector, though towards the end of the decade this ratio fell to about 2:1.

Figure 2.9 takes the data from the two previous figures (per-student funding and students-per-academic staff ratios) and puts them together. What we see is more or less the expected relationship: as per-student income fell in the 1990s and early 2000s, the students-per-academic staff ratio rose and when it recovered its previous levels in the late 2000s the students-per-academic staff ratio fell again. However, even though funding fully recovered its levels from the early 1990s, students-per academic staff ratios did not.

There is a need for caution in looking at this data. Clearly, what is happening here is that the institutions are receiving more *per academic staff member*. But it is unclear how they are using it. On the one hand, they could simply be paying faculty more money; certainly, rules to clamp down on professors 'moonlighting' (it was common practice in Poland in the 1990s for professors in public universities to supplement their incomes by teaching some courses at a private institution as well) would have had the effect of raising the cost of academic staff in the private sector. On the other hand, it may also be an indication that institutions are spending their money on non-instructional items such as student services, or higher research budgets.

Figure 2.9: Funding per student in zloty and students-per-academic staff ratios (1995-2011)



Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*, author's calculations.

2.3 Evaluation

The questions posed at the outset of these papers with respect to cost-sharing were as follows: “Has cost-sharing increased total funding?” and “how were additional funds spent”?

With respect to the first question, the answer seems to be an unequivocal “yes”. There is no evidence of the Polish government substituting private funds for public ones. Through to about 2005, though public funding was not keeping up with exploding student numbers, it was increasing in real terms and as a percentage of GDP. Afterwards, when public funding did start to falter as a percentage of GDP, private funding did not rise to compensate as both the share of fee-paying students and per-student income were declining.

One could make an argument by looking at the per-student figures that government disinvested and allowed private contributions to make up some of the difference. And over the period 1995-2002, that would have had at least some merit (though few if any governments at any point in history could have kept up per-student spending while enrolments tripled). Increase in private contributions was clearly a major part of what made system expansion possible. However, if one looks at the period as a whole, such an argument looks less viable. In real terms, public spending per student was almost exactly the same in real terms in 2011 as it was in 1995 (8038 zł. vs., 8058 zł. in constant 2011 zł.), and thus all of the extra 1400 zł. per student per year that was coming in student fees was additional to public investment.

As for how the money was spent – the details on university spending are not readily available in Poland. What we can note is that students-per-academic staff ratios understandably rose as institutional per-student income fell, once that income reversed its previous level, students-per-academic staff ratios did not rebound to the same extent. For whatever reason, the extra student investment has not resulted in a return to smaller classes to the extent one might have expected.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO STUDENT DEMAND

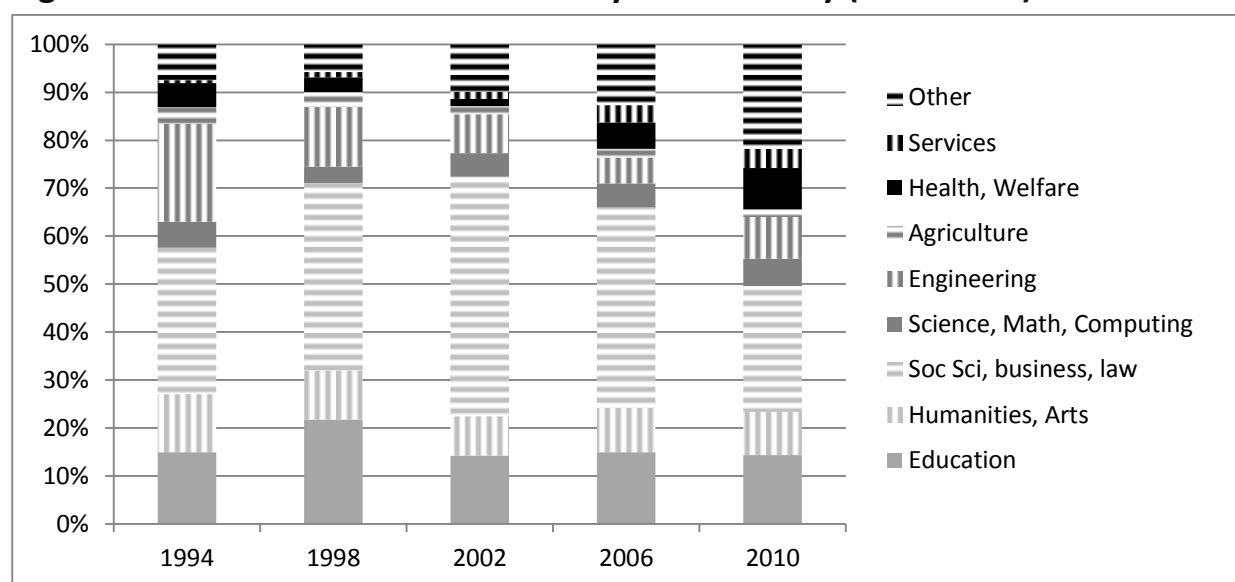
This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

3.1 Enrolment by Discipline

One hypothesis about the effects of fees is that they make institutions desirous of increasing revenues by focusing on programmes that are popular or lower-cost courses (these tend to be 'soft' disciplines, paper and pencil subjects-areas). This may lead to overall changes in the discipline profile of a national higher education system.

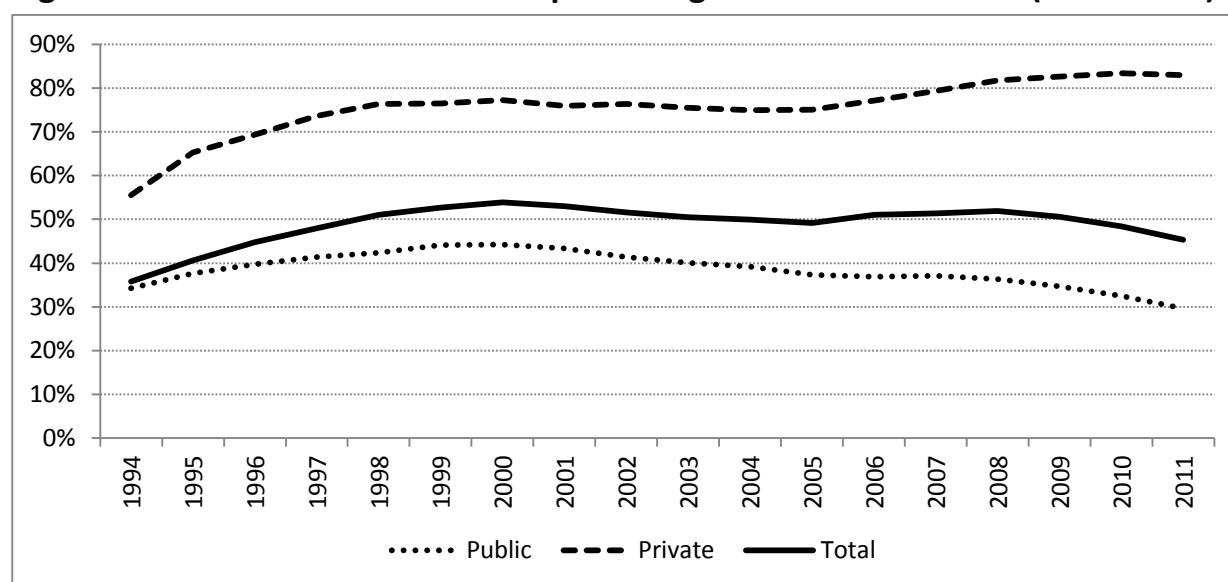
As Figure 3.1 shows, there has been a great deal of shifting of enrolment across fields of study in Poland over the last two decades. Health fields shrunk substantially in the 1990s and early 2000s before rebounding later. Engineering as a discipline has kept its absolute numbers relatively constant over time, but in the face of massive increase in enrolments, its percentage of total enrolments has fallen dramatically. Education went through a brief enrolment surge around 1998 but quickly fell back to earlier levels. Enrolment in humanities has stayed more or less even over time. The somewhat catch-all field of social science, business and law – the fields where private universities tend to concentrate their activities – expanded enormously during the period to 2002. It was in these fields, clearly, where the expansion in student numbers in the 1990s mostly occurred. There has of late been a drop in these fields, but a closer look suggests this may be an artefact of a definitional change; the major drop in social science enrolment coincides with a huge increase in students in 'other' fields of study.

Figure 3.1: Distribution of enrolment by field of study (1994-2010)

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *‘Szkoly wyższe i ich finanse’*.

3.2 Enrolment Patterns by Mode

Without a doubt, the conditions under which tuition fees may be charged have had a massive effect on the mode of study in Poland. Recall that in public institutions, fees may only be charged to part-time students. Sure enough, within a few years, over 40% of students in public institutions were studying part-time. It is worth noting here, though, that part-time study (which includes programmes offered at weekends that may have the same number of hours as full-time study) was clearly the preferred format for those students who were part of the ‘deferred demand’ phenomenon and who already had jobs. In the private sector, where there was no similar reason for institutions to favour part-time over full-time studies (institutions would earn roughly the same in any case), 75-80% of enrolments were part-time. This suggests that institutions are responding to demand, rather than pushing students into higher-cost courses.

Figure 3.2: Part-time students as a percentage of total headcount (1994-2011)

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finanse'*.

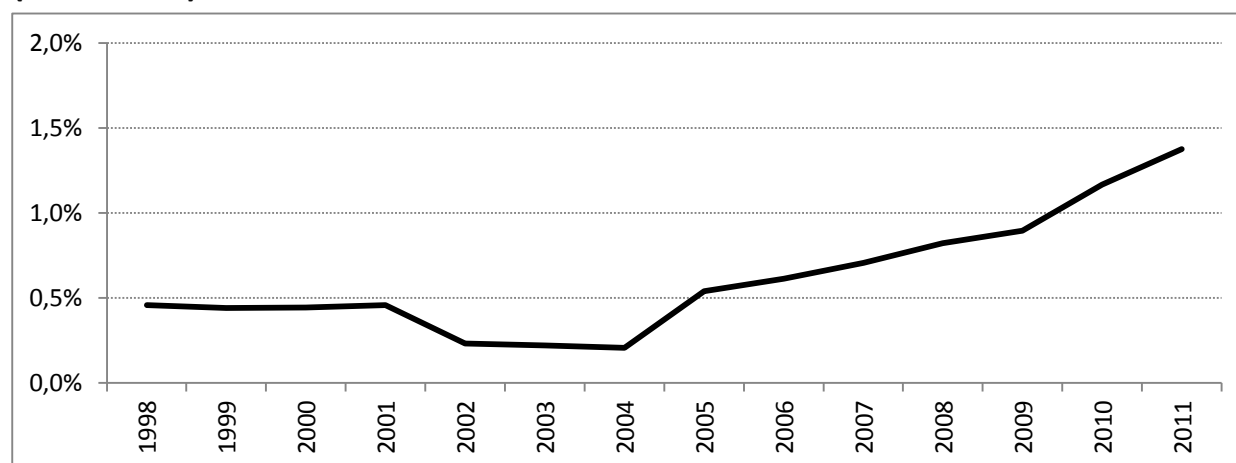
3.3 Enrolment Composition

Another possible avenue through which institutions might choose to increase revenue is by attracting international students, who may be charged fees for full-time studies in ways that domestic students cannot.

Poland is a rather difficult place for international education: It has few institutions possessing international reputation, Polish is not spoken much outside Poland and until recently programmes offered in English were fairly rare. Thus it is not surprising that we find that the existence of financial incentives to attract international students does not immediately lead to success. As Figure 3.3 shows, Poland has very low levels of inbound foreign students, with the proportion being under 1% for most of our period.

There has, though, been a significant increase in international students in recent years. As a proportion of the total student population, their numbers have increased from 0.2% to 1.4% - a seven-fold increase, albeit from a low base and with a declining denominator. What is intriguing, however, is the timing of the increase in that it more or less coincides with when part-time student numbers began to decline. The evidence is of course circumstantial, but it may be that the push for international students was simply a reaction to the fact that deferred demand had run its course and Polish universities were running out of domestic-fee paying students.

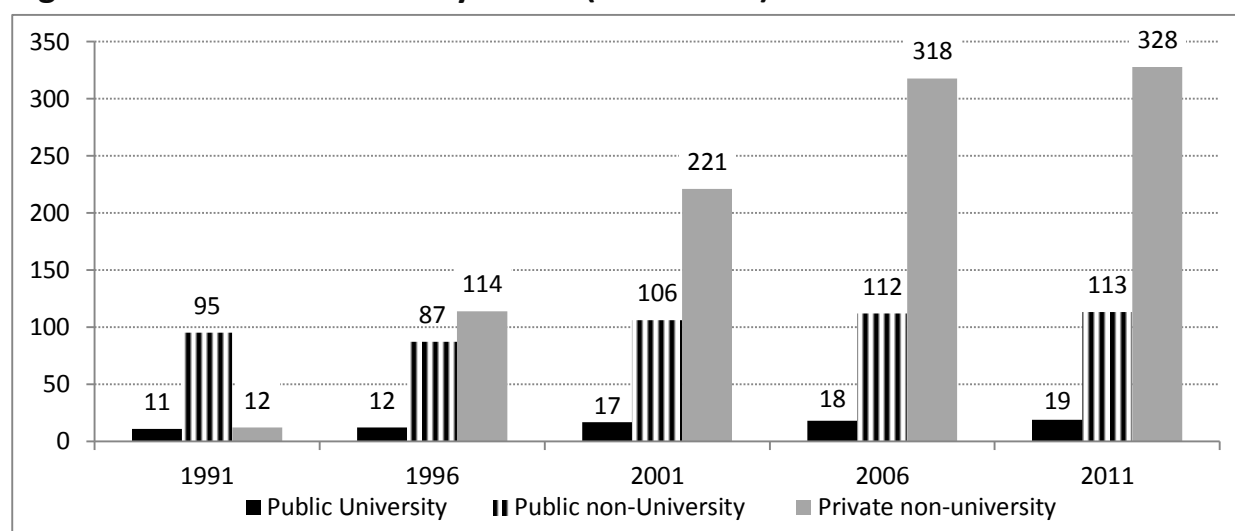
Figure 3.3: International student enrolment as a percentage of total headcount (1998-2011)



Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

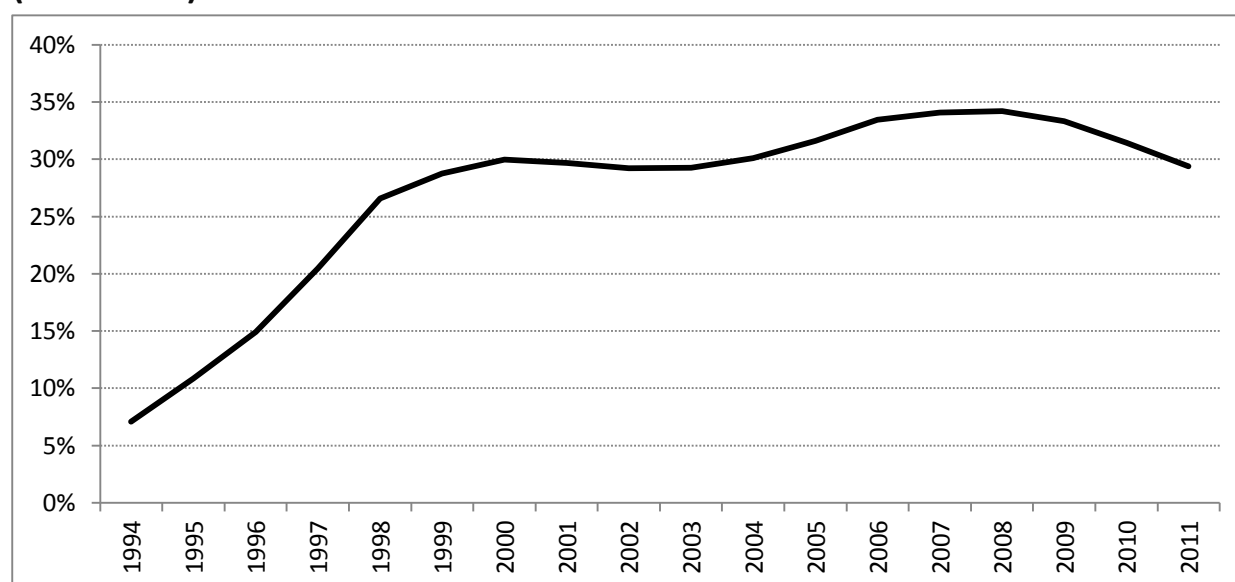
3.4 Diversity of Provision

The particular form of cost-sharing Poland chose to embrace created significant diversity of provision, as Figure 3.4 shows. The number of non-public institutions shot up from zero to 318 in the decade and a half following their legalisation in 1990, far exceeding the number of public institutions. Most of these institutions are quite small; the average private institution has a little over 1,100 students (80% of them part-time) and 46 full-time academic staff. But this means they can be viable in quite small population centres, thus making higher education more accessible in smaller communities.

Figure 3.4: Number of HEIs by sector (1991-2011)

Source: Pre-1996, *Finanse Szkół Wyższych*; ost-1996, *'Szkoly wyższe i ich finance'*.

Though private institutions now make up over 70% of the country's total, their small average size means they educate a much smaller fraction of the country's student body. As Figure 3.5 shows, the proportion of students in private institutions peaked in 2008 at 34%; by 2011 it had dropped back to 30%.

Figure 3.5: Percentage of total student body educated in private universities (1994-2011)

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

One should note, however, that for the most part these new institutions were focusing on a relatively small group of fields of study – economics, business, law and social sciences. In this sense, it might be said that even though there has been an increased diversity of institutions, the provision has in some ways become more homogenous.

3.5 Outreach Practices

There is no information available on outreach practices in Poland.

3.6 Quality and Relevance

Unfortunately, there are no real quantitative data on quality and relevance from Poland. Surveys of student satisfaction are not common (and unlike much of the rest of central Europe, its local university rankings do not rely on student evaluations); nor do any large scale evaluations of employer sentiment appear to have ever been conducted.

3.7 Evaluation

The broad hypothesis which was tested in this chapter was “have institutional strategies changed to maximise revenue from private sources”. This was done by looking at six sub-hypotheses, which will briefly be reviewed here before attempting to assess whether there was an overall effect.

The first sub-hypothesis related to whether 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). The answer here is that it is clear that there has been a massive shift in disciplinary profile, but the link with changes in cost-sharing is not straightforward. The expansion of higher education occurred almost entirely in the fields of social science and business. Whether this was where the demand lay or whether it was because these courses are cheaper to offer is difficult to say; presumably both factors were at work to some extent. What is unclear is why other fields of study did not take advantage of fee freedom to expand their offerings. Why did engineering or medicine not expand in the same manner? The answer seems to be that there was no self-sustaining market for it – or at least that institutions believed that this was the case. In any event, tuition fees apparently had a decisive effect on the shift between disciplines, but not for the reasons that might be assumed. It was precisely the presence, rather than the absence of new fees which created the capacity to absorb all the new demand.

The second sub-hypotheses related to whether there had been any change in the modes of study, such as an increase in part-time provision, with the aim of increasing private revenue. Again, clearly there has been. Part-time study – the preferred mode of study for the mid-career 'deferred

demand' group and the only type of study which allows public institutions to bring in additional money from fees – became the norm in Poland over the last two decades, with just over 50% of all students enrolled in these programmes for most of our period. Of the countries covered in these case studies, this is by far the highest percentage.

The third sub-hypothesis has to do with institutions changing in enrolment composition to maximise revenue, such as by recruiting more international (non-domestic) students paying international student fees. Here, fairly clearly, the answer is small but suggestive. International students were a microscopic proportion of the Polish student body for most of our period. Interestingly, however, international enrolments did start to shoot up (albeit from a low base) at about the time that domestic part-time enrolments started to decrease. In other words, there is circumstantial evidence that Polish institutions have used international students as an alternative revenue stream.

The fourth sub-hypothesis was related to any change that had occurred in the degree of diversity in higher education providers, such as more private institutions, or more programmes offered by public institutions. The answer with respect to the number of producers is yes; the number of institutions has quadrupled in the past 20 years, mostly through the establishment of private universities. These mostly small institutions have had an important effect in making higher education more accessible in smaller communities.

The fifth and final sub-hypothesis has to do with quality and relevance. Did students and graduates become more satisfied with the options available to them? Did graduates become satisfied with their employment outcomes? And were employers satisfied with quality of recent graduates? Unfortunately, the answer to this question must be tentative because of such a lack of evidence. We have no quantitative data whatsoever on the views of students and employers.

And so, to the summative question: have institutional strategies changed to maximise revenue from private sources? The answer to this is almost certainly yes, bearing in mind that the available data is less complete than it might be.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

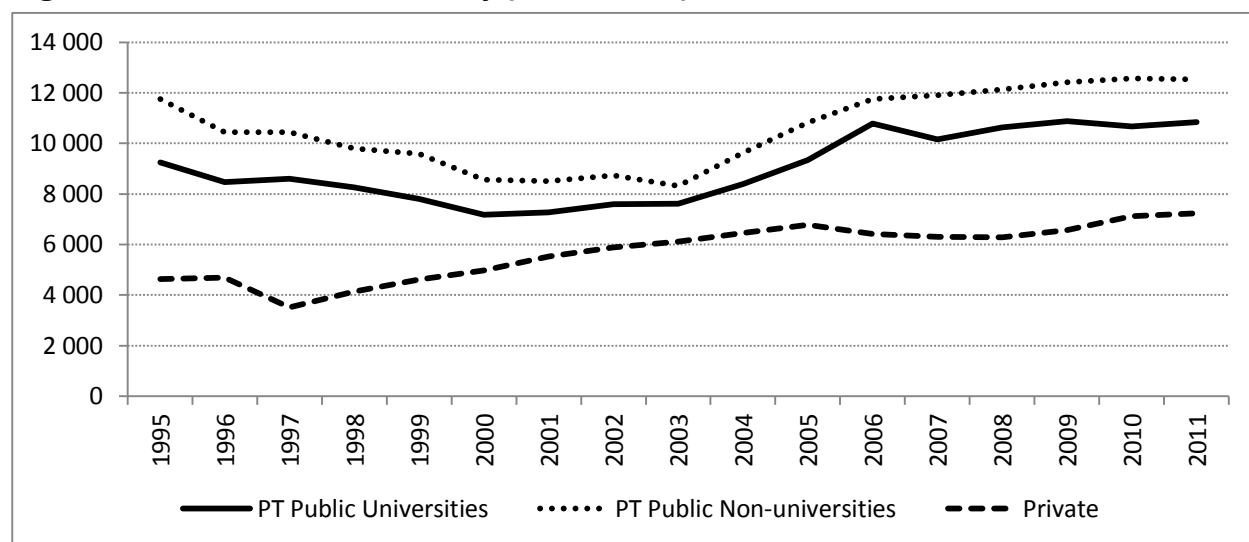
- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

4.1 Students’ Costs for Higher Education

Under the pre-1989 socialist government of Poland, higher education was free. The decision to allow substantial private funds into higher education, both via private universities and through fees in public universities, happened prior to the period covered in this case study, so the initial costs associated with these decisions are not known. Available data only permits us to pick up the story in 1995, a couple of years after these decisions.

Figure 4.1 describe the trends over time with respect to student fees in real terms (note, for public institutions, data is for fee-paying students only). In 1995, such fees as were charged were in real terms considerably higher in public universities than they were in private ones: 12,000 zloty for public universities vs. a little over 9,000 zloty for public non-universities and only about 4500 zloty for private institutions. This may to some readers appear strange – why should publicly-funded institutions charge more than institutions which must survive on fees alone? The answer would seem to be “because they can” – their prestige simply allowed them to do it.

Over time, fees in the public and private sectors converged somewhat. As private institutions gained a track record, they were able to charge more, and public institutions allowed tuition to fall in real terms. By 2003, average fees across the three sectors were in a relatively narrow band between 6,000 and 8,000 zloty. Since that time, fees in the private sector have stayed fairly constant, while fees at public universities have returned to their previous highs.

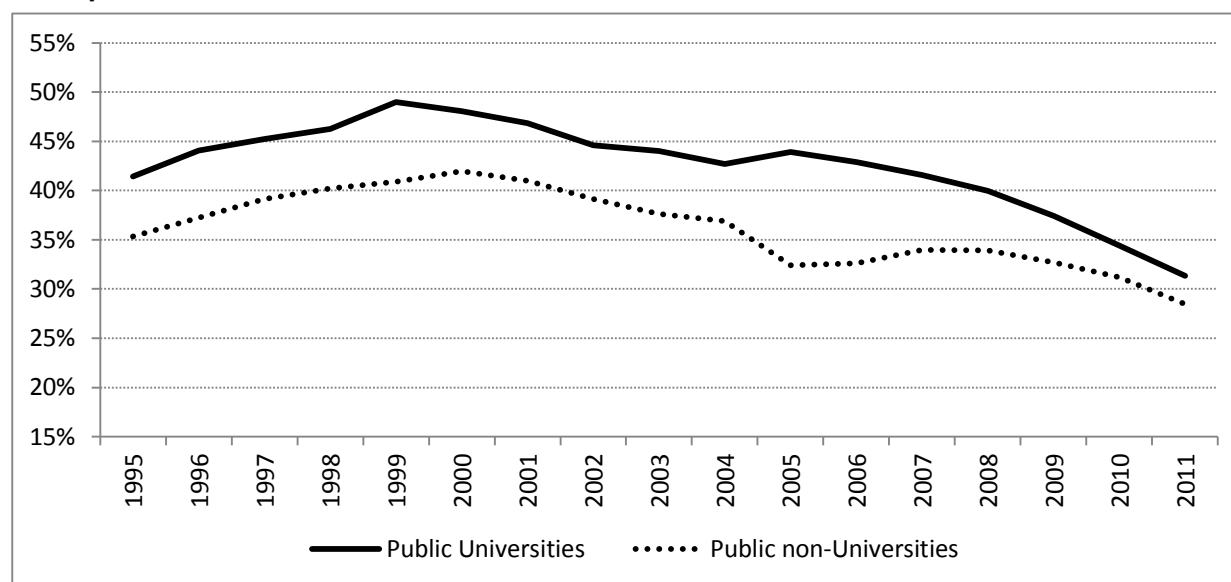
Figure 4.1: Tuition fees, in zloty (1995-2011)

Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finance'*.

Of course, at public institutions only students in part-time studies pay fees. If one looks at the percentage of students who were part-time in any given year, the previous graph begins to make more sense. The fall in tuition fees at public institutions coincided with a rise in the number of students wanting to take them. In effect, institutions could charge less in real terms and make up the difference on volume. Once the part-time numbers started to fall, the average fee stopped falling and eventually began to rise again. In a sense, it does not seem as though university leaders were not actually chasing *maximum* private funds, but rather trying to keep private funds at a certain proportion of total income.

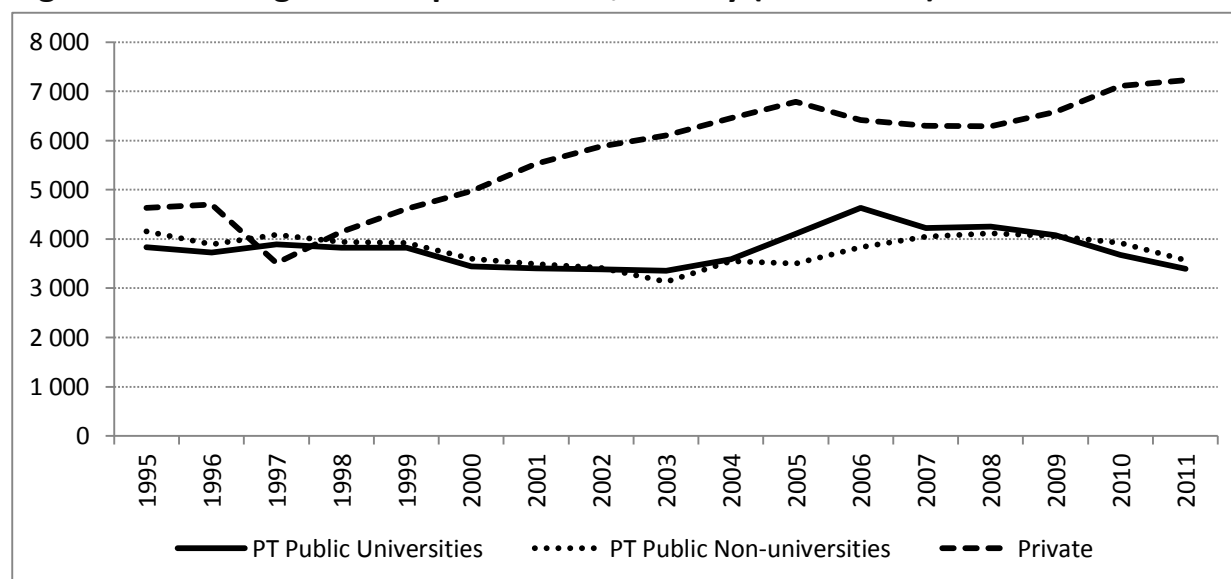
Figure 4.2: Percentage of public university students that were fee-paying (1995-2011)



Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finanse'*.

Of course, because not all students pay fees, the amount of private revenue *per student* is considerably lower in public than in private institutions.

Figure 4.3: Average tuition per student, in zloty (1995-2011)



Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finanse'*.

Cost of Living

Student living conditions have not been thoroughly studied in Poland. The only aspect of it for which we have more than one observation is with respect to living arrangements. In 2000, Świerzbowska-Kowalik and Gulczyńska (2000) noted, based on a survey of students in free places, that half the students still lived with their parents, 20.9% were renting a room or flat outside student halls, around 17% lived in their own apartments, and less than 10% lived in a student hall. Data from EUROSTUDENT IV, a decade later (2010), showed something relatively similar: 53% living at home and 6.4% living in student halls.

This same 2010 EUROSTUDENT data is the only source we have to examine students' living costs in Poland. Table 4.1 shows costs of living for students living at home and away from home.

Table 4.1: Monthly student living costs, in zloty, by living arrangements

	Students living with parents	Students not living with parents
Accommodation	40.76	272.47
Daily costs (food, clothing, toiletries etc.)	164.74	316.78
Social and leisure activities	131.7	122.92
Transportation	97.6	96.62
Health costs	17.17	23.8
Communication	49.97	60.34
Child care	4.33	23.46
Tuition fees	119.83	84.62
Learning materials	16.74	19.48
Social welfare contributions	0.47	0.48
Other regular costs	101.43	156.55
Total	745.0	1,178.0

Source: EUROSTUDENT IV database.

Student Grants

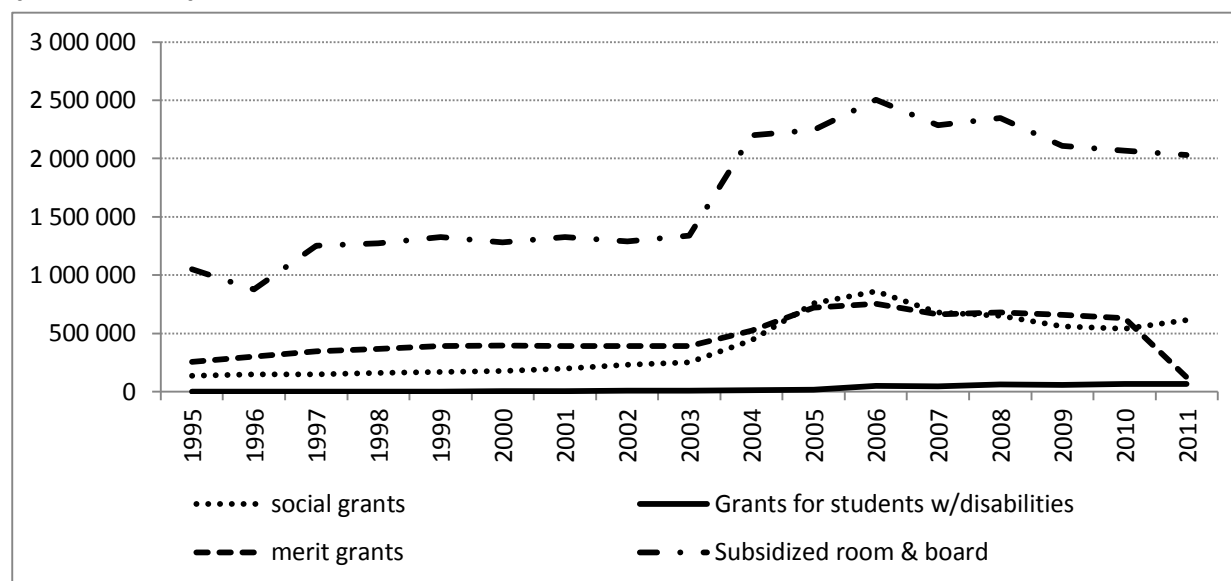
As in many former socialist countries, financial aid for students consists mostly of grant programmes. Since 2004, Poland has on average spent roughly 3 - 3.5 billion zloty per year in non-repayable aid to students. The overall budget for such assistance is set by legislation: In the Budgetary Law for 2001, 2.2% of the total Ministry of Education subsidy for student financial support was designated for maintenance grants for full-time students in non-public HEIs. In subsequent years, this was increased to 2.7%.

By far the largest of the grant programmes, covering two-thirds of all expenditures, are the subsidised room & board which public universities provide to their students (each institution is provided with an allocation of funds by government for this purpose, based on an enrolment-driven formula). Accommodation grants are awarded to full-time students with financial need to cover their costs of accommodation in a student dormitory or any other facility, provided that the daily travel to the place of study would prevent them from, or significantly hinder them in, studying. For married students, this grant can also cover accommodation for the spouse if he/she does not work, as well as for any children they may have. Students must apply directly to the university for the grant. Similarly, students in need may apply to receive subsidised food on campus.

In addition to these grants there are three other major programmes of note. Two major sets of scholarships, costing roughly half a billion zloty per year each, are awarded for ‘social need’ and ‘merit’, respectively. A small programme to provide financial assistance for students with disabilities also exists.

Prior to 2001, all of these grants were only available to students in public institutions; since then, full-time students at private universities are also eligible for the subsidy. Total expenditures for these programmes are shown below in Figure 4.4.

Figure 4.4: Total expenditure on grants programmes, in thousands of zloty (1995-2011)



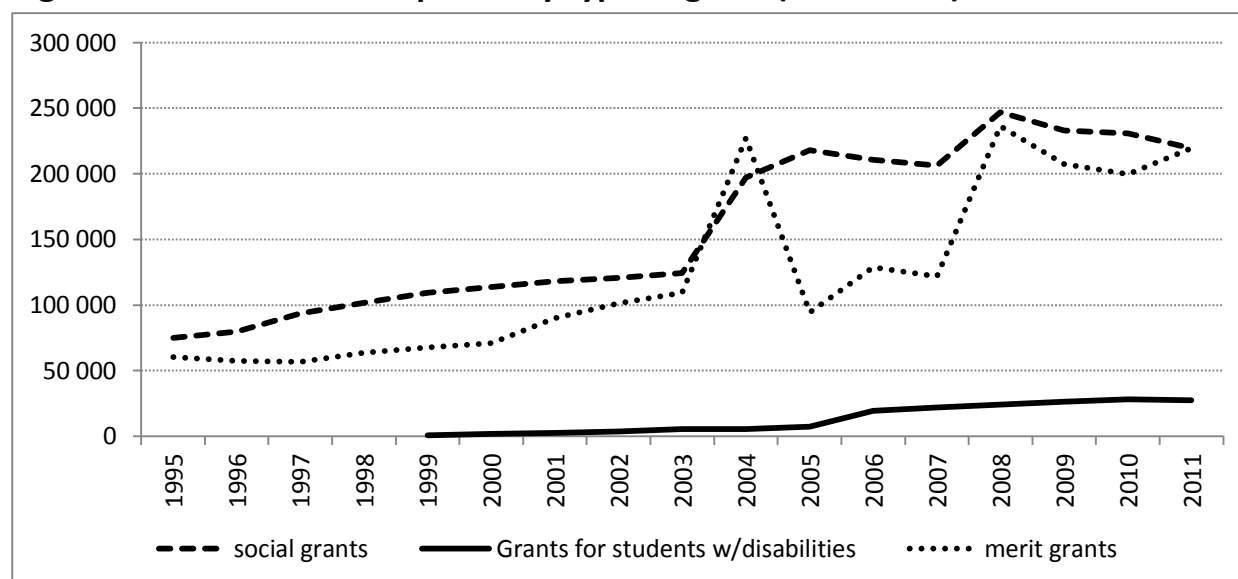
Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *‘Szkoly wyższe i ich finanse’*.

Figure 4.5 shows the number of recipients of each of these grants. The exact number of recipients of the room/board grants is unknown, though it is clearly in the hundreds of thousands. Details of the grants by type of institution are not available. Figure 4.6 shows the average amount

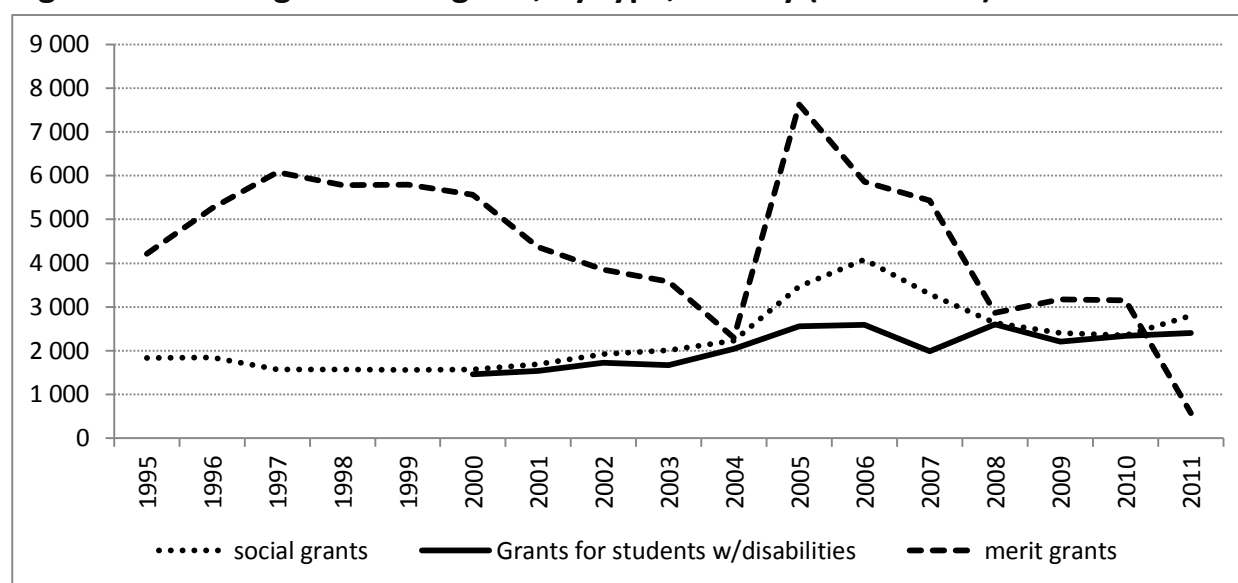
of grant per recipient. Though the social grant and the grant for disability have been relatively stable over time, the merit grant has been less stable, with significant variations in both the number and value of the awards.

Figure 4.5: Number of recipients by type of grant (1995-2011)



Source: Pre-1996, Finanse Szkół Wyższych; Post-1996, 'Szkoly wyższe i ich finanse'.

Figure 4.6: Average value of grant, by type, in zloty (1995-2011)

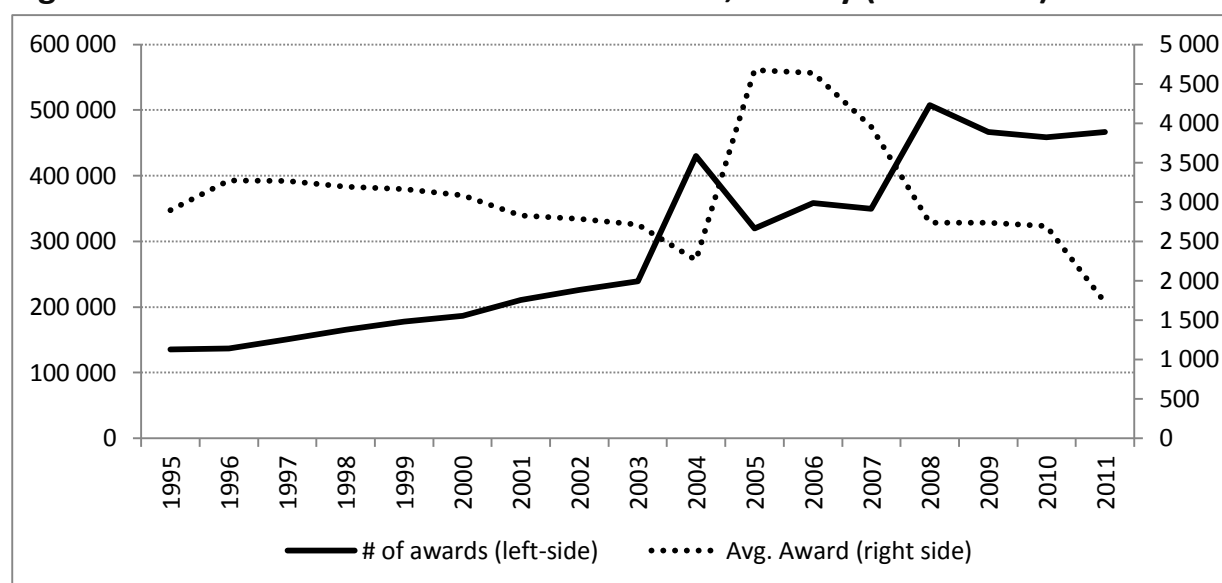


Note: Constant prices (2011).

Source: Pre-1996, Finanse Szkół Wyższych; Post-1996, 'Szkoly wyższe i ich finanse'.

Figure 4.7 displays both the number of awards made and the total value of the awards (again, excluding the room and board subsidies for which data is not available). Though the picture is obscured somewhat by the mid-decade changes in policy around merit awards, the overall trend in the country is to give out more, smaller grants.

Figure 4.7: Number of awards vs. award-value, in zloty (1995-2011)



Note: Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finanse'*.

Student Loans

A student loan scheme has been in place in Poland for almost 15 years. However, unlike some countries, it has never become a major factor in student finance. At the moment, fewer than 5% of students in Poland avail themselves of a student loan.

The student loan scheme was introduced in Poland in 1998 with eligibility limited to undergraduate and graduate students with Polish citizenship (or EU nationals resident in Poland), who first enrolled in a HEI under the age of 26. These awards were income-tested; in its first year of operation, the loans were restricted to students from families with monthly incomes below 550 zloty/month. Since then, the amount has increased to roughly 3,000 zloty/month. Although the award is made to students rather than parents, a loan guarantor is required, which is usually a parent. Interest rates vary by family income. For poorer students, the rates are set at half the level of the National Bank of Poland's discount rate; for wealthier ones, the rate can be as high as 130% of the discount rate. There is a two-year grace period following studies in which no repayments have to be made; however, the repayment period is then limited to twice the period over which the student borrowed (i.e. if he/she borrowed for one year, then the repayment period will be set at two years). Some debt may be forgiven as a reward for high performance; if

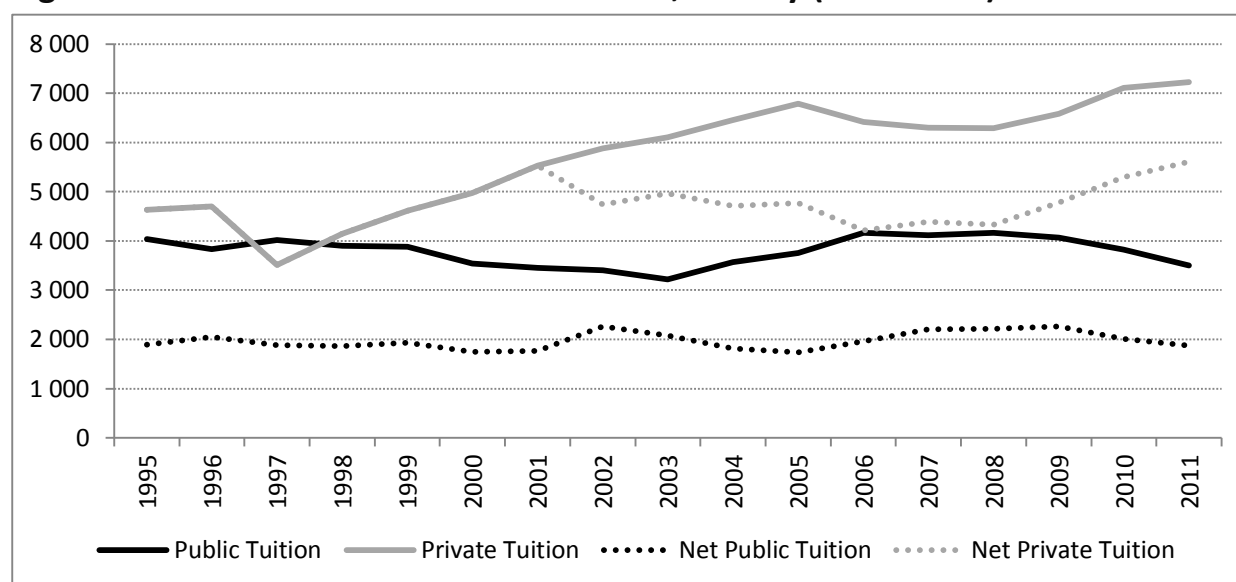
a student finishes his/her degree in the top 5% of his/her class, they may receive a 30% reduction of their outstanding debt.

In the first year of operation, the loan scheme attracted nearly 100,000 borrowers. Since then, new borrowers have fallen to about 20,000 per year. Of these, roughly two-thirds are in full-time study and 80% are in public universities. A 2007 OECD country study on Polish higher education suggested that the reason for the programme's decline was uncertainty of employment after graduation due to the continuously high rate of unemployment; another factor cited was the difficulty for students in finding guarantors (Fulton, Santiago, Edquist, El-Khawas, & Hackl, 2007). A third possibility, not mentioned by the OECD, is the loans' relatively short repayment period.

Net Costs

In this section we define net costs as average tuition fees minus average subsidies (i.e. grants). What we see in Figure 4.8 is that the net average cost in public institutions has remained essentially constant over our entire period at around 2,000 zloty. The situation for private universities is somewhat different. Prior to 2002, tuition and net price were the same because government rules did not permit the distribution of aid to non-public institutions. However, following the elimination of that rule, a substantial amount of assistance flowed to students in that sector. As a result, even though tuition fees in the sector rose by over 55% in our period, net costs rose by only about 15%.

Figure 4.8: Various measures of net tuition, in zloty (1995-2011)



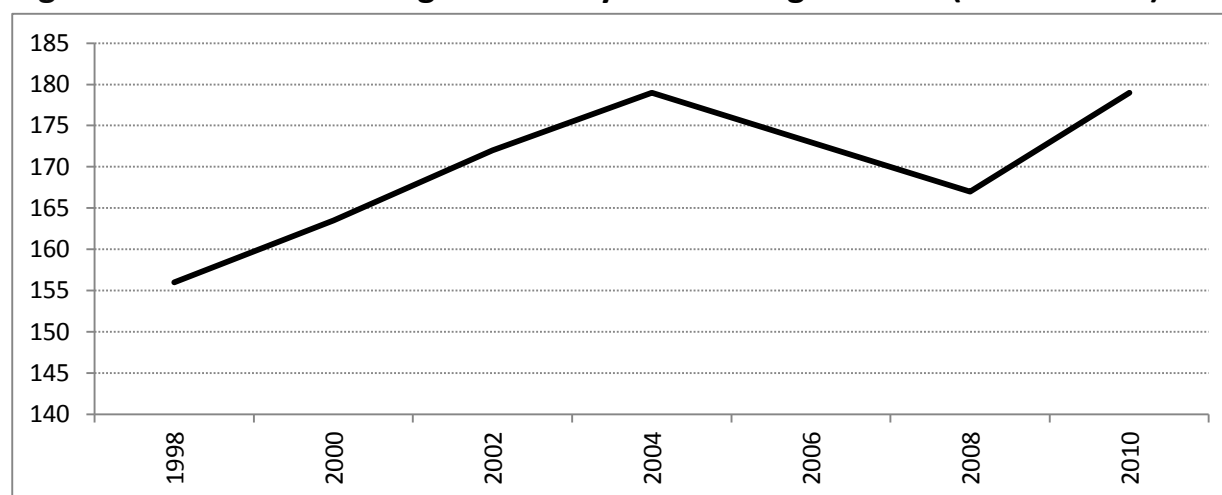
Note: Net tuition is student tuition minus grants. Constant prices (2011).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finanse'*.

Relative Earnings

One important factor to consider in terms of access is how the financial gain of attending higher education evolved over time. All other things being equal, a rise in relative earnings of higher education graduates should exert upwards pressure on participation as it makes education a more attractive investment. As Figure 4.9 shows, there was indeed a major increase in the earning premium of graduates in Poland, but they seem to have occurred *after* the major jump in participation.

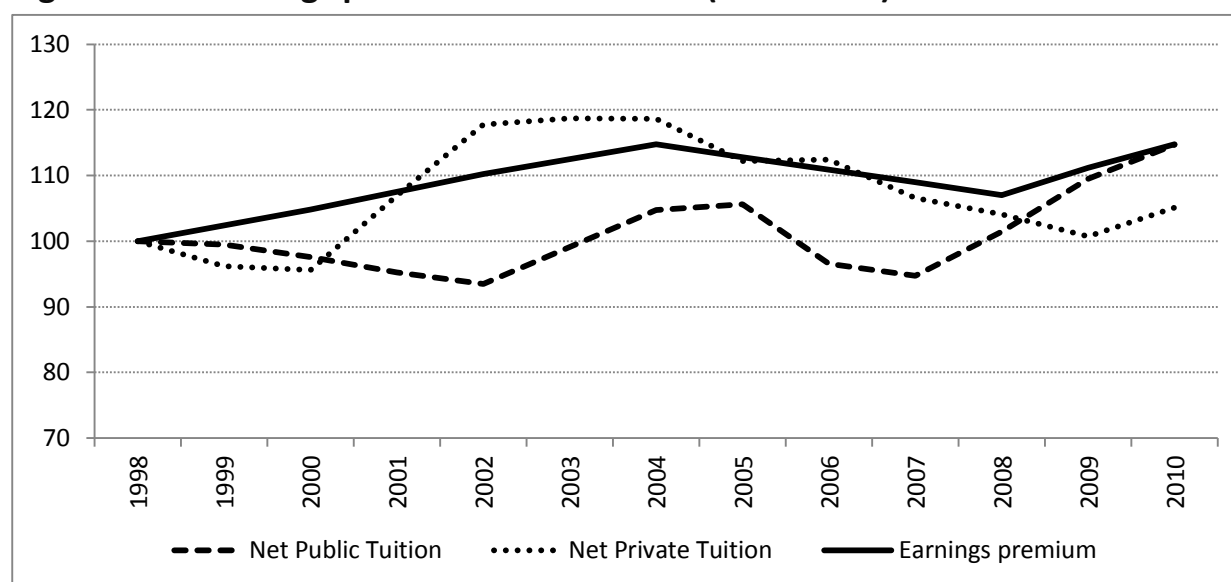
Figure 4.9: Relative earnings of tertiary education graduates (1998 – 2010)



Note: Indexed to the earnings of a secondary school graduate (=100).

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

Figure 4.10 shows a somewhat crude way of looking at whether or not the return on students' investment is rising or falling over time. The solid line represents the earnings premium described in Figure 4.9. The hashed and dotted lines represent the net cost of education for students in public and private universities, respectively. This is essentially the same data from Figure 4.8 except that it consists of a moving 3-year average, to simulate the costs of a full Bachelor degree. What Figure 4.10 shows is that on average, net costs have changed at more or less the same rate as changes in the earnings premium.

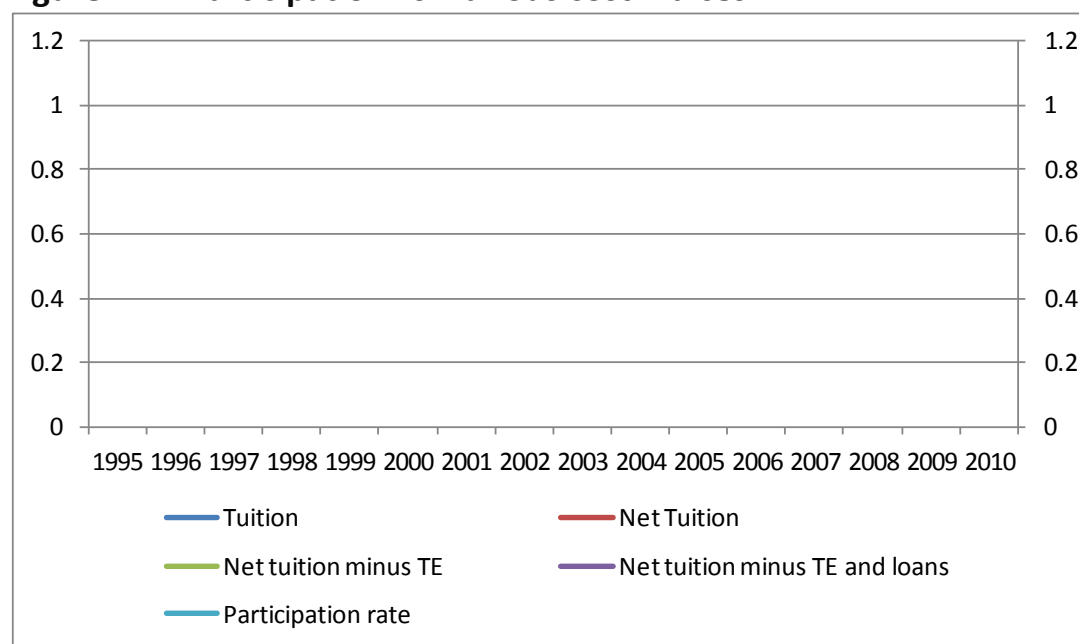
Figure 4.10: Earnings premiums vs. net costs (1998-2010)

Note: Net costs indexed to 1998 value (=100), relative earnings indexed to earnings of a secondary school graduate (=100).

Source: Pre-1996, *Finanse Szkół Wyższych*; Post-1996, *'Szkoly wyższe i ich finanse'*, OECD 'Education at a Glance', author's calculations.

4.2 Participation Rates

A key question to address in this research is whether changes in cost-sharing have had an impact on transition rates from secondary education and on overall participation rates.

Figure 4.11: Participation vs. various cost indices

Source:

4.3 Composition of the Student Body

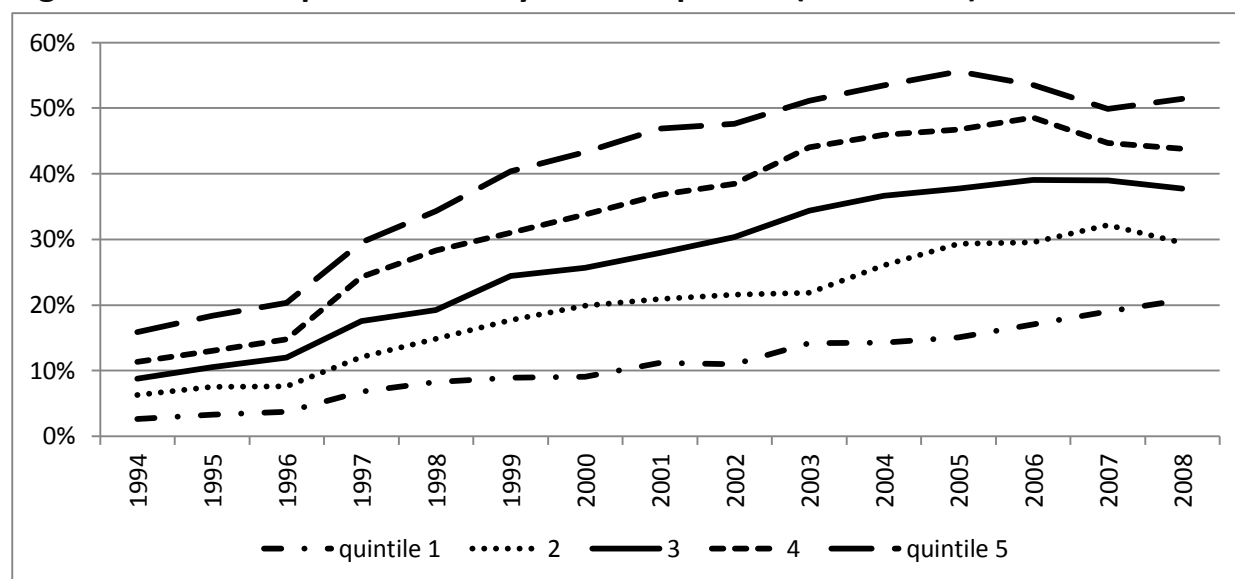
Polish data collection on issues relating to the composition of the student body is fairly limited in comparison to other countries. The population is relatively homogenous so there is no data collection with respect to participation rates by various ethnic groups. It is known that in 2008 roughly 1.3% of the student population had a disability (Herbst & Rok, 2011), but it is not known how this figure has changed over time.

There is no regular data collection on participation by family income or social class, either. A variety of studies (Białecki, 2003; Domański, 2000) have noted significant gaps in participation by social background, which Sztanderska and Liwiński (2007), noting the significant gaps in secondary school completion suggests is likely due to barriers in educational pathways that occur well before the point of entering higher education. Another study, by Świerzbowska-Kowalik and Gulczyńska (2000) noted the significant social gap among full-time public university students; namely, that students whose parents have higher education were significantly over-represented in this group. This is an important finding because it suggests that in Poland, the largest subsidies are going to students from financially affluent families.

However, while all of these reports are useful, none of them provide a time-series of data which might show the effects of cost-sharing. The only source for this is a paper by Herbst and Rok (2011), who use data from the National Household Survey to derive participation rates by income quintile. This is reproduced below in Figure 4.12. At the end of the period for which data is available (2008), they found that access rates for the top income quintile were 50%, compared

to 20% for the lowest income quintile. What their trend data shows is that participation rates rose steadily for all quintiles across our period. In absolute terms, the gains were greatest for the top quintile, but in relative terms they were largest for the bottom quartiles.

Figure 4.12: Participation rates by income quintile (1994-2008)



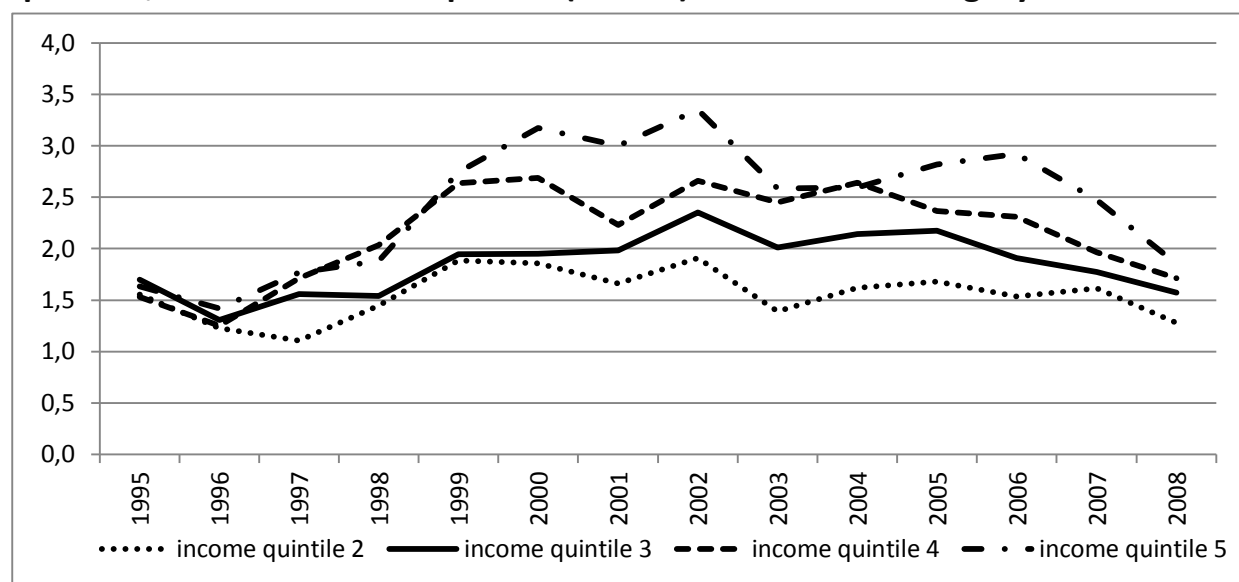
Note: Quintile 1= lowest income, quintile 5= highest income.

Source: Herbst and Rok, 2011.

Herbst and Rok also performed a logistic regression on their household survey data (Figure 4.13), to show how the odds of attending for the top 4 income quintiles change vis-a-vis the bottom quintile. This requires a bit of interpretation. A rising line does not necessarily mean rising participation – it means rising likelihood of participation *relative to youth from poorest quintile*. This could occur either because the subject group participation is rising faster than the reference group, or because the participation of the reference group is falling. Similarly, a falling line only means a declining likelihood of participation relative to the reference group; it could either mean that the subject group has a lower likelihood of participation or that the reference group's participation rates is simply rising more quickly than that of the subject group.

With that in mind, what Figure 4.13 shows is that participation gaps on the basis of income widened significantly between 1995 and 2002. Recall from our earlier discussions that this was precisely the period when tuition at public institutions was falling. From about 2003 to 2008, a period when tuition was rising at public and private institutions alike, the gaps began to close again, though naturally there remained a significant difference between participation rates of the top and bottom quintiles.

Figure 4.13: Odds of participation in higher education for different income quintiles, with first income quintile (lowest) as reference category



Note: Estimated through logistic regression. First quintile (lowest) is the reference category.

Source: Herbst & Rok (2011).

4.4 Completion Rates

There does not appear to be any empirical data on this question in Poland.

4.5 Evaluation

Our evaluation here consists of answering four separate sets of questions.

First, how have increases in private funding changed costs to students? The answer for our period is that there were very few changes in costs per students. Fees fell and then rose again, but in 2010, net costs in both the public and private university sector were more or less what they were in 1994. This was mostly due to deliberate policy decisions of public universities (which chose to let tuitions fall when demand was high) and the government (which chose to expand grants, in particular to students at private institutions). The second question here is: what effect does an increase in private funding have on participation rates? The answer here is unclear. We can say with certainty that the presence of fees did not dissuade Poles from attending higher education in unprecedented numbers. We also know that enrolment in private higher education increased most strongly during a period when net costs to students were rising fairly rapidly; conversely, enrolments in the private sector fell during a period when net costs were actually falling (though sticker prices were rising). It would therefore be difficult to argue that tuition fees

had a significant impact on access, though one cannot rule out that results might have been better in their absence.

A third question is “how have changes in private funding affected the composition of the student body”? Again, part of the challenge lies in the ambiguous nature of the trends in private funding in Poland. One interesting piece of data is that the participation gap between rich and poor was at its widest when education in public universities was at its cheapest, and began falling once tuition started to rise. It is unclear why any of this should have happened, and of course, the finding is correlation, not causation. However, it would be difficult to argue on the basis of the Polish experience that increases in gross tuition fees are incompatible with improved equity of access to higher education.

In summary, tuition rose throughout our period in private higher education, but in public education it fell for a long period of time in real terms before rising again and returning to roughly its original levels by 2010. Regardless of the different cost approaches, enrolments boomed in both sectors. The drop in part-time students towards the end of the last decade appears to be due more to demographic factors and the end of ‘deferred demand’ than to any cost factors.

5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study. Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

5.1 Student Study Patterns

As we saw in Figure 3.5, over half of the Polish student body studies in a non-traditional manner – either part-time or on weekends. And this is despite the fact that this is the more expensive way to study. This might suggest that students are extremely cost-insensitive, and are prepared to pay more for convenience

Now it is worth considering that because of demographic factors and the Polish examination system, students do not always have much choice about their study mode. Students in the 'deferred demand' category in most cases have jobs they cannot leave and hence study on evenings and weekends. Traditional-aged students in part-time studies are for the most part those who did not get sufficiently high marks on their maturity examinations.

In short, there is not a great deal of choice involved in the mode of study in which students end up engaged in. It would therefore be difficult to conclude very much about the effects of fees on study patterns other than to note simply that higher costs do not seem to put people off non-traditional forms of study.

5.2 Location of Study

This is a difficult question to answer in Poland as there is little systemic data collection on this topic. What is clear, though, is that the creation of a private university sector allowed universities to open in more remote parts of the country and thus open up access to students who would not otherwise have been able to attend.

5.3 Field of Study

As we noted back in Section 3 (see Figure 3.1), there does appear to have been a significant change in enrolment patterns in Polish higher education. Specifically, the expansion appears to have been in lower-cost disciplines in business and the social sciences. That would tend to lead one to believe that the enrolment changes are supply-driven, rather than demand-driven, as it would be if the expansion were in areas with the highest returns to education. We cannot be absolutely certain this is the case as we do not have solid data on graduate earnings by discipline, for Poland.

5.4 Time-to-Completion

There does not appear to be any data on time-to-completion for Poland. We are unable to examine this question.

5.5 Evaluation

Hypothesis D suggested that rather than having an absolute effect on the level of participation, the liquidity issues that stem from increased tuition levels 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. Specifically, four sub-hypotheses about the potential impact of higher tuition were examined:

First, with respect to ‘how’ students study, it was hypothesised that increases in private funding might lead to changes in study mode (part-time versus full-time study) and delays in entry. However, given that the number of ‘free’ places is fixed and that a large portion of students in our period were older, ‘deferred demand’ students who could only study part-time due to work commitments, it is difficult to say much about ‘choice’.

Second, with respect to whether increases in private funding have affected students’ choice of study location either in terms of where within a country a student chooses to study or whether it has affected plans to study internationally, there are little to no data available to look at this question. We do know that the establishment of many small private universities in more remote areas were only made possible by the arrival of a cost-sharing system, so it seems likely that a greater fraction of students now live at home than they previously did.

Third, with respect to whether increases in tuition have affected what students study, as we noted earlier, there have been changes in the degree profile, but it is unclear whether these changes were supply-driven or demand-driven.

Fourth, with respect to increases in fees making students more efficient and taking less time to complete their education, there is no data available on which to test this proposition.

In sum, because of data limitations, it is difficult to conclude very much about the effects of cost-sharing on choice. On one specific point (mode of study), it should be noted that the structure of the higher education system itself renders the concept of choice somewhat hypothetical.

6. CONCLUSION

The study of Poland divides itself roughly into two periods. Prior to 2004, all forms of funding of higher education were rising in aggregate terms (though individual tuition fees in public institutions were declining on an average basis). During this period, all types of enrolment – public, private, full-time and part-time were all increasing. After 2004, both aggregate public and private funding started to erode in real terms (though individual tuition fees were rising on an average basis). During this period, part-time enrolments began to fall in both public and private universities.

With respect to Hypothesis A, it can be confirmed that cost-sharing most certainly increased total funding. During the period when private contribution were rising, public contributions also rose; when public contributions began to decline, so too did private ones. There was no substitution effect at work at any point in our period.

With respect to Hypothesis B, it can be said with some confidence that some institutional strategies changed to maximise revenue from private sources. Certainly, legislation permitting a non-state higher education sector allowed enormous numbers of new institutions to thrive, all of which had income-maximising goals. Public institutions took to the revenue-raising game as well, establishing vast new part-time programmes for the purpose of raising revenue. There are, however, some signs of satisficing behaviour among public institutions. They did not always maximise revenue; in fact, they allowed tuition to diminish in constant prices even as demand for part-time studies was rising sharply in the late 1990s, and they only chose to pursue funds from international students once the domestic part-time market began to soften.

With respect to Hypothesis C, the picture is somewhat mixed. Tuition rose throughout our period in private higher education (though its net price fell somewhat after the government's 2001 decision to provide assistance to students at private universities), but in public education it fell for a long period of time in real terms before rising again and returning to roughly its original levels by 2010. Regardless of the different cost approaches, enrolments boomed in both sectors. Towards the end of the last decade there was a fall-off in enrolments, but this seems likelier to be due to demographic factors and the end of 'deferred demand' than to cost factors; among young Poles, participation rates have remained quite solid in the past few years.

Finally, with respect to Hypothesis D, data are extremely limited and so few solid conclusions can be drawn. It is noted, however, that there are some significant limits on student choice in Poland due to the way places in full-time study are allocated.

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PORTUGAL

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1. INTRODUCTION

1.1 Overview of Higher Education in Portugal

Portugal has a population of 10.5 million people and currently roughly 400,000 enrolled students. The Portuguese higher education system is binary in nature, divided into university and polytechnic streams, with each subsystem containing public and private institutions. At present there are 160 higher education institutions (HEIs) - of which fourteen are public universities (plus five ‘university level institutions’ such as the Military and Naval universities which are government-run but not generally considered part of the system of public universities), and 31 are public polytechnic institutes.

Table 1.1: Categorisation of Portuguese HEIs, 2006

	University	Polytechnic
Public	19	31
Private	48	62
Total	67	93

Source: OECD.

Within this binary system a further distinction exists between specialised HEIs (often with a single educational focus, such as police or military institutes), and larger, multi-focused, more comprehensive institutions.

Access to these public institutions of higher education is subject to *numerus clausus* (‘restricted numbers’), and thus Portuguese students must compete for a predetermined number of openings. Students who wish to apply must possess a secondary school diploma, and must have achieved a certain score on subject-specific exams (though a certain number of admission spots are held for students who are over 23 years old and do not meet the aforementioned criteria).

The degree granting structure of Portuguese higher education has shifted over the past decade. Prior to 2006, universities alone were permitted to conduct fundamental research, as well as research and development, and only these institutions were permitted to award Master degrees. In 2007, however, the Portuguese government passed new legislation (Law No. 62/2007), based on the Bologna Process, which allowed any institution – university or polytechnic – to award both *licenciatura* (first cycle) as well as Master degrees. Doctoral degrees, however, can only be conferred by universities. Additionally, since the passage of this law, several polytechnics have established units of research and development.

Administration and coordination of the Portuguese higher education system is the responsibility of the *Ministério da Ciência, Tecnologia e Ensino Superior* (Ministry of Science, Technology

and Higher Education), established in 1995, and providing for a certain degree of connectivity between the systems of university and polytechnic. Articulating their position in 2008, the Ministry released the Framework for Higher Education Qualifications (FHEQ), which following the Bologna Process, offered a structural outline within which to promote tertiary educational standards – providing points of reference for setting academic standards, assisting with outlining progression routes, and promoting understanding of academic expectations.

Within this FHEQ outline, there exist varying levels of autonomy and government oversight into higher education depending on the educational stream: university vs. polytechnic, public vs. private. Public universities enjoy a high, and codified, level of autonomy (pedagogical, scientific, and financial), sanctioned both by the Constitution, and the University Autonomy Act of 1988 – which also transferred physical plant ownership to the universities themselves. Here, the government has taken a hands-off approach, allowing public universities full autonomy in the creation and delivery of all degree programmes – though they still register with the *Direcção-Geral do Ensino Superior* (State Agency for Higher Education – DGES). Public polytechnics, comparatively, have less autonomy. Although consolidated by the 1986 Comprehensive Law of the Educational System, public polytechnics do not own their buildings, cannot change the staffing scales, and do not possess full pedagogic autonomy. The creation of degree programmes by public polytechnics is regulated by, and requires approval from, the government. Further, public polytechnics are not allowed to create, suspend or cancel programmes without submitting proposals for government approval. Private institutions, as well, find themselves subject to close government oversight. The Private Higher Education Act contains no reference to external participation in academic government bodies, meaning that institutional decisions are often left to the discretion of the founder, and vary greatly between institutions. The complex, ambiguous, provisions on physical assets also frequently prevent private institutions from autonomous control of their assets. Here, the government must approve both the creation of private institutions, as well as the delivery of all degree programmes.

1.2 Key Higher Education Stakeholders

Although the Ministry of Science, Technology and Higher Education is the key body with respect to Portuguese higher education, a number of agencies and groups also exist as key stakeholders.

In general, any laws passed by Parliament concerning higher education are subject to a systematic process of consultation and debate, bringing together a variety of groups, such as the National Education Council, the Council of Portuguese University Rectors (*Conselho de Reitores das Universidades Portuguesas* – CRUP), the Portuguese Polytechnics Coordinating Council (*Conselho Coordenador dos Institutos Superiores Politécnicos* – CCISP), and the Portuguese Association of Private Higher Education (*Associação Portuguesa do Ensino Superior Privado* – APESP).

At the institutional level, each Portuguese university and polytechnic possesses a student union, which is designed to promote and defend the students' position, and deals both with institutions

as well as State-level policy discussions. The largest and most vocal Portuguese student union is the Association of Students of Higher Technical Institutions (*Associação dos Estudantes do Instituto Superior Técnico* – AEIST), while the longest-serving student union is the Coimbra Academic Association (*Associação Académica de Coimbra* –founded in 1887). Beyond these student unions present at policy negotiations, the government also enlists input from a variety of expert educational consultants.

1.3 How Governments Fund Institutions

Historically, the Portuguese government has heavily subsidised its public higher education system. With respect to the funding structure, the state's higher education budget includes three funding envelopes: for teaching (salaries and other expenses), for research and development, and for capital expenditures. Originally developed in 1986, funding for teaching is based on a formula that, for several decades, relied predominantly on inputs. Beginning in 2006, however, the Portuguese government altered the Teaching funding formula to include performance measures of institutional quality and efficiency. Currently, the expanded teaching budget formula accounts for measures of 'qualification of teaching staff' (measured by the "portion of PhDs out of the total number of teachers of each institution"), graduation rates, and various other institutional characteristics. The new formula does not calculate absolute budget values, but rather allocates a financial ceiling thus avoiding hard cuts to a calculated value.

Research funding for Science and Technology is allocated through a combination of core funding and a competitive system wherein monies are provided for individual projects via scholarships or prizes. Capital funding is dependent on Ministry approval and the Ministry sanctioning an institution's development plan. Beyond these funding envelopes, the Portuguese government also provides direct and indirect funding to students, through loans, grants and scholarships, and accommodation allowances.

1.4 History of Cost-Sharing

The development of cost-sharing measures in Portuguese higher education is linked to the growth of Portugal's higher education sector, writ large. Into to the mid-1970s, Portugal had one of the lowest higher education enrolment rates in the industrialised world. Over the next several decades, however, the higher education sector expanded rapidly, with enrolments growing by 357% between the 1980s and 2000s. This rapid expansion involved a substantial government investment; in the first ten years of this rapid growth (1980-1990), higher education management budgets grew by 877%.

Prior to the 1990s, universities in Portugal did not charge significant fees (though a mainly symbolic charge of about 5 euros existed), and were funded almost entirely from public sources. However, during the mid-1980s, Portuguese politicians began advocating an increased private sector role in higher education, seeing tuition fees as an opportunity to allow continued expansion of enrolment, at minimal public cost. Subsequently, the introduction of tuition fees in

1992, reaffirmed in 1994, saw students and families begin to pay a proportion of the costs of education.

The introduction of fees in 1992 was meant to assist in expanding institutional capacity following a decade in which student numbers increased dramatically. The law was written in such a way that fees were initially to equal 12.5% of the overall budget, a figure which would increase in stages until it reached 25%. In 1996, the socialist government which had been elected the previous year suspended the tuition law, which led to fees in public universities returning to their previous nominal levels (roughly 6 euros per year) for one year. The following year, it introduced a law which tied fees to the monthly minimum wage (at the time, about 283 euros). In 2003, the current system of maxima and minima was introduced – the minimum fee is 1.3 times the minimum monthly wage and the maximum fee is inflation-linked to the level of tuition set in a law dating from 1941.

Since the passage of this 2003 tuition law, institutions' tuition fees have been expressed in terms of minimum and maximum fees. In 2008, the lowest tuition fee was 524 euros per year, while the highest was 950 euros. This tuition figure has continued to increase, and, naturally, institutions have tended to prefer charging the maximum amount, thus generating more income. As of 2010, the average tuition fee at Portuguese public HEIs was approximately 950-1,250 euros, but there is no official enrolment-weighted 'average' tuition. The situation is slightly different at *private* higher education institutions. There, tuition fees vary greatly from university to university, and are paid on a monthly basis.

Overall, changes in tuition fees have shifted the ratio of public and private funding for higher education. In 1995, for instance, nearly 99% of educational funding came from public sources; one decade later the percentage of public institution funding has shifted, with public sources comprising roughly 70% of funding, and private sources contributing the remaining 30%.

On the public side of the cost-sharing balance, the government provides both direct and indirect mechanisms to support students at public and private institutions. For nearly 25% of students who meet needs-based criteria, the government provides means-tested grants for living expenses and tuition fees (2008 data demonstrate that grants can range from 40 euros to 400 euros per month. The government also provides 'needy' students with financial provisions for lodging and subsidised food.

In 2007, the Portuguese government also instituted a student loan system. Aimed to benefit all higher education students, the loans range from 1,000 euros to 5,000 euros per year, with a maximum of 25,000 euros, at a fixed interest rate determined by the Euro Interest Rate Swap, plus a maximum spread of 1% - though this can be reduced if a student gets high marks; by 0.35% for students who attain a yearly average of 70%, and by 0.8% if students attain a yearly average of 80% or better.

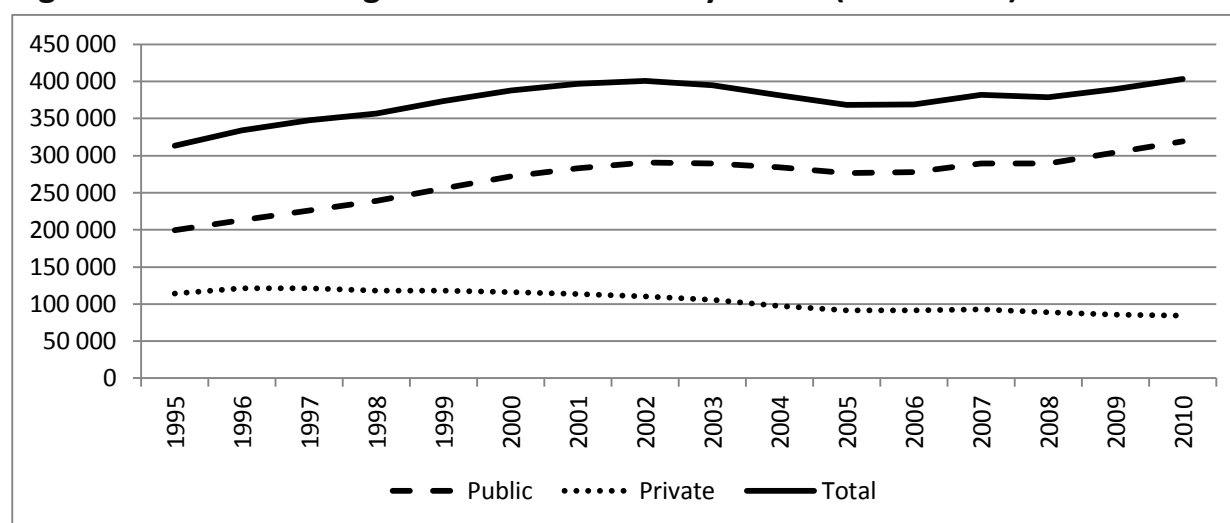
Students are responsible for repaying the loan principal within ten years of graduation, plus a grace period of one year. Banks provide loans, and are required to acquire shares in one of three mutual guarantee companies in an amount that is equal to 0.5% of the total loan guarantee, in

return for the guarantee that the company provides. For their part, the government guarantees 10% of the bank loan value.

With respect to usage, by May 2008, more than 3,000 loans (with a total value of 33.7 million euros) had been contracted, with 60% of users at public institutions, and 40% at private institutions. This, however, represents less than 1% of students eligible to receive these educational loans. The Portuguese government is hoping to increase the number of students taking loans per year to 25%. At the same time, the government has considered the idea of altering the current (conventional) loan system, for a new, 'hybrid' student loan structure, as the country's (and world's) economic circumstances hints towards future critical periods, with graduates potentially taking longer to become economically active, with potentially longer periods of unemployment.

1.5 History of Enrolment

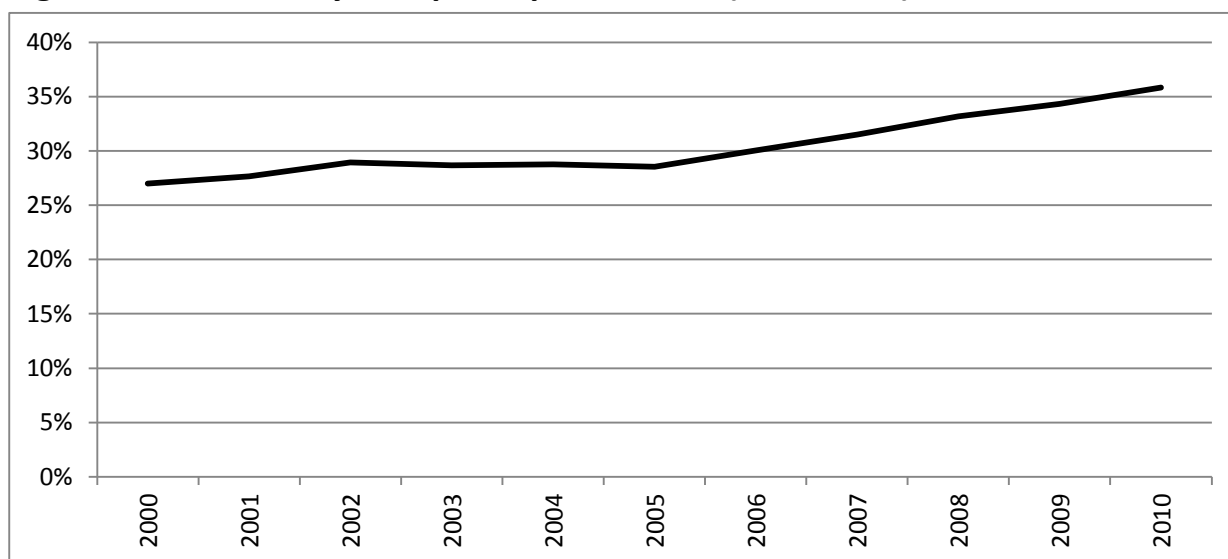
As noted earlier, the big jump in higher education enrolments really occurred in the 1980s, before the period under consideration in this study. By 1995, enrolments overall were at roughly 310,000 students, with just over 36% of students enrolled in private institutions. Over the next six years, enrolments in public institutions rose by nearly 50% to 290,000 (two-thirds of this growth was in the polytechnic sector), while private institutions saw their enrolments stay relatively constant between 110,000 and 120,000 (see Figure 1.1). Overall, enrolments touched 400,000 in 2001. However, from 2001 to 2006 a very different situation occurred, with enrolments in both sectors falling (by 5% in the public sector and 18% in the private sector) – resulting in an overall drop in enrolment of approximately 8%. It was at this point that the government intervened to allow adult students (i.e. over 23) to access undergraduate studies, and this in part accounted for the upswing in enrolments that followed, as overall enrolments regained the 400,000 level. However, the recovery occurred entirely in public institutions, as private institutions continued to lose enrolments through the period. By 2010, only 22% of enrolments were in private universities.

Figure 1.1: Total undergraduate enrolment by sector (1995-2010)

Source: Direção-geral de Estatísticas da Educação e Ciência.

Figure 1.2 shows the participation rates for the ‘best four years’ (that is, the four age-years with the highest participation rates, which in Portugal is 19-22). This shows quite a different picture from Figure 1.1. Instead of a decline in the early 2000s, we see a more-or-less straight line, indicating that participation rates – as distinct from enrolments- never went through a decline in the early 2000s. The decline in enrolments was thus mainly a demographic issue, a result of stable participation rates and a declining youth cohort. After 2005, cohort sizes continued to decrease, but participation rates began to increase (and indeed, the size of the increase suggests that the 2006 decision to begin admitting students over 23 was not the main reason for the reversal in student numbers).

Figure1.2: 'Best four years' participation rates (1995-2010)



Note: Rates are for the four age years when entry is highest: 19 to 22.

Source: Direção-geral de Estatísticas da Educação e Ciência, Instituto Nacional de Estatística, own calculations.

2. HYPOTHESIS A: AS PRIVATE FUNDING INCREASES, INSTITUTIONAL REVENUE INCREASES

This chapter looks at data relevant to Hypothesis A, which states that as private funding increases, institutional revenue increases, but only if public funding remains constant. That means that it will examine whether:

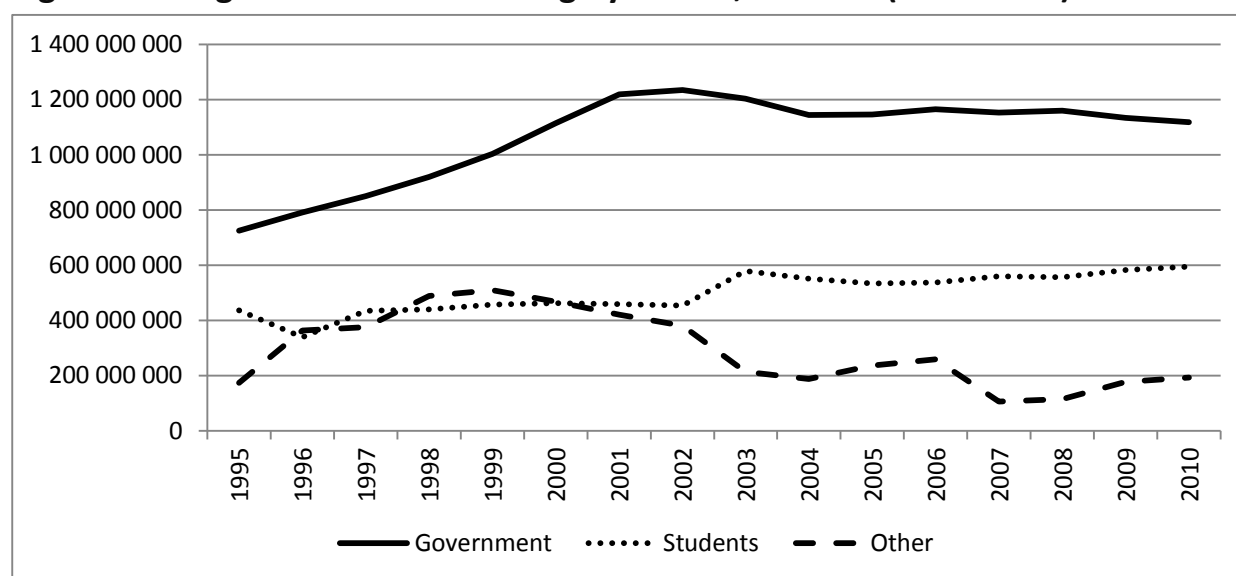
- there has been an increase in private funding
- there has been a concurrent change to public funding
- there has been a total increase in funding and how this is related to changes in private and public revenues.

Changes in institutional funding will be considered both in terms of total institutional revenue and relative to the number of students.

2.1 Changes in Institutional Revenues over Time

The situation with regards to the availability of data on funding of higher education in Portugal is somewhat challenging. The national government does not provide data on the full period of investigation of this study. There are merely two different data series on public sources of funding which, though not completely comparable, nevertheless appear to tell roughly the same story. For private institutions, which are mostly financed through tuition fees, estimates of average tuition fees can be multiplied by their enrolments. However, estimates of tuition fees are themselves mostly imputed because the government does not collect statistics on private tuition and there are only three observations developed by independent researchers (for 1995, 2005 and 2010). The following section is based on a dataset created on the basis of the above mentioned sources. The dataset has been cross-referenced with data Portugal provides to the OECD (which is less complete than this dataset) and the two essentially correspond with one another; however, the reliability of this finance dataset is limited and does not match the quality of data in the other papers in this series. Readers should keep this caveat regarding data quality in mind.

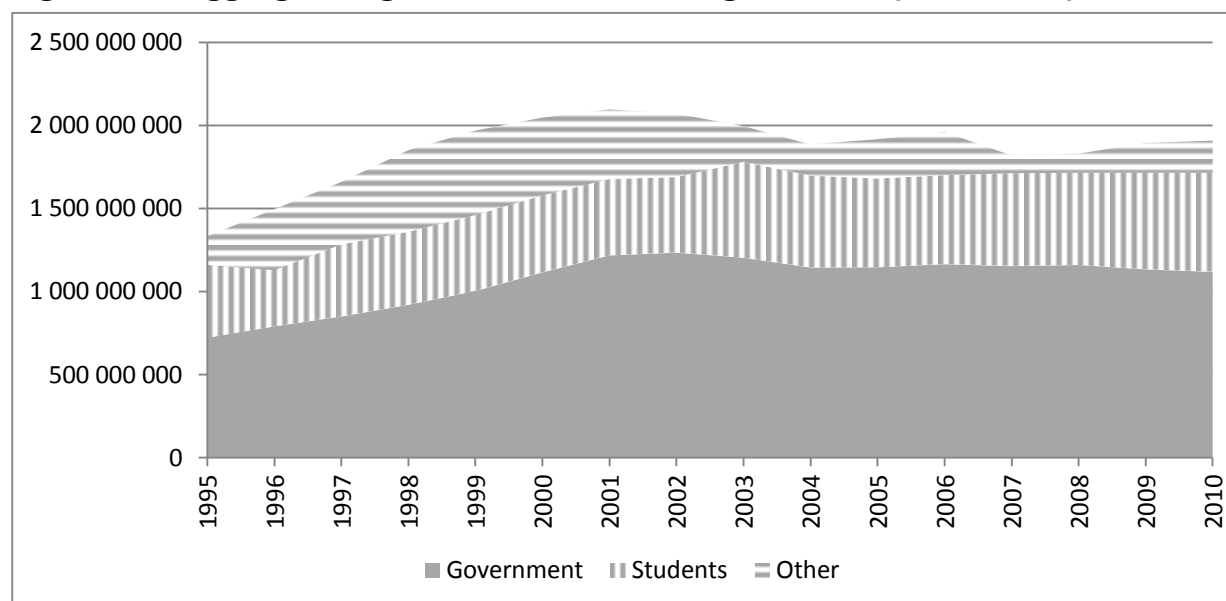
Figure 2.1 shows the evolution of funding by source, in real 2011 euros. Income from students has been relatively flat over the period in question. This is because increases in tuition fees and increases in the number of students have both been relatively mild, and have been offset to some extent by students switching from expensive private institutions to less expensive public ones. Public funding increased significantly – by nearly 70% - in the period from 1995 to 2001, but has remained stagnant in real terms since then. ‘Other’ income fell significantly in the early 2000s – it is unclear why this might be the case (though a change in accounting procedure with respect to accounting classifications is possible – some of the ‘other’ revenue may in fact have been income from government).

Figure 2.1: Higher education funding by source, in euros (1995-2010)

Note: Constant prices (2011).

Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, own calculations.

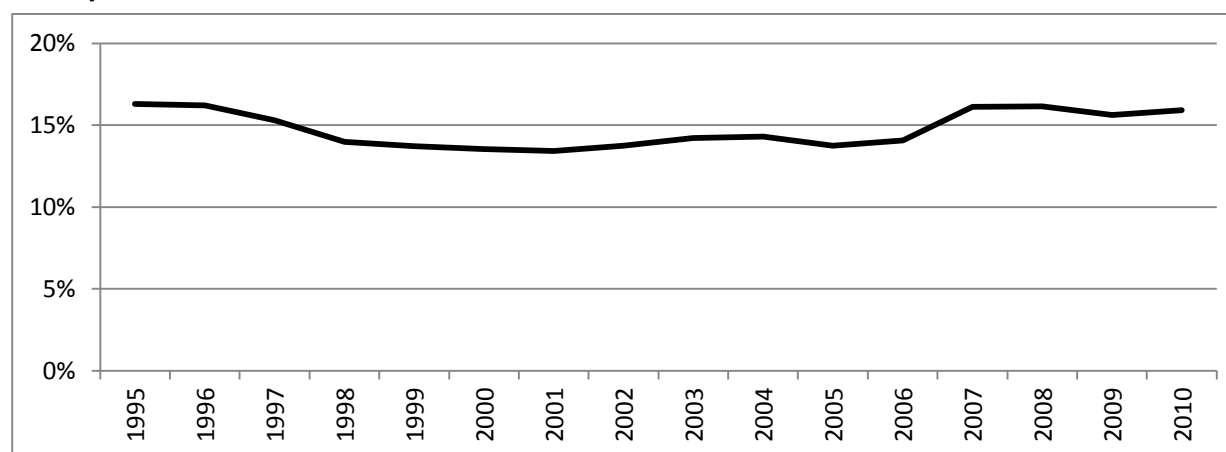
Figure 2.2 aggregates the individual spending levels into a single graph. In real terms, funding hit a peak of a little over 2 billion euros per year in 2001. The major shift in funding between 1995 and 2005 was the increase in the percentage of funding which came directly from government; this rose from about 54% to 60%. The student share started at 32% in 1995, but fell to 22% the following year due to the temporary, one-year elimination of tuition at public institutions. Since then, the student share has very gradually risen to its former levels, and in 2010 stood at 31%.

Figure 2.2: Aggregate higher education funding, in euros (1995-2010)

Note: Constant prices (2011).

Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, own calculations.

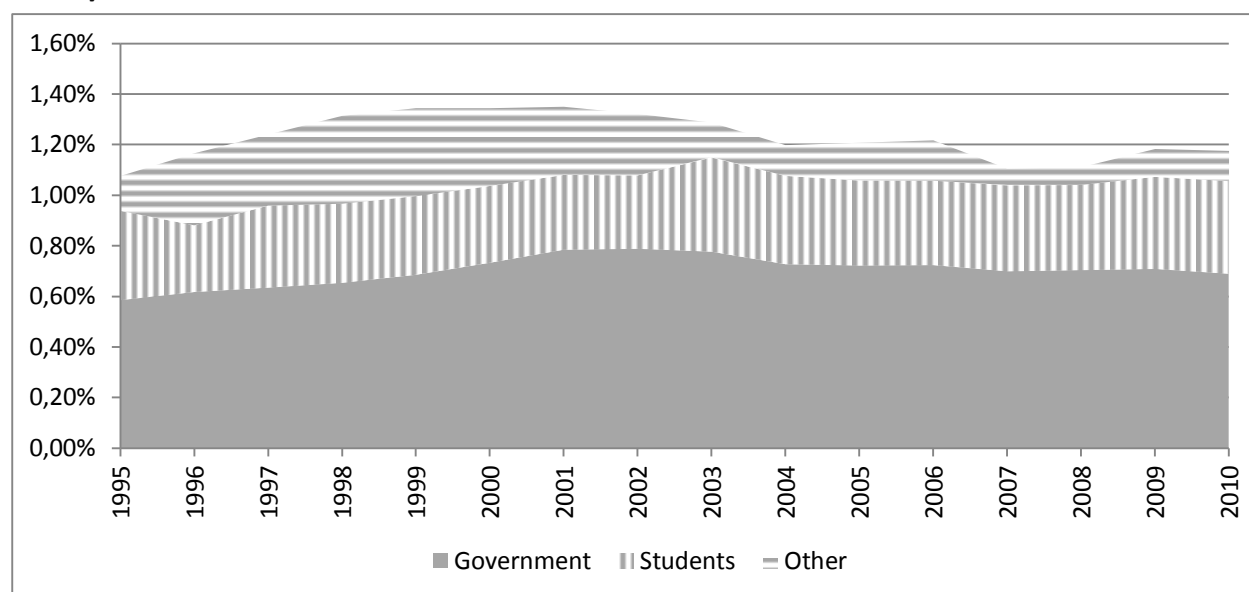
Private universities are funded almost entirely through tuition fees (in fact, many do generate some income through other activities, but no data are available on this). Though their enrolments are down, tuition has risen to compensate, as shown in Figure 2.3. As a result, the total income of private universities in 2010 was equal to 16% of the entire higher education budget – roughly what it was in 1995.

Figure 2.3: Income of private HEIs as a percentage of total HEI income (1995-2010)

Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, own calculations.

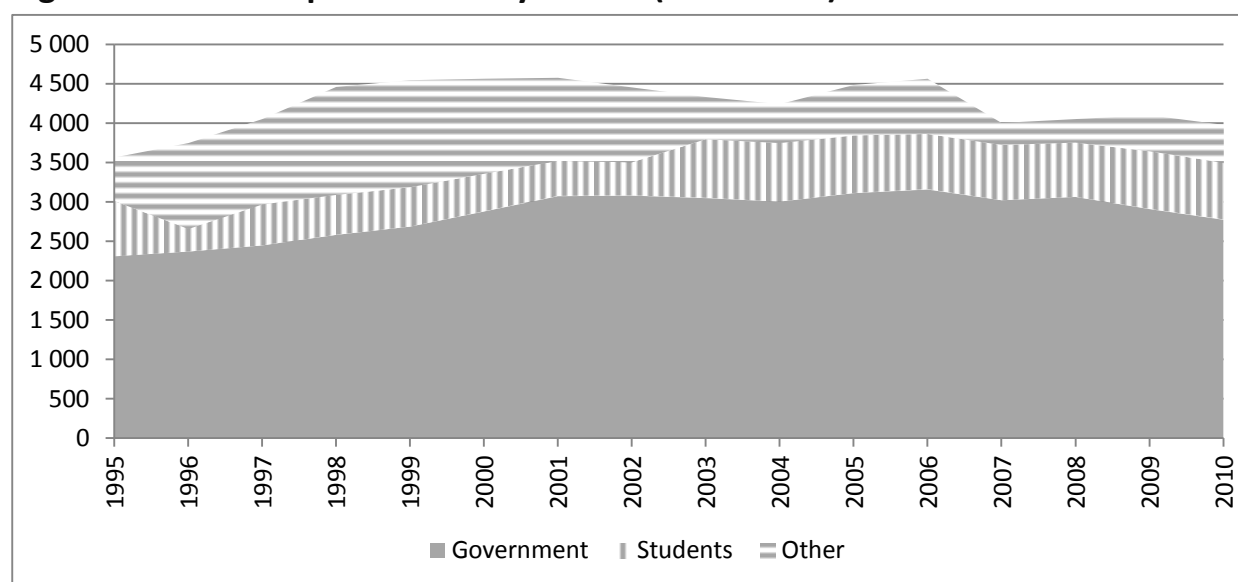
Figure 2.4 shows the same data in a slightly different way, by displaying university funding by source as a percentage of Gross Domestic Product (GDP). This graph looks somewhat different than Figure 2.2, which looked just at real revenue. Specifically, the growth in the period 1995-2001 turns out to have been driven largely by increases in GDP. Taking economic growth into account, there was very little growth in higher education expenditure over our period; indeed, the stagnation in real funding means that funding as a percentage of GDP has been eroding slowly for almost a decade.

Figure 2.4: Higher education funding by source as a percentage of GDP (1995-2010)



Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, own calculations.

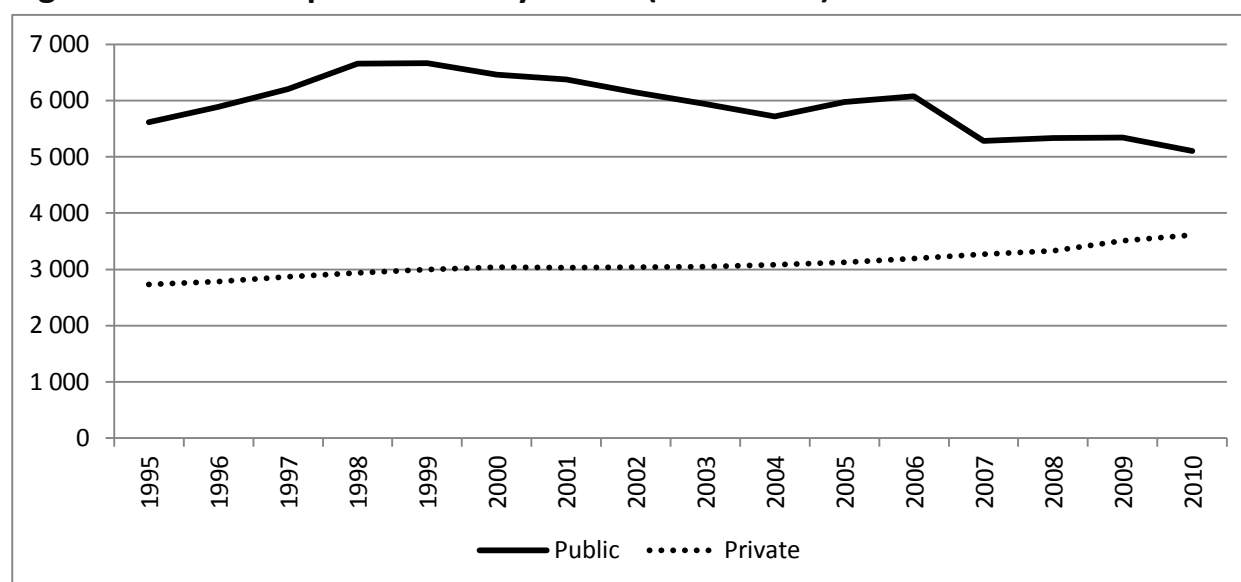
Finally, we can look at revenue per student. Figure 2.5 tells a story not dissimilar to that in 2.4 – a rise before 2001, followed by slow erosion thereafter. Peak government spending per student was in 2006; the enrolment surge since then has outstripped the government's ability (or willingness) to pay. Income-per-student increased significantly after the 2003 policy changes, but has remained constant since then.

Figure 2.5: Income per student by source (1995-2010)

Note: Constant prices (2011).

Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, own calculations.

Figure 2.6 disaggregates the data in Figure 5.5 to show how funding-per-student has evolved in the public and private sectors. Even though enrolment fell at private institutions, the fact that tuition was rising meant that per-student income was rising. Meanwhile, because government and ‘other’ income were falling at public institutions, their per-student income was falling from as early as 1998. The long-term trend is therefore for per-student funding in the two sectors to converge. In 1995, per-student funding in the private sector was less than 50% that in the public sector; but by 2010 that figure had risen to just over 70%.

Figure 2.6: Income per student by sector (1995-2010)

Note: Constant prices (2011).

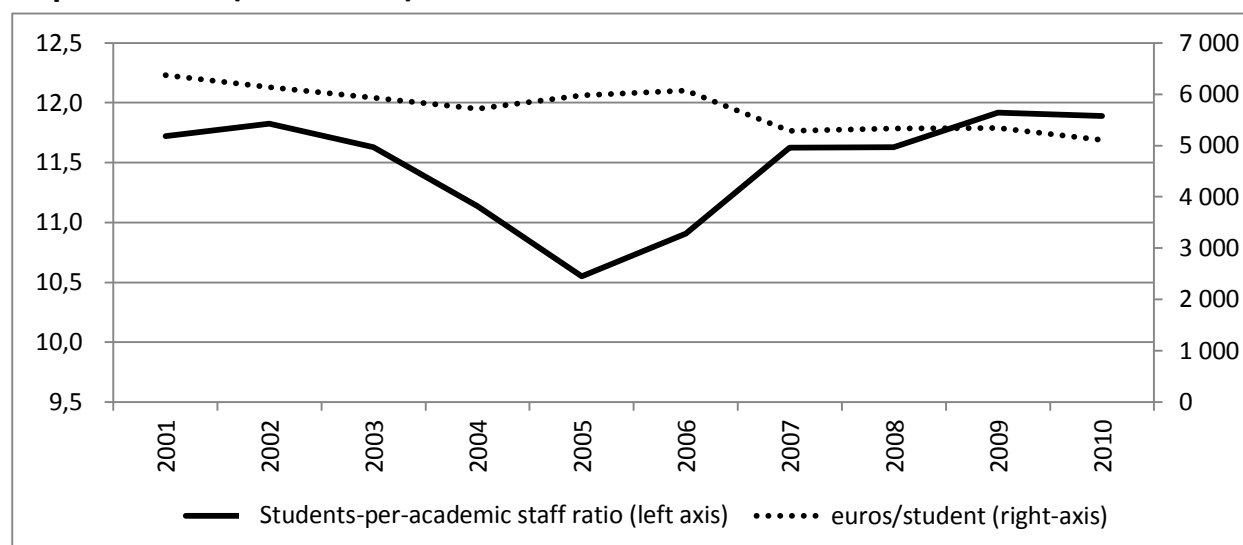
Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, own calculations.

2.2 Institutional Expenditures

The previous section showed that institutional income first rose and then stagnated during the period under review. This section explores how that revenue was used.

Unfortunately, there is not much in the way of available data on spending in Portuguese universities. What can be done, however, is plotting changes in students-per-academic staff ratios, which provides a rough indication of the kinds of changes in study conditions facing students. Figure 2.7 shows income-per-student and students-per-academic staff ratios at public institutions from 2001-2010, a period when per-student funding was dropping consistently. Rather remarkably, even though per-student funding in public institutions dropped by a full 20%, the students-per-academic staff ratio in 2010 was essentially the same as it was in 2001, at a little under 12:1. This implies either that academic staff's pay lagged badly in this period, or that institutions cut back significantly on non-instructional expenditures in this period.

Figure 2.7: Income per student (in euros) and students-per-academic staff ratios at public HEIs (2001-2010)

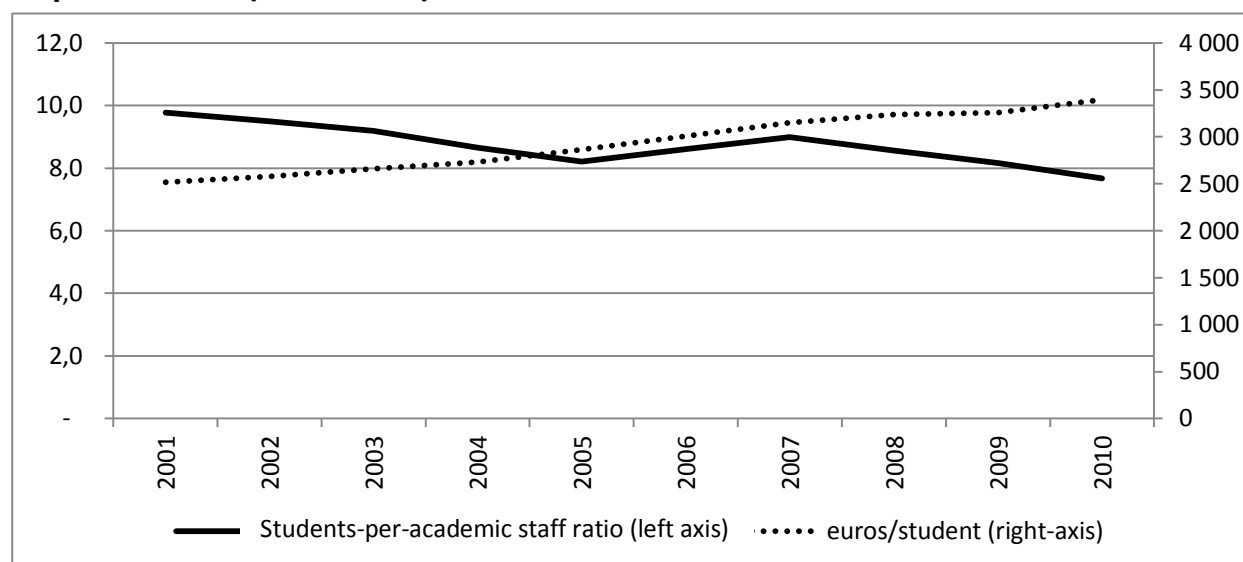


Note: Constant prices (2011).

Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, author's calculations.

Figure 2.8 shows the same data for private universities. Of interest here is that private universities are able to maintain students-per-academic staff ratios below those of public institutions even with considerably less funding per student (presumably because the programmes they offer are less capital-intensive). The fall in the students-per-staff ratio was caused entirely by a fall in the number of students rather than an increase in the number of academic staff.

Figure 2.8: Income per student (in euros) and students-per-academic staff ratios at private HEIs (2001-2010)



Note: Constant prices (2011).

Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, own calculations.

2.3 Evaluation

This section posed two questions at the outset: “Did cost-sharing increase total funding?” and “How was additional income spent”? The answer to the first question is somewhat indeterminate. Though it is slightly outside our period of study, the introduction of tuition fees was clearly meant to be an additional element in public university funding, helping to pay for the expansion of university access. One might argue that the long-term stagnation of public funding after 2001 (or, indeed, the decline in per-student spending after 1998) should be interpreted as a delayed reaction to the introduction of fees – that is, that the introduction of fees in 1992 paved the way for later declines in public spending. But then again, government’s refusal to countenance real increases in tuition after 2003 suggests that there is in fact a limited interest in burden-shifting. Thus, the answer to this question is that fees did indeed increase total funding, but not by very much.

As for the question of how extra money was spent, it seems to have been spent on faculty salaries. Overall, student-staff ratios have either stayed constant or improved despite declines in per-student funding, which is in marked contrast to most other countries in this study.

3. HYPOTHESIS B: AS THE INCENTIVES TO EARN PRIVATE FUNDING INCREASE, INSTITUTIONS BECOME MORE RESPONSIVE TO STUDENT DEMAND

This chapter looks at data relevant to Hypothesis B, which states that as incentives to earn private funding increase, institutions become more responsive to user demand. However, this expected effect is conditional on the attractiveness of these private revenues and whether increasing these revenues has trade-off effects for the overall behaviour or prestige of HEIs.

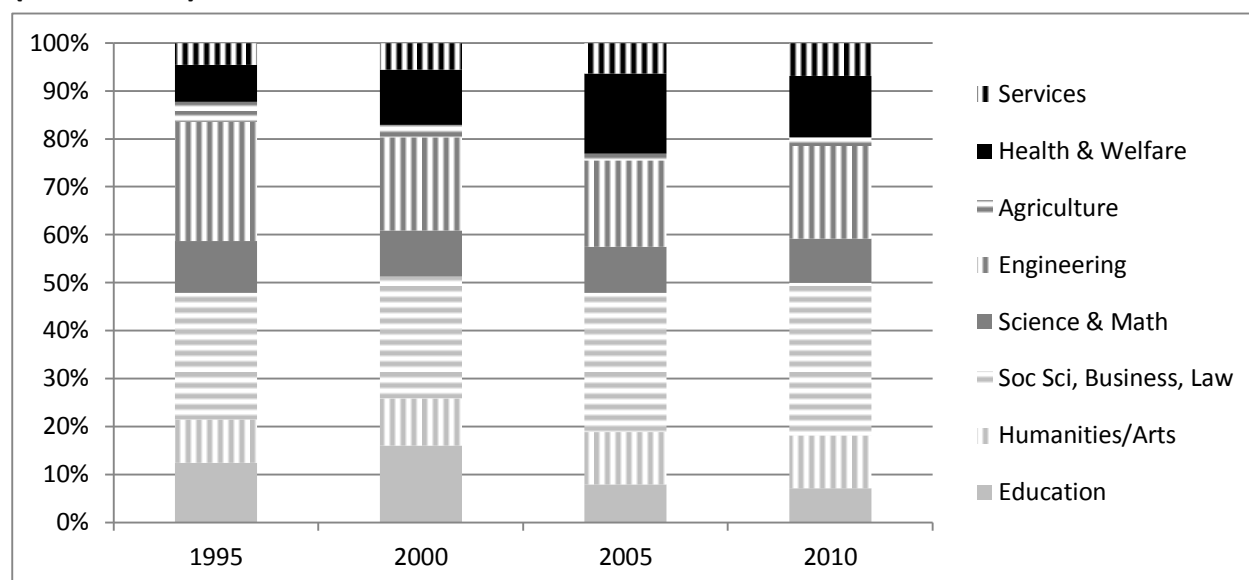
Various aspects of responsiveness will be examined, including changes to provision, enrolment and the connection between HEIs and users. If no changes to responsiveness are visible, this is likely related to the incentive structure present in the higher education system, which might favour other behaviours such as the maximisation of public over private funding.

3.1 Enrolment by Discipline

One hypothesis about the effects of fees is that they make institutions desirous of increasing revenues by focussing on programmes that are popular or lower-cost courses (these tend to be ‘soft’ disciplines, paper and pencil subjects-areas). This may lead to overall changes in the discipline profile of a national higher education system.

Figure 3.1 shows changes in shares of enrolment by field of study at public institutions in Portugal. The most significant shift after 2000 is the drop in the number of students studying in the field of education. The reason for this is demographic; there are simply fewer young people to teach and hence less demand for teachers. Presumably for similar reasons, over the same period there was an increase in the number of students studying in fields related to health and welfare. Apart from that, there was little change.

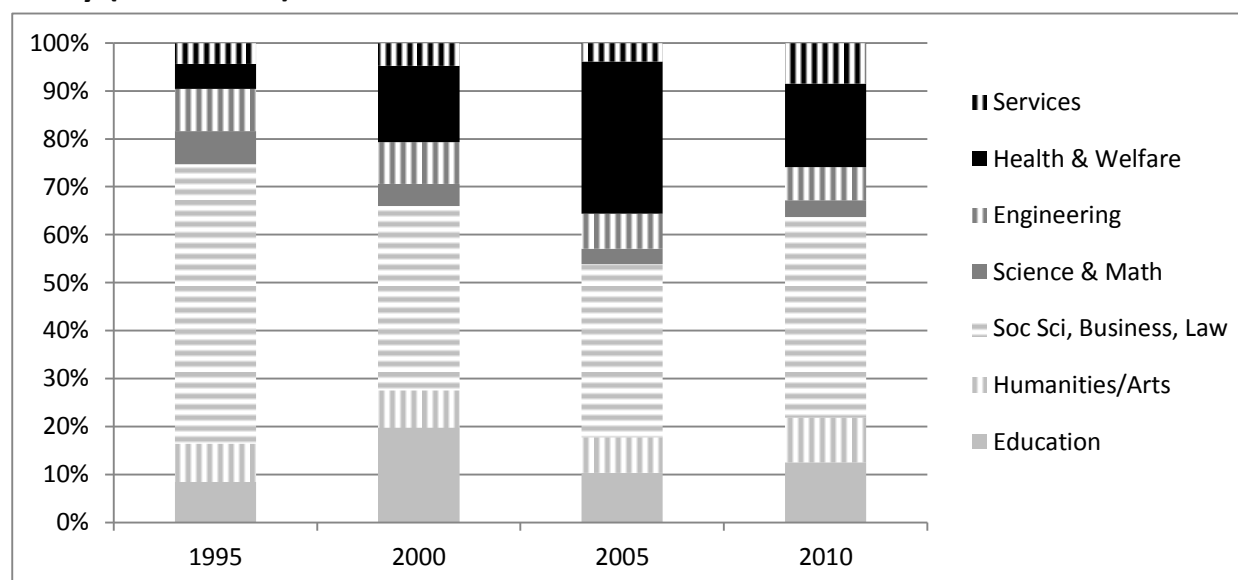
Figure 3.1: Distribution of new enrolments at public universities by field of study (1995-2010)



Source: DGEsup.

The pattern of new enrolments was very similar at private universities, as Figure 3.2 shows. The pattern for education (a bump in 2000, followed by a decline thereafter) and health (large gains after 2000) is precisely what we see in the data for public institutions, which suggest that these fields were generally in demand at those times. What is more striking is how much more important those swings are in the private sector than in the public sector, which suggests a greater degree of flexibility in opening and closing programmes. Social science, business and law programmes, which made up almost 60% of new enrolments in 1995, had shrunk to just over 40% by 2005 – and this, as one will recall from Chapter 1, is on a shrinking base.

Figure 3.2: Distribution of new enrolments at private universities by field of study (1995-2010)



Source: DGE Sup.

3.2 Enrolment Patterns by Mode

In some countries, the fee structure may make it advantageous for institutions to increase the number of part-time students. One hypothesis about the effects of fee-sharing is that it may lead to a shift of students from one mode of study to another.

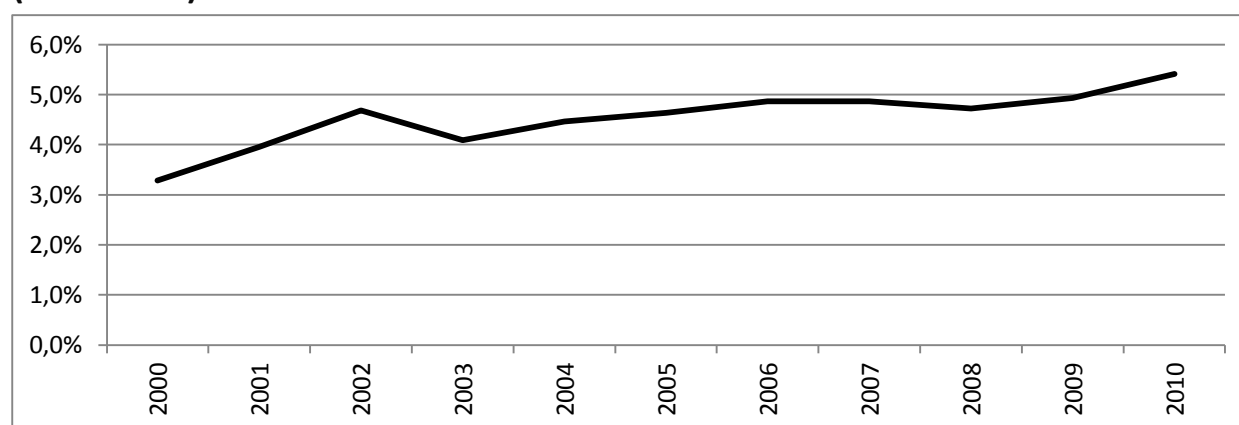
This hypothesis is not testable in Portugal because the country does not report enrolment statistics by full- and part-time. Many professional Master programmes are also held in the evenings in order to accommodate the schedules of working students. It is understood, however, that the post 2005 reforms that permitted over-23 year-olds to enter universities as new students resulted in a class of students who tend to study on a part-time basis. The number of such students does not greatly exceed 10,000 – assuming that all of them were studying in such a manner, that would imply that they compose about 5% of undergraduates. There is thus some reason to suggest here that the lure of tuition money has led to a change in the study mode, though it would be a relatively modest change.

3.3 Enrolment Composition

Another hypothesis about fees is that they will encourage institutions to be more active in selecting students who are associated with higher revenue streams. In many countries, this has led to an increase in the number of international students studying in-country. However, this hypothesis only makes sense if universities can actually earn extra revenue from international

students. In Portugal, no law has been passed to permit universities to charge differential fees to foreign students and so they pay the same fee as domestic students. This is much lamented by university rectors in the country as it has meant that there has been little incentive to chase students, and Brazilian universities have leapt ahead of Portuguese ones in terms of attracting students from places like Angola and Mozambique. As Figure 3.3 shows, international student enrolment has remained relatively marginal over the period in question.

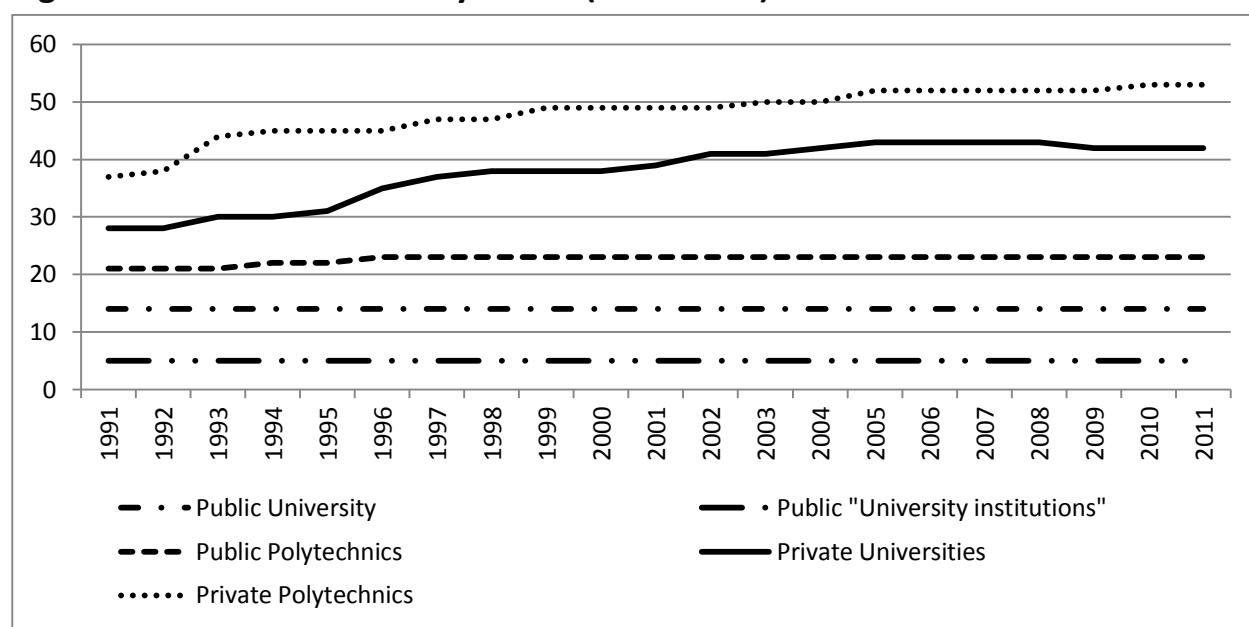
Figure 3.3: International student enrolment as a percentage of total headcount (2000-2010)



Source: DGESup.

3.4 Diversity of Provision

Another way in which cost-sharing can affect institutional behavior is in the way it creates incentives for new universities and new programmes to proliferate and diversify. Figure 3.4 shows the changes in distribution in institutions. No programme-level data were available throughout the period which would allow us to comment on this; though interviewees indicated that in the private universities at least, there is considerable creation and elimination of programmes in line with student demand. Institutional-level data do however exist. The number of public universities and ‘university institutes’ (e.g. military university, naval university) stayed constant during the period in question, while the number of polytechnics rose by two in the early 1990s and then stayed constant. The number of private institutions, surprisingly, rose even as enrolments began to fall in the 1990s, meaning that average institutional enrolment fell enormously during this period. There is no obvious link between these numbers and the levels of fees charged.

Figure 3.4: Number of HEIs by sector (1991-2011)

Source: Direção-geral de Estatísticas da Educação e Ciência.

3.5 Outreach Practices

According to interviews conducted for this study, there was a period in which marketing budgets did increase significantly; namely, the period in the mid-2000s when the demographic change was beginning and enrolments were decreasing. At that time, institutions were seeking market share in face of an overall decline – and, later, market share from a new class of students after the 2006 law allowed over-23s to be allowed to enter universities as adult students. Most observers indicate that this kind of marketing was, however, a casualty of the recent period of Portugal's austerity measures.

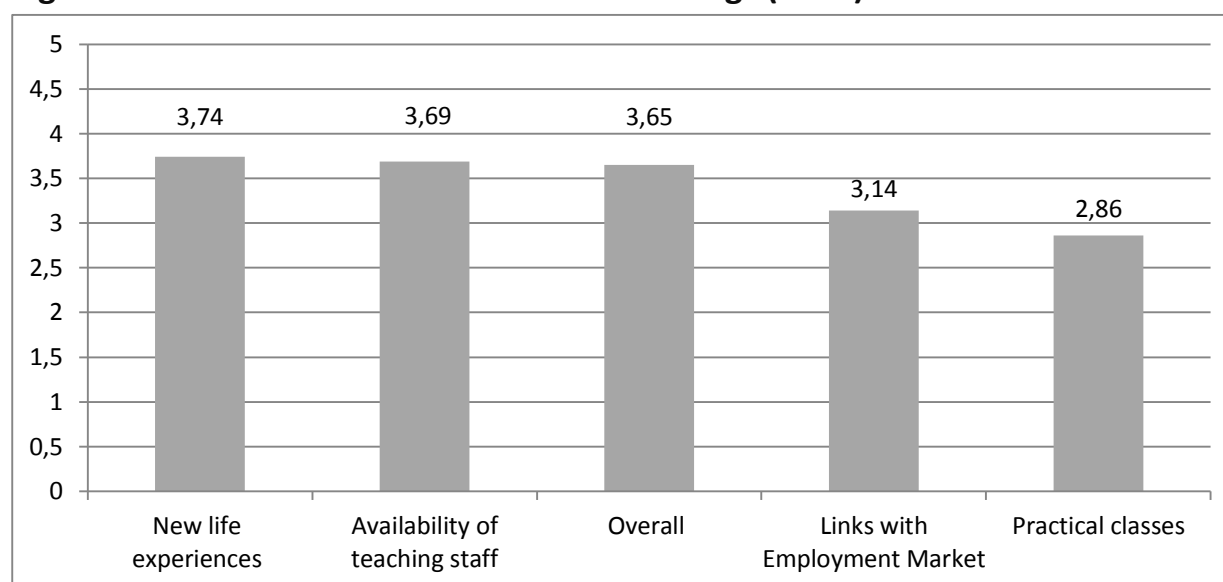
During the period in question, there has been one marked change in the legal form of governance, which is to require student participation in governing boards. This government decision does not appear to have been a measure taken *directly* in relation to cost-sharing, though presumably the argument that as contributors to the budget students should have some say in management would have had rhetorical force. In any case, this came about as the result of a governmental decision, rather than because of a change in behavior by institutions.

Where institutional behavior does seem to have changed somewhat is with respect to outreach to institutions. Observers indicate that over the past ten years there has been a marked increase in the interest of universities in reaching out at the level of the individual faculty or programme to employers to understand their needs better, and to revise curricula in light of their input.

3.6 Quality and Relevance

Portugal does not have a history of using large-scale surveys on student satisfaction, and hence there are no time-series data with respect to changes in student satisfaction. There is however one recent multi-campus study performed by Mainardes, Alves & Raposo (2013) that gave at least some insight into the level of satisfaction on campus. Using a 5-point likert scale where 1=bad and 5=good, 1,669 students from 11 institutions rated their university experiences. As in many countries, the average results indicated that students were satisfied but not thrilled with their experiences. Generally, they were more satisfied than not with their overall experiences, but there is some significant dissatisfaction with respect to the link between their education and the labour market and the degree to which classes are seen as ‘practical’ rather than theoretical. Selected results are shown below in Figure 3.5.

Figure 3.5: Selected Student Satisfaction Ratings (2011)



Source: Mainardes, Alves & Raposo (2013).

There are unfortunately little strong data about employers' changing levels of satisfaction over time. Interviews with employers revealed that companies do acknowledge a significant increase in outreach at the programme level from institutions, and an improved willingness to focus on employability outcomes. For the most part, this is attributed to the financial crisis rather than to the arrival of cost-sharing.

3.7 Evaluation

The broad question that was tested in this section was “have institutional strategies changed to maximise revenue from private sources”. This was done by looking at six sub-hypotheses, which will be briefly reviewed here before attempting to assess whether there was an overall effect.

The first sub-hypothesis related to whether 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). The answer is that there have been some changes in disciplinary profiles – more so in private universities than in public ones – but there is no obvious relationship with cost-sharing. The expansion of demand was primarily in the health fields and occurred largely at the expense of the fields of education (in public universities) and general social science and business courses (in private ones). This would appear to be a straightforward outcome of a larger demographic shift rather than because of shifting due to tuition fees, which are undifferentiated across programmes, at least in public institutions.

The second sub-hypotheses relate to whether there had been any change in the modes of study, such as an increase in part-time provision, with the aim of increasing private revenue. This was largely untestable because of the way Portugal reports its student statistics. It would appear that there has been some small change in this at the margin, driven in part by the need to accommodate new, older learners.

The third sub-hypothesis has to do with institutions changing in enrolment composition to maximise revenue, such as by recruiting more international (non-domestic) students paying international student fees. Because international students cannot be charged higher fees, this hypothesis has little force in Portugal. International student numbers have increased, but only slightly, and they have not resulted in extra revenues.

The fourth sub-hypothesis relates to the degree of diversity in higher education providers, such as more private institutions, or more programmes offered by public institutions. It was impossible to examine diversity at the programme level, though key informants generally noted that private-sector institutions at least were responsive to shifting demand and opened and closed programmes in accordance with external demand. At the institutional level, there has been very little change over time even as overall enrolments have risen and fallen. Indeed, the lack of change is quite striking on the private side, with the total number of institutions staying constant even as enrolments have shrunk considerably.

The fifth sub-hypothesis has to do with increased outreach – did the need to gain tuition revenue change institutional behavior with respect to relations with students and employers? This is a difficult question to answer: there has been increased student representation on governing boards, though since this came about through government legislation rather than institutional decision it is difficult to conclude that this represents a change in institutional behavior. As far as outreach to industry goes, key informants do indicate some improvement in this area, but tend to attribute it to a crisis in graduate employment rather than to cost-sharing.

The sixth sub-hypothesis has to do with quality and relevance. Did students and graduates become more satisfied with the options available to them? Did graduates become more satisfied with their employment outcomes? And were employers satisfied with quality of recent graduates? Unfortunately, the answer to these questions must be tentative due to such a lack of evidence. There is no quantitative data whatsoever on employers, and only a single snapshot of students' views, which prevents us from looking at changes over time.

Concerning the summative question- have institutional strategies changed to maximise revenue from private sources? - the answer is mixed: there have been some changes in behavior, but few of them seem to be directly related to the issue of tuition fees and cost-sharing. In part, this seems to have to do with the restrictions which institutions face; for instance, they have displayed no particularly entrepreneurial effort to attract international students because they are not permitted to charge them on a differential basis from domestic students.

4. HYPOTHESIS C: INCREASING PRIVATE FUNDING HAS A NEGATIVE EFFECT ON PARTICIPATION

This chapter looks at data relevant to Hypothesis C, which states that as private funding increases, costs increase to students and their families, which in turn may have an impact on quantitative student demand and on the composition of the student body.

In order to assess this, it is important to look at:

- the real costs to students, including direct and indirect support provided by the state, which may discount the gross costs
- how tuition fees are organised: Who pays and who does not pay? When do you pay – as a student or as a ‘successful’ graduate (with a well-earning job)?
- the overall trend of participation rates in the country in question, i.e. expanding, stable or contracting?

4.1 Students’ Costs for Higher Education

There are, effectively, two tuition fee regimes running in Portugal. Fees for undergraduate and research-based Master degrees in public institutions are tightly under government control and are tied to inflation. Governments set minimum and maximum fees for programmes at these levels, and institutions can charge what they wish within this range. Universities, particularly the prestigious ones such as the University of Lisbon, tend to place their fees at the high end of the scale while polytechnics tend to put them at the low end. Private universities, and professional Master and doctoral programmes at public universities, are free to charge market rates for their courses.

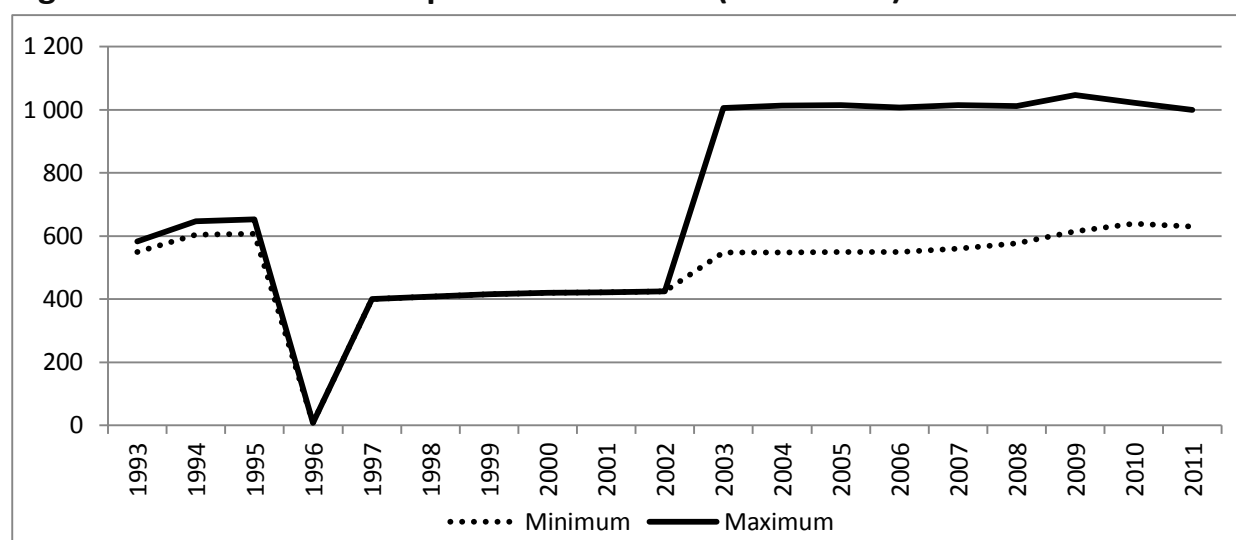
Portugal introduced tuition fees in a significant way in 1992. In 1996, government suspended the tuition law, which led to fees in public universities returning to their previous nominal levels (roughly 6 euros per year) for one year. The following year, it introduced a law that tied fees to the monthly minimum wage (at the time, about 283 euros). In 2003, the current system of maxima and minima was introduced – the minimum fee is 1.3 times the minimum monthly wage and the maximum fee is inflation-linked to the level of tuition set in a law dating from 1941 (see also Section 1.4).

Student Expenditures

Figure 4.1 shows how these changing rules worked out in practice. In their initial phase, prior to the 1996 suspension of fees, tuition fees were about 600 euros per year. When fees were re-instated in 1997 it was at a level about 30% less than where they had been originally set – roughly

400 euros per year, where they stayed until 2003. At that point, the minimum/maximum fee system was adopted, with rather more students paying maximum than minimum. In the eight years after this system was adopted, maximum tuition stayed very close to 1,000 euros (in real terms), while minimum tuition rose slightly from around 575 euros to about 630 euros per year.

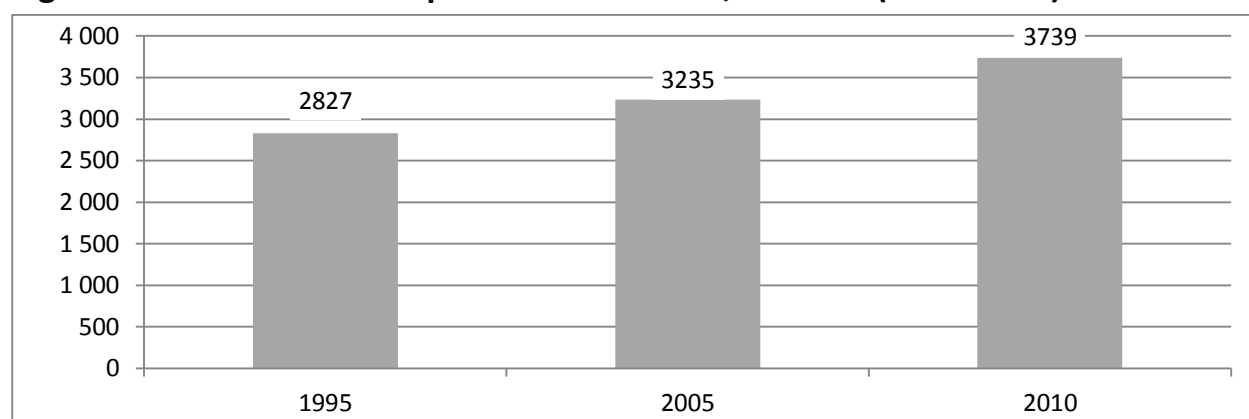
Figure 4.1: Student fees at public universities (1993-2011)



Note: Constant prices (2011).

Source: Cerdeira, Patrocinio, Cabrito, Machado, & Brites (2012).

There is no official collection of statistics on tuition at private institutions. However, there is data from three specific years collected by Cerdeira et al. (2012), and these data are shown in Figure 4.2. As with public institutions, tuition is higher in real terms than it was in the mid-1990s, though the increase has not been quite as pronounced. In 1995, average tuition in private HEIs was 2,827 euros, a figure which by 2010 had reached 3,739 euros, implying an increase of about 32% in real terms.

Figure 4.2: Student fees at private universities, in euros (1995-2010)

Note: Constant prices (2011).

Source: Cerdeira et al. (2012).

Fees are of course only one part of student costs. According to periodic data on overall student costs, tuition as a portion of overall costs was 24% among public university students in 2010 and 48% among private institutions. Average accommodation costs for students were relatively low (under 1,000 euros per year), primarily because most students chose to live at home. ‘Other living costs’ – meaning money spent on everyday life – appears to be substantially higher among private university students than public ones (reflecting perhaps different economic backgrounds). It is notable, however, that in both sectors the amount for this decreased significantly between 2005 and 2010, likely an effect of the economic crisis.

Table 4.1: Total annual student costs, in euros

	Public HEI students			Private HEI students		
	1995	2005	2010	1995	2005	2010
Fees*	652	1015	1022	2730	3124	3610
Books & other learning materials	823	426	349	1063	579	475
Accommodation costs	530	934	766	289	470	385
All other living costs	2902	2685	2201	3888	3782	3100

Note: *For Public: fees=maximum public university fees. Constant prices (2011).

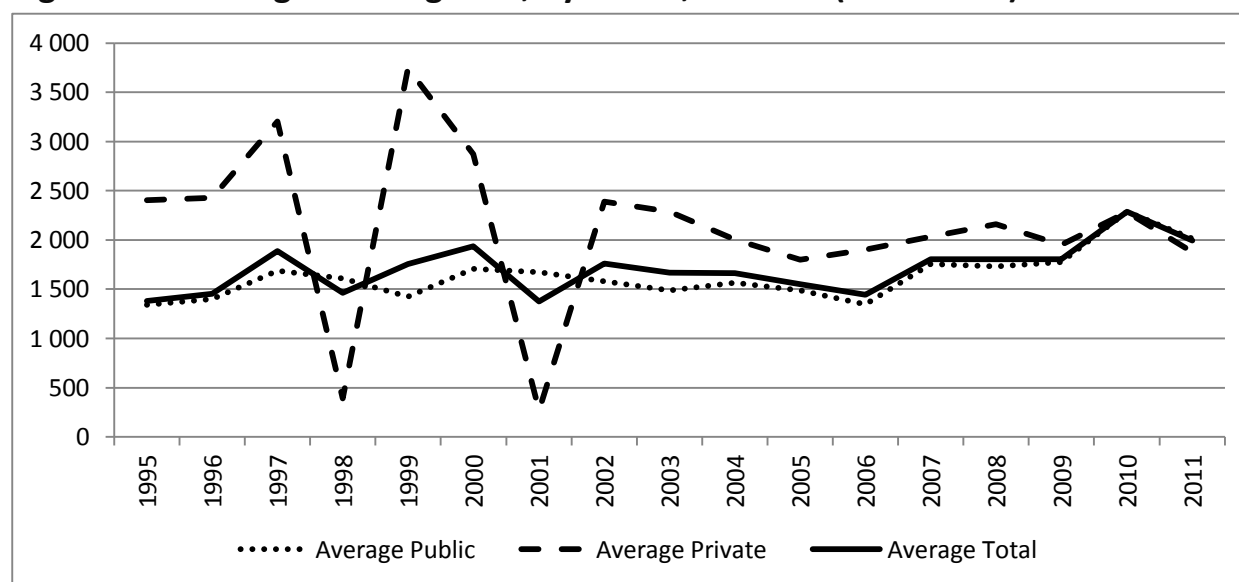
Source: Cerdeira, Cabrito, Patrocínio, Brites, & Machado (2011).

Student Assistance

Grants

Portugal has a long-standing system of income-based non-repayable assistance which serves approximately 17% of the student population. Figure 4.3 shows the average size of the grants by sector. It is unclear why the average grant size in private universities was so volatile in the late 1990s – this was a period when relatively few grants were given to students in this sector (less than 5,000 per year up to 1999), so it is possible that small numbers affect the total. Since 2002, the average grant size in the two sectors has been converging, so that at present their value is about 2,000 euros per year. This would not cover tuition in a private university, but it would cover both tuition and textbooks with a bit left to spare at a public institution.

Figure 4.3: Average size of grants, by sector, in euros (1995-2011)

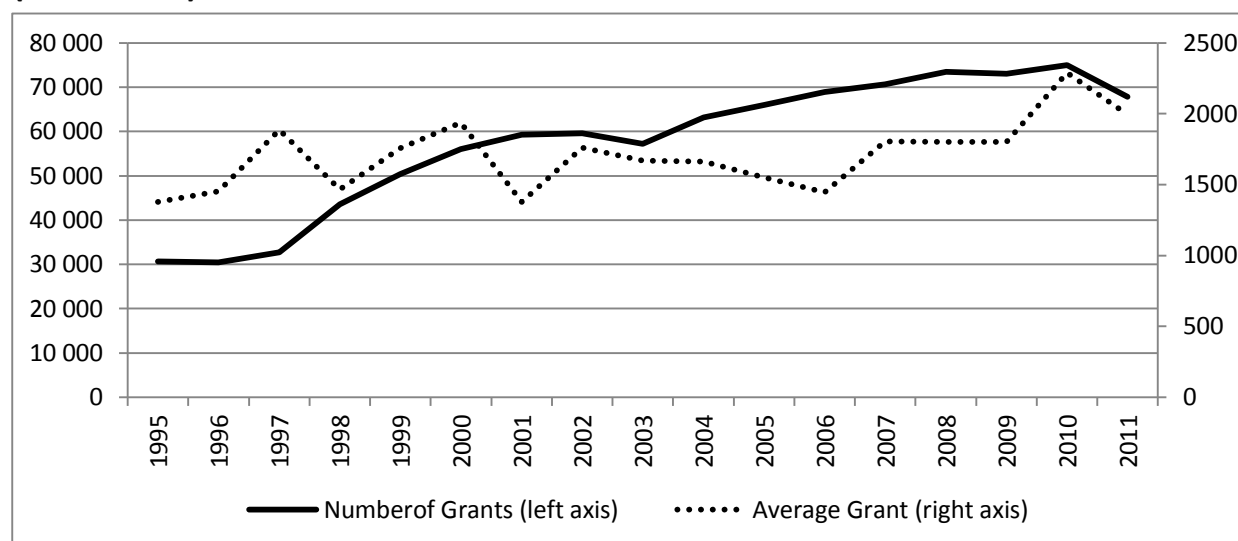


Note: *For Public: fees=maximum public university fees. Constant prices (2011).

Source: DGESup, GPEARl, OECD, Direção-geral de Estatísticas da Educação e Ciência, Conselho de Reitores das Universidades Portuguesas.

Average grant size has stayed relatively constant over the entire period in question, with the value staying more or less between 1,500 euros and 2,000 euros per year. However, the number of grant recipients has more than doubled, from 30,000 per year to nearly 75,000 per year, as shown in Figure 4.4. Most of this growth occurred in the years leading up to 2001, when overall enrolment was still growing strongly. Over time, the percentage of students receiving grants has risen from 10% to 19%.

Figure 4.4: Total number of grants awarded and average grant size, in euros (1995-2011)



Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, Conselho de Reitores das Universidades Portuguesas.

Loans

Portugal has had a loan system in place since 2007. Under this programme, students may borrow between 1,000 euros and 5,000 euros per year, up to a maximum of 25,000 euros for a 5 year course. After the termination of studies, there is a 12-month holiday on the repayment of principal, though interest must be paid monthly. The interest rate is fixed for the length of the loan and is equal to the current rate of government borrowing plus 1% (though there is a merit bonus under which students with higher grades pay slightly lower rates of interest). The length of the reimbursement period is equal to twice the number of years during which the loan was contracted.

Take-up rates on these loans has been relatively small – in the first five years of the scheme, the average number of new borrowers was less than 4,000 per year, which suggests an overall take-up rate of around 2%. Data from the first year of operation indicate that roughly 40% of all borrowers were at private universities. Annual borrowing rates are impossible to calculate from official statistics, but they seem likely to be slightly larger in size than the grants (see above).

Tax benefits

Portugal has a system of tax benefits for parents of students which resembles that of Germany. All parents with children under 18 may deduct 40% of the monthly minimum wage from their income when filing their taxes; this privilege is extended to children under 25 provided they are enrolled in education. The government of Portugal does not publish statistics on the value of this

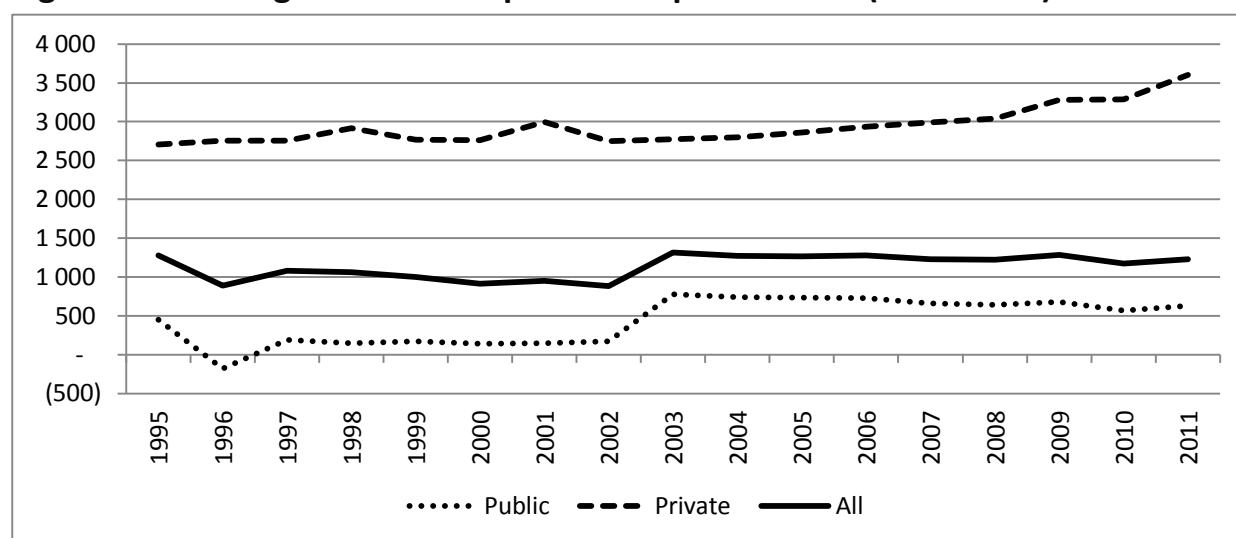
tax benefit, and it is not calculable independently because as a deduction, its actual value depends on each individual's tax bracket (data which are also unavailable).

Net costs to students

Unfortunately, in calculating net costs, the data limitations described above prevent us from taking into account the effects of loans and tax benefits. Though the former is likely negligible because of low take-up rates, the latter is potentially significant because it is available to all parents. With those caveats in mind, however, we can look at net costs over time.

Figure 4.5 shows average net tuition costs – that is, average tuition fees minus average grants – in both private and public universities. After 2003, the amounts of tuition for public universities are the maximum fee; in practice many students in the public system pay somewhat less than this. Private institutional tuition has been imputed based on known changes between 1995-and 2010. The ‘sticker’ tuition (i.e. the price students pay to attend higher education) is then reduced by the amount of grant aid averaged across all students – including those who do not receive grants. Although grants are only given to a minority of students, they are large enough to reduce net tuition costs across all students by about a third. The data shows that since about 2003, average net tuition fees at public and private institutions has been headed in opposite directions. At private institutions, tuition fees have been rising, and grant assistance has not kept pace. At public institutions, tuition fees have been constant in real terms and grants have grown, thus leading to declining net tuition costs.

Figure 4.5: Average net costs in public and private HEIs (1995-2011)



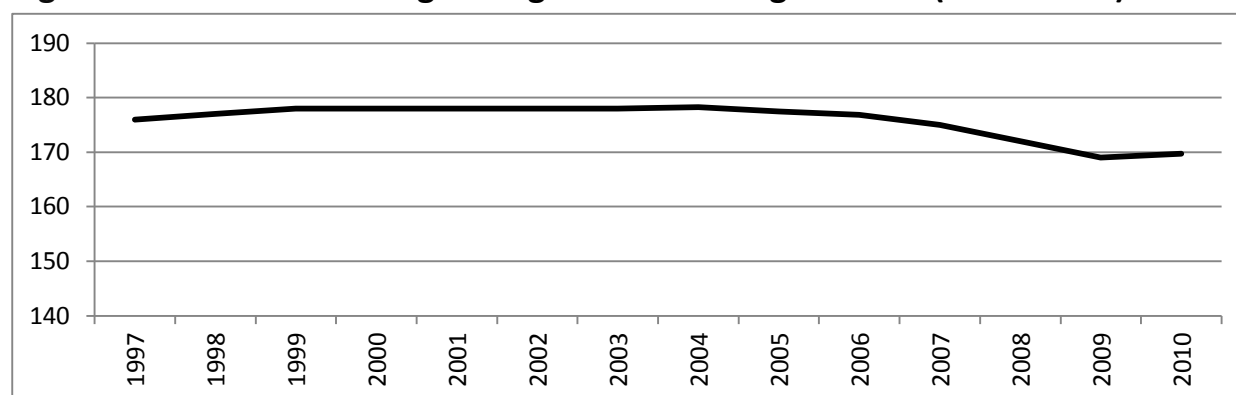
Note: Net student costs are student fees minus average amount of grant assistance. Constant prices (2011).

Source: DGESup, GPEAR, OECD, Direção-geral de Estatísticas da Educação e Ciência, Conselho de Reitores das Universidades Portuguesas.

Relative earnings

One important factor to consider in terms of access is how returns to education evolved over time. All other things being equal, a rise in relative earnings of graduates (that is, relative to those of individuals without higher education) should exert upwards pressure on participation as it makes education a more attractive investment. As Figure 4.6 shows, relative earnings were very high in Portugal, and stayed relatively constant over the period 1997-2005, after which they began to fall slightly, to end the period about 10% lower than they began.

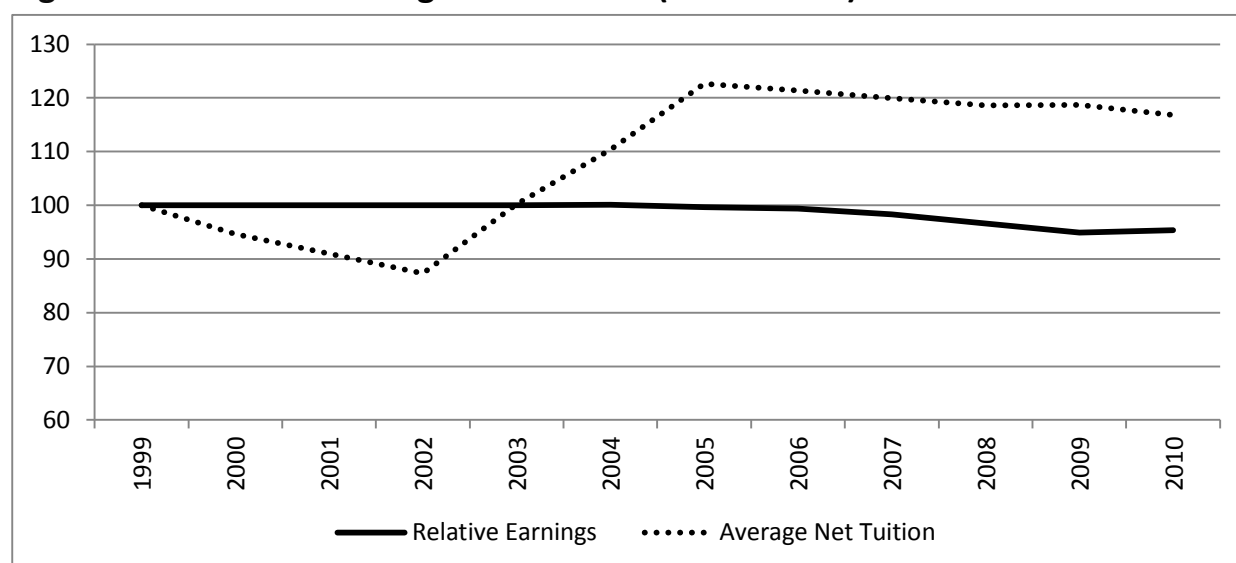
Figure 4.6: Relative earnings of higher education graduates (1997–2010)



Note: relative earnings indexed to the earnings of persons with secondary and post-secondary non-tertiary education=100.

Source: OECD, Education at a Glance.

Figure 4.7 shows a somewhat crude way of looking at whether or not the return on students' investment is rising or falling over time. The solid line represents the earnings premium described in Figure 4.6; the dotted line represents net average tuition. This is essentially the same data from Figure 4.5 except that it consists of a moving 3-year average, to simulate the costs of a full Bachelor degree. What Figure 4.7 shows is that the 2003 rise in tuition certainly reduced the return on investment somewhat (although from an extraordinarily high base); since then, however, both fees and earnings premiums have been falling, keeping the return on investment roughly constant.

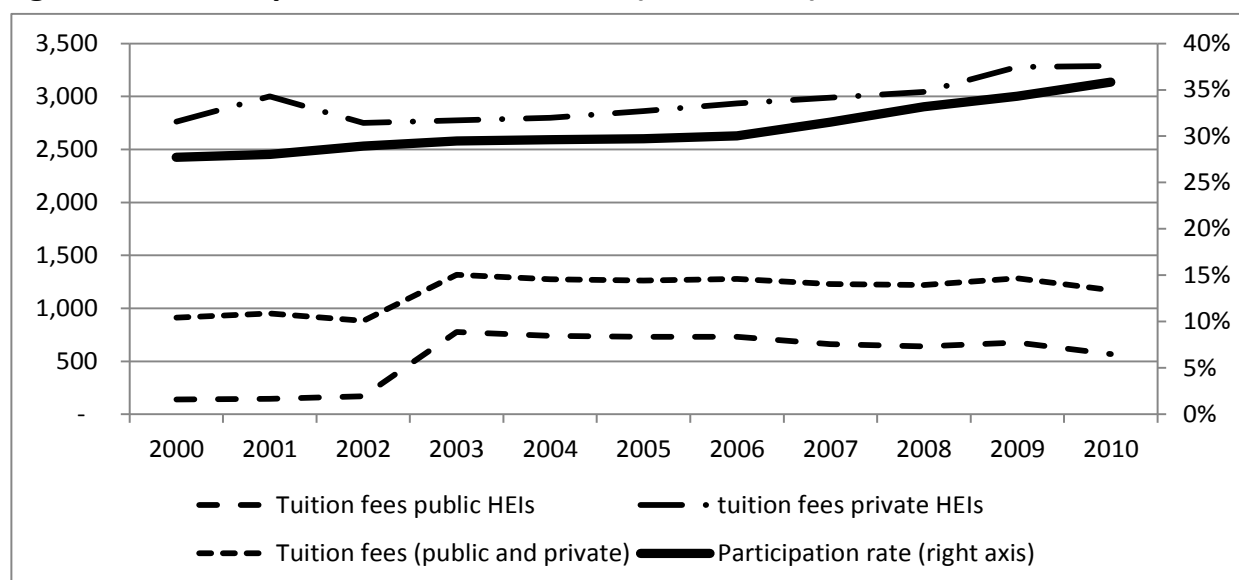
Figure 4.7: Relative earnings vs. net costs (1999 –2010)

Note: Indexed to average earnings of a person with higher education and average net tuition in 1999 (=100).

Source: OECD Education at a Glance, Cerdeira et al. (2012).

4.2 Participation Rates

A key question – perhaps the key question of this study – is whether or not the change in cost-sharing and fees had any effect on participation. Figure 4.8 suggests strongly that they did not. The general trend in participation has been uninterruptedly upwards, and the sharp one-time increase in tuition fees did not alter participation rates at all. This does not mean that students are price-insensitive; the increasing gap in net fees between public and private institutions may well have been a contributing factor to the decreases in private university enrolment over our period of investigation. But these increases in fees have not, on the whole, had a demonstrable effect on access.

Figure 4.8: Participation and tuition fees (2000-2010)

Source: DGESup, GPEARI, OECD, Direção-geral de Estatísticas da Educação e Ciência, Conselho de Reitores das Universidades Portuguesas, Instituto Nacional de Estatística, own calculations.

4.3 Composition of the Student Body

Ethnicity

In many countries, the prime concern about raising fees is the effect that this might have on ethnic minorities. However, because of the degree of homogeneity in the population, differences by ethnicity are not seen as a significant issue in Portugal and so no data are collected on the subject.

Gender

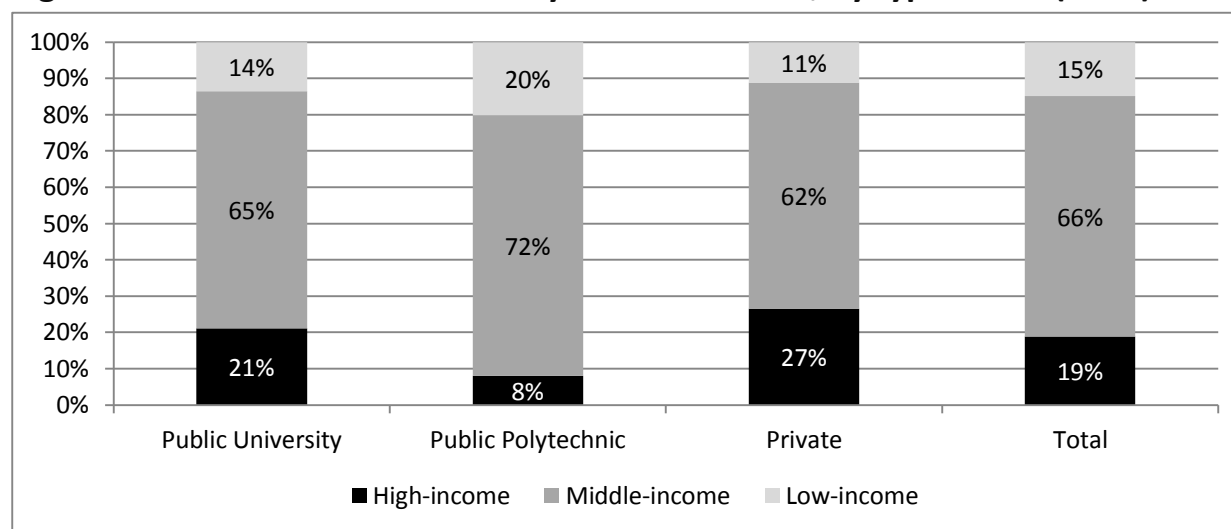
The proportion of the university student body that is female rose in the early part of our period from 57% to 58%. After 2002, the proportion began to fall again, down to 54%. There are few parallels to this anywhere in Europe; in fact, over the comparable period only two other countries (Greece and Ireland) saw a fall in the female share of enrolments of anything like this magnitude. However, a link to changes in fees would be hard to prove – most of the fall came during a period where fees were essentially frozen and net fees were in fact declining.

Figure 4.9: Female share of overall enrolment (1998-2010)

Source: Unesco Institute of Statistics.

Socio-economic background

There are no data that would allow a reasonable time series. There is, however, a snapshot from 2005 about the distribution of students by institution type and income band. In Figure 4.10, 'low-income' is defined as less than 780 euros per month in family income, and upper income is defined as more than 2,660 euros per month. Unsurprisingly, with ranges like that, the majority of student enrolment at all types of institution is 'middle-income.' However, what Figure 4.10 also shows is that public polytechnics – that is the least costly and least selective form of higher education – tend to have students from the poorest backgrounds, while private universities are the most likely to draw from higher-income families.

Figure 4.10: Shares of enrolment by income bracket, by type of HEI (2005)

Source: Cerdeira (2008).

4.4 Completion Rates

There does not appear to be any empirical data in Portugal that address this question.

4.5 Evaluation

The evaluation of the information presented in this chapter consists of answering four separate sets of questions.

First, how have increases in private funding changed costs to students? The answer here is that over the period of investigation they have not increased very much at all; at public institutions, fee increases have been limited to inflation for nearly a decade; at private institutions they have risen at only one or two points above inflation. Once an increasingly generous grant system is taken into account, average net costs have, in fact, been dropping slightly at public institutions.

The second question here is: what effect does an increase in private funding have on participation rates? The answer appears to be “none”. As fees at public institutions stayed flat or rose slightly, participation rates increased. This does not mean that students are price-insensitive – indeed, as the cost gap between public and private universities has widened, so too has public’s share of total enrolment. But changes in the basic fee to access universities – such as the significant and sudden shifts in tuition in 1995, 1996 and 2003 – had no visible effect on enrolment.

A third question is “how have increases in private funding affected the composition of the student body”? This is not a question which can be answered well due to a scarcity of data. It is evident that the Portuguese higher education system is socially stratified, but there is no evidence which would suggest that tuition is a cause. We know that female share of overall participation rates have fallen every year since 2004, but there is no obvious reason to link this data with fee policies.

Finally, the Portuguese system does not systematically capture data on student success, so there are no data on which to base any conclusions with respect to completion rates.

5. HYPOTHESIS D: INCREASING PRIVATE FUNDING AFFECTS STUDENT CHOICE OF HOW OR WHAT TO STUDY

This chapter looks at data relevant to Hypothesis D, which states that as private funding increases, costs increase to students and their families, which in turn will have an impact on students' choice of how and what to study. Accordingly, this section looks at these topics: have student age, location or field of study and time to completion changed over time in relation to cost-sharing?

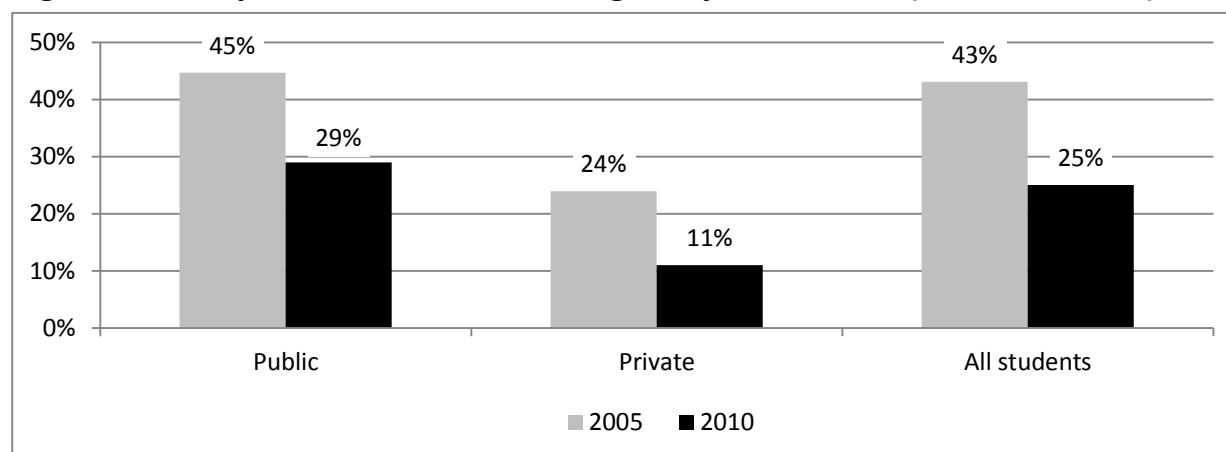
5.1 Student Study Patterns

As noted earlier, Portugal only records students as studying full-time, so this is not an issue that can be addressed.

5.2 Location of Study

One hypothesis about the effects of tuition is that they make it more difficult for students to study away from home. As costs rise, so the theory goes, less money is available for other living costs and so students become more likely to stay at home in order to economise.

Based on data from the 2005 and 2010 EUROSTUDENT studies, it certainly does seem to be the case that there has been a major recent shift in study locations. Between 2005 and 2010, the proportion of students living away from home fell by over 40%. In the case of students at private institutions, one might try to construct a case that rising tuition was the cause; however the fact that a similar fall was seen at public institutions where net average tuition was falling makes that a hard case to sustain. More likely, the change is due to families trying to save money in response to the country's austerity crisis.

Figure 5.1: Proportion of students living away from home (2005 and 2010)

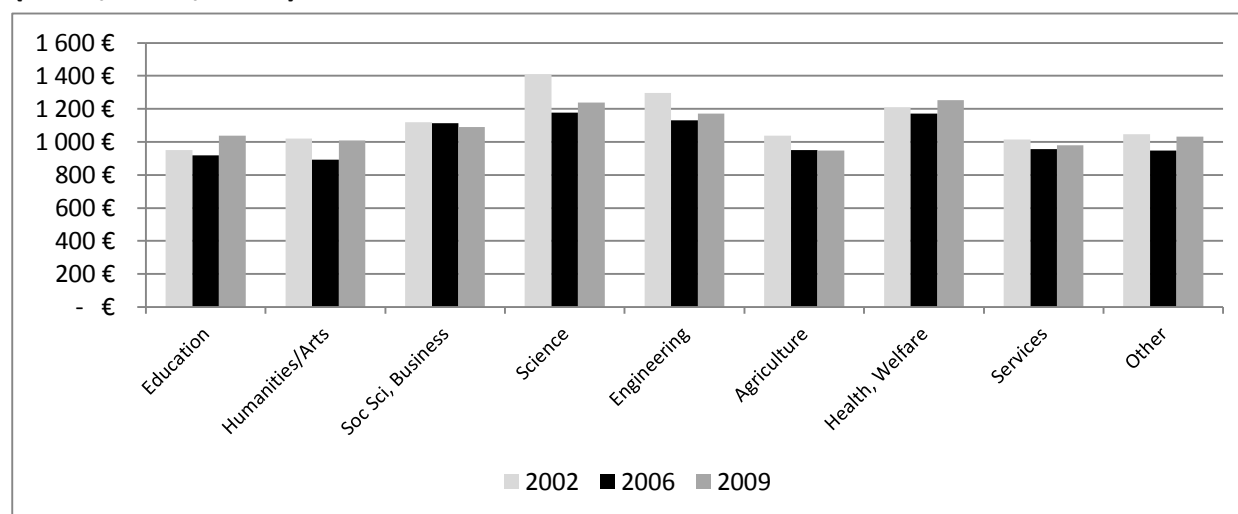
Source: Cerdeira et al 2011.

5.3 Field of Study

One hypothesis that is frequently advanced about the impact of fees is that to the extent that fees vary across fields of study, they may induce students to move towards ‘cheaper’ subjects and away from (potentially) more valuable subjects that happen to be more expensive.

This hypothesis cannot be tested in Portugal. First of all, at the undergraduate level, institutions do not charge variable amounts, meaning that there are no ‘cheap’ subjects. Second, as shown in Figure 5.2, there does not appear to have been any changes to the relative returns between broad fields of study, meaning that there are no external economic changes which might have caused students to shift fields of study. And finally, as was shown in Chapter 3, there was little in the way of significant enrolment changes, either.

Figure 5.2: Monthly incomes of recent graduates, by field of study and year (2002, 2006, 2009)



Source: Cardoso et al 2012.

5.4 Time-to-Completion

As noted earlier, there are no data available with which to answer this question.

5.5 Evaluation

Hypothesis D suggested that rather than having an absolute effect on the level of participation, the liquidity issues that stems from increased tuition levels may lead to students switching to a different mode of delivery that enables them to study while working and earning income, or delay participation so as to work to save money before entering higher education. Specifically, there are four sub-hypotheses about the potential impact of higher tuition, which were examined above:

First, with respect to ‘how’ students study, one has to note that Portugal only records students as being full-time. To the extent this is in fact true, it disproves the hypothesis; to the extent it masks some students who are actually studying part-time, the actual effect is unknowable.

Second, with respect to whether increases in private funding have affected students’ choice of study location in terms of where within a country they choose to study, there has been an enormous shift between 2005 and 2010. However, this appears to be a result of the economic crisis, not fees.

Third, with respect to whether increases in tuition have affected what students study, as was noted earlier, there do not appear to have been many significant changes in the main fields of

study enrolment over the period investigated, so it is difficult to conclude that tuition has caused any changes.

Fourth, with respect to increases in fees making students more efficient and taking less time to complete their education, there are no data available on which to test this proposition.

In sum, though the data are admittedly limited, the increase in tuition fees in Portugal appears not to have had any effects on study mode, study timing or choice of field of study.

6. CONCLUSION

With respect to Hypothesis A, it can be asserted that cost-sharing likely increased total funding to higher education, but the size of the increase was small.

With respect to Hypothesis B, it is difficult to say that much has changed in Portugal as a result of policy changes in the period of interest. There have been some changes in behavior, but some of them were due to actions other than institutions (e.g. changes in governance, which were legislated by government) and few seem to be directly related to the issue of fees and cost-sharing.

With respect to Hypothesis C, the data are mixed. Increases in fees at public institutions have been minimal; increases at private institutions have been more substantial. This may have led to some switching between sectors, but there is no sign that this situation has deterred participation at all, as it continues to rise steadily. There is too little data about changes in the socio-economic composition of the student body to make a useful judgement on the effects of tuition fees in this respect.

Finally, with respect to Hypothesis D, though the data are admittedly limited, the rise in tuition fees in Portugal appear not to have had an adverse effects on study mode, study timing or choice of field of study.

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