

Astrid Schwarzenberger*

Funding higher education in Germany: raising the issue of efficiency and equity

Summary

The allocation of public funds to higher education institutions in Germany has been reformed so as to increase the institutions' efficiency. More recently, a source of private funding for higher education institutions has been added in the form of tuition fees. This development will have its own impact concerning discussions on the efficient use of the fees. The introduction of tuition fees has also given rise to much public debate about the extent to which students should take on a share of the costs of higher education, and how far this could mean a damper on equity in participation in higher education. Even before the introduction of tuition fees, participation rates were far from being equal regarding students with different socio-economic backgrounds. Tuition fees and current reforms (bachelor's/master's structure), as well as new funding criteria are not likely to improve this situation.

Key words: *Funding higher education institutions (including tuition fees); state support to students; cost-sharing and its consequences for participation and equity.*

JEL: I220, I280, I290

1. Introduction

Efficiency has so far been discussed mainly in the context of the efficiency of the system through which the state allocates funding to higher education institutions. By now, all 16 German federal states (*Länder*) have reformed their respective funding systems to promote greater efficiency, as will be explained in the first part of this paper. Besides, the very recent introduction of tuition fees as a new source of funding in some of the *Länder* will also be presented; this development has greatly fanned the discussion on how much (if anything) a student should contribute to funding his/her studies, and how social exclusion could be prevented. The existing forms of state support – many of which are intended to make up for financial disadvantages experienced by some students – are laid out in the second section, and the third chapter explains the differences in cost-sharing that can be observed between students from different social backgrounds, and their implications for equity. The fourth part takes a look at the impacts that current reforms – including those in higher education funding – might have on equity in participation in higher education, and the paper closes with a

reference to research aimed at finding out more about differences in cost-sharing.

2. Funding of higher education institutions

2.1. State funding

Each of the 16 German federal states (*Länder*) has jurisdiction over higher education matters within its realm – and can therefore determine how its respective higher education institutions are to be funded. Although the *Länder* are essentially implementing the same reform programmes, their respective funding models reflect the regional context and their specific political agenda. Therefore, there is a great variety of different solutions: “the” German higher education system, in fact, offers 16 variations of play, which makes Germany a particularly interesting case study.

Concerning the state funding of higher education institutions, this contribution will focus on an updated comparative survey by HIS of the funding and steering systems being applied in the German *Länder* (Leszczensky/Orr 2004; currently being

* Higher Education Information System (HIS), Hanover, Germany

updated and extended). The survey is descriptive-analytic and carried out in cooperation with the 16 ministries of higher education in Germany. A further HIS survey carried out in 2005 collated data on instruments of funding allocation within universities (Jaeger et al. 2005); this report provides background information on the interlinkage between state and institutional levels.

One of the main reforms in the German higher education sector starting in the early 1990s was the introduction of new allocation models for institutional funding. By now, practically all of Germany's federal states have introduced performance-based allocation mechanisms in their respective systems of funding higher education institutions. Likewise, higher education institutions have started to use performance-based procedures for their internal funding allocation. This way, the focus is put on competition between higher education institutions (and faculties at the internal level), and the new allocation systems aim at increasing the institutions' efficiency (e.g. in terms of graduate numbers).

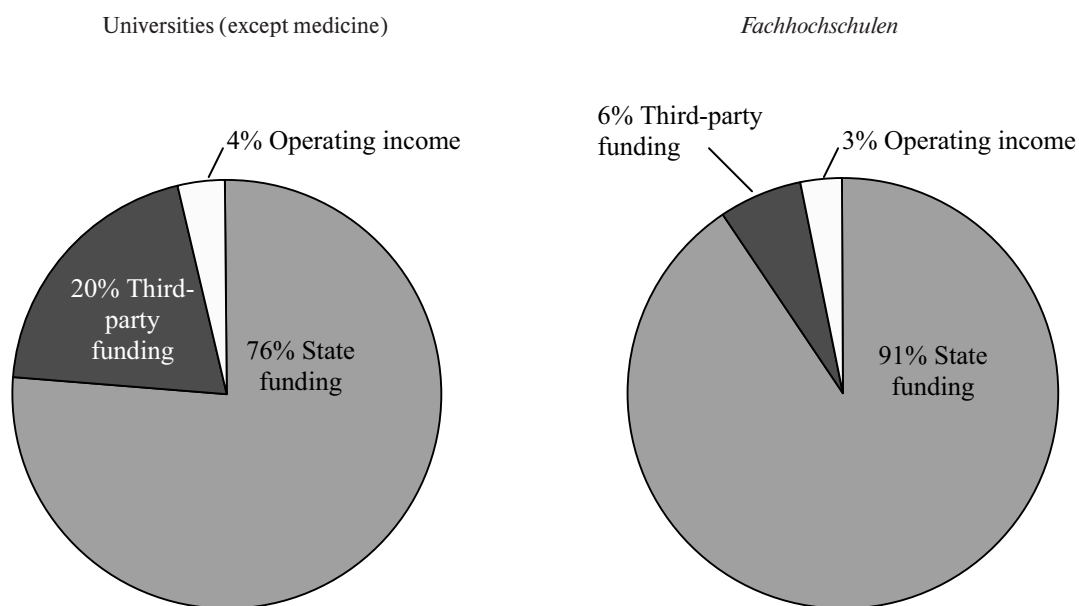
These reforms in the allocation of state support are all the more relevant because the share that state funding represents of a higher education institution's budget accounts for almost 80% for universities and over 90% for *Fachhochschulen* (universities of applied sciences). (*Kunst- und Musikhochschulen*, i.e. universities for the arts and music, are excluded in this paper.)

Traditionally, funding was allocated in a discretionary-incrementalist way: an institution's budget would essentially be determined simply by rolling over its previous year's budget, possibly adjusted for inflation. This was based on the assumption that a higher education institution's cost structure was quite fixed. There were no explicit hard criteria on which this budgeting was founded, efficient use of the funds made available was not the foremost issue, and whenever changes occurred in higher education policy or the strategy of a higher education institution (e.g. the introduction of a new course of study), negotiations between the ministry and the higher education institution concerning an appropriate adaptation of the budget were required. As the results of such negotiations were never certain beforehand and because the process somewhat lacked transparency, leaving room for discretion in a ministry's budgetary decisions, funding procedures based on more objective criteria that would also promote an increase of efficiency and would give some degree of transparency and predictability were called for – hence the introduction of indicator-based (also: formula-based) funding.

Generally, indicator-based funding models are deemed to:

- reduce the burden of funding negotiations;
- enable the state to enact policy within a framework of university autonomy;

Figure 1: Income sources of higher education institutions (without tuition fees) in 2004



- provide transparent and predictable funding allocations and therefore contribute to the accountability of the higher education sector;
- reward performance;
- encourage competitive behaviour between institutions; and
- improve efficient use of resources.

Though this is essentially true, the functioning of such indicator-based models is also largely dependent on the concrete construction of the allocation procedure and on how indicator-based funding is embedded within the whole funding framework. As far as this is concerned, a great variety of procedures can be found in the field.

The indicator-based procedures used across the *Länder* and within institutions show basic similarities with regard to the range and definition of performance indicators. They concentrate on indicators for teaching and learning and for research, though most also use indicators (or at least special weightings) for gender equity and sometimes also for internationalisation. As far as indicators reflecting teaching performance are concerned, there is a clear focus on student numbers and numbers of graduates. Third-party funding, as well as numbers of doctorates and *Habilitationen* (a *Habilitation* is a post-doctoral qualification giving the holder the right to be admitted to a university as a professor), are the main indicators for research-related efforts. Furthermore, it is worth noting that – on the state level as well as the internal level – teaching-related indicators are usually weighted higher than research-related parameters.

On the level of precise design and model architecture of the funding procedures, by contrast, there are remarkable differences. These concern very central questions such as how much of a budget is to be allocated by formula (between 1% and 95%), how many indicators are necessary (between very few indicators for a clear steering effect and many indicators to reflect different institutional profiles), and what the scope of competition between institutions should be (e.g. unified allocation or sector-specific allocation systems). An overview of characteristics of the respective *Länder* systems is given in table 1.

It is striking that three *Länder* – Brandenburg, Hamburg and Rhineland-Palatinate – are using indicator-based funding shares that account for almost the entire state budget. However, the indicators used there can be differentiated into two types: those that form some kind of basic grant

(like the number of students or the number of professors and other academic personnel) and those that make up a more performance-oriented grant (with indicators quite comparable to those used in the other systems). By establishing the basic grant through indicators rather than by discretionary-incremental decision-making, transparency in funding allocation is achieved, whilst the use of quite stable and predictable indicators does not put the higher education institutions at risk of having to deal with high fluctuations from one year to the next.

In the other *Länder*, the “remaining” 80% or more of the state grant is still allocated mainly on the basis of discretionary-incremental procedures. One of the reasons for this is that such procedures allow for some flexibility that a formula does not offer (as a formula that is to work well should not be changed too often, and therefore cannot too readily be adapted if changes in higher education policy should occur).

But even in the *Länder* appropriating “only” in the order of up to 20% by formula, the impact on the budget thus experienced is not negligible. It must be stressed that owing to the high dependence on state support and because of the higher education institutions’ limited possibilities to influence their spending situation – professors are civil servants in Germany, and the personnel costs that account for some three quarters of a university’s budget can hardly be touched – even a budget change of e.g. 1% of the state grant can be serious for the higher education institution in question. Indeed, to prevent drastic budget changes, some *Länder* are using (or have initially used and then phased out) cut-off limits beyond which losses in the total budget that should in theory occur, based on the indicator calculations, are capped.

2.2. Introduction of tuition fees

The funding situation in Germany’s *Länder* is not expected to change completely, even where tuition fees are introduced; these are estimated to make up in the order of 10% of a university’s budget (Leszczensky 2004) – so the state grant would definitely still remain by far the most important financial source (and whilst tuition fees are intended to be additional funds for higher education institutions, there is still wide-spread scepticism that their introduction will not, in time, lead to a decrease in the state grant).

Regarding tuition fees, this paper is based on a survey on the different models of tuition fees that were installed as the first such models in seven German *Länder* (Ebcinoglu, 2006).

Table 1: Main characteristics of *Länder* indicator-based allocation procedures (2006)

	Share of state grant allocated by formula (approx. % values for universities)	Number of indicators used (all HEIs or universities only)	Scope of competition
Baden-Württemberg	20	13	Separate competitions between universities and between <i>Fachhochschulen</i>
Bavaria	1.5	9	Separate competitions between universities and between <i>Fachhochschulen</i>
Berlin	20	11	Separate competitions by type of HEI and within subject areas
Brandenburg	95	7	Competition between all institutions of higher education
Bremen	10	5	Benchmarking against past performance
Hamburg	85	4-5	Benchmarking against past performance
Hesse	- (model put on hold)	(14)	Competition between all institutions of higher education
Mecklenburg-West Pomerania	4	8	Competition between all institutions of higher education
Lower Saxony	3	11	Separate competitions between universities and between <i>Fachhochschulen</i>
North Rhine-Westphalia	20	5	Separate competitions between universities and between <i>Fachhochschulen</i>
Rhineland-Palatinate	95	17	Separate competitions between universities and between <i>Fachhochschulen</i>
Saxony	1	11	Separate competitions between universities and between <i>Fachhochschulen</i>
Schleswig-Holstein	5	4	Benchmarking against national averages
Thuringia	15	6	Benchmarking against past performance

Source: Updates on Leszczensky/Orr 2004.

Until recently, a federal law prohibited the use of general tuition fees (although there were exceptions before for students who had exceeded the normal period of study by many years, and for those studying at private institutions); so when speaking of the funding of higher education institutions (and ensuing efficiency debates), this would usually refer to the ca. 80% share of a higher education institution's funding that was provided by the state. Since a ruling from the Federal Constitutional Court (*Bundesverfassungsgericht*) in 2005, however, the *Länder* are free to decide whether or not to introduce such general tuition fees, thus making the students take on a bigger share of the costs of higher education (until then, students only had to pay a small administrative fee).

As a result, the *Länder* have come up with quite different solutions concerning not only the general

decision on whether or not to introduce such a fee, but also concerning the time of introduction, the precise circumstances under which an exemption from the fee can be granted, the conditions for a loan specially intended to cover tuition fees, and the measures to deal with the risk of default for such loans. Within certain limits, the *Länder* can also decide on the amount of the fee: in its ruling, the court referred to the amount most often discussed at the time: €500 per semester. This was deemed appropriate as compared to students' overall cost of living. Therefore, this is – so far – the maximum and indeed the most usual amount of general tuition fee charged in any of the *Länder*.

In 2006, the first seven *Länder* (namely Baden-Württemberg, Bavaria, Hamburg, Hesse, Lower Saxony, North Rhine-Westphalia and Saarland)

started charging such fees, whilst the others decided against fees – be it for political or pragmatic reasons. In most of the *Länder* that have introduced fees, the amount of the fee is the same for all institutions (€500 per semester), but in Bavaria and North Rhine-Westphalia, it is up to the higher education institutions to decide upon the amount to be charged (in Bavaria, a certain minimum amount per type of higher education institution is required, so the fees range from €100 to €500 at *Fachhochschulen*, and €300 to €500 at universities; in North Rhine-Westphalia, by contrast, all higher education institutions are free to choose any amount between €0 and €500/semester – almost all higher education institutions have decided to make use of the possibility to charge fees). This leads to an even greater variety of funding models for higher education institutions.

When tuition fees were introduced, there was much concern about how to prevent excluding financially disadvantaged students from studying altogether. Therefore, certain conditions under which a student could be exempt from paying tuition fees were formulated in each of the *Länder*; but in no two *Länder* are all these conditions identical. Essentially, such conditions could be the student looking after at least one child of his/her own, the student providing care for seriously ill family members, the student's number of siblings in higher education, any disabilities the student might have and whether the student could otherwise be deemed to be in need of financial assistance (“hardship cases”).

Tuition fees are intended as extra funds for the improvement of teaching; ever since their introduction, there has been – and still is – much debate about how these extra funds could be used in the most efficient and appropriate way. For instance, no one would argue that longer library opening hours or the employment of further tutors would indeed comply with this rule. But when the drastic increase in energy costs during the winter of 2006–07 led some universities to use part of their tuition fee income to make up for the unexpected extra costs that the state would not cover, voices were raised against this interpretation of improving teaching by heating lecture rooms. A great number of higher education institutions that levy tuition fees have installed a forum through which students are participating in deciding on how to best spend the extra funds.

At the time of writing, there is no clear evidence to judge whether or to what extent the introduction of tuition fees has led or could still lead to a lasting drop in new enrolment numbers, but there is much concern that this could be a consequence. The

number of first-year students has gone down in recent years, but that trend had started already before the actual introduction of tuition fees – though some think that even the debate about the imminent introduction of tuition fees might have kept potential students from enrolling. Indeed, in a survey of those who obtained their higher education entrance qualification in 2005, 25% of the pupils who declared no intent to study stated that if tuition fees were introduced, studying would be beyond their financial limits. And 19% (multiple answers were possible) said that they did not meet the financial prerequisites that studying required. Of these students, 11% declared they were not prepared to put themselves into debt through the BAföG's loan programme (Heine/Willich 2006). However, fees would hardly be the only criterion for not taking up a course of study; this decision is most often a mixture of several reasons. In this mixture, the increase of study courses that are open only to students with very good grades (the so-called *Numerus clausus* system) most likely plays a very important role, as well: in 2006, higher education institutions used their own selection criteria for almost two thirds of all bachelor's courses, though in some *Länder*, this ratio was much higher, e.g. 92% in Berlin (HRK 2006). Furthermore, 66% of those students who had decided against taking up a course of study explained that they wanted to earn money themselves as soon as possible (Heine/Willich 2006). A survey of those who left school with a higher education entrance qualification in 2006 (when tuition fees were already a given fact) has been carried out, but has not been published at the time of writing, though publication is expected in spring 2008. It should go without saying, though, that even if tuition fees turn out not to be a major deterrent to entering higher education, they certainly do nothing to make enrolling any more likely.

3. State support to students

Whilst the ways of funding higher education institutions thus differ considerably between the *Länder*, the basic system of state support to students is the same nation-wide. There are various components of state support to students in Germany.

Usually, only the “classic” grant and loan support is taken into consideration: the combined BAföG (*Bundes-Ausbildungs-förderungs-Gesetz*) grant/loan, state-funded merit-based grants, and other loans. Depending on their parents' income, students may apply for support as laid down in the BAföG; half of this support is a grant and the other half a loan.

There is a maximum debt limit (currently €10,000), beyond which debts are waived. A reduction of loan debt can be granted upon application for a number of reasons, e.g. if the student achieves very good study results, if he/she graduates within a comparatively short period and/or if an early repayment of the debt is made. There are also state-funded non-repayable merit-based grant schemes for students showing outstanding performance in their studies. Loan schemes outside BAföG targeted at students are relatively new in Germany and have only existed for some years. The introduction of tuition fees has given rise to the creation of new public and private loan schemes specifically to cover tuition fees; some of these are specific to the respective *Land* or even the higher education institution. Since the state would cover for possible default, this is also a means of state support even in cases where the loans are offered by private banks.

Besides these obvious modes of student support, there is a great variety of other direct and indirect forms of support to students and their parents that are all linked to student status. Orphans' pensions are just one of these forms. Students are usually covered by their parents' health insurance; where this is not the case (due to age limits), they benefit from reduced rates. Besides this, students enjoy cheap food at refectories, since their meals are publicly subsidised. Some student housing offers are also relatively cheap due to public subsidies.

On the parents' side, a number of benefits and different types of tax relief can apply provided the child still has student status. First of all, a child allowance is paid out to the parents of students up to an age limit of 27 years (as of 2007 reduced to 25 years) and a certain limit of the student's own income. This allowance is supposed to be passed on to the student, but this does not, in fact, always happen – or at least not the entire sum is handed on. Civil servants benefit from further student child-related supplements, and there can be child supplements for house owners, housing benefits, retirement provisions, widow(er)s' pensions, unemployment benefits, etc., all linked to the child's student status. Furthermore, tax deductions for a student child and his/her education are possible.

All these transfers (even though not all of them can be assessed) add up to a substantial amount of state support to students – though this is hardly perceived as such in the general public discussion. However, calculations for 2004 show that whilst the “visible” BAföG grants (excluding loans and subsidies on loans) amounted to €760 million and child allowances to well over €2 billion, all other,

less obvious exemptions and benefits make up for well above €3 billion. Altogether, there are some €7 billion spent as public support to students and their parents – compared to the nearly €10 billion reported by the OECD as having been paid that year in teaching allocations for ISCED 5A/6 institutions, this is a rather substantial figure (Schwarzenberger /Gwosć 2008).

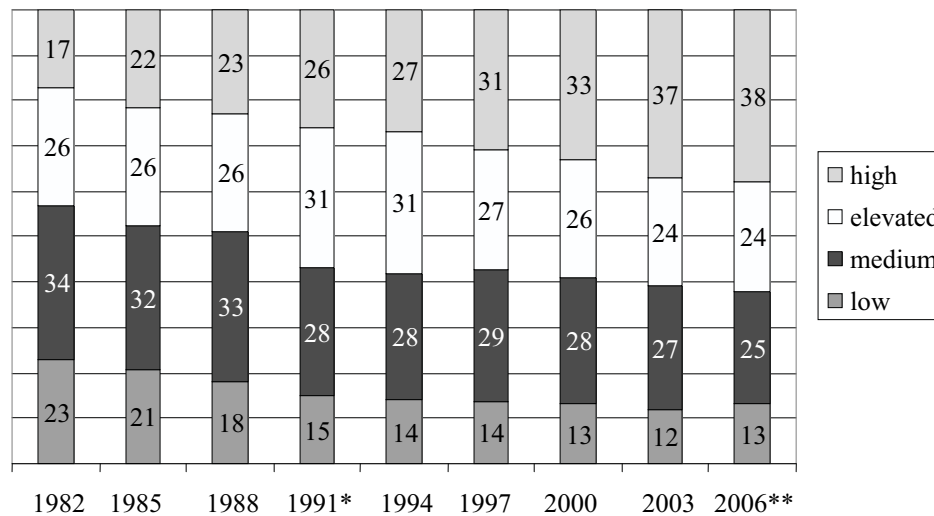
4. Cost-sharing and its consequences for participation and equity

By law, everyone who has attained the formal qualification for admission to higher education (*Hochschul-zugangs-berechtigung*, e.g. the *Abitur*) has the right to access higher education; higher education still is free in some of the *Länder* (and was until very recently in the others), and a state support system for financially disadvantaged students (BAföG) and loan schemes to cover tuition fees are in place. Therefore it would seem that no one who qualifies to enter higher education would be kept from actually doing so – thus, in theory, social equity in admission should be achieved in Germany. In fact, access to higher education and equity has not really been considered a big issue so far, at least not in the general public.

However, this formal right and the existing support systems do not necessarily mean that social equity is really achieved, since obtaining this qualification means that a number of obstacles must have been surmounted already, and even those who have obtained the qualification do not necessarily all actually enrol in higher education.

The social survey on students in Germany (*Sozialerhebung*; the latest available survey – Isserstedt et al. 2007 – is used as a basis for this text) shows that participation in higher education is to a large extent dependent on whether or not the respective parents have a degree in higher education: out of 100 children whose fathers have an academic degree, 83 enter higher education, whilst only 23 of the 100 children whose fathers have no academic qualification do enrol; so the odds of entering higher education are 3.6 times higher for children of academics than of non-academics (there are other determinants, as well, but parents' academic status has the greatest single impact on participation in education). One has to bear in mind that a student who does enrol in higher education must have passed other thresholds before that: e.g. the question of which school a child is sent to after primary school and if he/she then moves on to classes that would allow him/her to obtain a higher education access qualification

Figure 2: Development in the composition of the student body by social background group in % (rounding discrepancies may occur)



Source: Isserstedt et al. 2007, p. 136.

* As of 1991, values for both old and new *Länder*.

** For 2006, data include the so-called *Bildungsinländer* (students with citizenship other than German, but with a German higher education entrance qualification).

also play a very important role here. In fact, children of academics already have considerably higher transition rates at these stages than children whose parents are not academics.

The differentiation by social background of the students raises further concerns about equity. Plain as it may sound, “social background” is a construct that combines information on the parents’ job status (worker, employee, civil servant or self-employed; all differentiated a bit further) and their level of education (holder of an academic degree or not). Thus, four groups are formed: low, medium, elevated and high social background (for more information on this particular concept, cf. Isserstedt et al. 2007, p. 492 f.).

The developments in the composition of the student body by social background show that the share of students from a high social background has increased over the past years (thus raising further concerns about equity), as is depicted in Figure 2. Within a quarter of a century, the share of students from a high social background has more than doubled at the expense of all other groups. The highest decrease can be registered in the group of students from a low social background: their share in the student body has shrunk to 58% of its value from 1982.

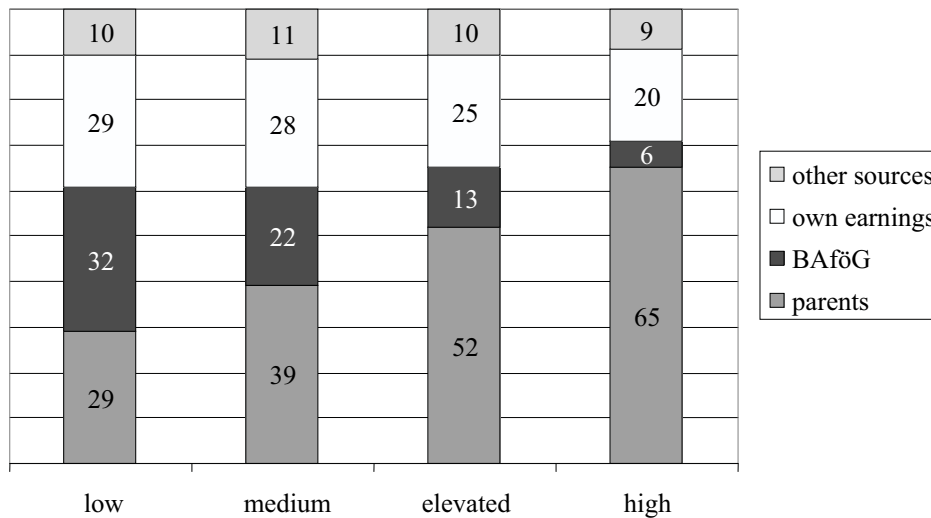
It is not surprising that the amount of money which students can dispose of each month is not the same

for students from different social backgrounds; these differences, however, are not particularly high: the median revenue a student from a low social background had was €700 a month, compared to €711 for students from a medium, €720 for those from an elevated and €749 for students from a high social background (arithmetic mean: €742, €753, €767 and €790 respectively).

By contrast, the composition of a student’s income (contributions from parents, BAföG, own earnings and other sources) varies considerably according to his or her respective social background, cf. Figure 3.

First of all, the share that the parents contribute to a student’s budget differs greatly between the social background groups: whilst this constitutes only 29% of the budget of a student from a low social background, a high social background student’s budget is made up 65% by the parents’ contribution. It should also be noted that whilst 95% of students in the high social background group received some financial support from their parents, the same was true for only 77% of students from a low social background. Whatever the parents do not or cannot contribute is made up for by BAföG payments and by own earnings. As is to be expected, the higher the social group, the fewer the students who receive any BAföG payments. In this, it should be noted that since 2003, the share of students from a low social

Figure 3: Composition of students' income sources by social background in 2006 (in %; referring to "normal students"* including *Bildungsinländer*)



Source: Isserstedt et al. 2007, p. 197.

* "Normal students" constitute nearly two thirds of the student body: they are unmarried, do not live with their parents any more and are enrolled in their first course of study.

background who receive Bafög has gone up from 54% to 58% (whilst the amounts that could be received remained the same), and smaller increases can also be observed for the other groups. Students from a low social background have the highest own earnings (arithmetic mean of €351 per month compared to €279 for students from a high social background), but the percentage of students that make any own earnings is nearly the same in all groups, and has slightly decreased in all groups since 2003.

It may be concluded that without any Bafög support, the number of students from the two lower social background groups would be smaller than it is now. Besides, it was found that the lower a student's social background, the less he or she considered it likely that the funding of his/her costs of living would be ensured during studies (39% of "normal students" from a low background, as opposed to 72% of those from a high social background agreed that their subsistence costs would be ensured during their study period).

5. Possible developments

Whilst the results of the *Sozialerhebung* show that the situation can be deemed critical enough in terms of participation and equity – especially since participation in higher education in Germany is already below average by international comparison

– the introduction of tuition fees is likely only to aggravate this situation and to highlight the differences between students from both ends of the social spectrum.

Other changes in the higher education landscape may also cause problems of their own: the introduction of the bachelor's/master's structure – which is somewhat more rigid than that of traditional degree courses – leaves students less time than in traditional degree courses for taking on a job during term-time. As the *Sozialerhebung* 2007 has shown, bachelor's students spend more hours per week on their studies than the average student (which is caused by a higher amount of time for independent study rather than going to lectures) – there are no data on students in master's courses yet. This would make it somewhat more difficult for bachelor's students to work during term-time for as many hours and with the same earnings as students in traditional degree courses.

Funding procedures including indicators such as the number of graduates set an incentive for higher education institutions to get their students through the system more quickly, so this may well emphasize the pressure put on students in terms of the time required for studying, leaving less time to work alongside studies. This does not bode well for the social inclusion of students who have to work just to be able to fund their place in higher education – i.e. mainly students from a lower social background.

On the other hand, where the number of students features as an indicator in the state funding system (and the number of graduates, too), it is in the interest of higher education institutions to keep attracting students.

Apart from taking out loans – which is traditionally highly uncommon for students in Germany and much resented, since they are hesitant to start off their working life with considerable debt – a possible way out of this dilemma could be the official introduction of part-time courses: in theory, all courses are full-time courses in Germany to date, but *de facto* some students are studying part-time judging by the number of hours they put into their studies, though the reasons for this may be quite varied. By allowing for part-time enrolments – which should translate into a lesser amount of tuition fees – students who simply have to work to (co-)fund their studies might not be deterred from enrolling due to the hours required for studies/work per semester. However, this would mean that in terms of years until graduation, part-time students would require more time, so they would take longer to join the “real” work force – which would still put them at a disadvantage regarding their total career income and thus also their pension, and quite possibly concerning their career chances as well.

Currently, there is a political debate about raising the BAföG payment by 10% as of 2008 to make up for the increase in the cost of living since the last raise from 2002. If the BAföG is increased, that may help students who would otherwise only just have refrained from studying for financial reasons – but the fundamental differences in the composition of a student’s income depending on his/her social background and the socio-economically influenced participation in higher education are unlikely to be changed.

6. Further research

In the cost-sharing analysis made possible through the *Sozialerhebung*, the more obvious support elements such as BAföG are taken into consideration. However, as was shown above, students and their parents can benefit from a considerable number of public support items that cannot all be included in the calculations made in the *Sozialerhebung*, since they may, for instance, apply to the parents’ taxation. But these, too, reduce the students’ and parents’ share in the cost of higher education, whilst increasing the state’s share. A very recent study (Schwarzenberger 2008) has shown that the different transfers and other types of support to students and their parents – and thus

also cost-sharing between the state and private households – tend to differ according to a student’s socio-economic background. What remains to be explored, however, is the impact of such differences on equity and whether there is a causal relationship between cost-sharing scenarios and enrolment from different social strata.

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