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Funding, equity and efficiency of higher education - Interrelationships between these phenomena and an international conference on them

Summary

Funding, equity and economic efficiency of HE are three mutually connected phenomena that have been of increasing interest to scholars and policy makers during the last two decades in Europe and elsewhere. Analysing these phenomena and the relations between them is the main topic of this paper, and was also the main topic of the international conference "Funding, Equity and Efficiency of Higher Education", which took place in Portorož, Slovenia, 21-24 November 2007. The paper begins by presenting the purpose and goals of this conference, and continues with a presentation of each of the three phenomena using a joint approach (definition of the phenomenon, its measurement, prevailing global trends). Finally, it tries to explore the possibilities of measuring the relationships between them. It ends with some key conclusions.

Key words: *higher education, funding, equity, efficiency.*

Povzetek

Financiranje, pravičnost in ekonomska učinkovitost visokega izobraževanja so tri medsebojno povezane razsežnosti tega izobraževanja, ki so v zadnjih dveh desetletjih v Evropi in drugje po svetu deležne naraščajoče pozornosti znanstvenikov in oblikovalcev politike. Analiza teh pojavov ter povezav med njimi je jedro tega prispevka in je bila tudi jedro mednarodne konference o financiranju, pravičnosti in učinkovitosti visokega izobraževanja, ki je od 21. do 24. novembra 2007 potekala v Portorožu. Prispevek se začenja s predstavitvijo namena in ciljev te konference, nadaljuje s predstavitvijo vsakega od treh pojavov z uporabo enotnega pristopa (opredelitev pojava, njegovo merjenje, prikaz globalnih trendov). Na koncu pa poskuša pokazati, kakšne so možnosti za merjenje povezav med njimi. Konča se z glavnimi sklepnimi ugotovitvami.

Ključne besede: *visoko izobraževanje, financiranje, pravičnost, učinkovitost.*

JEL: I210, I220, I280

*Bruce Johnstone**

Financing higher education: some special features of formerly socialist Europe

Summary

Universities and higher educational systems throughout the world including in formerly Socialist Europe are experiencing a financial dilemma as costs both to the individual institution and to the national system rise faster than the available public revenues. The source of the dilemma is threefold: (1) inexorably rising per-student costs; (2) increased demand for university places; and (3) rising competition for scarce public revenue from politically and socially compelling competing needs. Solutions involve some mix of lowering per-student costs (if possible) and supplementing public revenue with tuition fees and other private sources. The challenge is how to maintain accessibility in the face of almost inevitable rising expenses to both parents and students.

Key words: *Higher education (or university) costs, cost sharing, tuition fees, access (or accessibility).*

JEL: I210, I220, I280

1. Introduction

Underlying many of the financial issues in higher education in all countries is the surging demand of the past three or four decades, driven by a belief in higher education as a principal engine of social and economic advancement, both for the individual and for the larger society and economy. Most countries in Europe (with some differences among countries in Western, Central, Eastern and Southeastern Europe) and their higher education systems have grown, or *massified*, dramatically since the mid and late 60s, nearing in some countries a possible effective saturation, at least of the *classical university* form of tertiary education. Most countries are still attempting to accommodate this increasing participation, possibly with some form of more effective *sector diversification*. Several countries, with low or even declining birth rates and at or near this apparent saturation, are actually facing the possibility of significant declines in enrollments, at least of traditional-age first degree students. At the same time, some of these same countries are still struggling to accommodate the massification that has already happened (that is, to restore some of the former per-student revenues for their universities and to "catch up," as it were, on the enrollment surge that has already occurred).

This demand, whether still surging or "flattening," is accompanied by the second element of higher education's financial dilemma, which is the *rapidly increasing per-student cost pressures*, fueled throughout Europe and worldwide by a resistance of the higher educational enterprise to the kinds of ongoing productivity enhancements typically associated with the goods-producing sectors of the industrialized economies (mainly substituting capital for labor). At the same time, governments in nearly all countries seem increasingly unable to keep pace with these cost pressures through public (that is, tax and/or deficit generated) revenues. This inability goes considerably beyond a mere unwillingness to tax. Taxation and even deficit financing are nearly as difficult technically as they are unpopular politically.[1] Globalization and the virtually unlimited mobility of capital and productive facilities leads multinational goods producers to seek a combination of political stability, low wages, and low taxes, which limits the ability of the advanced industrial countries to maintain high taxes and thus limits the size of their public sectors (including their publicly-financed universities). The so-called transitional countries of Central, Eastern, and Southeastern Europe, long dependent on relatively easy *value added* taxes on state-owned producers, have had to devise new

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[1] Deficit financing, once at least a "fall back" method of raising public revenue, is highly constrained by the rules of the Euro community.

means of taxation, none of which have been particularly successful. And to the extent that any of these countries were able to increase their taxes significantly (and to do so year after year), there would remain all of the other compelling public needs (e.g. elementary and secondary education, ageing populations, unemployment and the need for an economic safety net, public health, public infrastructure, and the restoration of the environment) that compete with higher education for these limited additional revenues.

What emerges from this confluence of (1) high and rapidly increasing demand; (2) commensurately high and rapidly increasing costs; and (3) increasingly limited public revenues are two large, complex, and interrelated issues pressing upon higher educational institutions and governments worldwide. **First,** ***how can the demand for greater (but still high quality) higher educational capacity be met at a lower per-student cost (especially at a lower per-student cost to the taxpayer)?*** The policy responses to this dilemma include: (1) those that attempt to *lower costs* (e.g. merging institutions for economies of scale, increasing student/faculty ratios, etc.); and (2) those that attempt to *supplement limited public revenue with private revenue* (e.g. with tuition, fees, philanthropic donations, and institutional and faculty entrepreneurship). The higher educational reform agendas of most countries, including the mature economies as well as the countries of the transitional and the developing worlds, contain elements of both.

Second, ***how can higher education resist (and possibly reverse) its natural inclination to reproduce, and even to exacerbate, existing social disparities and inequalities, whether by parents' social class, ethnicity or kinship affiliation, language, region, or religion***? Access to higher education everywhere is limited by the level and quality of the secondary education, including whatever combination of family cultural capital and private tutors can further enhance the academic preparedness of the aspiring student. Parental income is virtually certain to be a predictor of higher educational participation, especially where means-tested financial assistance and generally available student loans are limited or non-existent. And because parental income is generally correlated with white collar or professional occupation, membership in a dominant ethnic and linguistic group, and access to the best secondary schools (that is, *other predictors of academic preparedness and ambition*) higher education can reinforce and even accentuate existing social stratification, even while some of the very brightest and luckiest of the poor or the rural or the linguistic or ethnic minorities are able to use higher education to escape from their social and economic marginalization.

2. Internal and external efficiency

Both parts of system of funding higher education – state funding of educational institutions and state financial support to students – have important impacts on both the internal and the external economic efficiency of higher education. A very low price of instruction (i.e. low or no tuition fees) does not stimulate students to efficient study. In combination with fellowships as the only direct state financial support to students, such a system results in very high private returns to higher education compared to social returns. Thus, the internal economic efficiency, which includes the efficiency of study, or learning, is as a rule, low in institutions and countries without tuition fees. In many European former socialist countries, private rates of return are high (and have been increasing since the 90s) compared to social returns and also compared to the rates of return in the highly industrialized countries of the OECD.

3. Cost-sharing

Worldwide, the most common approach to the need for increasing revenue is some form or forms of ***cost sharing***, or the shift of some of the higher educational per-student costs from governments and taxpayers to parents and students. This trend in the mature economies can be seen in the high and rapidly increasing tuition fees in the US, Canada, Japan, Australia, and New Zealand; more recently in the early beginnings of tuition fees in the West European countries of UK, Portugal, The Netherlands, most recently (2001) Austria and (2006) Germany (some Landers); and finally in the so-called *dual track tuition fees* of post-Communist Russia, Czech Republic, and other East and Central European countries.

The economic rationale behind the case for *students* bearing a portion of the costs of their higher education is that there are substantial private benefits, both monetary and non-monetary, that accrue to the student from higher levels of education and that these benefits justify a tuition, especially one that can be deferred and repaid through some form of loan or a surtax upon income or current earnings. The case for *parents* bearing a portion of the costs of their children's higher education (via an *up front* tuition, but almost always with the caveat of means-testing, or the presumption that the parents actually have the financial ability to pay) is driven partly by the same assumption of private benefits extending to the parents, reinforced by the fact that parents all over the world do pay, and

partly by the aforementioned fact that public needs seem almost everywhere to be outrunning the available public revenues. Thus, there seem to be few alternatives to some tuition fees (short of denying the universities the revenue that they seem to need and losing either higher educational quality or higher educational capacity or both) to the principal detriment of the poorest or most marginal students, who have such limited options. In fact, at least in the abstract, most economists maintain that some tuition fees—assuming some means-tested grants and/or sufficient available student loans—is actually more equitable than free higher education in that students everywhere are disproportionately from the middle and upper classes and the taxing systems in most countries tend to be proportional or even regressive.

Europe remains the last bastion of genuinely free higher education, although three decades of massification, overcrowding, persistent under-funding, and the generally slow economic growth of the 1990s have been placing great pressures on the universities for alternative revenue sources. The UK throughout most of the 90s dramatically reduced its once very generous student grants, and in 1997 for the first time imposed a tuition fee (interestingly, under a Labor Government), although this "up front" tuition fee has since been converted to a deferred tuition, not unlike the Australian Higher Education Contribution Scheme, which is repaid through a surtax on the incomes of graduates after their incomes exceed a threshold level.[2] France in the early years of the 21st century continues to provide nearly free university education to every graduate of their academic secondary schools, but Austria abandoned free higher education in 2001 and Germany offered possibility to introduce tuition fee in 2005; many observers believe that the rest of the continent will one day follow.

The US presumes both a *parental* contribution based upon the income and some of the assets of the parents (which necessitates some way to test parental *means*, or financial *need*) and a *student* contribution, either from loans or term-time or summer earnings. Scandinavia officially rejects the proposition that parents should be financially responsible for the higher education of their children, but it accepts the notion of a student responsibility for living expenses, born by extensive student loans. Russia, along with most of the rest of the countries of the former Soviet Union, and most of Eastern and Central Europe (all of which have political/ideological legacies of higher education as another entitlement) albeit one that the governments can no longer afford to honor—attempt to have it both ways, with regular, or *governmentally-sponsored*, students entitled to a traditionally free higher education (presumably selected by competitive examinations), but all others charged tuition.

4. Sector diversification

A related issue, still largely financial, in higher education is the form and extent of sector diversification, or the creation and effective use of shorter cycle, more accessible, and more vocationally-oriented alternatives to long (3 or 4 to 6 or 7 year) first degree associated with the classical, research-oriented university. These alternatives—such as the German and Austrian Fachhochschulen, the Dutch HBOs, the French IUTs (Institutes Universitaires Technologies), the Japanese public and private junior colleges, and the American community colleges (to which most US higher educational observers would add the public and private four year and comprehensive colleges and universities)—attempt to provide tertiary level education that is shorter in term, more practical, less academically rigorous, and less costly.

Some countries, such as Spain and Italy, have resisted the non-university movement altogether. Britain actually erased what was once a clear *binary line* dividing the classical research universities, both old and new, from the non-university polytechnics and now exhibits the *research drift* so prevalent in the US, where colleges and universities that once featured bachelors and master degrees and a teaching emphasis now strive toward research and advanced degrees. Sector diversification will continue to meet resistance from university students and faculty, who frequently see alternatives to the classical university as lower in status and designed mainly to *track* less well-prepared students (therefore more likely to be from poor or otherwise marginalized families) into forms of tertiary education that will limit their opportunities. Nevertheless, sector diversification will likely remain prominent on the agenda of international higher education reform.

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[2] Interestingly, what appears to be an unintended consequence of the UK's shift from an up front to a deferred tuition fee is not a shift back to governmental funding, but a transfer of cost burden from the middle and upper middle class parents (low income parents did not have to pay the means-tested up-front tuition fee) to all students.

5. Private higher education and privatization of public higher education

Private higher education has always been important in the US, as it has been in much of East Asia and Latin America and is rapidly emerging (albeit in very fragile forms) in Russia and the other newly independent countries of the former Soviet Union. This importance can be quantitative, or *demand absorbing*, as in the relatively low cost, less selective institutions of Philippines, Japan, Korea, Thailand, Brazil, and elsewhere in Latin America that permit the maintenance of a smaller, costlier, more selective, and generally more elite public university sector. Such private institutions are typically highly responsive to the market—that is to the interests of both students and their potential employers (e.g. featuring business, computer science and English language instruction). Or as in the United States, but less often in the rest of the world, they can be elite and leading edge. (The US also has a significant number of the low-cost, non-selective, private non-profit colleges, as well as a large, non-selective, proprietary or for-profit, sector).

Considerably more significant in Europe than the rise of privately *owned* institutions of higher education is the *privatization of the public institutions*: e.g. charging tuition fees and encouraging entrepreneurship on the part of institutions and faculty alike, granting increased autonomy to institutional management (and diminishing the influence of the faculty), and taking on private sector norms such as marketing and the emphasis on accountability. The issues emerging from privatization include all of the controversies associated with cost-sharing plus the issues associated with the clash of traditional academic values and faculty authority and the newer managerialism.

6. Globalization and the conformance of academic standards

Globalization refers to an internationalization of production, of capital (and therefore the ownership and control of this production), of information and knowledge, and of culture itself. Globalization is often associated with the worldwide ascendancy of market capitalism and a perceived increasing hegemony of the OECD nations, and in particular of the United States and the other English language-speaking countries. Higher education is an important engine of globalization, and is in turn profoundly affected by it. The modern university is among the most international of all institutions, and research and scholarly creativity, especially in science and technology, are among the most international of human endeavors. At the same time, critics decry the extent to which globalization weakens local culture, literature, and language, and the intentional or unintentional complicity of higher educational institutions in this process. Finally, even as globalization generates wealth, it also diminishes the ability of states and other governmental units to tax that wealth, thus diminishing the sectors—including public higher education—that depend financially upon public revenue.

Lorenz Lassnigg, Martin Unger***

Funding higher education - where is Austria going?

Summary

The paper describes the new system of funding Austrian universities, which is mainly based on performance agreements. Secondly, the consequences of the old funding system with restricted public budgets in times of a "massification" of university education and an open access policy are described. Equity in access is discussed under these conditions, resulting in a very unequal system mainly due to the strong social selectivity of the school system. Moreover, reforming the open access policy will be at the top of the political agenda in the near future. We conclude that the new system of funding follows in its core the old culture of negotiation, because objective criteria are rarely taken into account. Most of all this is true for the research performance of the universities. Overall, the efficiency of the system is hard to judge because relevant data is lacking. This won't change much in the near future.

Key words: *Austria, funding, equity, efficiency.*

JEL: I280

1. Introduction

The Austrian system of higher education provides a unique case in some respects: a recent reform has changed a very highly regulated, traditionally state-financed, input-oriented system to a system relying on autonomous institutions. The funding of higher education is comparatively low, despite comparatively high overall education and training expenditure. Efficiency is not controlled systematically, and existing indicators point to rather low efficiency. The dropout rate has been one of the highest, and study duration is very high. The admission system is still based on the right to a study place acquired by a matriculation examination at upper secondary school. The universities are in general not allowed to restrict study places, and thus are in different proportions overcrowded. In terms of equity, there are indications that the system is quite unequal in terms of social background, and except for the gender proportion, strong inequality persists. Austria agreed to join the Bologna process early on; thus the study structure is in the process of change as well, which opens many questions about the consequences of these changes. Recently the first graduates of bachelor's studies have reached the labour market, and their pathways into further studies are not clear so far.

The paper is based on some in-depth analyses about the comparative financing of higher education (evaluation of OECD indicators), a comparative case study about costs and results of individual universities, a comparative study of admission mechanisms to higher education, and a set of representative student surveys focusing on the social study conditions (see Lassnigg, Steiner 2003, Unger et al. 2005, 2006, Lassnigg et al. 2007, HIS 2005, Unger, Wroblewski 2007).

2. System of funding

In the past the system of funding was based on a cameralistic system, with predefined budgets for the universities. Recently the universities have been given a high level of autonomy, and they are financed mainly on the basis of a performance agreement (*Leistungsvereinbarungen*), with 20% based on a set of indicators (*Formelbudget*). Teaching and research funds are not separated in the university sector, and the teaching load is not identifiable.

Performance agreements (80% of total university budget)

For the first time, performance agreements between the Ministry and the individual universities were signed at the end of 2006. They cover the period 2007–2009. The agreements describe the status

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Table 1: Coverage of performance agreements and intended projects of the University of Vienna as an example

Topics of performance agreements	Example of the University of Vienna
1. Human resource development	Increase in number of professors and doctoral students
2. Research	Implementation of research foci, interdisciplinary research platforms, increase in third-party funded research
3. Teaching	Improved supervision of theses, implementation of the Bologna structure, expanded e-learning offers, expansion of courses for further education
4. Social objectives	Increase in number of female professors, measures for supporting scientific careers of females
5. Internationality and mobility	Increased participation in EU funded projects, increase in number of joint degree programmes, rising mobility of students, cooperation in teaching
6. Special units	University sport: rising number of participants

Source: University of Vienna (Mitteilungsblatt No. 99, 22.3.2007).

quo in teaching and research and the intended projects for the next three years in several areas with reference to the university development plans (see Table 1). The universities receive a lump sum for the achievement of the whole performance agreement. There is no money allocated to particular aspects of the contracts. Only the future projects are quantified with indicators (like the number of additional professors) and given a fixed deadline for their achievement. The next period of performance agreements will take into account whether or not the universities fulfilled all points in the foregoing agreement. However, it is not clear how this will be assessed and how over- and underachievements in certain points will be traded off. Moreover, most of the deadlines in the agreements are set for 2009, but as negotiations for the next period of performance agreements should be finished by 2009, their achievement cannot be taken into account.

In the agreements there is no connection to the number of students; only the subjects and the type of degrees offered in each subject are fixed. However, the University of Business Administration, for example, signed the contract with the reservation that it can only fulfil it if the number of incoming students does not rise. Moreover, its agreement contains an estimation of future students in the newly established master's programmes. If more students decide to continue with a postgraduate programme (access is not limited by law), the university will not be able to fulfil the agreement completely. Even more, the estimates of the university (which are part of the contract) assume a dropout rate of 65% – like the current one.

Indicator-based allocation of funds (20% of total university budget)

Twenty percent of the total university budget is allocated according to an indicator-based system. All parties, the ministry and the universities, agreed on a set of 11 indicators and a very complicated formula of budget allocation based on these indicators (see Table 2). In general, the system takes the status quo of the universities' funding

Table 2: Indicators used for the allocation of 20% of the total university funds

Indicator	Weight
1. Number of active students in BA, MA and diploma studies within the official study duration according to the curricula (plus a grace period)	15%
2. Number of graduates in BA, MA and diploma studies	10%
3. Proportion of graduates within the official study duration according to the curricula (plus a grace period)	10%
4. Success rate of students in BA, MA and diploma studies	10%
5. Number of graduates in doctorate and PhD studies	15%
6. Income from research projects funded by the Austrian Science Fund or the EU	15%
7. Income from research projects funded by other sources	15%
8. Proportion of female professors	6%
9. Number of female graduates in doctorate and PhD studies	1%
10. Number of students participating in exchange programmes (outgoing)	2.5%
11. Number of first-time enrolled students in MA, doctorate and PhD studies without a prior degree from Austria	0.5%

Source: BMWF (Verordnung über das formelgebundene Budget der Universitäten, BGBl. II No. 120/2006).

into account, as well as the size of the universities and the improvement of the indicators versus a prior reference period and versus all other universities.

Indicators are weighted for the field of study and type of degree, and are standardised according to the size of the university. Scores are calculated with a sigmoid function for each indicator, mostly taking reference values from prior periods into account. The points per indicator are then weighted according to the share listed in the table above and summed for each university. Finally, the total scores are standardised according to the size of the university, and the overall budget is divided by these standardised total score points among the universities.

This complicated formula was developed to establish a fair system, which takes into account the different situations of, for example, universities of medicine or the arts. However, the formula is so complicated that the result is again a non-transparent system of budget allocation. Several universities were surprised when they saw the results. They expected an increase in their budget, but the result was a decrease (which is capped). Therefore, the ministry has already announced an evaluation of the formula.

Moreover, the complicated formula does not allow for calculating the value of each indicator in monetary terms. For example, if a university increases the proportion of female professors (indicator 8), one does not know how much money is allocated for this. This makes internal processes in the universities more difficult, and the administration can hardly award additional money for certain achievements of sub-units, like additional funding for an institute that appoints a female professor.

Another criticised point is the benchmarking of the current situation with the prior period. Improvements should be rewarded and standstills or declines should result in budget cuts. However, the University of Business Administration, for example, claims to have been operating at the limits of its capacity for several years already. Therefore, improvements are not possible anymore in their opinion. Of course, single indicators are criticised as well: to take only students within the defined study duration into account, for example, leads to different results according to the amount of *de facto* part-time students (officially there are only full-time students). Several subjects are more easily combined with student jobs or are more attractive for continuing education of the work force than others. Therefore, the average amount of time spent by students for their studies per week varies between the universities, as does the proportion of students finishing in the intended period of time.

Apart from the lump sum of the university budget, there is a separate system of funding for additional research, which is very complex, due to different kinds of research (academic, applied, development) situated in different institutions and ministries. Thus, the financing of the services of universities is hardly transparent either.

A second and very much smaller sector of higher education, the universities of applied sciences (*Fachhochschule*), is organised on a very different basis: an accrediting council selects and periodically re-evaluates programmes, and funding is provided by the federal government on a per student ratio which is carefully monitored. The federal government admits a certain number of study places per programme and funds 90% of each place. The amount differs by subject, but it does not include the cost of the infrastructure. The providers of the programmes have to make do with this amount of money or raise additional funds (at least for the infrastructure). They are also allowed to accept more students than the federal ministry admits, but without federal funding. Mostly the necessary additional money is paid by the provincial governments, which are in most cases the providers of the programmes. Tuition fees are allowed up to the amount charged by the universities (less than €400 per term), but in three of the nine provinces, the institutions do not charge fees. Originally, it was hoped that this new funding system might raise more private money, especially from the business sector. In fact, it brought up the provinces as new players in the higher education sector and therefore resulted in "different" public money instead of notable private funds (Lassnigg, Unger 2006).

3. Consequences of restricted public budgets for higher education

Because of the missing regulation of study places, the increase of student numbers since the 1970s has not been matched with additional funds; thus, as in most other countries, the per capita funding went down (in real terms).

In Austria, this was to some extent hidden by three facts: first, little or no study activity of a high proportion of the counted student population. A retrospective analysis estimated that around 25% of university students included in the statistics for the year 2000, the year before the introduction of

fees, were inactive (Pechar, Wroblewski 2002). Therefore, "real" conditions in many areas differed very much from the "official" indicators.

Second, no formal part-time status exists, but for example, more than 60% of students work during the term (Unger, Wroblewski 2007). Therefore, the per capita number of enrolled students differs greatly from the number of full-time equivalents, which is not precisely calculable. However, more than 40% of students spent less than 30 hours per week on their study in 2006 (ibid.), a number that provides an indication of the potential part-timers.

Third, following from the high proportion of hidden part-timers, the average duration of study is very high in Austria. According to OECD data, the average duration of tertiary type A programmes was 5.6 years in Austria. Only in Germany (6.6) and the UK (5.9) is the average duration of study longer; the OECD average was 4.4 years (OECD 2006). Based on these figures, it may make sense to compare the cumulative expenditures per student over the average duration of studies instead of the annual expenditure. According to this indicator (OECD 2006), Austria spends more than most of the OECD countries for which data are available. Only Switzerland and Sweden have higher expenditures on tertiary education.

Nevertheless, a high proportion of a university's budget is spent for staff. However, the number of scientific personnel could keep up even less with the growth of student numbers. Currently, there are 4.5 times more students enrolled in Austrian higher education institutions than in the year 1970, and the (nominal) budget increased by around four times, but the number of academics has only doubled in the same period (Pechar 2007). Moreover, the allocation of academics was as obscure as was the allocation of funds within the old system. Therefore, the ratio of students per academic shows the results of a system with open access and non-transparent and inadequate funding of the growing number of students.

While in some, mainly technical, subjects the ratio of students per academic is average in international comparisons, there are also the so-called "mass subjects" with ratios of more than 400 students per professor. In fact these constitute only a handful of subjects, but the majority of students are enrolled in these subjects. Pechar (2007) calculates that 30% of all university students are enrolled in subjects with an "extremely unfavourable" ratio of 50 or more students per academic, and a further 25% of all students are enrolled in subjects with an "unfavourable" ratio of 37 or more students per academic. Even if one took the proportion of part-time students into account and estimated full-time equivalents, the picture would still be unfavourable in several subjects.

A very intense comparison of institutional budgets supports this argument (Unger et al. 2005): The Technical University of Vienna (which is not overcrowded in most areas) has a similar budget per student available and a similar ratio of students per academic as the Technical University of Darmstadt in Germany. However, both universities lag far behind the financial situation of the ETH in Zurich. The situation of "full universities" (excluding medicine) is quite different: on average, the budget of the University of Vienna is far below the budget per student of the universities in Munich and Zurich, as is the ratio of students per academic. However, a look at sub-units shows that the financial situation of the University of Vienna differs not too much from the situation of the University of Munich, apart from humanities, social sciences and economics – areas with vast numbers of students. Here again, the gap between the Austrian and the German universities versus the University of Zurich remains large in all subjects. The expenditures per graduate, however, differ much less among the analysed universities. A comparison of business schools showed similar effects (Unger et al. 2006): the expenditure per student at the University of Business Administration in Vienna (WU) is similar to the one at VSE in Prague and the Faculty of Economics at the University of Hamburg, but far less than at the Copenhagen Business School (CBS) or the Faculty of Economics at the University of Zurich. On the other hand, only Zurich spends more per graduate than Vienna.

In a word, the funding of universities has been very opaque, and the available data have not allowed for a sound monitoring of it. Different indicators show very different results. Some reasons for this are the many de facto part-time students, a longer study duration and a high dropout rate. The funding situation differs very much among the subjects. Only a few subjects face severe financial problems; however, these are the subjects which enrol a majority of the students. The situation may improve with the new budget allocation instruments, but they involve mechanisms to prevent financial shocks for single institutions due to a cap of maximal budget cuts; therefore, the reallocation of funds will take time.

Concerning research funds separate from higher education funding, there has been a long-standing assessment of very low research expenditure in Austria. However, more recently, research has discovered a quite substantial amount of research

funding, which had been hidden before. A supplemental funding offensive for research has improved the proportion substantially since the year 2000. These funds are raised mainly by the entrepreneurial sector.

4. Cost-sharing

Due to the OECD figures, the funding of the Austrian system is almost totally public. Private expenditure covered 7.3% of the total expenditure on educational institutions in 2003 – this figure nearly doubled compared with the preceding years. The OECD average was 24%; in Japan and Korea private expenditures covered 60% to 77%, and in the United States 57% (OECD 2006).

Private money is particularly collected in two areas: first, since 2001 relatively small tuition fees are collected (below €400 per semester), and second, the private sector contributes mainly to applied research. However, these funds are not formally included into the university budget, and much of the funds goes to non-university research institutions. Thus in many areas there is a more or less deep cleavage between academic research on the one hand, and applied research and development on the other. The Austrian private sector is particularly reluctant to finance research in higher education.

However, an evaluation of OECD indicators shows that the figures about private funds are hardly comparable, and Austria is lagging behind the shares of private funds in most countries (Lassnigg, Steiner 2003). Totally missing are opportunity costs, which, however, matter very much when it comes to equity questions.

Attempts to increase private funds

Introducing tuition fees has been one attempt to increase private funds. This issue has been contested very strongly in the political arena; however, the current government has also retained them.

Other attempts have been initiatives to raise more private money for research and to increase interaction between academic research and applied research. Different kinds of programmes have been set up for joint research and development centres between university institutes, non-university research centres and enterprises. Some of these programmes have formed rather large and high-quality research and development centres based on academic quality assessment procedures.

5. Equity in access

Equity in access has been a more or less neglected issue in Austrian higher education. The system is nominally "open", as there have been no restrictions to access, which is conditional only on holding the Austrian matriculation examination. Selection is performed mainly by the school system, which is tracked after grade four (age 10 of pupils) in upper-level and lower-level programmes. There is also a strong social bias in the selection of school careers: as the recent census has shown, only 12% of pupils from a lower educational background compared to 77% of children from parents with a university degree attend a college-preparatory secondary school at the age of 12 (Bauer 2005). In other words, your likelihood of attending an upper-level programme is six times higher if your parents finished university, compared to children from parents with only a compulsory school certificate. Even more, according to PISA studies, the performance of pupils in Austria depends very strongly on the educational background of the parents. In reading, for example, the influence of the social background is the strongest among all EU countries (Breit, Schreiner 2006).

The social selectivity of the education system continues in the tertiary sector. A recent student survey confirmed earlier studies on this issue: Unger and Wroblewski (2007) calculated a so-called "recruiting quota" that shows the number of incoming students according to their fathers' educational level per 1,000 men in the population with the same educational level. If the student's father finished an apprenticeship, the recruiting quota is 7.9. If the student's father is a university graduate, the quota is 42.9 – more than five times higher. For a simpler description, the population is divided into two groups, fathers with and fathers without a matriculation certificate (*Matura, Abitur*). The quotas are then 33.2 and 10.7 in favour of the more highly educated fathers (pictures for students' mothers are similar). According to this simplified indicator, children from higher social classes are over-represented threefold at the universities.

This ratio was even higher several decades ago, but has ceased to change over the last decade. The introduction of tuition fees in 2001 led to an overall reduction in the number of incoming students for two years (in accordance with economic predictions about this), which was, contrary to all fears, not socially selective according to the recruiting quota. Meanwhile, the same number of new students started courses of university study as before the

introduction of fees, and enrolment at the universities of applied sciences even increased.

The situation at the universities of applied sciences is a bit less socially selective. Here, fathers with a *Matura* are "only" over-represented twofold among incoming students, although the sector does not follow an open access policy and each institution selects its students according to its own criteria. Because this sector has been in existence only 13 years and is still expanding, the social selectivity of the total higher education sector is reducing slightly. Currently, more than a quarter of all beginners start at a university of applied sciences, and there are plans to further increase this proportion.

However, comparative assessments have shown that the Austrian system is relatively inequitable, despite its so-called "open admission". The last edition of the Eurostudent report (HIS 2005), for example, presents the ratio of students' fathers to all men of corresponding age groups with higher education. This ratio is 2.6 in Austria, 2.2 in Germany, 2.0 in France, 1.7 in Italy and Finland, 1.6 in the Netherlands, 1.5 in Spain and 1.1 in Ireland (an indicator of 1.0 would show a socially equal distribution). Only in Portugal is the ratio much higher (5.4), but partly this is affected by various data problems. Usher and Cervenan (2005) published an Educational Equity Index (EEI) for universities based on a similar indicator. Austria, with an EEI score of 38, ranks in 12th place out of 13 countries. The Netherlands is the most equitable country, with an EEI score of 67.

As the European Court decided in 2005 that "open admission" must also be applied to non-Austrian EU citizens, big debates about the admission system have come up, and universities claim the right to select students. Some pilot programmes have been installed in certain study fields, for example, medicine. Here, the universities are now allowed to limit the study places and select their students themselves.

The Austrian Rectors' Conference (Universities Austria) has launched a big research project to assess the admission system and to come up with alternative solutions (Badelt et al. 2007). Within this project, Lassnigg et al. (2007) looked at the social selectivity of different admission systems in several countries. Apart from the fact that there is hardly any international comparative literature about this issue, the first finding was that the effects of admission systems have to be analysed in the context of the whole system (including e.g. fees, grants or other supportive measures like tax reductions or child benefits). However, the prior "education pipeline" (and its selectivity) is the most important factor. International studies (e.g. Usher, Cervenan 2005) have shown that systems where the admission to higher education depends on an entitlement of the school system (e.g. Germany, Austria) show the worst results with regard to social equity. In this sense, the open access to Austrian universities is far away from being open to anybody. Instead, it could be called a system with open access for the privileged.

However, the consequences of the subliminal discussion about reforms of the admission system are not easy to foresee at the moment. In general, equity issues have gained importance in public debate with the PISA results and swap from time to time with the universities. However, mainly tuition fees are discussed and contested under the equity topic.

6. Economic efficiency

Internal economic efficiency

We can rate internal economic efficiency as not very good because of the lack of transparency for both input and output. The issue is further complicated by the bulk of recent changes. There is particularly a lack of information about the extent to which the infrastructure is really used by students and by the lack of information about the research activity and output of the staff.

Because of the high drop-out rate and the long study duration in the past, even the relatively low budget does not indicate a high degree of internal efficiency. Particularly if we calculate costs per graduate, based on the average per student expenditure, this indicator is very high.

On the other hand, some more in-depth studies about research efficiency have obtained a relatively high efficiency.

External economic efficiency

Because of a lack of income information, there is not much evidence about the external efficiency of Austrian higher education. The individual rates of return of Austrian education and training are average, whereas there are indications that the social rates of return are comparatively low. Some simulations indicate that the public costs are too high; however, this might result rather from schooling than from higher education.

7. Planned and required changes

The first change is full implementation of the reform of the university sector. In terms of financing, the first round of performance agreements has just started, and information about the achievement indicators will soon be available. This will bring to light whether or not the reform might really improve efficiency.

A second change which can be foreseen is reform of the admission system. There are no clear plans at the moment; however, much points to the direction that the universities will get some discretion in selecting their students – maybe in PhD or master's programmes firstly. A study about the equity implications of admission systems mainly pointed out that massive and clearly targeted support programmes for applicants with a disadvantaged background are a main ingredient for improving equity (Lassnigg et al. 2007).

A third issue is how the system of grants is working, and might work under new conditions of admission. Available studies point out that the existing system of grants might be too broadly dispersed to more wealthy parts of the population, and not generous enough for the part of the population really in need of support. However, results of research also show that financial compensation is a necessary but not sufficient means for improving equity (ibid.). Much broader measures are needed, which also include the responsibility of the higher education institutions for improving equity.

A final issue, which is most difficult to point out now, is the impact of the new Bologna structure on financing and equity. It will be interesting to see how the recent priorities about the social dimension of the Bologna process, as signed by the ministers at their London meeting in May 2007, will be implemented in Austria: "National strategies and policies for the social dimension, including action plans and measures to evaluate their effectiveness" (London Communiqué 2007).

8. Conclusions

Major reforms have taken place in the Austrian higher education system during the past years, starting with the universities of applied sciences as a new sector in 1994 and continuing with a new university act in 2002 which gave the universities full autonomy and a new system of funding, implemented for the first time in 2007. The old cameralistic system of funding has been criticised of being non-transparent and based on having the right contacts in policy and administration. This culture of negotiation was replaced by a twofold system consisting of performance agreements and a smaller part based on indicators. However, the university budget is allocated as a lump sum and no single performance indicator is valuated in monetary terms. Even the main services of a university, teaching and research, are not separately financed. Neither does the system take the capacities of the universities, e.g. in the form of study places, into account. Apart from a few exceptions, a policy of open access to all university programmes is still the case. In a generalised manner, one can say the old culture of negotiation has mainly been replaced by a different culture of negotiation. Transparency of results is better than before, but still only in a much-aggregated way.

In addition to this, performance in research is hardly taken into account. Only the income of third-party funded research projects has a weight of 30% in the indicator-based part of the university budget, which allocates 20% of the total budget. Academics spend up to half of their working time for generally funded research – according to their own answers in the surveys of Statistics Austria. This is not yet considered adequately within the funding system, nor are the outcomes of this research evaluated by other measures – apart from internal evaluations of the universities.

The open access of the university system is a euphemism. Due to the strong social selectivity of the school system, one might better talk about open access for the privileged. Research shows that only massive direct interventions and support strategies promise to have positive effects on the reduction of social selectivity. However, the institutions themselves have a responsibility for the social composition of their student body – even more, if they are to be granted the right of regulating access to their studies themselves.

It is hard to say anything about the efficiency of the system in the given situation, be it internal or external efficiency. Because efficiency played no significant role in the debates of the last decades, a great deal of important data and information is missing for a well-founded judgement.

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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. There-fore, 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

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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).

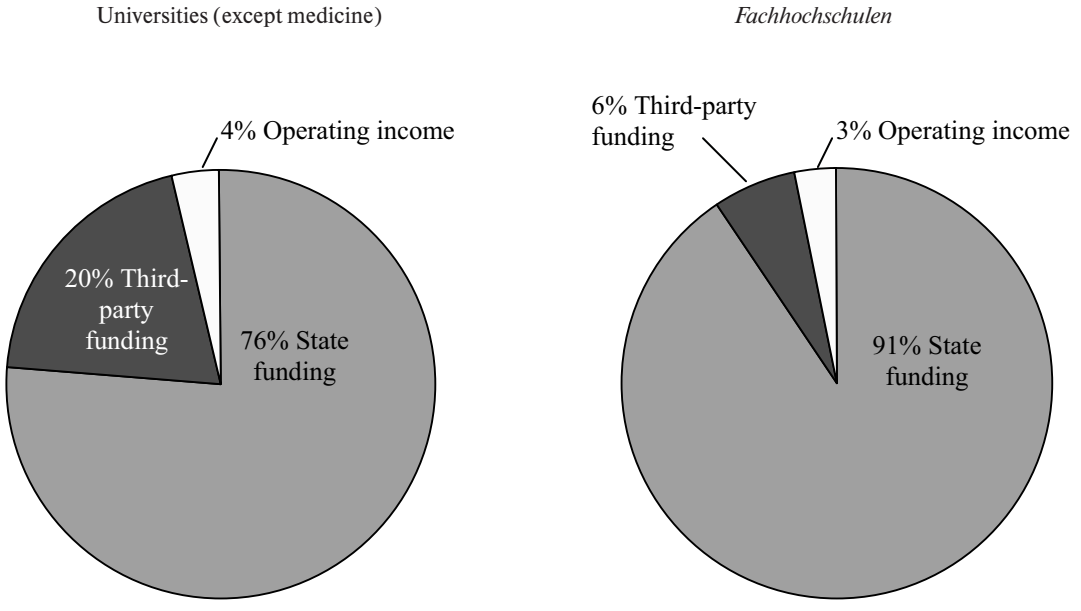
These reforms in the allocation of state support are all the more relevant because the share that state funding represents of a higher education institution's budget accounts for almost 80% for universities and over 90% for *Fachhochschulen* (universities of applied sciences). (*Kunst- und Musikhochschulen*,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



Source: Own calculations based on Statistisches Bundesamt 2006.

- 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-Wurttemberg	**20**	13	Separate competitions between universities and between *Fachhochschulen*
Bavaria	**1.5**	9	Separate competitions between universities and between *Fachhochschulen*
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 *Fachhochschulen*
North Rhine-Westphalia	**20**	5	Separate competitions between universities and between *Fachhochschulen*
Rhineland-Palatinate	**95**	17	Separate competitions between universities and between *Fachhochschulen*
Saxony	**1**	11	Separate competitions between universities and between *Fachhochschulen*
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-Wurttemberg, 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).

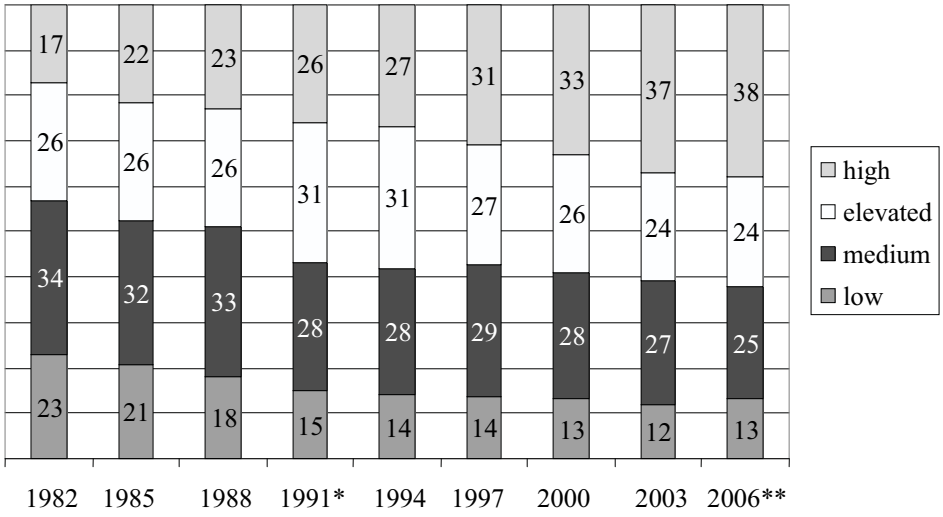
4. Cost-sharing and its consequences for participation and equity

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.).

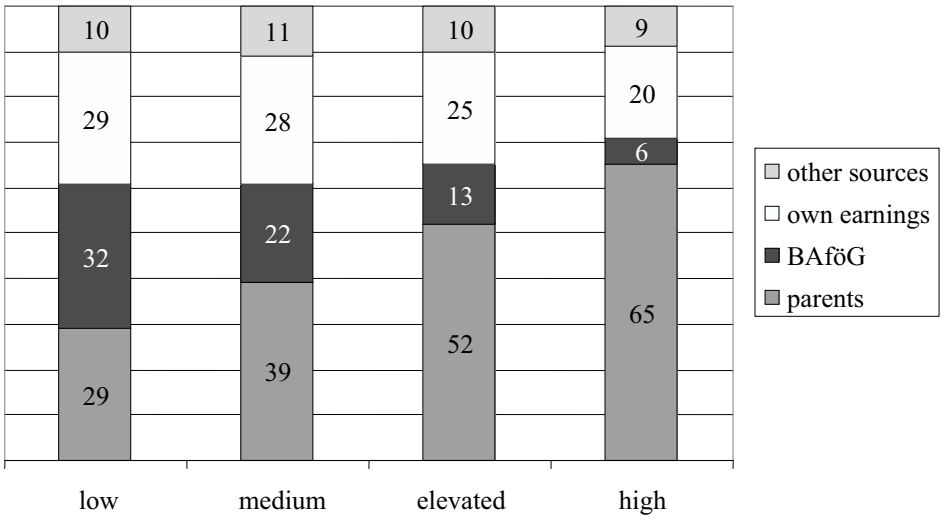
The developments in the composition of the student body by social background show that the share of students from a high social background has increased over the past years (thus raising further concerns about equity), as is depicted in Figure 2. Within a quarter of a century, the share of students from 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 (arith-metic 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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*Hans Vossensteyn**

Student financing in the Netherlands: from generosity to cost-sharing - facts, perceptions and effects

Summary

In 1986 a generous new system of student financing was introduced in the Netherlands. Over time, many changes were implemented, including higher tuition fees, an increased role for student loans, performance requirements and flexibility for students to work alongside study. This paper explores how these developments impacted the financial situation of students, access and equity in higher education, and how students perceive the influence of cost-sharing.

Key words: *Netherlands, cost-sharing, tuition fees, student support, price-responsiveness.*

JEL: I280

1. Tuition fees

In the Netherlands, students in publicly funded higher education have had to pay a uniform tuition fee, regardless of the costs related to different study programmes, since 1945. The government annually sets the tuition rate. During the 1980s university students paid slightly higher fees than students in the HBO sector, but in the early 1990s this was equalised again. Students make their tuition payments directly to the higher education institutions, which have full autonomy over this revenue stream. In 2003, tuition fees made up about 17% of institutional revenues in the HBO sector and about 5.5% in the university sector – about 15% of the overall university teaching budget (Tweede Kamer der Staten-Generaal, 2003). This demonstrates that public subsidies to higher education are considerable and private contributions moderate. Figure 1 shows the development of the level of tuition fees in the Netherlands since 1945.

The real value of the fees declined in the 1945–1971 period. In that period students had to pay NLG 200 (€91) per academic year in nominal terms. After an initial increase to NLG 1,000 (€454) in 1972–1973, the level was set at NLG 500 (€227) between 1974 and 1980. Since then, tuition levels have gradually increased up to almost €1,445 in 2003–04. Figure 1 shows that particularly in the period since 1986 the increases in the level of fees often exceeded the rate of inflation. As a result, a larger share of the costs of higher education has been gradually shifted to students and their families, which indicates that the Dutch government did not use the instrument of tuition reduction to expand access to higher education. As such, tuition fees have become an issue of continuous discussion. Proponents argue that tuition fees constitute a "fair" private contribution to the costs of higher education, which brings the individual students considerable future rewards (monetary as well as non-monetary). But the opponents of fees argue that these harm access, particularly for those from lower socio-economic backgrounds. This has led to many heated political debates about who has to pay the costs of a steadily growing higher education system. As a good Dutch tradition, such debates generally end in compromises that include moderate annual tuition increases accompanied by the full compensation of lower-income students through a system of student financial support.

The major discussions on tuition fees in 2002–2003 related to the issue of differential tuition fees. The Ministry of Education, Culture and Science took up the discussion for a number of reasons: to allow institutions to charge higher contributions in return for enhanced quality programmes, and to make particular subjects like science, engineering and teacher training more attractive. However, in the first case opponents fear that this would harm access for poor students, and

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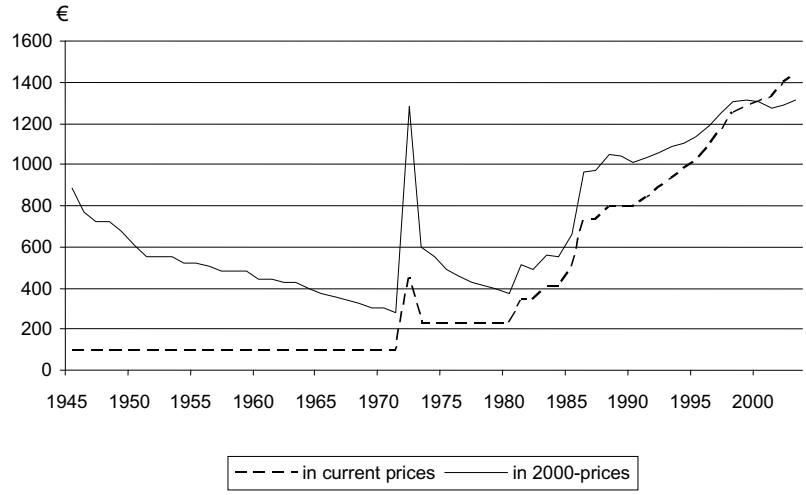
Figure 1: Development of tuition fees (€, in current prices and in real 2000 prices)



Source: Ministerie van OCW, time series.

in the second case it is questioned whether abandoning the equity principle, not to mention the public costs involved, can be justified by the expected number of extra students attracted to the desired programmes.

An interesting recent development has been to experiment with allowing institutions to develop programmes that offer additional quality, for which they are allowed to ask higher tuition fees. Up to now, a few such programmes have been accepted by the Ministry of Education.

2. Student support

Since 1945, successive Dutch governments gradually developed a system of student support, though with a change of focus over the following six decades (De Regt, 1993). In the early days the major drive was to open up opportunities for small numbers of talented low-income students. Between 1956 and 1972, economic growth and the general tendency of democratisation changed the focus to opening opportunities for all. This period laid the groundwork for the massification of higher education, though student support remained limited to small bursary and loan programmes. Financial support consisted mainly of tax benefits and family allowances for students' parents. Due to the oil crises of the early 1970s, the actual implementation of a far-reaching student support system was postponed. As a result, we can conclude that before 1986 there was a willingness to expand students' opportunities, but due to limited government resources, student support was not a very active instrument in encouraging access to higher education. Nevertheless, participation rates considerably increased during this period and the gender imbalance to a large extent disappeared. Most recently the number of female students is slightly higher than the number of male students.

A new relatively generous system of student aid was implemented by the Student Finance Act (WSF) in 1986. This system transformed all indirect support like tax benefits and family allowances into direct financial support to students themselves. The system established a compromise between students' access and financial independence, transparency and simplicity of the system, and affordability for the government (Hupe and Van Solm, 1998). The major characteristics of the system, which is still largely in place, are reflected in the following elements:

- A basic grant (*basisbeurs*) for all full-time students, varying between students who live with their parents and those who do not;
- A means-tested supplementary grant for a limited number (about 30%) of students;
- Loans that can be taken up on a voluntary basis, carrying a below-market interest rate;
- Parental contributions or students' own income. The parental contributions are strongly interrelated with the (parental) means-tested supplementary grants and loans;
- Finally, students can earn up to €10,527.57 per annum (in 2006) before they start losing any of their grant entitlements.

All components together add up to a given amount that students are expected to need for study and living costs according to annual estimates by the

Ministry of Education, Culture and Science. From this perspective, no (full-time) student should face any financial barriers for entrance into higher education.

2.1. Changes within the current student financing mechanism

After 1986, on the basis of demographic developments the government expected a decline in the number of students and thus believed that a relatively generous system for students would be feasible from the viewpoint of public finances. But the opposite happened, and partly as a result, a large number of additional changes have taken place since then (Vossenteyn, 2002):

- Tuition fees were increased in real terms.
- Basic grants were reduced several times due to growing numbers of students and limited public budgets.
- Supplementary grants were increased to compensate for tuition increases, inflation and reductions in the basic grants. This is to guarantee access for students from disadvantaged backgrounds (about 30%, based on a means test).
- The duration of grants was reduced in two successive steps (1991 and 1996) to the nominal duration of courses (4–6 years).
- Student loans gained in importance. As with supplementary grants, student loans also covered reductions in the basic grant, increases in tuition fees and inflation. In addition, students have been permitted to replace (assumed) parental contributions with student loans since 1995.
- Performance requirements were imposed. Since 1993 students have had to meet performance requirements in order to remain eligible for grants. Under the so-called "progress-related grant" (*Tempobeurs*) students had to pass 25% of the annual study credits, or otherwise their grants would be converted into interest-bearing loans (Hupe and Van Solm, 1998). In 1996, the progress requirements were intensified through the "performance-related grant" (*Prestatiebeurs*). Since then, all grants have been awarded initially as loans, and only if students pass 50% of their exams in the first year and complete their degree within the nominal duration of the programme plus two years (six or seven years in total) are their initial loans converted into a grant. In 2000, the time limit to complete a degree was relaxed to 10 years for all programmes, particularly to allow students to be involved in extra-curricular activities like student activism and part-time work (Ministerie van OCenW, 1999).
- Due to the developments addressed above, the emphasis on parental contributions and students' own resources has gradually increased. In addition, students' expenditure patterns have gone up, exceeding the standard budget available through student support. Finally, students seem to be debt averse. Consequently there is more pressure on parents and students, who are more likely to have part-time jobs (Vossensteyn, 1997).

Most of the changes implicitly meant budgetary reductions and were aimed at encouraging students to pursue more efficient study patterns. Furthermore, the focus of the support policies have shifted: from opening up opportunities for lower income groups until the mid-1980s, followed by creating a basic income provision for all students in 1986, after which the system reverted once again to supporting underprivileged students. The impact of all changes in the student financing system on student choice and students' enrolment behaviour will be discussed in the next section.

3. Impact of tuition and support policies on student enrolment behaviour

Until the mid 1980s, student financial support was relatively moderate or poor in the Netherlands and thus could not be expected to generate massification in higher education. Nevertheless, rapid expansion of higher education happened during the 1960s and 1970s, also reducing the gender imbalance to a large extent. These developments seem to be the result of general societal tendencies rather than active access policies.

However, the introduction of a relatively generous system of student support in 1986 could be expected to boost access and participation, although its purpose was to guarantee equal access for all students regardless of their backgrounds. There have been a number of studies on student choice behaviour that also looked at the potential relationships between financial support and participation. However, most of these studies indicated no clear relationships between changes in student finance and the composition of the student body (De Jong et al., 1991; De Jonge et al., 1991).

Also the deterioration of student support, particularly during the 1990s, has been studied for its impact on access to higher education (Vossensteyn, 2002). The gradual shift towards cost-

sharing in the Netherlands might be expected to have led to changes in student enrolment behaviour, for example in terms of lower participation, the choice of cheaper (shorter) or easier study programmes, or better study progress. However, hardly any such changes in student choice seem to have occurred. Only a few tendencies can be indicated.

First, the introduction of study progress requirements, which meant a serious "cultural change", had only a temporary effect on participation in higher education. Initially, the number of new entrants to university studies decreased slightly, some (potential) students postponing actual enrolment and some university-qualified candidates entering HBO programmes (De Jong et al., 1996). However, within a few years the traditional enrolment patterns appeared again.

A second interesting development is that, regardless of the growing emphasis on loans, the number of students actually taking up loans decreased substantially, from 40% in 1991 to about 15% in 1997 (De Vos and Fontein, 1998). One reason is that since 1992 interest has been charged. However, take-up rates have gone up slightly since 2000 to about 24% in 2005. Instead of acquiring student loans, students prefer to take part-time jobs, which enable them to avoid accumulating debts and even to upgrade their standard of living. Moreover, students are also willing to borrow outside the student loan system, either from family or by having a bank overdraft. Many even take up flexible and temporary loans from private banks to cover extraordinary expenses, such as computer equipment or holidays (Kerstens and De Jonge, 1999). In 2005, Vossensteyn found that lower SES students indeed prefer not taking up loans, showing debt-averse perceptions, but that they take as much in student loans as higher SES students anyway.

With respect to the impact of tuition fees, most studies show that the real increases in tuition fees did not seem to impact access in terms of enrolment patterns. Student choice behaviour in general seems to be price inelastic! Such price-unresponsiveness dates back to the 1980s and continues into the 1990s (Oosterbeek and Webbink, 1995). A simulation model showed that even substantial tuition fee increases will hardly affect enrolment rates, except for students from lower socio-economic families (Sterken, 1995). Furthermore, a recent survey by Felsö et al. (2000) indicated that students would not change their preferences in cases where tuition fees were either increased or reduced by €450.

Some simulation studies devoted attention to the problem of a declining interest in science and engineering studies. They found that guaranteeing students a job after graduation and increasing engineers' salaries would have a stronger influence in attracting extra students to these studies than increasing scholarships or reducing tuition (De Jong et al., 2001; Felsö et al., 2000). In fact some universities of technology have experimented with giving students additional scholarships, but this did not attract extra students.

All in all, various studies, covering different time periods, have all come to the conclusion that student choice is not so much affected by financial incentives, except for students from disadvantaged groups. This more or less confirms the findings of international studies on student choice (Heller, 1997; Hossler et al., 1999).

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Funding higher education in Slovenia: the introduction of a lump-sum instrument

Summary

The paper presents an analysis of the existing higher education funding system in Slovenia. The findings of this analysis, which focused on full-time undergraduate studies, show significant differences in the operating costs of study activities among different institutions within individual study groups, as well as different study fields. At the same time, considerable discrepancies were noted in connection with funding received for particular study activities and the average operating cost of study activities among individual study groups. In compliance with the mentioned findings, the study carried out an analysis of the effects of changing the ratio between basic and standard annual funds within the total annual funds. By increasing the percentage of standard funds within the total annual budget, average funds per student gradually approximate the average expenditure within individual study groups, based on which it can be claimed that the process of decreasing the percentage of basic funds has been too slow.

Key words: *Funding of education institutions, higher education institutions, Decree on the Public Financing of Higher Education and Other University Member Institutions 2004-2008, basic funds, standard funds.*

JEL: I220

1. Introduction

The question of higher education funding is very high on the agenda in most EU countries (EC, 2004; Jacobs, van der Ploeg, 2006). On 23–24 March 2006 the European Council called on the member states "to facilitate, in line with national practices, universities' access to complementary sources of funding, including private ones, and to remove barriers to public-private partnerships with businesses", and concluded that reforms must be "stepped up to ensure high-quality education systems which are both efficient and equitable". Slovenia is no exception, as there has been a lot of debate about the level of funding and the right public-private mix of higher education funding in the last few years.

At the EU level, the new investment paradigm in education and training was first set out in January 2003 in the Communication *Investing efficiently in education and training: an imperative for Europe*. The need for a substantial increase in investment in human resources was highlighted in view of achieving the Lisbon goals. Public funds should be granted to higher education institutions in such a way that effectiveness, efficiency and quality are promoted. Funding mechanisms should provide incentives for change and innovation. However, due to limited public budgets there is also clear pressure to ensure the more efficient use of existing funds and a stronger appeal to increase private contributions.

The share of total public expenditure for tertiary education in GDP in Slovenia is around 1.34%. However, the Slovenian government has made it an objective to raise this to 1.4% in the Master Plan for Higher Education. Tertiary education in Slovenia is mainly publicly funded. However, one third of all students in tertiary education (part-time students) pay tuition fees, which are not negligible.

In this paper we do not focus on what the optimal public-private mix should be, but instead concentrate on the allocation mechanism of public funds that are regulated by the Decree on the Public Financing of Higher Education and Other

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University Member Institutions 2004–2008 (hereinafter: decree), which replaced the Standards for Financing Higher Education adopted by the government in 1992. The decree was adopted in December 2003 for a fixed period of time. The most important change in the funding system was the introduction of a lump-sum instrument that defines the allocation of public funds among higher education institutions (hereinafter: HEIs) in relation to their outcome.

Even though the lump-sum instrument was chosen to replace direct payments for individual HE activities and costs, a "link" remained with the former funding system. The new allocation mechanism defines basic funds and standard funds, which form the total annual funding for each HEI. The share of basic funds in 2004 amounted to 80% of the funds received in 2003 and was set to decrease by 2.5 percentage points each year. However, the funds received in 2003 represented direct payments according to the former standards. So, even though the allocation was supposed to be related to the outcome of HEIs, the majority of funds was still allocated according to the former standards.

Not all HEIs faced the same situation with the introduction of the lump-sum instrument. HEIs with large staff numbers (and possibly facing decreasing enrolments in the last few years) that had received quite substantial funding according to the former standards were in a more favourable position than the newly emerging HEIs, usually with small staff numbers but facing an expansion of their activities. That is why the introduction of the proposed allocation mechanism brought about a lot of discussion about the right basic-standard mix of annual funding.

In this paper we analyse the effects of changing the ratio between basic and standard annual funds within the total annual funds.

The paper is organised as follows: Section 2 briefly describes the funding system of tertiary education, with a focus on the lump-sum funding of study activities at HEIs. Section 3 describes the methodology and data used in the analysis. Section 4 presents the results of the analysis and, finally, Section 5 concludes the paper.

2. Tertiary education funding in Slovenia

The share of total public expenditure on tertiary education in GDP amounted to 1.34% in 2003 (see Table 1). In the Master Plan for Higher Education, the Slovenian government made it an objective to raise this to 1.4%.

When comparing annual expenditure on education institutions per student in Slovenia and in EU countries, we can see that Slovenia is lagging behind. However, the difference shrinks when we make a relative comparison based on annual expenditure on education institutions per student compared to GDP per capita.

A quarter of total public expenditure on education at the tertiary level is spent on financial aid to students, which is outstanding in comparison with EU countries.

Slovenian tertiary education is offered by higher (post-secondary) vocational colleges and higher education institutions, which consist of professional colleges, faculties and art academies. Higher

Table 1: Key indicators of tertiary education funding, Slovenia and the EU, 2003

Indicator	SI	EU-25	EU-15*	Country with the lowest value	Country with the highest value
Total public expenditure on education as % of GDP, at tertiary education level (ISCED 5-6)	1.34	1.15	1.16	0.74 (Latvia)	2.48 (Denmark)
Annual expenditure on public and private education institutions per student in EUR PPS, at tertiary education level (ISCED 5-6)	5,743	8,060	8,868	3,245 (Lithuania)	13,717 (Sweden)
Annual expenditure on public and private education institutions per student compared to GDP per capita, at tertiary education level (ISCED 5-6)	34.8	36.7	37.4	27.4 (Ireland)	54.5 (Sweden)
Financial aid to students as a % of total public expenditure on education, at tertiary education level (ISCED 5-6)	25.2	16.1	16.9	0.4 (Poland)	56 (Cyprus)

Source: Eurostat, 2007.
Note: * The EU-15 group comprises Luxembourg, Denmark, Belgium, Austria, Germany, France, Netherlands, Italy, Sweden, United Kingdom, Finland, Ireland, Spain, Portugal and Greece.

vocational education is organised parallel to higher education and not as an integrated part of it. The first vocational colleges were established in 1996–97. Programmes are markedly practice-oriented and closely connected with the world of work.

According to the Higher Education Act, an HEI may be established by the state or by private (national and foreign) natural persons and legal entities. Public HEIs are established in order to provide public services. In certain conditions, a private HEI may be granted a concession for a public service (and consequently for public co-financing) by a government decree on the basis of a public tender. In such cases, private HEIs are co-financed on the same conditions as the state ones. In the 2005–06 academic year, three out of five free-standing HEIs delivered undergraduate programmes with such a concession.

The financing of vocational colleges is regulated by the Standards for Financing Vocational Colleges adopted by the government in 1996. Study activities are publicly financed for all full-time students, whereas part-time students pay tuition fees. Since two-thirds of higher vocational students (part-time students) pay tuition fees, we can say that government funding plays a minor role. However, the funding of vocational colleges is not the focus of this paper.

2.1. Funding higher education institutions

The funding of HEIs is more complex and comprises funding for study activities, funding for research and funding for investment. Only the funding of study activities, especially the related allocation mechanism, is of interest in this paper.

Funding of study activities

Study activities of HEIs comprise:

- educational and related research, artistic and professional activities of higher education teachers and staff and scientific staff;
- library, information and other professional activities; and
- organisational, administrative and infrastructural activities.

The financing of higher education differentiates between undergraduate and postgraduate studies. Undergraduate study activities are publicly financed for all full-time students, while part-time students pay tuition fees. The state allocates funds to HEIs based on the methodology set by the Decree on the Public Financing of Higher Education and Other University Member Institutions 2004–2008 (hereinafter: decree), which replaced the Standards for Financing Higher Education adopted by the government in 1992.

The decree regulates the public financing of study and extracurricular activities, investment, and investment maintenance and development tasks at universities and free-standing higher education institutions established by the Republic of Slovenia, and the financing of certain tasks of national importance. The provisions on the financing of study and extracurricular activities and development tasks also apply to private higher education institutions with a concession, while the provisions on the financing of development tasks also apply to private higher education institutions providing certified study programmes if they receive public funding. The public financing of study activities for a university or free-standing higher education institution is defined as total funds (a lump sum). There is no division between academic and professional study programmes.

Postgraduate students pay tuition fees. However, the state provides public funding for the co-financing of these tuition fees through:

- a public tender for the co-financing of postgraduate studies that finances 60–80% of tuition fees for students whose faculties fulfilled the conditions of the tender (among others, the tuition fee must not exceed the one set by the state). The tender was issued for the first time in 1998, when 27% of students received co-financing. In the 2004–05 academic year this percentage was 53%;
- an additional 9% of postgraduate students receive co-financing through the "Young Researchers" financing scheme, which covers the full tuition fee, some of the material costs for the research in which the student is involved, and the salary for the young researcher.

2.2. Lump-sum funding

The introduction of lump-sum funding, which is used to fund the study activities of undergraduate programmes at HEIs, was driven by the following drawbacks of the former standards:

- the distribution of funds for study activities among HEIs was mainly in the domain of the ministry. The lack of autonomy at the university level did not promote efficiency in the use of the funds;
- financial monitoring mainly focused on the cash flow rather than on the realisation of the set long-term goals and performance and quality indicators of HEIs; and

- the slow responsiveness of HEIs to changes in society and the economy.

The instrument of lump-sum funding was chosen to replace direct payments for individual HEI activities and costs so the HEIs would gain greater financial autonomy. Increased institutional autonomy, which is also advocated by the communications of the European Commission and endorsed by the European Council (EC, 2007), should allow greater flexibility in resource management and promote the more efficient use of public funds. The long-term objectives of the reform were:

- to increase the flexibility of HEIs, which should result in a higher rate of responsiveness to labour market and society needs;
- to maintain a diverse higher education system and to guarantee equality of opportunity (wide access to higher education, particularly for people from disadvantaged backgrounds); and
- to promote the more efficient use of funds and a higher degree of transparency.

The new system was introduced for a limited period of time (from 2004 to 2008). Since the lump-sum funding instrument relates funds to outcomes, the HEIs needed to completely change their financial management and administration. The increased financial autonomy of HEIs must be accompanied by a higher level of responsibility for the efficient use of public money, and the way money is spent should be made transparent.

However, the formula currently proposed by the ministry, which includes only the number of students and graduates as outcome indicators, does not give strong incentives to improve educational quality. There is a need to establish a quality evaluation system based on performance indicators and clearly set targets; otherwise there is a risk of grade inflation.

The methodology for the allocation of funds is divided into two parts:

- planning the budget; and
- allocating funds to higher education institutions.

Planning the budget at the state level

The budget is planned so that the annual budget funds for study activities from the previous fiscal year are increased each year in real terms by at least the growth of gross domestic product, but by not less than 2.5% with regard to the realisation for the previous year for study activities. From all the funds planned for higher education at the relevant ministry, at most 4% is reserved by the minister for specific policy and development goals. These funds are delivered through public tenders for specific developmental activities.

Allocating funds to higher education institutions

The annual funds for the study activities of a higher education institution (LS) comprise basic annual funds (OLS) and standard annual funds (NLS).

Basic annual funds for a higher education institution (OLS) are defined in the decree. For 2004 they were set at 80% of the annual funds for the study activities of an HEI in 2003. The share of basic annual funds was set to decrease each year by 2.5 percentage points, reaching 70% of the annual funds for the previous year's study activities of the HEI in 2008.

The standard annual funds for an HEI (NLS) are determined by taking account of the annual initial value (LIV), the total number of students (Š), and the number of graduates (D) multiplied by the weighting (Ud) and a factor for the study group f(s) to which the higher education institution belongs ($NLS = LIV * \Sigma [\{ Š + D * Ud\} * f(s)]$).

The annual initial value (LIV) means the standard annual funds per student in the first study group. Students (Š) are full-time students in undergraduate study programmes excluding graduands at the HEI in the current academic year. Graduates (D) are the graduates of full-time undergraduate study programmes at the HEI in the previous calendar year. The graduate weighting (Ud) is currently set at a value of 4.

Study groups (s) combine higher education institutions by their dominant study fields or subfields according to the ISCED classification of study fields (UNESCO, November 1997).

The factor of the study group f(s) expresses the ratio between the funds allocated for the provision of education in the study group compared to the first study group. There are six study groups, whose values vary from 1.00 to 4.50.
The funds are allocated annually by contract.

3. Data and Methodology

The analysis was based on data provided in annual reports for 2004 and 2005 by the HEIs and on data provided by the ministry. In this context, it should be emphasised that the methodology used for the cost calculation of study activities is not clearly defined, and therefore probably not completely uniform, among individual HEIs.

Table 2: Average expenditure on study activities per full-time undergraduate student by study group, EUR, 2004 and 2005*

Study group	2004			2005		
	Min	Max	Average	Min	Max	Average
Group 1	480 (UM PF)	3,768 (VSŠP)	2,195	409 (UL FU)	3,768 (VSŠP)	2,387
Group 2	1,114[1] (UM VZŠ)	4,348[1] (UL FŠ)	3,146[1]	1,340 (UM VZŠ)	4,486 (UL FŠ)	3,109
Group 3	2,387 (POLITEH)	4,949 (UL FS)	3,764	2,441 (POLITEH)	5,212 (UM FS)	3,910
Group 4	2,804 (UL FFA)	4,640 (UL BF)	4,198	3,288 (UL FFA)	4,974 (UL FFA)	4,565
Group 5	5,008 (UM FKKT)	5,955 (UL FMF)	5,633	4,528 (UM FKKT)	7,349 (UL FMF)	6,113
Group 6	6,677[2] (UL ALUO)	28,251[2] (UL AGRFT)	10,040[2]	6,084 (UM MF)	26,552 (UL AGRFT)	10,286

Source: MHEST (2004), MHEST(2005), own calculations Trunk Širca et al.
Notes: * See the list of HEIs in the Appendix. [1] UP VŠZI is not included. [2] UM MF is not included.

However, the annual reports were the only source of expenditures on study activities available at the time of the analysis.

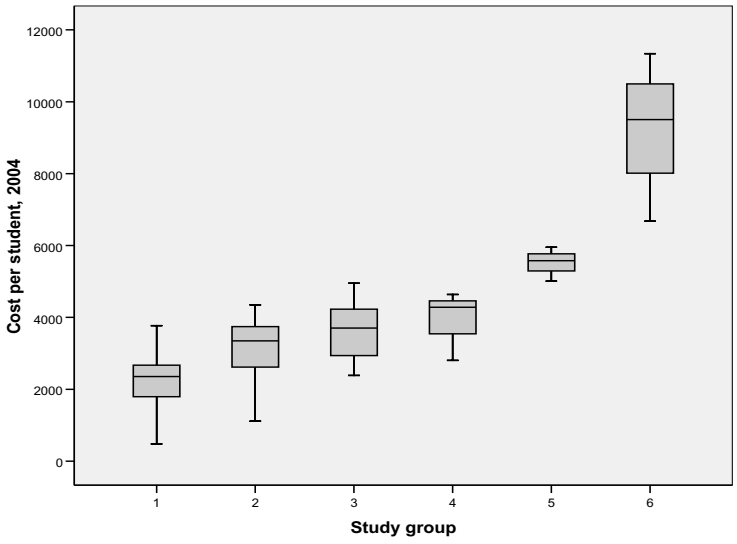
We calculated the average expenditure per student within study groups and took the group averages as benchmarks when analysing the effects of changing the ratio between basic and standard funds within the total annual funds.

We started the analysis with a comparison of the average funds received per student and average expenditure of study activities per student within study groups to find out the relative position of an HEI in different educational groups. Then we continued with the same comparison; however, it was undertaken at different ratios between basic and standard funds to see how the position of an HEI in each of the study groups would change.

3.1. Expenditure on study activities

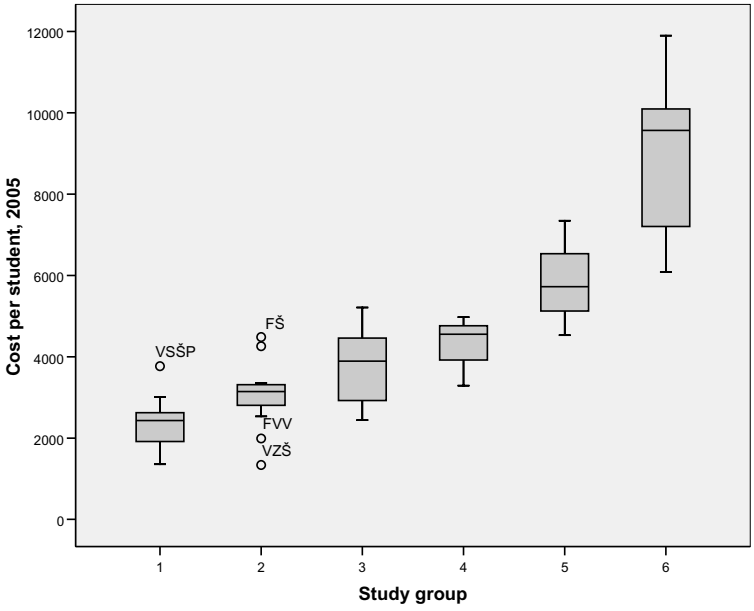
Table 2 contains the lowest, highest and average expenditure per student in each of the six study groups in 2004 and 2005. Some HEIs were not included in the analysis for 2004 since they did not exist yet or their data were unavailable. However, we do not consider the bias to be

Figure 1: Distribution of average expenditure on study activities per full-time undergraduate student by study group, EUR, 2004*



Source: MHEST (2004), MHEST (2005).
Note: * See the list of HEIs in the Appendix. UL AGRFT is not included in Group 6.

Figure 2: Distribution of average expenditure on study activities per full-time undergraduate student by study group, EUR, 2005*



Source: MHEST (2004), MHEST (2005).
Note: * See the list of HEIs in the Appendix. UL AGRFT is not included in Group 6.

significant, since the number of students in these HEIs in 2005 was small and so were the weights when calculating the group averages (weighted).

First, we can see large differences in expenditure per student among HEIs in the first and second study groups (see Table 2 and figures 1 and 2).

Second, it is almost impossible to draw a line between HEIs from study groups 1 to 4, since the distributions in these groups overlap (figures 1 and 2).

These findings hardly justify the distribution of HEIs by the six study groups defined by the decree; however, this is beyond the scope of this paper.

3.2. Efficiency of the allocation of funds

Table 3 contains the average funds received per student and the average expenditure on study activities per student in each of the six study groups in 2004 and 2005. Again, some HEIs were not included in the analysis since they did not exist yet or their data were unavailable.

We can see that HEIs from the first study group were underfunded by 23% in 2004 and by 24% in 2005. HEIs from the sixth study group were also underfunded in 2004 and 2005 (by 7% and 5%). As was evident from the documentation, the deficit was financed from other sources.

On the other hand, HEIs in the second group were overfunded in 2004 and 2005, while HEIs in the fourth and fifth group were only overfunded in 2004.

With some exceptions, the situation was very similar among all HEIs within each study group.

As we can see, the funds were not efficiently allocated in 2004 and 2005. We see the reason for this in the excessive share of basic funds within the total annual funds of each HEI. For 2004, the basic funds of each HEI were set at 80% of the annual funds for the study activities of an HEI in the previous year (2003). For 2005 the share of basic funds dropped to 77.5% of the total annual funds for the study activities of the HEI in the previous year (2004).

Since the funds of each HEI in 2003 represented direct payments according to the former standards, we can conclude that the majority of funds in 2004 and 2005 were still allocated according to the former standards, even though the lump-sum instrument had been introduced. HEIs with large staff numbers (and possibly facing decreasing enrolments in the last few years) that received quite substantial funds according to the former standards

Table 3: Funds received per student and expenditure on study activities per student by study group, EUR, 2004 and 2005*

Study group	2004			2005		
	Funds per student	Expenditure per student	Funds/ expenditure ratio	Funds per student	Expenditure per student	Funds/ expenditure ratio
Group 1	1,690	2,195	0.77	1,803[1]	2,387[1]	0.76
Group 2	3176[2]	3,146[2]	1.01	3,196	3,109	1.03
Group 3	3,668	3,764	0.98	3,872	3,910	0.99
Group 4	4,306	4,198	1.03	4,553	4,565	1.00
Group 5	5,859	5,633	1.04	5,984	6,113	0.98
Group 6	9,381[3]	10,040[3]	0.93	9,769	10,286	0.95

Source: MHEST (2004), MHEST(2005), own calculations Trunk Širca et al.
Notes: * See the list of HEIs in the Appendix. [1] UL FU is not included. [2] UP VŠZI is not included. [3] UP MF not is included.

were in a more favourable position than the newly emerging HEIs that usually have small staff numbers but face an expansion of their activities.

3.3. The simulation

Since we found the proposed ratio between basic and standard funds within the total annual funds of each HEI caused the inefficient allocation of funds, we did some simulations of the effects of changing the ratio between basic and standard funds. The simulations were based on the following assumptions:

- we simulated the allocation of public funds among the HEIs for the 2004–2010 period;
- the total budget in 2004–2006 equals the realisation in these years; for the 2007–2010 period the total budget was estimated according to the decree;
- the number of students in 2003–2007 equals the number of full-time students in undergraduate study programmes excluding graduands at the HEIs in the current academic year; in the 2007–2010 period the number of students equals the number of full-time students in the 2006–07 academic year;
- the number of graduates in the 2003–2005 period equals the number of graduates from full-time undergraduate study programmes at the HEIs in the previous calendar year; in the 2006–2010 period the number of graduates equals the number of graduates in 2005;
- from all the funds planned for higher education in the 2007–2010 period, 4% is reserved by the minister for specific policy and development goals. These funds are being delivered through public tenders for specific developmental activities;
- since the variation in expenditures on study activities within study groups was found to be very high, we took group averages as benchmarks. We assumed the averages should be less biased than individual data on expenditure and this should, at least partly, eliminate the already mentioned problem of a lack of uniformity in the cost calculation methodology among HEIs.

When analysing several scenarios, three aspects must be considered:

- a comparison of funds received and average expenditure on study activities within individual study groups in 2004 and 2005 to find out which basic-standard mix of funds helps to approximate the funds received to the average expenditure within individual study groups;
- a comparison of the funds/expenditure ratio in 2004 and 2005 between study groups to find out which redistribution effects appear when changing the share of basic funds; and
- a comparison of funds received per student in each year of the 2004–2010 period by average funds per student in the whole period to analyse the stability of the funding system from the point of view of each HEI.

The relative deviation was the criterion chosen to evaluate the discrepancies between the funds received and average expenditure or average funds in the case of the analysis of time stability. The relative deviation was estimated in the following way:

- First, we compared funds for study activities received per student with average expenditure in the study group:

$$I_{i/j^t} = \frac{funds\_per\_student_{it}}{\exp enditure\_per\_student_{jt}} * 100$$

- We calculated the absolute deviation (expressed in index points):

$$D_{it} = \left| 100 - I_{i/j,t} \right|$$

- Finally, we calculated the weighted average deviation from the average expenditure for each study group:

$$AD_t = \frac{\sum_i (D_{it} * students_{it})}{\sum_i students_{it}}$$

The relative deviation defined as described above is expressed in index points.

4. Results

The following scenarios were evaluated:

- The allocation of funds according to the decree. The actual realisation in 2004–2006 was taken as a benchmark, whereas the allocation in 2007–2010 was estimated according to the assumptions mentioned in the previous section.
- The allocation of funds according to the decree, without exceptions. The total budget in 2004–2006, including additional funds according to Article 18 of the decree, was allocated according to the formula. The allocation in 2007–2010 was estimated according to the assumptions noted in the previous section.
- The allocation of funds according to the formula defined in the decree, but at different ratios between basic and standard funds within the total annual funding of each HEI – 70%:30%, 60%:40%, 50%:50%, 40%:60% and 100% standard funds.

Several remarks may be made concerning the results:

- When the allocation is performed according to the decree, we see the HEIs from the first and sixth groups were underfunded in 2004

Table 4: Comparison of average funds received per student according to different ways of allocation, with average expenditure per student, by study group, 2004 and 2005 (index)

Year	Study group	Decree[1]	Decree, without exceptions[2]	70 S:30 N[3]	60 S:40N[4]	50 S:50 N[5]	40 S:60 N[6]	100S[7]
2004	Group 1	80	80	80	81	82	82	85
	Group 2	104	103	103	103	102	102	101
	Group 3	101	102	101	101	101	101	100
	Group 4	105	105	107	109	110	112	119
	Group 5	104	104	103	103	102	101	98
	Group 6	94	93	93	92	92	91	89
	Group 6 without academies	*88*	*88*	*89*	*89*	*90*	*90*	*93*
2005	Group 1	76	76	77	77	78	78	79
	Group 2	106	103	102	101	101	100	100
	Group 3	103	103	103	103	102	102	103
	Group 4	105	105	107	109	111	113	117
	Group 5	95	96	95	94	94	94	95
	Group 6	96	92	92	92	92	92	94
	Group 6 without academies	*92*	*87*	*88*	*90*	*91*	*92*	*96*

Source: MHEST (2004), MHEST (2005), own calculations Trunk Širca et al.
Notes: [1]Actual realisation of Ministry of Higher Education, Science and Technology (exceptions were taken into account). [2] Allocation according to the decree, but without making exceptions - additional funds represent that part of the total budget allocated according to the formula. [3] Simulation when basic funds represent 70% and standard funds 30% of the annual funds of each HEI. [4] Simulation when basic funds represent 60% and standard funds 40% of the annual funds of each HEI. [5] Simulation when basic funds represent 50% and standard funds 50% of the annual funds of each HEI. [6] Simulation when basic funds represent 40% and standard funds 60% of the annual funds of each HEI. [7] Simulation when standard funds represent 100% of the annual funds of each HEI.

and 2005, whereas HEIs from the fifth group were only underfunded in 2005 (see Table 4). We ran two separate estimations for the sixth group, one with art academies included (as defined in the decree) and the other with art academies left out of the system, since we consider them exceptional cases that should be treated individually. When excluding the art academies, the deficit per student is even higher (12% in 2004 and 8% in 2005).

- Increasing the share of standard funds means relating funds more and more to outcome indicators. As we can see in Table 5, increasing the share of standard funds helps to reduce the deficit in the first group by nearly 5% when total annual funds are defined as standard funds.
- Results for the sixth group differ when art academies are left out. Again, increasing the share of standard funds within the total annual funds helps to reduce the deficit by nearly 5% (2004) or 4% (2005) when the total annual funds are defined as standard funds.
- On the other hand, increasing the share of standard funds helps to reduce the surplus in the second and third groups, which were overfunded.
- The only exception is group 4, where the surplus even grows when increasing the share of standard funds. We consider this to be a consequence of overestimating the factor of group 4 in the decree.

In accordance with the above findings, we can conclude that by increasing the share of standard funds within the total annual funds, average funds per student gradually approximate the average expenditure within the individual study groups. It can be seen (Table 5) that by increasing the share of standard funds within the total annual funds, the average relative deviation of funds received from average expenditure decreases by nearly one third in 2004 and by about 15% in 2005.

5. Conclusion

The findings of this analysis reveal significant differences in the operating costs of study activities among different institutions within the individual study groups, as well as the different study fields. At the same time, considerable discrepancies were noted in connection with funding received for particular study activities and the average operating cost of study activities among individual study groups, especially the groups numbered 1 and 6. We have showed that by raising the percentage of standard funds within the total annual budget, average funds per student gradually approximate the average expenditure within individual study groups, based on which it can be asserted that the process of decreasing the percentage of basic funds and increasing the share of standard funds (within the total annual budget for study activities) has been too slow. Relating funds more to outcome indicators would help to increase efficiency in the allocation of funds among HEIs.

We also recommend that greater attention be paid in the future to the reporting system of higher education institutions, since the lack of uniformity in that system poses an important limitation to the comparability of the data.

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Table 5: Average relative deviation of funds per student from group average expenditure according to several scenarios, 2004 and 2005 (index points)

Year	HEI	Decree[1]	Decree, without exceptions[2]	70S:30N[3]	60S:40N[4]	50S:50N[5]	40S:60N[6]	100S[7]
2004	All	17.7	17.0	15.7	14.5	13.3	12.7	12.2
	Without academies	16.6	16.1	14.9	13.8	12.7	12.3	12.2
2005	All	14.6	14.6	13.8	13.1	12.7	12.4	12.3
	Without academies	14.3	14.5	13.7	13.0	12.6	12.4	12.4

Source: MHEST (2004), MHEST (2005), own calculations Trunk Širca et al.
Note: [1]Actual realisation of Ministry of Higher Education, Science and Technology (exceptions were taken into account). [2] Allocation according to the decree, but without making exceptions - additional funds represent that part of the total budget allocated according to the formula. [3] Simulation when basic funds represent 70% and standard funds 30% of the annual funds of each HEI. [4] Simulation when basic funds represent 60% and standard funds 40% of the annual funds of each HEI. [5] Simulation when basic funds represent 50% and standard funds 50% of the annual funds of each HEI. [6] Simulation when basic funds represent 40% and standard funds 60% of the annual funds of each HEI. [7] Simulation when standard funds represent 100% of the annual funds of each HEI.

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Appendix

Table A.1: The list of higher education institutions in Slovenia

Code	Title
UL - University of Ljubljana	
UL AG	Music Academy
UL AGRFT	Academy of Theatre, Radio, Film and Television
UL ALUO	Academy of Fine Arts and Design
UL BF	Biotechnical Faculty
UL EF	Faculty of Economics
UL FA	Faculty of Architecture
UL FDV	Faculty of Social Sciences
UL FE	Faculty of Electrical Engineering
UL FFA	Faculty of Pharmacy
UL FGG	Faculty of Civil and Geodetic Engineering
UL FKKT	Faculty of Chemistry and Chemical Technology
UL FMF	Faculty of Mathematics and Physics
UL FPP	Faculty of Maritime Studies and Transport
UL FRI	Faculty of Computer and Information Science
UL FSD	Faculty of Social Work
UL FS	Faculty of Mechanical Engineering
UL FŠ	Faculty of Sports
UL FU	Faculty of Administration
UL FF	Faculty of Arts
UL MF	Medical Faculty
UL NTF	Faculty of Natural Sciences and Engineering
UL PEF	Faculty of Education
UL PF	Faculty of Law
UL TEOF	Faculty of Theology
UL VF	Veterinary Faculty
UL VŠZ	Professional College for Health Sciences
UM - University of Maribor	
UM EPF	Faculty of Economics and Business
UM FERI	Faculty of Electrical Engineering and Computer Science
UM FE	Faculty of Energy Engineering
UM FG	Faculty of Civil Engineering
UM FKKT	Faculty of Chemistry and Chemical Technology
UM FK	Faculty of Agriculture
UM FL	Faculty of Logistics
UM FNM	Faculty of Natural Sciences and Mathematics
UM FOV	Faculty of Organisational Sciences
UM FS	Faculty of Mechanical Engineering
UM FVV	Faculty of Criminal Justice and Security
UM VZŠ	Professional College for Health Sciences
UM FF	Faculty of Arts
UM MF	Faculty of Medicine
UM PEF	Faculty of Education
UM PF	Faculty of Law
UP - University of Primorska	
UP FHŠ	Faculty of Humanistic Studies Koper
UP FM	Faculty of Management Koper
UP PEF	Faculty of Education Koper
UP TURISTICA	Turistica - College of Tourism Portorož
UP VŠZI	College of Health Care Izola
Independent higher education institutions	
POLITEH	Nova Gorica Polytechnic
VSŠP	GEA College of Entrepreneurship, Piran
VŠUP	School of Business and Management, Novo mesto

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A funding framework to address efficiency and equity in public higher education institutions in South Africa

Summary

Funding of higher education from public sources in South Africa prior to 2004 was based on a formula designed in 1982-83 which could not assist the government in addressing the goals set out in the Education White Paper 3 of 1997. A new funding framework replaced the old formula funding in 2004 and directs the allocation towards achieving the goals stipulated in the white paper. In addition, it specifies how funds are to be distributed in order to achieve the sustainability of institutions, as well as to promote equity and efficiency. This paper analyzes these distributive mechanisms and the extent to which the funding framework achieves the goals described in the Higher Education Act (1997): equity, efficiency and sustainability of the higher education sector.

Key words: *South Africa, funding framework, higher education, efficiency, equity.*

JEL: I220

1. Introduction

In 1994, the post-apartheid government set out to achieve a new society that could benefit all its citizens. For higher education this means fulfilling the general purposes as set out in the *white paper* of 1997, the *Programme for the Transformation of Higher Education*. The *National Commission on Higher Education* in 1995 set in motion specific policy goals and initiatives for the higher education system, resulting in the *National Plan for Higher Education in South Africa* (NPHE) being released in February 2001. The NPHE set out five major goals and strategies for higher education. These goals relate to providing educational opportunities to youth in order to "produce" skilled graduates for the South African economy, promoting equity in order to reflect the demographic profile of the country, ensuring a diversified higher education system, securing and advancing high-level research capacity, and restructuring the higher education landscape. One direct consequence of the NPHE was a major restructuring of the higher education landscape. The minister of education set about rationalizing the number of higher education institutions from a total of 36 institutions to 23. Up to 2003 the 36 institutions comprised traditional universities and "technikons". Technikons are essentially the equivalent of polytechnics existing in other countries. The name "technikon" has now been replaced by "university of technology". The development of technikons evolved from the era of technical colleges in the 1950s, mainly to provide a career-oriented education. The effect of rationalization addressed the original racially classified institutions into a more geographically coordinated system, and redesignated institutions as reflected in Table 1.

2. The history of financing higher education

The financial problems facing higher education institutions in South Africa are the same ones facing other higher education systems worldwide. According to Johnstone (2004:001), these relate to the cost of higher education per student and the increase in enrolment due to the legitimate expectations of the school-leaving youth. In 2000, the Taskforce on Higher Education and Society (2000:54) estimated that total public expenditure on higher education in the entire world is approximately USD 300 million, or 1% of the gross domestic product. It is also estimated that about one third of this expenditure occurs in developing

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Table 1: Changes in the public higher education landscape in 2004 in South Africa

	Higher education institution	No. of institutions	Headcount enrolment (%)
Before 2004	Historically advantaged universities	11	54
	Historically disadvantaged universities	10	14
	Historically advantaged technikons	8	24
	Historically disadvantaged technikons	7	8
After 2004	Traditional universities	11	36
	Comprehensive universities	6	44
	Universities of technology	6	20

Source: Council on Higher Education, 2004:40; Council on Higher Education, 2006:184.

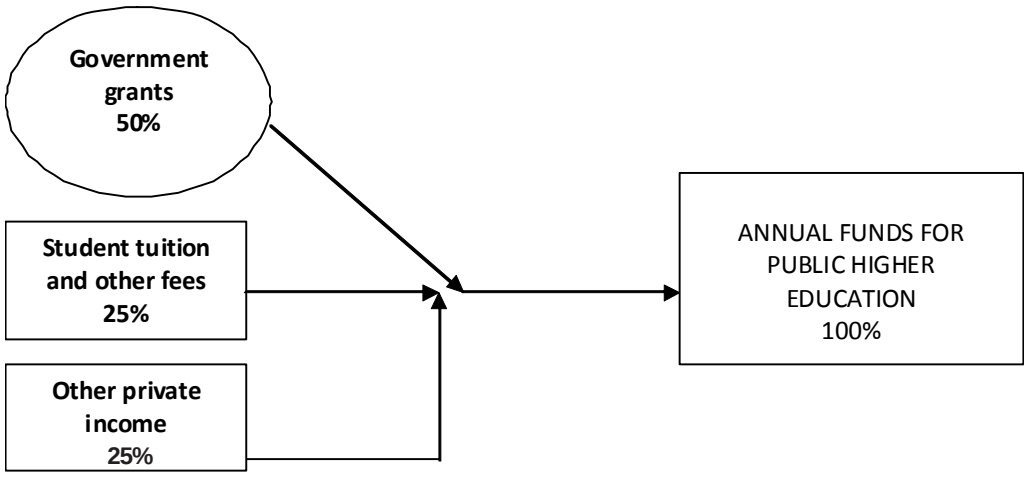
countries, where higher education is heavily subsidized by the government, with a low fee charged to students.

Higher education institutions in South Africa derive their income from three main sources: state grants and subsidies, tuition fees, and third-stream income (income from other sources), i.e. income received from research contracts and donations. Prior to the introduction of a new funding framework for higher education in South Africa, the following formulae and mechanisms were used to fund higher education institutions:

- The Holloway formula for funding universities implemented in 1951;
- The formula recommended by the Van Wyk de Vries Commission for funding universities implemented in 1977;
- The South African Post-Secondary Education (SAPSE) formula for funding universities implemented in 1984;
- An adaptation of the SAPSE formula for funding technikons implemented in 1987;
- A revised SAPSE formula for funding both universities and technikons implemented in 1993.

The new funding framework, which is the main subject of this paper, came into effect in the 2004–05 fiscal year. The largest sources of income for most higher education institutions in South Africa are state grants and subsidies, whilst in most institutions tuition fees and third-stream income contribute approximately 25% each (Figure 1).

Figure 1: Sources of funds of public higher education institutions in South Africa

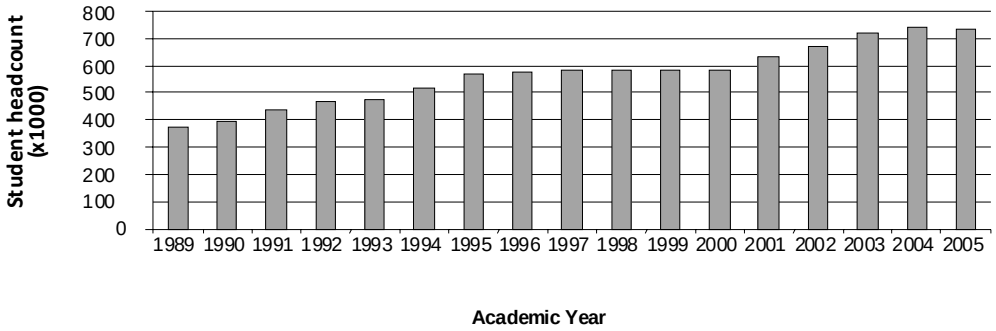


Source: South Africa, 2004c.

3. Inflow and outflow of higher education

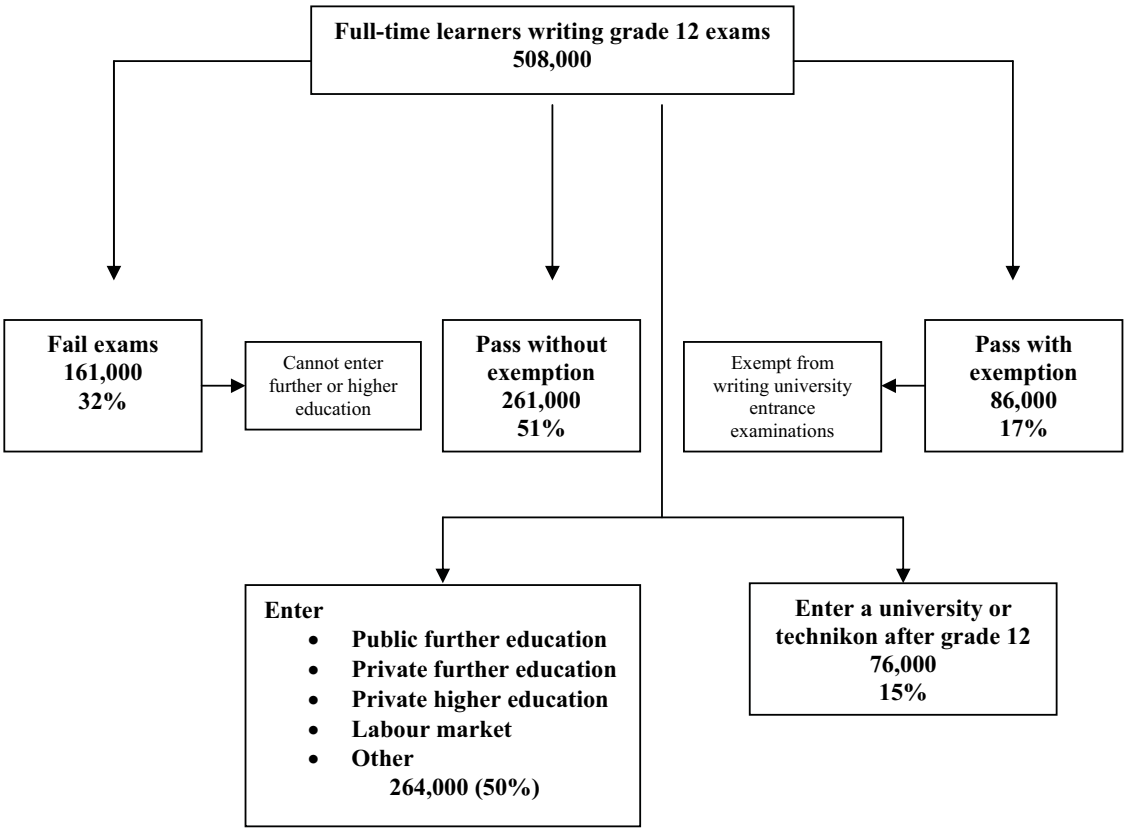
Most entrants into the South African higher education system may enrol only if they have obtained a grade 12 certificate. Figure 2 represents the number of students in the public higher education sector from 1989 to 2005, and Figure 3 reflects the current transfer of students from secondary to tertiary education.

Figure 2: Headcount enrolment in higher education institutions



Sources: Council on Higher Education, 2006:24; South Africa, 2005a:30; South Africa, 2006b:29.

Figure 3: Flow of students from grade 12 into higher education institutions – South Africa, 2003



Sources: South Africa, 2004c; South Africa, 2006b.

4. The financing of higher education

Prior to 2004, South African higher education institutions were subsidized on the basis of the old formula approach. The South African Post-Secondary Education System (SAPSE) identifies and defines 11 programmes that describe all of a university's potential activities (South Africa, 1985:15). These eleven educational and general programme activities comprise the following: instructional programme, research programme, public service programme, academic support programme, student services programme, institutional support programme, operation and maintenance of plant programme, bursaries programme, auxiliary enterprises programme, hospital programme and independent operations programme.

The formula operated on the basis of ten different types of "cost units" to ensure that the cost of higher education was appropriately subsidized. The ten cost units related to state subsidies for three categories of salaries (one category each), for supplies, buildings and equipment, two separate categories for subsidizing books and periodicals in the humanities, and two separate categories for subsidizing books and periodicals in the natural sciences.

In December 2003 a new public higher education funding framework was released after a consultative process (South Africa, 2003:5–6). It indicates, amongst other issues, that *"the new framework is a goal-directed and performance-related distributive mechanism which explicitly links the allocation of funds to academic activity and output, and in particular to the delivery of teaching-related and research-related services which contribute to the social and economic development of the country"*.

The new framework is also compatible with the medium-term expenditure framework (MTEF) process used by the government. The MTEF process allows the formal motivation and annual negotiation of funds with three-year cycles. The National Treasury reviews budgets by considering growth, affordability within the fiscal framework, the spending and policy priorities of each department in terms of its contribution towards government's strategic objectives, inflation adjustments, and sector-specific issues. Issues specifically related to higher education are increases in enrolment and graduation rates, costs, efficiency in the sector, and restructuring the higher education sector. The MTEF allocation for the 2007–10 fiscal period (Table 2) shows an average increase of public expenditure on higher education by approximately 10% per year.

The higher education budget in the new framework is allocated into three broad categories: block grants, earmarked funds and institutional restructuring.

The purpose of block grants is to provide performance-related funds for higher education institutions. These grants are subdivided into five categories: teaching input grant, teaching output grant, research output grant, institutional factor grant and various types of earmarked grant.

Firstly, a ***teaching input grant*** is generated by full-time equivalent (FTE) students. These are weighted in terms of a cost-based funding grid and a detailed planning grid as summarized in Table 3. This funding is based on the classification of educational subject matter (CESM) categories used in the higher education management information system (HEMIS). Student enrolment plans of institutions must also be pre-approved by the minister of education.

FTE calculations are based on enrolments of the year n-2. The teaching input grid applied in 2004 continues to be used, although the minister has indicated that it will be reviewed in the future (South Africa, 2004b). For 2007–08, approximately 52% of the total public expenditure on higher education has been allocated to higher education institutions in the form of teaching input grants. Expenditure for this purpose will increase by approximately 8% and 9% in 2008–09 and 2009–10 respectively.

Table 2: Allocation of public expenditure on higher education in South Africa for 2007–2010

	2007-2008 (in ZAR millions)	2008-2009 (in ZAR millions)	2009-2010 (in ZAR millions)
BLOCK GRANTS	10,689	11,582	12,712
EARMARKED GRANTS	1,768	2,303	3,214
INSTITUTIONAL RESTRUCTURING	600	600	0
	13,057	14,485	15,926

Source: South Africa, 2007:6.

Table 3: Funding grid used as weighting factors for the teaching input factor – South Africa, 2004

		Price ratio (weight)			
Funding group	**CESM categories**	**U* M+3**	**Hons* M+4**	**M** M+5**	**D** M+6**
1	Education, law, librarianship, psychology, social services/public administration	1.0 (0.5)	2.0 (1.0)	3.0	4.0
2	Business/commerce, communication, computer science, language, philosophy/religion, social sciences	1.5 (0.75)	3.0 (1.5)	4.5	6.0
3	Architecture/planning, engineering, home economics, industrial arts, mathematical sciences, physical education	2.5 (1.25)	5.0 (2.5)	7.5	10.0
4	Agriculture, fine and performing arts, health sciences, life and physical sciences	3.5 (1.75)	7.0 (3.5)	10.5	14.0

Source: South Africa, 2004a.
Legend: U = undergraduate degree, Hons = honours degree, M=master's degree, D= doctoral degree, M+3 = grade 12 (last high school grade) + minimum 3 years post-school education.
* Weight for distance institutions is given in brackets. ** Ratios are the same for contact and distance institutions.

Table 4: Weighting factors for calculation of graduates – South Africa, 2004

	Weighting factor - actual teaching output	***Graduation benchmark %**
1st certificates and diplomas, 2 years or less	0.5	22.5 (13.5)
1st diplomas and bachelor's degrees, 3 years	1.0	22.5 (13.5)
Professional 1st bachelor's degrees, 4+ years	1.5	18 (9)
Postgraduate and post-diploma	0.5	54 (27)
Postgraduate degrees	1.0	54 (27)
Honours degrees/higher diplomas	0.5	54 (27)
Non-research master's degrees and master's diplomas	0.5	30 (22.5)

Source: South Africa, 2004a.
*Distance education institution benchmarks are indicated in brackets.

Teaching output grants are based on the graduate outputs of universities, which are determined by the weights attached to these outputs and the benchmarks specified by the minister of education. The weighting and the benchmarks set are shown in Table 4.

For the 2007–08 academic year, approximately 13% of the state higher education budget was allocated for the teaching outputs of institutions. This will also increase by approximately 8% and 9% in 2008–09 and 2009–10 respectively. Most institutions failed to meet the teaching output benchmarks set by the minister of education. In order to allow institutions some time to improve their outputs, the minister of education approved a strategy to ensure that institutions will not face major financial setbacks through the application of the new funding framework. The minister has referred to this as a "migration" strategy, which will enable institutions to benefit from the allocation of a teaching development grant for an interim period. This will be discussed later in this paper.

The improvement in student graduation rates is one of the planned outcomes of the National Plan for Higher Education (South Africa, 2001a:27). Research master's and doctoral graduates do not qualify for teaching output grants, as these fall under the research output grant.

Research output grants are performance grants allocated to institutions for actual publication in journals accredited by the Department of Education and for research master's and doctoral graduates. Research subsidies are distributed using weighting and prices for research as it is presented in Table 5.

Table 5: Weighting factors used to calculate research output grants – South Africa, 2004

OUTPUT	WEIGHT
Publication	1.0
Master's degree	1.0
Doctoral degree	3.0

Source: South Africa, 2004a.

The minister of education annually determines the elements of research output, the weighting to be attached to different research outputs, and the benchmark ratios applicable to the different categories of higher education institutions. The current benchmark (2007–08) is 1.25 units and 0.5 units (per permanent teaching/research staff) for universities and former technikons (now mostly universities of technology) respectively.

For 2007–08, approximately 11% of the total higher education budget has been allocated to institutions for actual research output. This will also increase by approximately 8% and 9% in 2008–09 and 2009–10 respectively. Most institutions failed to meet the research output benchmark set by the minister of education. In order to allow institutions some time to improve their research outputs, the minister of education approved a special strategy, similar to that of the teaching development grant, which enabled institutions to benefit from the allocation of a research development grant for an interim period.

An institutional factor grant is also built into the funding framework to address socio-economic inequities and institutions that may receive a smaller subsidy because of their size. The Department of Education has decided to use the percentage of students classified as African and Coloured to calculate a "disadvantaged factor" for an institution. The current application is on the basis that higher education institutions with less than 40% FTE students (disadvantaged) will receive no additional funds to their teaching input grant. Those institutions with FTE students (disadvantaged) of above 80% will receive the maximum 10% in addition to their teaching input grant, while those with above 40% but less than 80% FTE students (disadvantaged) will receive a proportionate increase in their teaching input grant, greater than 0% but less than 10%. The institutional factor grant also enables smaller institutions to benefit due to their number of FTE students. A sliding scale is used in which institutions with more than 25,000 FTE students receive no additional benefits, whilst institutions with 12,000 FTE students receive 9.3% in addition to their teaching input grants, and up to a maximum scale of 15% added on to the teaching input units for higher education institutions with 4,000 or less FTE students.

The new funding framework also provides additional funds in the form of a *multi-campus* allocation for institutions which are required to deliver teaching services on more than one campus as a result of the changes in the higher education landscape of the country. As an interim measure, merged institutions have been allocated a larger institutional factor grant on the assumption that the "old" institutions prior to mergers still exist. The total amount allocated as institutional factor grants will be held as a constant value of approximately 6% of the total higher education budget, with annual increases of approximately 8%.

Whilst block grants represent the largest percentage of the state higher education budget, the minister has ***earmarked grants*** for specific purposes. The first category of these grants is the *National Student Financial Aid Scheme (NSFAS),* which was initiated to assist students who have academic potential but cannot afford to pursue higher education. The basis of the scheme is that students meeting the requirements for the provision of funds based on their poverty level receive a low-interest loan, the repayment of which starts only when they are gainfully employed above a certain income threshold. For 2007–08, qualifying students are granted a maximum loan of up to ZAR 35,000, which is sufficient to pay for their tuition fees and books and provide them with a reasonable living allowance. Depending on the students' academic performance, up to 40% of the loan could be converted by NSFAS into an outright bursary. For 2007–08, approximately 9% of the total higher education budget has been allocated for NSFAS.

A second category of earmarked grants relate to funds for *infrastructure and output efficiency funds*. The main purpose of these funds is to improve the institutional infrastructure so that institutions can increase their graduate and research output to acceptable benchmarks. The minister intends to provide an increase of over 63% in 2008–09 and an increase of over 100% in 2009–10. These funds also assist institutions that were affected by the changes in the higher education landscape.

The new framework also earmarks funds for *foundation programmes*. These programmes are entry-level programmes designed to assist students from disadvantaged educational backgrounds to acquire sufficient knowledge and skills to enable them to register for a mainstream diploma or degree programme at public higher education institutions. Institutions will have to make formal applications for funding for a three-year period. Once an application is approved, the grant applies for a three-year period. The funding grant will be dependent on the funds available for a particular year. For the 2007–08 financial year approximately 1% of the total higher education budget has been allocated for this purpose, with an increase of approximately 8% in 2008–09 and 6% in 2009–10.

For the first time in the 2007–08 fiscal year, the minister has allocated an initial amount of ZAR 8 million for the clinical training of health professionals in the form of *other earmarked funds*. This will increase substantially in the period 2008–10.

Before applying the new funding framework in 2004–05, the ministry took into account that the full application of the new framework could destabilise the higher education system because some institutions would have faced a massive reduction in state grants. The minister of education applied a strategy from 2004–05 that ensured institutions would not become unsustainable as a result of the application of the new funding framework.

In 2006–07 the minister first used the teaching and research output benchmark of the funding framework to determine the normative values of these outputs. After allocating the funds available for teaching and research outputs actually earned by institutions, the minister decided to allocate the remaining funds to help institutions improve both their teaching and research outputs. These allocations are referred to as "teaching development grants" and "research development grants". The minister has stressed that the allocation of both grants will not be automatically awarded to institutions. All future allocations will be based on the progress made by institutions in respect of teaching and research outputs in each cycle.

In 2007 the minister also recognized that each institution had to be considered on its own merits, and therefore set institution-specific benchmarks for teaching and research outputs to be achieved by the end of this MTEF cycle, i.e. 2009–10.

5. The realities and challenges of the new funding framework

Like many other countries, South Africa has also sought an innovative approach to financing higher education. As we have seen, the demand for higher education in South Africa has risen sharply in the post-apartheid years. Salmi and Hauptman's (2006:3) reasoning for such high demands for higher education corresponds to the South African situation. These reasons include the following: the economic value of having higher education is greater than just having secondary education, social pressures encourage children to enter once they have finished their secondary education, and higher education curricula are becoming more relevant to the real economy.

This acute demand for access to higher education places an additional demand on the state to provide sufficient funding for aspiring entrants into higher education. Many of these aspirations are further fuelled by pressure from parents who did not have the opportunity to continue their education for either political or financial reasons.

The South African government has done well in providing a funding framework that addresses the following key objectives, also spelt out in the Education White Paper 3 (South Africa, 1997):

- equitable distribution of funds amongst institutions;
- providing access to students who could not normally afford to enter higher education institutions;
- efficiencies through setting benchmarks for both teaching output and research output;
- additional funding to assist institutions with specific needs.

A deeper analysis suggests that more ought to be done to address the expectation created in a post-apartheid South Africa. Whilst the higher education system has undoubtedly addressed the previous fragmented higher education system, the system may have not changed the elite status accorded to some institutions. Institutions like the University of Cape Town, University of Pretoria, University of the Witwatersrand, Rhodes University, University of Stellenbosch and other formerly advantaged institutions are still regarded by many as preferred institutions. They attract the best-quality students, both black and white. There might seem nothing wrong with this, but the current funding framework does not fully take into account that many of the less elite institutions are competing on equal footing for funds. Elite institutions attract better-quality students and would therefore find it easier to achieve the higher education benchmarks set by the Department of Education. In addition, the elite institutions never seem to turn away students who come from less impoverished backgrounds and therefore have the ability to pay a higher tuition fee, afford better accommodation and be more focused on their studies.

It is commendable that the new higher education landscape in South Africa has created open access for all those who qualify to enter it. Wallace (1993:15) correctly emphasizes that targeted financial aid will subsidize those who do not have the financial resources to enable them to enter higher education. In South Africa poor students passing a family income means test will be able to receive support via the National Student Financial

Aid Scheme. The reality of this is that these poor students will also be saddled with a debt burden well before they earn enough to pay it back. Since 1989 the number of students entering higher education has almost doubled; public expenditure on higher education has increased more slowly. The obvious result is that pressure will be on increasing tuition fees to ensure that there are sufficient funds to provide a quality education.

The Department of Education provides clear guidelines on how the funding framework will be applied via a ministerial statement in every cycle. The timing of this information may create time lags in the planning cycle of institutions, which could have a negative impact especially on enrolment patterns. In addition, the actual higher education funding support of the government is not in balance with the political perception that there are no restrictions on the number of students that can be accommodated in the higher education sector.

The drive to achieve benchmarks set by the Department of Education for teaching output grants could lead to concerns about the quality of output, despite quality being checked by the Higher Education Quality Committee every five years. This must be seen against the background of an approximately 100% increase in student numbers since 1989, with no state provision for infrastructure development in the application of the new framework up to the 2006–07 financial year. Infrastructure development relates both to academic infrastructure and support for the welfare of students, e.g. a better residential environment, sports facilities, etc.

The greatest challenge still remains the shifting of higher education access for an increasing proportion of the previously disadvantaged population, as envisaged in the Education White Paper 3 (South Africa, 1997a). This has to be done in a country where the sectors of health, transport and housing are also facing huge resource constraints.

6. Concluding remarks

The country experienced a reasonable economic growth of around 5% in the past year (Manuel, 2007), thus suggesting more funds will be available for education. The minister of education's hopes of increasing the participation rate to 20% by 2015 may meet with some difficulty if fewer students pass mathematics and sciences with grades acceptable for university entrance (Jansen, 2006). In 2005 only 12% of the headcount enrolled students attained their first qualification and 4% completed their postgraduate qualification (South Africa 2006b:34). This clearly suggests that more resources, amongst other factors, are needed to improve the graduate rate in higher education.

Whilst most higher education institutions have introduced additional academic support programmes for students coming from substandard schools, it will not be possible to achieve a higher graduation rate within a context of relatively decreasing funds. At the same time universities are reluctant to force substantial tuition fee increases, especially in an environment where over 70% of university drop-outs were black students coming from very low income families (Letseka, 2007).

Financial dependence on the state means that funding levels vary with the availability of government resources for higher education. The importance of higher education needs to be matched by adequate public and private investment to enable institutions to produce the graduates required by both the public and private sector, without interfering with the autonomy of institutions. It is clear that the economy is greatly dependent on the skilled workforce produced by higher education institutions, but the contradiction remains that higher education institutions need more resources.

This paper has discussed many questions which must be solved for the better operation of higher education institutions in South Africa. More importantly, the issues of access, academic performance and moving away from elitism must be more fully discussed and communicated to the public.

The new funding framework has in some aspects moved away from the old formula to create a better system for planning the growth and financial sustainability of institutions. The results of the implementation of the new funding framework up to 2009–10 will provide valuable information on whether real benefits are derived from this innovative approach.

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Challenges in funding, equity and efficiency in higher education

Summary

Equity and efficiency are complex issues in higher education financing. The issue is whether or not it is fair and efficient to have students pay for part of their higher education costs. This paper, based on a discussion by a panel of experts, explores whether tuition fees and student support can be geared in a constellation so that participation in higher education can be expanded without interfering with the accessibility of higher education for students from disadvantaged socio-economic groups. The discussion indicates that an optimal level of tuition fees cannot be found, nor an optimal level of grants, scholarships or loans. All is context related, in which history and the labour market are important factors. But whatever the situation, it seems fair that students should have to pay part of the costs, but will also be insured against major financial punishments if they end up in lower-earning jobs after leaving higher education.

Key words: *Cost-sharing, tuition fees, student support.*

JEL: I220

1. Introduction

The concluding session of the conference "Funding, Equity and Efficiency in Higher Education", held 21–24 November in Portorož, Slovenia, wrapped up many of the issues presented in the previous sessions and placed those issues into the wider perspective of higher education policy. The discussion panel consisted of:

Dr Milena Bevc
Dr Petr Matějů (co-chair)
Dr George Psacharopoulos
Dr Hans Vossensteyn (chair)
Dr Maureen Woodhall

The discussion was structured along a number of topics:

- Equity and efficiency in the debate on funding higher education.
- Do we want to increase participation in higher education and, if so, how?
- Do students need to pay a larger share of the costs?
- Do we want tuition fees?
- How should students be supported: grants, family support or loans?
- If loans, what type of loans?
- What about transparency of the financing system?
- If we want to make changes, where do we start?

The following text reflects the opinions of the panellists as well as the audience, and addresses the questions stated above separately.

2. Are equity and efficiency in higher education at odds?

There was a general conviction that efficiency (i.e. cost effectiveness) and equity are multi-faceted concepts in the debate on higher education. On the one hand, higher education systems in many countries produce more graduates and research with relatively less funding, making higher education more efficient. On the other hand, there are still many unexploited resources that could make higher education more efficient – for

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example, parental contributions from high-income families in systems with no or low tuition fees. In addition, one could consider students' own financial contributions, for example, through student loan systems.

In terms of equity, public opinion as well as the opinion of politicians inclines toward free higher education because this is felt to be "fair". However, the conference concluded that this often has a perverse regressive economic effect because it implies that the average taxpayers pay for the education of people that primarily come from higher socio-economic backgrounds and that will belong to higher socio-economic classes in the future. As such, free higher education stimulates social reproduction at the expense of the average taxpayer.

Regarding the question of whether equity and efficiency can be developed at the same time, the answer was to charge tuition fees and develop a fair system of financial support for students. In most countries, the majority of students come from higher socio-economic classes with distinct under-representation of students from lower socio-economic groups. Many studies have shown that the introduction or abolishment of tuition fees and changes in student support mechanisms have had no impact or a very small temporary impact on the socio-economic composition of the student population. These findings call for further research into more efficient and equitable mechanisms to finance higher education, with precise design and careful implementation.

3. Participation in higher education

There are mixed answers to the question of whether we want to further expand participation in higher education. Some countries already have a relatively high participation rate, whereas others would still like to expand their systems substantially. Many labour markets can handle higher numbers of graduates for high-skilled jobs. The issue is who decides on the expansion of the system and in what direction. The audience called for greater differentiation in terms of types of higher education institutions, programmes and qualifications. In addition, it was stated that merely expanding current public systems without charging tuition fees would attract greater numbers of students without increasing quality, or perhaps even lower the average quality of students and graduates.

The conference agreed that it is necessary to stimulate participation in higher education by talented but disadvantaged socio-economic groups. The larger issue highlighted at the conference is that major educational inequalities become manifest much earlier than in higher education; these begin as early as preschool and primary education. In addition, strong tracking systems in secondary education may discourage transition into higher education.

4. Do students need to pay a larger share of the costs through tuition fees?

Previous analysis presented at the conference already indicated that the majority of participants favour tuition fees in higher education. Students should contribute to the costs of education through user charges (i.e. tuition fees) for both quality (of students and of programmes) and efficiency, as well as for equity reasons.

The debate then moved to the returns of higher education. Analyses at the conference showed that individuals benefit greatly from higher education, both in financial terms as well as in non-monetary terms, such as cultural development, appreciation of leisure and happiness. Of course these benefits differ between countries, institutions, disciplines and individuals. Regardless of such differences, tuition fees can easily be argued for due to the private rates of return. Nevertheless, it was also widely recognised that higher education also generates substantial externalities and positive social rates of return. These call for continued public investment in higher education.

Some participants claimed that higher education should be tuition-free because graduates pay tax at higher levels. Although higher-earning graduates indeed move into higher taxation brackets, this also holds for high-earning non-graduates that did not make use of the expensive higher education system. In addition, general income taxes do not differentiate between the public services that they pay for. Therefore higher education costs cannot be addressed through presumed higher taxation rates.

Addressing private contributions to the costs of higher education, the audience was undecided about the level of fees to be charged. Some arguments were made that the marginal costs of education should somehow be brought into balance with the marginal benefits. Of course, this is very difficult to calculate for individual students with different capacities and in different institutions and programmes. The issue of differential tuition fees also created some mixed opinions. On the one

hand, differential fees accommodate greater diversity in the system very well; on the other hand, it was also feared that differential fees might lead to a greater disparity between students from advantaged and disadvantaged backgrounds because the latter have more difficulty investing in higher-cost programmes.

With regard to whether tuition fees should be charged up-front or through a deferred payment system, the latter option was preferred because it is viewed as related to future income position rather than family background. It also removes any argument about liquidity constraints at the moment of enrolment. International practice has shown that deferred payment mechanisms such as those in Australia and the UK do not hamper access.

5. How should students be supported?

Practice shows that governments make use of an enormous range of arrangements to support students and their families. Systems that are in place are not easy to change. For example, indirect support through students' parents in the form of family allowances and tax benefits may not be changed easily because these often are more generic arrangements for larger target groups. In addition, these are often accompanied by parental maintenance obligations towards children that are formulated in national (i.e. constitutional) law. In addition, such support often can take hidden forms, such as free health insurance and transportation subsidies.

Grants to students are often more explicitly targeted to full-time students, to high-performing students, to poor students, or to a combination of these. Such direct subsidies may be vulnerable to political change and public demands for budget cuts. Regardless of their more targeted nature, grants often provide subsidies to students who do not really need them, particularly generic or merit-based grants. Generic grants often go together with the idea of making students financially independent (as much as possible), as in the Nordic countries. However, the participants agreed that addressing access issues particularly requires grants based on parental income as a way to stimulate students from disadvantaged backgrounds to participate in higher education.

However, student support in the form of student loans was generally preferred by the participants as a way to overcome liquidity constraints and to move the burden of higher education costs to the time when future graduates are realising the economic benefits of their education, mainly through employment.

6. What type of loans?

How student loans should be given shape was still an issue of debate. Whether loans should be available to all students or only to needy students to a large extent depends on the amount of resources/capital that can be made available. It was undecided whether loans should cover living costs or tuition costs in particular; nevertheless, loans do have an investment character, and tuition paid for education is an investment in future employability. As such, they may be a natural link between tuition and employability.

With relation to the repayment mechanism, some prefer income-related repayment schedules in which one repays faster if one earns more, whereas others prefer traditional mortgage-style loans because national tax and debt collection mechanisms are not as efficient as needed.

An important issue regarding student loans is whether or not interest subsidies should be applied. The basic argument is that one should not offer student loans with interest subsidies. In doing so, the government subsidises students in a hidden way; the longer the repayment period, the greater the burden on public funds, and students do not perceive this as a subsidy or gift. Of course there is a case for keeping student loans as attractive as possible – for example, through using government borrowing rates that often are lower than private banking interest rates, which are often perceived as too high for students.

However, there may be very strong political reasons for interest subsidies on student loans – for example, to make loans acceptable politically and in the media. Furthermore, if one switches from grants to loans, the subsidy on loans is lower than on grants. Nevertheless, systems with low or no interest rates may lead to situations in which loans are in fact a gift of 50% to even 70%. This is an expensive way to lend money to students while those students continue to regard the instrument as a loan rather than a grant. This should be a serious consideration for student loan policies.

Finally, some loan systems include a risk premium. For example, in the Hungarian case the interest rate has a top-up risk premium of 1.7% to 2.0% to cover default costs. This represents solidarity among the pool of borrowers, whereby the well-earning graduates pay a little extra for the low-

earning graduates. This means that public subsidies can be fully used for direct grants to needy students.

7. Transparency and quality

This part of the discussion argued that any student financing mechanism should be clear and transparent. The government or student financing agency, as well as the media, should communicate very clearly the objectives of the student financial arrangements by providing proper statements on the following issues:

- What are the costs of higher education: study-related costs and maintenance costs?
- What are the benefits of higher education? (Rates of return, non-financial returns, differences for various disciplines, etc.)
- What are the tuition arrangements?
- How are students supported? What are the subsidies? (Direct subsidies such as grants and hidden subsidies through family support, tax relief, interest subsidies, debt remission, etc.)
- What are the eligibility criteria?
- Have as few instruments as possible and make uni-directional incentives: tuition fees can be addressed through loans, and maintenance costs can be subsidised through grants (and loans).
- Use similar mechanisms for different institutions, regions and target groups (even simple systems are often barely understood by prospective students and their parents).
- Monitor what is happening through student choice behaviour.

An interesting part of this discussion also addressed issues of efficiency, equity, tuition fees and student support in relation to teaching quality. What do students receive in return for their investments? To what extent does efficient operation lead to reduced quality? If resources are reduced or the number of students is increased, to what extent will this harm the quality of instruction? Finally it was argued that increases in private contributions through tuition fees and student loans should not be accompanied by decreases in public funding. Students should have the idea that they receive value for money alongside the fact that higher private costs should make them more responsible in the decisions they make.

Another interesting aspect touched upon was that we may ask students to contribute more to education costs, but that this is not the only way in which the current generation needs to contribute more to public and semi-public services, such as health care, social security and pension schemes. Regardless of the fact that each of these changes in public systems can be persuasively argued for, together these arrangements can lead to a generation that is much poorer than previous generations, particularly in countries with strong demographic declines.

8. Where do we start?

The final part of the discussion was devoted to the question of "where we need to start" if we want to make higher education more efficient and equitable. There was a general sense of urgency that higher education institutions should first become more autonomous in how they spend their money without having to face budget cuts.

Because resources (money, political will, administrative capacity) are often insufficient to realise all the desired changes simultaneously and within a short timeframe, selected instruments should be implemented gradually. Introducing tuition fees and student loans, as well as clarifying information on hidden subsidies and perhaps also restructuring them into direct subsidies, requires a great deal of political will and strength. This is particularly difficult because many such measures are not favoured by students (who benefit from "free" higher education), and public opinion, political actors and the media remain convinced that private contributions will have a harmful effect on the participation of disadvantaged students. Nonetheless, most international research on these issues shows that these convictions are not supported by such arguments.

Nevertheless, the participants were convinced that more research is needed on the impact of financial incentives on student choice behaviour, particularly on people who do not participate in higher education.

The final remarks at this conference related to the potential impact on student financing policies from the European Union. The EU could provide incentives for national governments to develop more efficient and equitable higher education systems.

All in all, the conference made a valuable contribution to the general understanding of efficiency and equity in higher education. One important step was recognition of the impact of structures and opportunities in preschool, primary and secondary education on opportunities for students from disadvantaged backgrounds to enter higher education. The more egalitarian an education system is, the more likely it is that

students will be accepted into higher education on the basis of ability rather than social background. Student financing is a mechanism to further fine-tune participation policies and the incentives for investing in higher education.