Models of Financing Higher Education in Europe

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1. Introduction

In this report an overview is given of a number of aspects related to the (public) funding of higher education in Europe[1]. From the perspective of government budgets, the funding of higher education is a matter of ongoing concern. This concern can be interpreted in the framework of five overarching themes (Johnstone, 1998):

1. Expansion and diversification: of enrolments, participation rates, and number and types of institutions.
2. Fiscal pressure: as measured in low and declining per-student expenditures and as seen in the overcrowding of the higher education facilities, in low-paid faculty, lack of innovation or even maintenance in academic infrastructure (incl. libraries), and deteriorating physical plants.
3. Markets, i.e. the rise of market orientations and solutions, and the search for non-governmental income.
4. The demand for greater accountability: on the part of the institutions and the academic staff, and on behalf of students, employers, and those who pay.
5. The demand for greater quality and efficiency: more rigour, more relevance, and more learning.

Also in Europe the massification of higher education over the last two to three decades has resulted in substantial increases in the level of public funds directed to higher education institutions. In particular during the 1980s and early 1990s, governments have looked for ways to make higher education more efficient[2] in order to put an end to the continuous growth of the higher education budget. In many countries this has led to a growing interest of higher education institutions in non-public sources of income. In other countries the foundation of the funding mechanism changed from input based to output oriented. As a consequence of these developments, and also encouraged by the growing Europeanisation and globalisation of higher education, much interest has emerged in looking abroad for new perspectives on the organisation and funding of higher education and for understanding how other (European) countries have dealt with their budgetary problems concerning higher education.

Accordingly this report presents general descriptions of the funding structure and the specific funding formulae currently being used for the funding of higher education in a number of European countries. The report was commissioned by the Nordic Council of Ministers. It provides the basis for a presentation during the Theme Conference on Financing of Higher Education organised by the Nordic Council of Ministers on 3 and 4 April 2000, in Reykjavik, Iceland. The analysis of higher education funding in Europe presented in the report is focused on seven countries: Belgium (Flanders), Denmark, France, Germany, the Netherlands, Sweden, and the United Kingdom. The aim of the report is to provide detailed insights into the funding structure of universities and some related aspects in these seven countries. For a valid interpretation of the comparative information on the funding of universities, some insight is needed into the nature and structure of the higher education systems of the countries included. Therefore, for each country first a brief description of the general characteristics of the national higher education system will be given. Aspects addressed are: the types of institutions, programmes, degrees conferred, and enrolment. Next, information about the public budget available for university education and the budget of the institutions will be discussed as far as the information is available. After that per chapter the core of the report is presented, i.e. the funding mechanisms for allocating public funds to the universities. For each of the countries included in the report, the allocation methods employed by the respective authorities (government authorities, funding councils, and research councils) will be described in detail. Among other things, the following aspects will

[1] In this report *Europe* refers to the member states of the EU, Norway, Iceland, and Switzerland.
[2] In practice this efficiency drive implied, in simple terms, either expecting higher education to do more for the same amount of (public) money, or to do the same for less (public) money.

be addressed: the (possible) separate allocation of teaching funds and research funds, the funding formula used, and the orientation of the funding method. The latter refers to whether the method is incremental in nature, or based on negotiations, as well as whether it is input-oriented, throughput-oriented or output-(=performance)oriented. Other aspects relate to funds allocated for specific purposes, such as investments or research (e.g. funds administered by research councils). Particular attention will be paid to the issue whether differences between disciplines (i.e. academic subject groups) are translated into different levels of grants allocated to the institutions, e.g. by using different tariffs per student across disciplines.

In addition to the description of the public funding for universities, a number of aspects related to funding will be discussed, such as sources of institutional income, staff and student related issues, and quality assessment procedures.

The information is presented on a country by country basis. This means that the seven countries included are discussed separately in chapters 2 through 8. For each country information will be presented on the items mentioned above, in as far as the information needed was (made) available. At the end of the report, in chapter 9 a short comparative overview of the information will be presented.

2. Denmark

2.1 System characteristics

Denmark has around 110 higher education institutions, ranging from comprehensive universities to smaller professional schools. The universities offer five-year master's programmes (*kandidat*), postgraduate training, and three-year bachelor programmes (since 1988). The non-university sector consists of colleges and vocational schools. The latter offer programmes in technical subjects, teacher training, social work and physiotherapy, etc. Only the university sector has a task in research and post-graduate education (the latter leading to either the *licentiat* or the PhD degree).

All in all there are three types of undergraduate education: short-cycle, medium cycle and long cycle. Short-cycle programmes (1-2 years) are primarily offered by the vocational schools. Medium cycle programmes (3-4 years) by universities and colleges and long-cycle programmes (4-6 years) only by the universities. Combining medium- and long-cycle programmes the total number of students is about 157,000 (1998). The number of students in long-cycle programmes is about 90,000. Most of them (> 80%) study full-time. In the medium-cycle programmes more than 90% of the students study full-time.

Denmark still has entrance limits (numerus clausus). Since 1977 the government operates a central system of entrance regulation, limiting the number of student places. Nowadays student places are only set, after negotiations with the government, for institutions as a whole, not by discipline. Programmes in medical science and teacher training are exceptions to this rule. Although the number of places in higher education has increased during the last decade, there is annually a number of applicants who are refused admission for capacity reasons. The option for students to leave the university upon receiving (after three years of study) their Bachelor's degree is still not very popular. Most students continue their study.

Traditionally, Danish higher education was regulated strongly by the state. Since the 1980s the government has increased the institutions' autonomy in areas of academic programme development, financial affairs, and access policy. This development went along with a strengthening of institutional management.

2.2 The budget of the institutions

Higher education is primarily funded by the state.[3] The state guarantees funding through the Ministry of Education (MoE) and the Ministry of Research and Information Technology (MoRIT). MoE has the overall responsibility for educational matters, whereas MoRIT has the political responsibility for research, universities, information technology and telecommunications. MoRIT was established as an independent ministry in January 1993 with the task of coordinating Denmark's efforts in the field of research. In 1994 and 1998 the portfolio of the Ministry was extended so that at present it includes research and university policies as as IT and telecommunications policy.

In 1980 a *formula based budgeting* system was introduced with separate funding of teaching and research. Funding of teaching was based on "active students" and student/teacher ratios. Research, administration, other activities, and

[3] There are some private self-governing institutions that are recognised by the state, for example: engineering colleges (*teknika*), some schools of occupational therapy and physiotherapy, schools of hospital laboratory work, and business schools. All of these types of institutions receive almost all of their funding from the state, but have varying degrees of independence and autonomy (see Eurydice, Information on Denmark, 1992).

capital costs were still budgeted in an incremental way. The old (pre-1980) funding system was regarded as non-transparent and based on too much, poorly organised information. Furthermore, information on productivity was not taken into account.
As a supplement to the basic research funding, a substantial portion of public funds for research is allocated through the *Research Councils*. The basic research funding constitutes approximately 56 % of the total research funds. The rest comes from the research councils and from private donations.
The formula funding system gave the universities a very detailed budget and it worked in practice as a prescription for the internal allocation process of the universities. In 1993 the Danish Parliament passed new legislation for higher education and research. The new University Act gave the universities more financial autonomy. According to the new legislation all university income may be treated as a lump sum which the universities freely can decide upon themselves. Only decisions on large investments remain in the field of the competence of the Ministry. Additionally the new law prescribes that grants for teaching must be allocated according to the *taximeter principle* (see below).

While the total funding increased in the ten-year period (1984 to 1994), it did not keep up with the expansion in the number of students in the same period. This has caused financial problems for a lot of institutions in recent years. One result of this has been a sharp increase in the student/teacher ratio in a number of fields, and this has raised questions regarding the quality of the teaching. Another consequence has been that some of the smaller institutes have not been able to cope with the decreasing budgets and have merged with other institutions.

For the Danish higher education sector as a whole, the government seeks to achieve a more or less balanced composition of the budget that looks like this (between brackets the figures for the universities are shown):

62% for undergraduate education (Ordinaere uddannelser) (40% of the university budget)
3% for continuing education, adult education (Aben uddanelse)
23% for basic research (33% of the university budget)
12% for targeted research (23% of the university budget).

The public budget for the universities consists of the following elements:

1. a basic grant;
2. a taximeter grant for teaching (see section 2.3.1);
3. a research grant (basic research; see section 2.3.2);
4. targeted research (allocated by Research Councils; see section 2.3.2);
5. a grant for other activities (museums, libraries etc.);
6. a grant for capital expenses.

For the fiscal year 1995 the figures (in Danish crowns, DKK) for universities and for all types of higher education combined are presented in table 1. Included in the figures presented here, is a small amount received by all higher education institutions (*Grundbevilling*), independent of their size. This basic grant is around one million DKK. The largest part of the teaching allocations, however, is based on a formula. Included in the figures is also a capital grant that higher education institutions receive for the purpose of investments (e.g. laboratories). In principle the Ministry supplies the universities with land and buildings. Financing the large investments directly, the Ministry wants to approve all other investment decisions of the universities.

Table 2. 1: Public budget for higher education (1995, mil. DKK)

	universities*	total higher education
teaching	2,180	5,050
research training	110	110
continuing education	100	150
open univ. education	200	230
teaching total	2,590	5,540
basic research	1,980	1,980
targeted research	1,375	1,375
research total	3,355	3,355
miscellaneous**	980	1,400
total	6,925	10,299

* all institutions with a research function

** operation of museums, libraries, botanical gardens

As stated above, the capital grant for universities is not based on a formula. However, in 1994 the Ministry expressed plans to work with formula funding, relating the capital funds to the number of students and/or the number of employees and fields of teaching and research. By means of such measures the Ministry had the intention to transfer its responsibility in the field of investments to the universities. Thus, the universities would be able to decide on all matters relating to the use of current and capital resources.

So far, the universities did not have the freedom to decide themselves on large investments. However, in the non-university sector there have been some important changes. Since 1997, about 50 schools for teacher training and pedagogic schools receive an extra capital grant, as part of the basic (so-called taximeter) grant. This grant, together with the taximeter grant for teaching, is allocated to the institutions as a lump sum. The institutions can make their own decisions on investments. Thus, the institutions are forced to set their own priorities.

2.3 Funding mechanism

Since 1980, the funding of research is independent of the funding of teaching, while for the latter a system of formula funding was introduced. Until 1992 the funding system led to separate allocations for teaching, research, institutional administration, buildings & costs related to buildings, libraries & computer centres, and a 'miscellaneous' category. For teaching funds, first an equilibrium grant was calculated and the actual grant was found by linear interpolation between last year's grant and the equilibrium grant. All costs apart from the teaching costs were funded on an incremental basis. In 1992 the formula was simplified; teaching grants were calculated directly on the basis of a prognosis for active students and a set of normative prices. Administration funds were spread over formula-based teaching funds and research funds. In 1993 the government initiated a funding programme for helping institutions to cover the costs of implementing PhD programmes. Before 1993 PhD-level degrees were awarded only on the basis of theses. The current system came into existence in 1994 when the government implemented a system, in which all of the funding was based on the number of active students. Since 1995 lump sum grants have been issued to the universities. The institutional governing boards (the senates) are

responsible for allocating this funding to the faculties. This change was part of the government's plan to decentralise decision-making to the institutions.

2.3.1 Teaching

The funding of teaching (including indirect costs for overhead) is based on a formula in which the key variable is the number of 'active students'. This is called the taximeter principle (*taksameter*). Active students are not the same as enrolled students. It is the sum of 'passed courses' weighted with 'the standard student work-load for individual courses', i.e. full time equivalents. This means that all exams that have to be passed by a full-time student in one year add up to 1. Different exams will have different weights. The exams taken into account refer to the autumn term of the previous year and the spring term of the financial year in question. This means that for his university studies a student normally can gain five points (or 'study step increments' as they are sometimes referred to). For example, in 1994 the number of students enrolled in the 11 universities was 95,200, whereas the number of active students was 64,000. For the budgeting process a prognosis of active students is made, based on the same methods as used in population statistics, that is: new enrolments, drop-out rates and average duration of studies. Once the active students' figure has been estimated, the budget is calculated. The calculation uses a unit cost (i.e. cost per active student) for a number of study areas.

A tariff catalogue (like the one included in the table below) is published yearly in the education Budget Bill (*Finanslov*). It includes a tariff for teaching costs (i.e. education and equipment) and a tariff for overhead costs (administration, rent and maintenance of buildings, and other services), that differ according to subject area. Next to these, some study programmes have a tariff covering the costs of practical training. The level of the tariffs is not based on detailed cost calculations, they are based on experience and historical data, dating back to the days before the taximeter model was introduced. Table 2.2 presents the tariffs (1998) for a number of study programmes. The tariffs for an active student range from 29,600 DKK (e.g. in law and economics) to 92,200 DKK (veterinary science).

Table 2.2: Tariff (in DKK) per active student in higher education (fiscal year 1998)

Area	Tariff
Law, economy, Danish, history, philosophy etc.	29,600
Psychology, languages, theology, archaeology etc.	33,100
Music, communication, journalism	50,700
Mathematics, statistics	49,100
Pharmacy	70,600
Medicine	60.900
Dentistry	62,500
Chemistry, biology, physics etc.	62,500
Geography	60.900
Physiotherapy	41,700
Veterinary science	92,200
Pedagogy	40,100
Teacher training	39,300
Engineering	71,900
PhD-students: non-laboratory subjects	107,200
PhD-students: laboratory subjects	150,500

Note: Tariffs exclude incidental compensations for value added tax (*moms*)

Formula funding for postgraduate (PhD) students makes a distinction between two types of programmes, namely laboratory-based programmes and non-laboratory-based subjects. For postgraduate students, however, the taximeter model is not operational, because a registration of yearly performance is not made. Therefore, all postgraduate students are counted as active students, limited to a three-year period for each student.

The annual teaching budget *T* for institution *i* in year *t* is calculated by applying the following formula, which, for the sake of clarity, disregards formula funding of students in continuing education classes (*Aben uddanelse*):

$$\mathbf{T_{i,t} = A_{i,1,t}*(TT_{1,t}+TO_{1,t}) + A_{i,2,t}*(TT_{2,t}+TO_{2,t}) + ... + A_{i,n,t}*(TT_{n,t}+TO_{n,t}) + PR_{i,1,t}*TP_{1,t} + ... + PR_{i,k,t}*TP_{k,t} + PGE_{i,t}*(TTE_t+TOE_t) + PGN_{i,t}*(TTN_t+TON_t)}$$

where:

$T_{1,t}$ teaching budget for institution i in year t

$A_{i,j,t}$ number of active students in institution i enrolled in programmes belonging to subject area j (j=1,...,n) in year t

$TT_{j,t}$ teaching cost tariff per active student in programmes belonging to subject area j (j=1,...,n) in year t

$TO_{j,t}$ overhead cost tariff per active student in programmes belonging to subject area j (j=1,...,n) in year t

$PR_{i,h,t}$ number of active students doing practical training in subjects belonging to area h (h=1,...,k)

$TP_{h,t}$ tariff for practical work necessary for subjects in area h (h=1,...,k) in year t

$PGE_{i,t}$ number of post-graduate students in laboratory-based (experimental) subjects in institution i in year t

$PGN_{i,t}$ number of post-graduate students in non-laboratory-based (non-experimental) subjects in institution i in year t

TTE_t teaching tariff for postgraduate students in laboratory-based (mainly experimental) subjects in year t

TOE_t overhead tariff for postgraduate students in laboratory-based (experimental) subjects in year t

TTN_t teaching tariff for postgraduate students in non-laboratory-based (non-experimental) subjects in year t

TON_t overhead tariff for postgraduate students in non-laboratory-based (non-experimental) subjects in year t

Performance-related additions to the basic teaching grant are currently in discussion. Like in Sweden, quality premiums amounting to 5 per cent of the teaching budget were proposed. The premium is to be based on the outcome of teaching evaluations. To this end, once every five years the Centre for Quality Assurance and Evaluation of Higher Education evaluates and compares study programmes offered by individual institutions. However, it is still unclear whether these plans will be realised by the new government. In view of the problem of high dropout rates in Danish higher education, the idea was to award supplementary funds to institutions showing a high retention rate. However, the present taximeter model, as well as the system of student support, already include financial incentives for good student performance.

2.3.2 Research

Danish universities receive a basic research grant. On top of this basic allocation, institutions can - and are indeed supposed to - apply for supplementary research funding on a project basis by applying to the Danish Research Councils[4], the Danish National Research Foundation or by bringing in funds from ministerial research and

[4] The six research councils give financial support to Danish research and also have an advisory function concerning scientific research issues. In 1997 the research councils' total grants for research amount to DKK 1,058 mill. The six research councils are: The Danish Natural Science Research Council, The Danish Medical Research Council, The Danish Agricultural and Veterinary Research Council, The Danish Social Science Research Council, The Danish Research Council for the Humanities and The Danish Technical Research Council.

development programmes that exist in areas of special priority (e.g. biotechnology and information technology). This is known as the system of *dual support*. Apart from the targeted research grants, funds are coming in through contract research. On average, for the university sector the total of research funds is exceeding the combined funds for teaching.

The basic research grant is allocated as a lump sum to the institutions. Its level is calculated on an incremental basis. There is an upper limit to total basic research grants, as from 1995 on it is supposed not to exceed one-third of the total teaching and research funding.

Since 1997 the Ministry is working with a new model for allocating research funds. Every year 5% of the basic research funds will be redistributed: 2.5% on the basis of quantitative parameters (i.e. number of active students, number of PhD's and amount of contract research) and 2,5% on the basis of qualitative criteria, which are not quite clear yet. The Ministry conducted some pilot projects on the basis of which the measurement of the quality of research projects will be determined.

In the face of the growth of universities in the years to come and to make sure that basic research grants will form one-third of the university budget, the level of allocated basic research grants will have to be raised. In 1995, this has led to 100 million DKK in extra grants. For the following years the amount is 50 million DKK. The distribution of these extra funds partly (50%) follows the number of new student admissions per institution and for the other part (50%) is awarded to those institutions with relatively little basic research funding.

2.3.3 Developments

During the past decade and a half, the system of formula funding has been used much to everyone's (especially the Ministries'!) satisfaction. MoE managed to move resources from fields with excess supply of candidates to fields with a better balance between supply and demand on the labour market. The Ministry felt that by employing formula funding it was easier to let funds follow the students (the 'consumer') than if it would use an incremental budgeting system - the formula is the argument when you re-allocate. Moreover, the block grant principle gives incentives of economising to the institutions.

Along with the re-allocation of resources the Ministry has managed to achieve a higher productivity in teaching. Over the past ten years, the number of active students per teacher has risen by about 50% on average. Relating funds to productivity gives the institutions an incentive to raise production. In order to raise production, institutions must concentrate on quality in teaching and in planning of the courses. On the other hand, institutions may be tempted to lower requirements at the examinations. However, in Denmark formula funding is still regarded as the right way of funding.

In recent years the formula was modified in order to make it simpler and to establish a more direct relation between productivity and funding. Nowadays, formula funding accounts for approximately 60% of higher education's basic budget (teaching and basic research grants, excluding project funding). For the university sector alone, the corresponding percentage is lower - around 45% - due to the fact that this sector has a relatively large - incrementally determined - budget for basic research activities.

From the previous sections it is also clear that the Danish system of teaching and research funding is presently undergoing changes. This is reflected by the introduction of quality-dependent components into teaching and research budgets. Measures like this are planned alongside a strengthening of the (financial) autonomy of institutions. An example of the latter may also be found in the relaxing and stepping back by the government in matters of entrance limitations.

One of the most recent developments concerns the 5% redistribution of basic research grants. The redistribution should allow the quality of research to play a larger role in the allocation of research funds.

MoE and MoRIT are implementing a number of measures to stimulate the innovativeness and improve the efficiency of Danish universities including, amongst other things, the introduction of *University performance contracts*. The idea is to offer each university a performance contract. While there are no obligations to enter a

contract, it is expected that all universities will do so. Each contract will be based on a proposal from the university, in which it sets out its values and goals, and shows what it intends to achieve in a four-year period. A university performance contract is not intended to be a legal document. It will be possible to revise the contract at appropriate times, e.g. at the end of its first year on the basis of the experience gained, or at other times during the term of the contract in the event of a significant change in a university's situation.

While it is not the intention that performance contracts lead to a new system of appropriations, it is expected that individual universities can influence the prioritisation of public resources through the goals they include in their contracts.

A performance contract is regarded by the Ministries as an instrument for dialogue and control. However, it is clear that higher education as a public sector has specific characteristics that affect the working of these contracts. For example, higher education is financed through a pr. capita funding system, and MoE wants to keep that as the funding basis. It is not unlikely that through implementing the contracts and developing new performance criteria the funding system in time has to be adapted. However, MoE does not find it practical at the moment to make the appropriations less activity-dependent or to base them more on bilateral agreements, and individualised, subjective assessments. That means that bilateral grant agreements, being in many cases a core element in performance contracts in other (public) sectors, in the form of, e.g. long-term grant guaratees or rewards for achieving certain results, cannot be used directly in the higher education sector.

Despite these, and other difficulties and constraints, MoE sees a number of positive aspects for both the universities and the ministry in the use of performance contracts in higher education. For example, performance contracts would help to strengthen the dialogue between university and ministry on key goals and means; the contracts could become a more focused supplement to the universities' annual performance reports and strategy plans; and finally the university's management could use the performance contracts as a means of marking their main priorities, both internally and externally.

2.4 University income from other activities

There is no information available about the revenues from contract teaching. Information about contract research is only available in a very rough form. In 1997, the Danish universities with basic research activities received 1.686 million DKK for targeted research, which is about 19% of their income. About 85% of these grants come from the research councils and cannot be regarded as contract research. The remaining 15% come from other sources and (perhaps) contain grants for contract research. In addition to this targeted research, these universities received about 300 million DKK in the form of miscellaneous income (e.g. rent income, EU grants, etc.). This represented a bit more than 3% of their total income.

2.5 Issues indirectly related to funding

2.5.1 Staff issues

In table 2.3, the numbers of academic and non-academic staff are presented. The Ministry has estimated that the percentage of academic staff with a tenured position or a four-year contract is about 80%.

Table 2.4 presents the numbers and percentages of academic and non-academic staff by type of activity. If full-time and part-time academic staff are taken together it can be calculated that about 55% of their time is spent on teaching activities and about 45% on research activities.

Table 2.3: Academic and non-academic staff (in fte) in 1996 and 1997

	1996	1997
Full-time academic staff	6869	7069
Part-time academic staff	1747	1745
Non-academic staff	7573	7937
Total Staff	16189	16751

Source: Ministry of Research

Table 2.4: Staff by type of activity

	Teaching	Research	Other
Full-time academic staff 1996	3048 (44%)	3609 (53%)	212 (3%)
Full-time academic staff 1997	3191 (45%)	3715 (53%)	164 (2%)
Part-time academic staff 1996	1637 (94%)	81 (5%)	29 (2%)
Part-time academic staff 1997	1632 (94%)	100 (6%)	13 (1%)
Non-academic staff 1996	2216 (29%)	2661 (35%)	2697 (36%)
Non-academic staff 1997	2491 (31%)	2716 (34%)	2730 (34%)
Total 1996	6901 (43%)	6351 (39%)	2938 (18%)
Total 1997	7314 (44%)	6531 (39%)	2907 (17%)

Source: Ministry of Research.

2.5.2 Student related issues

2.5.2.1 Student choice and institutional funding

The budget for teaching of the universities is directly linked to the number of (active) students. If the number of (active) students of a university decreases, its teaching budget will be affected in a negative way. Thus, it is not only the number of students that is taken into account, but also their performance.

2.5.2.2 Tuition fees

For full-time students there are no tuition fees, and it is not to be expected that for this category of students tuition fees will be introduced on the short term. Part-time students (most of them in Open University education; *Aben uddanelse*) are charged a fee, covering approximately 25% of the teaching costs.

2.5.2.3 Access, selection and student support

Access to higher education is rather selective in Denmark. The basic arguments for selection concern budgetary restrictions and a relatively high unemployment rate among higher education graduates. A number of programmes have a *numerus clausus*, such as programmes in medicine, teacher training programmes, and pre-school teacher training programmes. MoE annually decides on the maximum number of new entrants admitted to these courses. In other programmes the institutions themselves decide upon the number of places offered. Institutional funding is strongly oriented on the number of exams passed by students. Therefore, if an institution admits more students than the capacity allows, the success rate will probably decrease and as a result funding

will be restrained. Of course, there is the danger that institutions are seduced to lower their examination requirements for reasons such as these. To prevent such behaviour, a system of external examiners has been introduced.

The decentralised system of selection was introduced in 1991. Its main objective was to improve the efficiency in the implementation of education policy.

Concerning student financial support, it can be said that the present student grant and loan scheme, based on a voucher system, was introduced in 1988. Support for students of 18 years and older is not dependent on parental income. The state loan interest rate is somewhat below the market rate.

Direct support is available for all students who have a study delay not exceeding 12 months. All students may apply for a grant if their personal income does not exceed DKK 55,500 annually. The maximum amount granted to students living with their parents is DKK 1,803 per month. For students living away from their parents, this maximum is DKK 3,573 monthly. In addition, they may take up a student loan on a voluntary basis. For both categories of students the maximum value of the state loan is DKK 1,857 per month.[5] Furthermore, there is no indirect support in the shape of special tax deductions for the students' parents or child allowances for parents having students in their family. In order to be eligible for student aid a student has to be active, which means that he is not allowed to have a study delay for longer than 12 months. Student support is available for the nominal duration of study plus 12 additional months. After that, students can take up a full loan for a maximum period of one year (*finalisation loan*).

2.5.3 Quality assessment

Quality evaluation is one of the so-called 'soft' control mechanisms used by MoE. The ministry has set up an independent evaluation centre that can take steps to evaluate programmes. The Danish quality assessment procedure belongs to the 'horizontal' type. In addition to the basic procedure of self-evaluation, visit and public report, the Danish governmental agency *Evalueringscenteret* may use national surveys among students, graduates, or employers to add to the information that the steering group can use to come to its judgements and recommendations. Another specifically Danish characteristic is that the steering group of the national evaluation in a certain discipline usually contains the visiting committees for all higher education institutions, but has the possibility to invite experts to individual study programme visits. The final specificity of the Danish procedure is that a national conference is held among the steering group, representatives of the study programmes evaluated and possibly external experts, before the steering group's report is published.

In none of these activities, students are involved. However, the University Act prescribes that the teaching funds are subject to discussions in study committees consisting for 50% of students. This provides the students a considerable influence in teaching quality, because they partly decide on hiring and dismissing teachers.

2.5.3.1 Implications of the quality assessment for funding

A poor evaluation, which is known to the public, will normally be enough for the university to take action. The idea is that if a university or programme becomes known for its poor quality, the students will not seek admission to it. As a consequence, the university will lose money as a result of the taximeter principle. Although the universities have a large autonomy to design the programmes they offer, MoE can close down or limit the intake of students into programmes that have proven to be of poor quality.

[5] The income threshold and the value of grants and loans refer to 1997.

3. Flanders

Flanders is one of the three Communities (the Flemish, French and German-speaking Communities) of the federal state of Belgium. Each of the Communities has legislative and executive autonomy with respect to its higher education sector. Only three very specific areas regarding education have remained under the control of the federal State: determining the start and finish of compulsory schooling; minimum conditions for the award of diplomas; and the pensions' scheme for teachers.

3.1 System characteristics

The Flemish government wants to simplify and modernise its education legislation. For example, the decrees of 23 October 1991 and 13 July 1994 on '*hogescholen*' reformed both long (HOLT) and short term (HOKT) non-university higher education, as well as art higher education.[6] On the other educational levels legislative reforms are underway.

There are three levels of education: elementary education, secondary education and higher education. Higher education is comprised of university education and one-cycle and two-cycle non-university higher education provided by *hogescholen* (*Hoger Onderwijs Buiten de Universiteiten* - HOBU). The Flemish university system consists of eight universities, which 'should, in the interest of society, be simultaneously active in the field of academic education, scientific research and scientific service provision'.

There are three cycles in university education, leading to different degrees:

1. The first cycle leading to a *'kandidaat*' degree (bachelor level) after basic university training of 2 to 3 years.
2. The second cycle, leading to a '*licentie*' degree (master's level), which usually requires another 2 to 3 years of study (in some disciplines it takes longer). This degree often entitles one to hold a certain profession.
3. The third cycle offers a variety of degree programmes. The main programme is the doctorate programme, which after at least two years leads to a doctor's (= PhD) degree, only obtained by publicly defending a doctoral thesis. Besides the doctorate degree the third cycle comprises academic teacher education (*academische lerarenopleidng*), leading to the degree of *'Geaggregeerde van het onderwijs'*. In 1991, two new forms of post-academic education to meet (and stimulate) the demand for continuing education were introduced. First, additional education (*aanvullende opleiding*) on top of one or more academic studies of the second cycle. This education leads after one year to the degree of *'Gediplomeerde in de aanvullende studies van…*'. Second, special training (*specialisatie opleiding*), which is post-academic education to deepen or specialise in a certain discipline. This training leads after one or two years to the degree of '*Gediplomeerde in de gespecialiseerde studies van…*'.

In 1994, non-university higher education consisted of two types of institutions: non-university higher education of the short type (*Hoger onderwijs korte type* - HOKT) and non-university higher education of the long type (*Hoger onderwijs lange type* - HOLT). Since 1994, these institutions are called *hogescholen*, which offer two types of programmes: one-cycle programmes or short programmes, lasting 3 years, leading to the degree of *gegradueerde*, and two cycle or long programmes, lasting 2 + 2 years, leading to the degree of *licentiaat*. Continuing education and post-*hogeschool* education may be provided as well.

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[6] Ministry of the Flemish Community, Department for Education, Report for UNESCO, *Educational Developments in Flanders 1994-1996*, 1996.

In 1995, over 160 institutions merged into 29 *hogescholen*. The process was accelerated by a change in the funding mechanism. The fact that the lump-sum budgeting would be related to the number of students in the future made it necessary for many institutions to merge.

In general, enrolment in the eight Flemish universities was relatively stable until 1991, when the trend changed to a constant growth. One of the reasons for this growth is the increase in female participation: in 1985 41% of all students were women; in 1995 it was 48%. Table 3.1 shows that the growth pattern in the non-university sector has been more erratic: the growth in the 1980s stopped in the early 1990s, but picked up toward the middle of the 1990s.

Table 3.1: Enrolment in Flemish higher education by type of institution and discipline

	1985	1990	1995
HOKT	50092	55316	64060
HOLT	19502	25889	27171
Hogescholen	69594	81205	91231
Universities	54159	56904	58104

Source: VLIR, Statistisch Jaarboek van het Vlaams Onderwijs 1996

3.2 The budget of the institutions

From 1987 to 1992, the overall education budget has risen by 26 million Bef, which represented an increase of 13% (4% in real terms). From 1993 to 1998 the public budget for universities grew with 2406 million Bef. In current prices this meant an increase of 12%, in contrast to a 16% increase of the total education budget. In real prices, correcting for inflation, the growth for the universities was 3%. The public budget for the HOBU sector, the universities and total education is shown in table 3.2.

Table 3.2: The education budget per branch of the education system (Bef million)

Current prices	1993	1994	1995	1996	1997	1998
HOBU	15741	16720	17328	18768	19066	19295
Index w.r.t. 1993	100.00%	106.21%	110.08%	119.23%	121.12%	122.58%
Universities	19683	19746	20162	20758	21473	22089
Index w.r.t. 1993	100.00%	100.32%	102.43%	105.46%	109.09%	112.22%
Total education budget	209793	219581	225749	231905	239155	245399
Index w.r.t. 1993	100.00%	104.67%	107.61%	110.54%	114.00%	116.97%

Source: Verstraete L. (1998a), De evolutie van de universitaire basisfinanciering 1993-1998, in: Universiteit & Beleid, Vol. 12, nr. 4.; www.vlir.be/beheer/

In contrast to the developments in the funding for teaching and teaching related research, the public funds made available for basic scientific research at universities have expanded very rapidly between 1993 (Bef 3100 million) and 1998 (Bef 5544 million). This is an increase of 79% in current prices. Although no exact data are

available, it can be stated that the income from contract research (third flow of money) also increased very rapidly in recent years (Verstraete, 1998b).

3.3 Funding mechanism

In the decree of 12 June 1991 the legislator partially changed the way universities were funded. The new funding method is relatively simple, aiming at a decrease of central regulation, an increase in institutional autonomy and governmental steering "from a distance". The public funding of universities partly distinguishes between teaching and research. Within the basic grant (first-flow funding) provided to universities, a difference is made between a part for teaching and teaching-related research, a part for investments and a part for social facilities, such as housing, student restaurants, and other social facilities for students. For each of these three parts, a separate funding formula is in operation.

The Flemish Government informs the institutions annually about the expected allocations for the coming year. The university rectors react to that within two weeks, by presenting their own budget proposal for the coming year. The institutional budget plan shows both the expected expenses and resources concerning the basic funds, investment funds, social facility funds, research grants and other income, such as tuition fees and examination fees. The level of the final budget allocated to the institutions is announced to the institutions as soon as the general public budget has been accepted. The grants for the basic funding and social facilities are awarded on a monthly basis, while the investment funds are awarded every three months.

The universities have to inform the Ministry of Education annually about the way the funds they received are spent. The government has to approve this formally. Funds that are still not used at the end of the year can be transferred to the next budgetary year, unless the Minister proposes another purpose for it.

Next to these first-flow funds, universities can also obtain public funds from the second-flow of funding, which is distributed by the national research federations (NFWO, IWT, and IWONL). The different ways of funding will be discussed below.

3.3.1 Teaching and teaching-related research

The first flow of funds for universities (*eerstegeldstroombekostiging*) contains a part that is specifically meant to cover the costs of teaching and teaching related research ('the working payment to the universities'). This part is provided to the institutions as a lump-sum (*werkingsuitkering*). The lump-sum may be spent according to the own interests of the institutions. From the budgeting year 1996 onwards, these working payments to the universities (denoted by *Wao*) consist of three parts:

1) A part for academic courses, doctorates, doctoral programmes and teacher training courses.
2) A part for continuing studies.
3) A part for General Practitioner programmes.

The first part of the working grant is organised in a funding model: a funding formula, which is closely linked to developments in the number of students. The funding formula consists of two main parts. First a fixed part and second a variable part. In 1991, when the new model was introduced, both the fixed and the variable components determined 50% of the budget. The flexible part of the funding may vary according the fluctuations in the number of 'education-load-units' (*onderwijsbelastingseenheden* - OBE). A full-time student in humanities or social sciences is equivalent to one OBE, while a full-time student in science (including first-cycle medical and engineering students) is counted as two OBE. Medical and engineering students (second cycle) count for three OBE. Part-time students participating for at least 50% and at most 75% are converted into half of these units.

Within the formula, the difference between the actual number of OBE and the number of OBE in a given base-year is important, as expressed in the following formula:

$$\mathbf{Wao_{1995+n} = \{Wao_{1995} + BEB * [(OBE_{1994}+n) - OBE_{1994}]\} * I}$$

According to this formula, the basic funding of the institutions (*Wao*) from 1996 onwards is based on the budget awarded in 1995, which is regarded as the fixed part (Wao_{1995}). This part counts for at least 50% of the total basic funding of the universities (Wao_{1995+n}). The flexible part of the funding formula is calculated as the multiplication of the constant amount for one basic unit (BEB, Bef 97402) with the difference between the number of 'education load units' (OBE) in 1994+n and the number of OBE in 1994 (at the 1st of February). The total result of this calculation will be adjusted to general economic developments, expressed in a coefficient (I), which is based on the indexes for salaries and consumer prices in a 80% to 20% relationship.
The differences in levels of funding for the various disciplines are expressed in the conversion of the number of students into the number of OBE per institution.
This funding mechanism hardly comprises stimuli to limit the time of study, because funding depends on the number of students. Students are financed for a maximum of twice the nominal cycle time. If a student enrols for the third time in the same academic year (at the same or at a different university) the institution is not eligible for financing for this student.
The other two parts of the working payment provided to the universities are mainly based on the number of graduates. The general amounts available for continuing studies and General Practitioners programmes are distributed over the universities on the basis of the average number of diplomas awarded in the last two academic years. Concerning the continuing studies, two types of diplomas are awarded: diplomas in advanced studies (*Aanvullende Studies*) and diplomas in specialised studies (*Gespecialiseerde Studies*). The latter category of diplomas is weighted twice as much as the diplomas in advanced studies.

3.3.2 Investments

The 1991 Decree also states that universities have to present an investment plan for five years, which will be updated annually if necessary. The Flemish government funds the investments concerning the purchase, furnishing or expansion, renovation and maintenance of the estate for teaching, research and administrative activities, and the capital costs going along with it.
Also these investment costs of universities are calculated according to a funding formula:

$$\mathbf{IK_{1994+n} = [IK_{1994} + (\text{“delta”}TBO * EB/m^2)] * IB}$$

This formula consists of a fixed and a flexible part. The fixed part consists of the budget allocated for investment costs in 1994 (IK_{1994}). This amount is fixed for a number of years. The flexible part depends on the need for working space for each discipline ("delta" TBO), which is partly dependent on the developments in the number of students. This normative need for surface is multiplied by the basic unit price for each square metre, which is Bef 253,1 (EB/m^2). In addition, the total sum is multiplied by a coefficient (IB), which reflects the index concerning the developments in building costs for the last five years.
In contrast to the basic budget of the universities, the subsidy for investments is earmarked and cannot be used as a kind of a lump-sum.

3.3.3 Social facilities

The allocation of funds concerning the social facilities for students, e.g. student restaurants, housing, etc., as well as maintenance are funded separately. The social facilities are also funded according to a funding formula, which

includes a fixed amount (the social facilities grant of 1994) and a flexible part that depends on the indexed growth in the number of fundable students:

$$\mathbf{SG_{1994+n} = [SG_{1994} + (\text{“delta”FE} * BESG)] * ISG}$$

In this formula, it is indicated that the budget awarded in 1994 is taken as the point of departure. In addition, the formula has a variable part. This comprises a multiplication of the difference (“delta”FE) between the number of fundable students of the previous year (1994+n-1) and the number of fundable students of 1993 on the one hand, and the basic allowance for each fundable student, amounting to Bef 9.544 (BESG), on the other hand. The total sum will be adjusted annually according the coefficient (IBG) reflecting the developments in the general need for social facilities.
The compensation for social facilities is earmarked, like the subsidy for investments, and contrary to the lump-sum basic funding of the universities for teaching and teaching-related research.

3.3.4 Research

In Flanders, public financed research is solely carried out within the university sector. According to the Decree on the *Hogescholen* 1994, the *hogescholen* may also carry out research in co-operation with a national or international university or third parties.
Basic research funds in universities come from two sources. The first way is through the first flow of funds (‘the working payment to the universities’). This part of the research funding is dependent on the number of students. In general, it is assumed (but not prescribed) that about 25% of the first-flow budget of the universities is spent on teaching-related research.
The second way of funding basic research at universities is through the second flow of funds, which is defined as “non-student related funding”. The second flow of funds distinguishes between direct (institution related) and indirect (through intermediary organisations) funding. The direct second flow of funds available for basic research makes up about 24% of the second flow research funds. These are distributed among the universities on the basis of the number of students and staff. The indirect second flow of funds is distributed by the national intermediary research federations (IWT, NFWO and IWONL). This part counts for about 66% of the second flow funds budget. Allocation of these funds is based on competition between the institutions, where experts evaluate the research proposals. The second flow of funds is for 50% reserved for PhD students and post-doc appointments. The other part is used for (other) research projects. In addition to these public funds, the federal government also allocates second flow funds through the federal Action Programme (*Interuniversitaire Attractiepolen*, IUAP). This determines about 10% of the total second flow funds.
If the first and second flow funds are taken together, the total amount of public funds for research can be estimated at around Bef 9,6 billion in 1996.
Besides the funding of basic research, universities can attract funds from all kinds of contract parties for research and consultancy activities. This is called the third flow of funds. In 1996, the return from the third flow funds amounted about Bef 3 billion for the universities together.
Finally, it can be remarked that the federal government together with the Flemish government is funding three Flemish research institutes, one for information technology (IMEC), one for biotechnology (VIB), and one for nuclear energy research (VITO). Together some Bef 3 billion was spent on these institutes in 1996.

3.3.5 Developments

Since 1996, the funding of universities has slightly changed, because the continuing studies and General Practitioners programmes have been taken out of the basic funding formula and are funded on the basis of the number of diplomas conferred. This change in policy is linked to the idea of a society of lifelong learning. In

addition to that, this change implies a first step from the traditional input funding method towards a method of output funding.

In the budgets from 1998 onwards, the basic funding of the University of Gent, the University Centre of Antwerpen and the Catholic University of Leuven have been slightly increased. This was because the subsidies per 'education load unit' (OBE) were for these universities below average in the past, although the Flemish Constitution prescribes that all university students should get equal financial treatment.

One of the recent issues in the funding of universities concerns the low budget that is allocated to investments in buildings, research equipment and infrastructure for social facilities. The decreasing budgets and increasing needs are expected to cause substantial problems for the institutions in the near future.

Concerning research, a number of trends can be seen. The importance of external funds is growing and research funds are more and more allocated on a competitive basis.

3.4 Issues indirectly related to funding

3.4.1 Staff issues

Data on staff are relatively scarce. The total number of staff employed at Flemish universities was 12,063 (full-time equivalents) in 1996, which was distributed over different types of staff as shown in table 3.3. In 1998 the total number of university staff had grown (in fte) to 13,472.

Table 3.3: Characteristics of staff employed at Flemish universities (1994)

	Academic staff			Non-academic staff			Total (fte)
Year	full-time	part-time	total (fte)	full-time	part-time	total (fte)	
1994	5702	2476	6540	5169	1227	5800	**12340**
1996	6112	2998	6367	5150	1198	5696	**12063**
1998			7568			5903	**13472**

Source: Vlaamse Interuniversitaire Raad (1994, 1996), Statistische gegevens betreffende het personeel aan de Vlaamse universiteiten; www.vlir.be/statistiek/

Note: Academic staff includes both Independent Academic Staff and Assisting Academic Staff.

As can be read from this table, a considerable part of staff at Flemish universities works in part-time, particularly on the side of academic staff. A further distinction can be made between staff that is paid through the working grants, and staff paid outside the working grants. In 1996, 62% of the academic staff and 58% of the non-academic staff were paid through the working grants. The relative share of total staff paid from the working grants of the universities has declined over the last decades from 79% in 1982 to 56% in 1998. We observe a rise in the number of staff paid from sources outside the working grants, coming in through research grants from the national research foundations and contract activities, as well as personnel employed by the national research foundations located at universities and doctoral students receiving a study grant. Personnel paid by the university hospitals and clinics fall outside these statistics, as well as students having jobs in the university.

No empirical data are available on the distribution of academic staff time spent on teaching, research and other activities.

3.4.2 Student related issues

3.4.2.1 Student choice and institutional funding

As can be concluded from the description of the governmental funding formula for the working payments provided to the universities for teaching and teaching-related research, the basic funding of universities depends on the level of the budget in the previous year and changes in the weighted number of students. This means that the funding of universities is sensitive to developments in the number of students.

The governmental funds universities receive for social facilities are also dependent on the budget allocated in the previous year and changes in the number of 'fundable' students. The public funds provided for investments are only indirectly linked to the number of students through the need for square metres.

Recently, starting in 1996, the input based funding has been changed towards output oriented funding in some specific areas. Instead of changes in the number of students, the number of degrees conferred is used in the funding formula for continuing studies and General Practitioner programmes.

3.4.2.2 Tuition fees

In Flanders students have to pay tuition fees, the level of which depends on the institution and type of programme they attend. Amounts vary only slightly between institutions and are annually raised by the inflation rate. On average, students have to pay Bef 18.000 for university programmes. For the non-university programmes, students have to pay Bef 16.217 for the long-term courses and Bef 2.000 for the short-term courses. Students receiving study grants may also benefit from reductions on the fee they have to pay.

In addition to tuition fees, universities and non-university institutions may charge examination fees with a maximum of Bef 2.000. The maximum for near grant recipients is Bef1.500 and for those with a study allowance Bef 1.000.

3.4.2.3 Access, selection and student support

In principle, access to higher education is open to all applicants with the required qualifications, including holders of recognised foreign diplomas. Because of the large number of dropouts in the first year of higher education, a more rigorous entrance selection mechanism was called for. In addition, the limited capacity in certain disciplines impels universities to restrict the number of students. This discussion is especially raised in the medical studies. The Flemish government therefore introduced an entrance examination for aspirant-students in medicine and dentistry in 1997/98.

In 1971, a new system of student support was introduced. According to this, both grants and loans should be available to students in financial need. However, in practice, only grants are available to students. Study grants are only available to Belgian students who did not yet complete a higher education programme, who are studying at a publicly funded higher education institution, and who are studying at a higher level than they did in the previous year. If students do not succeed to pass all exams of a year and have to double a year, they will not be eligible for direct student financial assistance that year. The eligibility for student financial assistance further depends on family income. About 20% of the Flemish students receive a grant. The level of this grant depends on family income and academic achievement, residential status and the distance between the institute and the place of residence. Students receiving a grant also get a reduction on the tuition fees charged. Finally, because a centrally organised system of student loans is not in place, the Social Agencies of the higher education institutions provide some loans and grants to students in financial hardship. In order to remain eligible for direct grants, Flemish students have to pass 100% of the yearly study load.

Indirect support is provided to most of the families of Flemish students. By law, parents are supposed to take care of supporting their studying children. As compensation, parents receive child allowances for studying children under the age of 25 years. Depending on the number of children, the monthly allowance amounts vary between Bef 3748 and Bef 7983. Another type of indirect support provided to the families with studying children

is tax reductions. These tax benefits for parents depend on the number of dependent children. For families with two dependent children, an amount of Bef 22,500 can be deducted from taxable income. A third type of indirect subsidies to students is the so-called support in kind, such as subsidies on meals, sports facilities and some student residences.

3.4.3 Quality assessment

Prior to 1991, it was up to the individual universities whether or not to engage in quality assurance. Since then, universities are obliged to assess the quality of their activities on a regular basis. The Flemish Interuniversity Council (VLIR) more or less copied the Dutch approach — both countries co-operated in a number of assessment processes even before 1991.

The government oversees the implementation of the universities' quality assurance activities and may appoint an independent committee of experts to carry out regular comparative research into the quality of education of the institutions. The law specified some sanctions the government can impose in cases when quality remains inadequate for a prolonged period, e.g. abolishing the programme in question (only in the field of teaching, not services or research).

In brief, the universities themselves go through "internal quality assessments" or self-evaluations on a frequent basis. These self-evaluations take place at the departmental level. In addition to the self-evaluations, the university programmes are subject to external quality assurance in an inter-university context. Based on critical self-analyses, a visiting committee (*Auditcommissie*) consisting of three experts, formulates the minimum requirements it believes the programme must meet. Based on these requirements, the visiting committee drafts a course report for each relevant department, which enables these faculties to work on improving their quality. These, in turn, can draw up a report in which they describe how they implemented the improvements. In addition, since 1996, the universities deliver information about their quality in their annual reports to the ministry on an annual basis.

4. France

4.1 System characteristics

French higher education is very diversified as regards the way it is organised, the type of institutions, and the admission requirements, which vary according to the nature of the institution and the purpose of the courses offered. The French higher education system can be divided into three sectors or types of institutions: universities, state institutions (or public schools for higher education), and private institutions (or private schools for higher education).

There are 78 universities, as well as three *Instituts Nationaux Polytechniques* (INP). They offer scientific, cultural and vocational education and are pluri-disciplinary. Each is composed of units for education and research (UFR) for each subject, with common objectives. They may also regroup institutes and schools created by decree, and research departments, laboratories and centres created by decision of the university governing board. Each component of the university determines its internal rules and structures. Thus university institutes of technology (IUT) are attached to universities, as are university teacher training institutes (IUFM), created under the law of 1989, and vocational university institutes (IUP, created in 1991, of which there are now 84).

There is a great diversity of state institutions (or schools) which are under the responsibility of various ministries. The institutions included vary from highly prestigious institutions such as the *Grandes Écoles* for Science and the *Sections de Technicien Supérieur* (STS) to the Schools for Higher Studies and vocationally oriented schools.

The private higher education sector also is characterised by a diversified range of institutions. Most of them are highly selective, such as the *Grandes Écoles* for commerce and management, the *Sections de Technicien Supérieur* (STS) and the *Instituts Supérieurs de Sciences Commerciales*. Besides, there are some 'Catholic Institutes' which are private institutions recognised by the Ministry for Higher Education.

In 1993/94 the total number of students in French higher education exceeded for the first time the number of 2,000,000. Table 4.1 shows the total number of students in 1995/96 and 1996/97 distributed over the various higher education sectors as presented.

Table 4.1: Total number of French higher education students by type of institution (1995/96 & 1996/1997)

	1995/96	1996/97
Total number of higher education students	2141000	2126500
Preparations intégrées	2200	2400
Classes Préparatoires (CPGE)	76000	78300
Universités	1338300	1315900
Écoles d'ingénieurs	75600	76800
IUT	103000	108400
STS	225200	230300
Écoles de commerce, vente, gestion, comptabilité	50400	47100
Écoles paramédicales et sociales	85600	85400
Other private and public HEI's	184700	181900

Source: Ministère de l'éducation nationale, de la recherche et de la technologie, Repères & références statistiques sur les enseignements et la formation, 1997.

Qualification levels

In general, programmes at universities consist of three cumulative cycles. The first cycle of two years leads to the *Diplôme d'Études Universitaires Générales* (DEUG). The second cycle, which also has a duration of two years, leads to the *Licence*, after which another year of study leads to the degree of *Maîtrise*. However, in addition to this basic structure, through time a number of deviant programmes have been developed. For instance, some specialised *Maîtrise* programmes have emerged without an intermediate *Licence* degree. Furthermore, a number of very specialised and selective three-year programmes have been established, like the *Magistère* and the programmes of the *Instituts Universitaires Professionalisés* (IUP). The final part of university programmes consists of the third cycle. The first year of this cycle is formed by a vocationally oriented programme leading to the *Diplôme d'Étudess Supérieures Spécialisées* (DESS), or by a more research oriented programme leading to the *Diplôme d'Étudess Approfondies* (DEA). The DEA is the necessary prerequisite for participation on the final phase of higher education, the researcher training leading to the *Doctorat*.

The normal duration of the programmes at the *Grandes Écoles* is three years, after having passed a two-year preparatory programme (CPGE). The final degree of the Grandes Écoles is called the *Diplôme d'Ingenieur*. The STS and IUT programmes normally have a duration of two years, which are finished with the *Brevet de Technicien Supérieur* (BTS) and *Diplôme Universitaire de Technologie* (DUT) respectively.

In 1991, a general higher education policy paper, called '*Université 2000*', was launched, which aimed at reducing the regional disparities in educational opportunities and to increase the number of higher education students substantially. This latter objective was meant to remedy the deficit in highly qualified technicians.

4.2 The budget of the institutions

The public higher education institutions are primarily funded by the government. The private institutions derive their resources mainly from tuition fees and industry.

The national French budget for higher education, including recurrent resources, investments and personnel salaries for all types of public higher education institutions, is annually adopted by the Parliament on government proposal. The part of the public budget for higher education is about 1.2% of GDP. The share of higher education in total educational expenditure has increased from 15% in 1989 to nearly 17% in 1994.

In 1996, the budget of the Ministry of Education was about 350 billion Francs, which was 19% of the total national budget. The part for higher education amounted to approximately 44.5 billion Francs. The governmental aim to increase participation in higher education since the early 1990s resulted in a more rapid increase in the public expenditure for higher education than in the total public budget.

In addition to the higher education budget, 29 billion Francs was reserved for research. The major part of these research funds were administered by the national 'research organisations', such as CNRS and INSERM, of which most research laboratories are located in universities. Most research labs have a dual administration and funding, partly by the universities and partly by the research organisations. Funds from both sources are administered separately. Integrating (the administration of) these funds has been contemplated by the ministry.

Total expenditure in French higher education, including recurrent expenditure and investments of public and private institutions was about FF 78.070 million in 1996. About 87% was at public expense, around 8.6% came from the students (tuition fees) and about 4.4% came from industry. Companies have to pay a specific education tax (*Taxe d'Appretissage*). Firms are allowed to pay it directly to the higher education institution of their choice, otherwise it will be levied and redistributed by the Chambers of Commerce. Higher education institutions can

compete for funds from these revenues, however, in practice mainly private higher education institutions in the field of business-economics and engineering benefit from it.

4.3 Funding mechanism

Research and teaching are funded mainly through separate streams in France. Since 1984, the funding of public institutions is based on contracts negotiated between the institutions and the Ministry of Education. This so-called contract-policy aims at providing institutions with a long-term framework. Each university signs two contracts on a four-year basis: one for the whole institution and one for research. The institutional contract comprises priorities for the institutions, e.g. the strengthening of the educational programmes aimed at reducing dropout rates.
Until 1994, the procedures for funding research and teaching were strictly separated, however, since then, the contracts on both areas between the Ministry and the research organisations on the one hand and the universities on the other hand have been more tuned to each other.

In analysing the funding of higher education in France, one should realise that the staffing policy in the public education sector belongs to the authority of the central government. The central government is the employer of nearly all staff. The Ministry of Education allocates posts to the institutions, recruits staff to fill these posts, and appoints the (academic and administrative) staff. The procedures may vary by discipline, but in general the appointment processes include a recommendation from an elected local committee (at the university or school) and from an elected national body (National Council of Universities). Administrative and scientific staff are recruited through national competitive exams and appointed to universities without any local interview or consultation. Staff members are civil servants and therefore employed and paid by the State, while they are allocated to the institutions. Universities employ a limited number of staff on the basis of private contracts. This mostly happens for people specialised in fields where the central administration does not recruit any people, or in the field of less skilled clerical work, or technical staff in temporary employment. In addition, universities contract part-time teachers or ordinary staff to work overtime, which is needed to correspond to the actual needs of the institution. As a consequence, a substantial share of the resources institutions obtain for recurrent expenditure is used for extra staffing. But hiring part-time teachers or paying regular staff to work in overtime is much cheaper than appointing additional full-time lecturers. This is the reason why a compensation for staff working overtime and for part-time staff has always been taken into account in the funding formula for recurrent expenditure.
In the same way, buildings are mainly funded and built by the ministry. They are owned by the state and allocated to the universities. Increasingly, local authorities, especially regions, take part in the funding of new buildings. It is envisaged that the ownership of the buildings is transferred to the universities. However, because it is doubted whether the institutions can handle the matter, the implementation of this idea is continuously postponed.
Below, the major regulations concerning the funding of teaching (recurrent expenditure), research and investments are discussed.

4.3.1 Teaching

The funding of teaching to a large extent takes place through the staff employed by the state and allocated to the universities. The remainder is received by the institutions in the form of recurrent funding. The separately determined teaching funds are allocated to the institutions as a lump-sum fund, with the exception of the IUT units which are linked to the universities but which are funded in a separate way and have their own staff. The same goes for the STS, which are funded separately, although they are part of secondary schools.
In 1993, the funding model for public higher education institutions was changed. From 1976 to 1993, universities were funded through the so-called GARACES-model. This model used a very complex formula in which three types

of subsidies were integrated on the basis of: 1) the number of square-metres, 2) the number of contact hours, and 3) the number of complementary hours (which were additional hours caused by capacity problems as a result of a growing demand for higher education). In addition to these three types of subsidies, some further earmarked funds were allocated to the institutions. One of the major characteristics of French funding was – and still is – that personnel is paid directly by the government. Consequently, there is no allowance for salaries in the university budget.

With the introduction of the SANREMO (*système analythique de réparation des moyens*) model in 1993, the funding formula was simplified. As opposed to the GARACES-model, the SANREMO model also applies to the public *Grandes Écoles*. According the SANREMO model, the funds are allocated to the institutions on the basis of the number of students and standard costs per student. In this model, the Ministry of Education calculates the product of the costs per student and the number of students in each study programme per university. Until 1997, the costs per student, were determined for 36 different types of study programmes by an agency that has been specifically formed for this purpose, namely the *Observatoire des Coûts de l'Enseignement supérieur*. For 1998/99 a distinction is made between 18 different standard ratios of teaching hours per student, which result in 18 different categories of costs per student used for the funding formula (see table 4.2).

Table 4.2: The standard ratio of teaching hours per student (universities) by subject and type of programme

Dicipline / type of programme	Teaching hours per student
Law & economics (DEUG)	5.8
Law & economics (License et maitrise)	7.2
Social sciences (DEUG)	6.6
Social sciences (License et maitrise)	7.0
Languages, education and geography (DEUG)	8.5
Languages, education and geography (License et maitrise)	8.6
Natural sciences & computer science (DEUG)	13.0
Natural sciences & computere science (License et maitrise)	15.2
Maths (DEUG)	9.0
Maths (License et maitrise)	13.5
IUT Law, business, economics, social sciences	27.3
IUT Sciences, engineering	36.5
IUP Law, business, economics, social sciences	27.3
IUP Sciences, engineering	36.5
Engineering	40.0
DEA	10.0
DESS Law, business, economics, social sciences	12.0
DESS Sciences, engineering	20.0

Source: Chevaillier, 1998.

The *Grandes Écoles* are funded according to a higher tariff. The formula does not include any fixed costs, but is adjusted in line with the scale of the institutions (based on the number of students). Furthermore, institutions may receive additional funds for specific projects, which are laid down in additional contracts. Finally, some resources of the institutions may come directly from the ministry and do not appear in the budget-statement of the institution.

All tuition fees paid by the students are deducted from the calculated allocations. Subsequently, some adjustments are made to reckon with differences in the staff-student ratios between institutions. The actual amount allocated to the institutions can be finally reduced if the resources available at the ministry do require so. As a result of this, in the first years after the introduction of the SANREMO model, the institutions received only about 80% of the fundable costs.

The SANREMO model is relatively simple and is accepted by the institutions. However, one major problem remains, because the educational staff still is funded separately. This makes that the human resources management (salary, appointment, contracts and vacancies) still are part of the authority of the government. In addition, the number of appointments fluctuates annually. In total, personnel expenditure determines about 73% of the higher education budget.

4.3.2 Research

Research is publicly funded in a dual way. On the one hand, universities "receive" personnel and grants from the Ministry of Higher Education and Research (*le Ministère de l'Enseignements Supérieur et de la Recherche*), partly based on research evaluations. On the other hand, research units of the universities receive resources on the basis of their relationships with national research organisations (*grands organismes de recherche*), such as the *Centre National de la Recherche Scientifique* (CRNS) and the *Institut National de la Santé et de la Recherche Médicale* (INSERM).

The first type of research allocations mainly concerns the funding of doctorate programmes, research schools, and the research institutes recognised by the major research organisations, such as the CRNS. Of the resources for research teams and laboratories, universities may only spend 15% for the execution of their own research programme. This type of resources (*subventions lieé à l'activité de recherche*) is allocated on the basis of contracts between the ministry and the institutions.

The second type of research funds, which form the major part, comes from the public research organisations. These research organisations are independent public bodies, but they have close relationships with the academic world. They maintain their own research groups and fund the staff of university research teams. The previously mentioned CRNS and INSERM are the largest research organisations. Their allocations to the university research teams often cover a contractual period of four years and are mostly granted to the research teams directly. Allocation of the money requires a quality assessment, which makes the grants competitive. Criteria used in assessing research quality are fairly standard, namely measured by the quality of the research plan, the realisation of past plans, the number of publications and scientific achievements. A peer review is conducted by elected members of the Comité National du CNRS. They decide on the creation of new units, the association of university units and the level of funding. In a sense, they rank nearly all research units in different categories (those attracting more or less public funding). On the basis of these categories, the agencies' budgetary appropriations are distributed among the research units by seven "scientific directors" who are in charge of a sector of research. In exactly the same way as in the education sector, research staff are centrally appointed, paid and allocated among units.

Besides the two major sources of research income, higher education institutions can also derive some resources from the regional authorities (*les collectivités territoriales*), which have their own research and development funds, and from all kinds of private partners interested in contract research.

4.3.3 Investments

The investments are to a large extent funded in the same way as staff. Buildings are mostly owned by the state, who allocates them to the universities. The financing of buildings takes place mainly through the Ministry, even though local authorities increasingly take part in the funding of new buildings. Recently, the Ministry has been contemplating to transfer the ownership of the buildings to the universities. However, because the universities fear

for that new situation, based on the idea that they will have to introduce depreciation allowances in a system that does not have any experience with that, it has been constantly postponed. In general, it can be stated that the universities do not have control over capital resources needed to produce education, in the same sense as they do not have control over personnel policies.

4.3.4 Developments

In French higher education policy, at the end of the 1980s a shift took place from central planning towards a steering methodology by means of contracts. This move was part of a larger reform of the public administration in the spirit of the 'Management by objectives' doctrine, applied in a number of public policy fields. In 1991, the first contracts between the Ministry of Education and the higher education institutions were signed, comprising the University Strategic Plans. The share of the contractual component of recurrent funding is at the moment about 7% (excluding the salaries paid by the state) and is aimed to grow to about 10% in the near future. In 1996, the national research agencies (e.g. CNRS) became involved in the negotiations of these contracts, which thereby acquired a truly comprehensive scope by including external funding of research laboratories operating inside universities. The local authorities, which have been granted a large share of responsibilities and fiscal resources since 1983, recently started to finance the development of universities and higher schools, in particular to meet the training needs of local industry. As a result of these developments, universities expressed a growing need for real autonomy, a new type of managers and better internal information systems. However, the new policies did not lead to a loss of control by the central State. On the contrary, it can be said that the overall control of the Ministry has increased with the focus shifting from detailed administration to strategic management.

The allocation method for the budget year 1997 incorporated some changes. The grant to each university (*Dotation globale de fonctionnement* - DGF) is made on the basis of its financial need (*besoins en crédits*). Financial needs come from two types of costs. First, staffing costs. On top of the salaries paid directly by the ministry to permanent staff, universities get a financial compensation in case they are understaffed. Understaffing (for teaching staff) is measured by comparing the "teaching potential" of permanent staff (teaching load x number of staff) with the "teaching need" (number of hours per student x number of students). When the need is higher than the potential, a university is entitled to compensation for paying overtime or for hiring temporary teachers. The compensation is valued at the official standard rate for an hour of teaching, set by decree every year. Concerning administrative and support staff, permanent staffing is compared with a standard ratio, and universities are compensated when their staffing is lower than the standard set (staff is valued at FF 75,000 per year).
Second, operating costs, made up of two parts: 1) teaching cost (*coût de fonctionnement pédagogique et matériel*) FF80 or FF140, acccording to subject ("tertiaire" and "secondaire" - basically, non-science and science & engineering); and 2) costs related to maintenance (*logistique immobilière*): FF 100 per square meter of built area used for teaching. These together produce what is called "normative financial needs". If budgetary appropriations are not sufficient, grants are increased proportionally. Besides financial grants, universities are also allocated new staff, teaching and non-teaching, according to the degree of understaffing, to remedy their "potential" for the next years.

4.4 University income from other activities

The separation of the budget by the types of activities and costs is rather difficult. *Le Compte de l'éducation Supérieure* only provides insight into the budget for teaching, not for research. The data show the following results (see table 4.3):

Table 4.3: Expenditure of higher education by sources of revenue (1996)

Source of revenue	% of budget
Ministry of Education	68.2
Other Ministries	9.6
Regional authorities	6.1
Other public bodies	2.4
Industry	4.5
Private households	9.2

Source: Le compte de l'éducation (1993-1996).

Note: All higher education institutions included, research excluded.

In 1996, the central government financed 78% of all higher education expenditure for teaching, out of which 68% came from the Ministry of Education and almost 10% came from other ministries. "Decentral" authorities, such as towns, districts and regions, together with other public institutions, such as the Chambers of Commerce, contributed 8.5%. Industry directly financed 4.5% and the share of households (mainly through fees) was about 9%. The role of the Regional Council has grown over recent years, because they more and more are financing new buildings in order to ease the strain of overgrown universities and to promote new vocationally oriented programmes. Other local authorities, particularly in medium sized towns, increased their share of funding in the last decade in order to promote local economic and social development. The role of the Chambers of Commerce and Industry is mainly focused on (private) Business and Engineering Schools and its share is stable or even declining. The role of industry is predominantly connected to the so-called "apprenticeship tax", through which firms have to pay a payroll tax (about 1% of their payroll) to finance vocational education. This tax is waived when they spend directly for this purpose, either by offering student internships, or by transferring funds to an educational institution of their choice (offering vocational programmes). For some Business Schools (Grandes Écoles), these funds can make up between a quarter and a third of their total income.

Additional data sources come up with extra information. For example, the *Annuaire des établissements d'enseignement supérieur* of the Ministry of Education, Research and Technology (1997), provides a breakdown of the wage bill of the institutions. The proportion of the wages paid by the state (88%) are distinguished from the proportion of the salaries paid by the institutions themselves (12%). These data refer to 1995.

In the publication *Financement et effectifs de l'enseignement supérieur* of the Ministère de l'Éducation Nationale, de la Recherche et de la Technologie (1998), a breakdown is given of the total resources of the institutions. It concerns a breakdown into the grants received by law through the ministries, the grants by the local and regional authorities (*collectivités territoriales*), and the so-called "ressources propres", including student fees, research contracts and teaching contracts. In 1996, the share of the income from the "ressources propres" was about 37 %, as shown in table 4.4.

Table 4.4: The sources of income of all higher education institutions (1996) in MF and %

Sources of income		
Ministry of Education	8328,70	50,7 %
Other Ministries	964,81	5,9 %
Total budget allocated by law	**9293,52**	**56,6 %**
Local and regional authorities	**1045,42**	**6,4 %**
University duties	1475,47	9,3 %
Apprenticeship taxes	398,19	2,4 %
Research grants	956,29	5,8 %
Adult education	846,85	5,2 %
Financial products	267,15	1,6 %
Teaching activities	976,36	5,9 %
Sales of products and publications	52,90	0,3 %
Other activities	368,67	2,2 %
Exceptional products	716,49	4,3 %
Total other income	**6076,37**	**37 %**
Total income	**16415,31**	**100%**

Source: Ministère de l'Éducation Nationale, de la Recherche et de la Technologie (1998).

Note: The data do not include all ministerial payments to personnel, laboratories, etc.

4.5 Issues indirectly related to funding

4.5.1 Staff issues

The total number of academic staff in higher education, calculated in full-time equivalents, amounted to 75,800 in 1995/96. The numbers are distributed over the various types of institutions in the following way (table 4.5).

Table 4.5: Academic staff at higher education institutions (1995/96)

Institution	Number (in fte)
Public universities	54,000
IUT	11,000
IUFM	4,500
Public schools of Engineers and other public HEIs	6,300
Total	75,800

Source: *Informations sur le financement et les effectifs de l'enseignement supérieur*, 1996.
Martin and Verdaguer (1997).

These statistics do not include private schools, where academic staff generally consists of a limited number of permanent personnel and a considerable number of part-time teachers.

The number of academic staff and support staff engaged in teaching activities is also an element in the SANREMO funding model. For academic staff, the model attaches to each discipline and each cycle a normative student/teacher ratio, which varies between 6.5 for scientific vocational first cycle studies and 52.5 for basic studies in law. The average value of the student/teacher ratio used is about 25.

4.5.1.1 Characteristics of staff employed

Most positions at universities comprise full-time appointments. Only a limited share of the academic staff (about 5%) holds a part-time position (*Informations sur le financement et les effectifs de l'enseignement supérieur*, 1996). Because the academic staff at public institutions is mainly appointed by the Ministry, these posts have a more or less permanent character. These posts can be separated from the so-called *attachés et moniteurs*, which concern academic staff hired on a temporary basis for teaching, training and research activities. Since the late 1980s the relative share of these *attachés et moniteurs* in the total number of academic staff grew from about 4% to about 10%.

4.5.1.2 Academic staff by type of activity

Time budget surveys are virtually non existing. However, some sources can be used to come to a rough estimate of the time spent on teaching, research and other activities. The first source concerns the reports of the *Observatoire des Coûts*, which show the time allocation of academic staff at various universities. The outcome of said reports suggests that the time allocation varies considerably according to the type of academic staff, discipline and the type institution. If the results were to be merged into one figure for teaching and research, a distribution of 50% for both would appear. A second source concerns a study among technical and administrative support staff. This study also comes to the conclusion of a 50-50 divide between teaching and research. However, these sources both do not include data for teachers 2nd degree, who have a full-time teaching load, and the academic hospital staff, who have a teaching coefficient of 40%. If it is taken into account that the total academic staff at universities consists of 66% regular academic staff (*enseignants / chercheurs*), 17% teachers 2nd degree and 17 % academic hospital staff, then the overall teaching ratio of academic staff can be expected to lie between 55% and 60%.

4.5.2 Student related issues

4.5.2.1 Student choice and institutional funding

As can be read from the funding model, the funding of universities is heavily dependent on the number of students enrolled. This makes French universities very sensitive to changes in student choices. This is even strengthened by the fact that the standard costs per student allocated to universities differ per discipline.

4.5.2.2 Tuition fees

In France, all students, except those receiving a study grant, have to pay tuition fees. The amount to pay depends on the type of programme and the type of institution one is enrolled in. The level of the tuition fees charged at public higher education institutions is decided by the Ministry of Education. The level varies from FF 744 for basic studies up to FF 5,100 for degrees in specific subjects. Registration fees charged by private institutions vary between FF 10,000 and FF 40,000 annually. These institutions are free to set their own fees. In addition, French students have to pay a health insurance fee varying between FF 1,500 and FF 2,000 annually.

4.5.2.3 Access, selection and student support

Public higher education in France is characterised by open access. Everyone qualified is allowed to start studying at a public university. In contrast, admission to other institutions (IUT, STS and CPGE) is highly selective. Candidates are selected *sur dossier*, which means that no entrance examination is taken but students are selected on the average grade level of their baccalauréat and their curriculum vitae. Grandes Écoles may use their own

selection criteria. In general students need a Baccalauréat to enter higher education. However, applicants over 20 years old with two years of relevant working experience or applicants of 24 years and over have the possibility of taking an entrance examination. Government recently also is demanding that especially the universities have to seek for a fair regional representation.
The (legal) obligation to admit all required candidates to the first year of university programmes does not imply that students have a free choice. Although no formal numerus clausus is in force, institutions use their own selection criteria to have control over the intake of students in certain disciplines. For instance, the maximum intake is based on the capacity of the institution.
Admission to the Grandes Écoles is very selective. Each Grande École may use its own selection criteria and procedures, such as a verbal examination or personal interviews. On average, about 50% of the candidates are admitted, however, often not to the study of their first choice.

The system of direct student financial support in France mainly consists of grants. Grants vary between FF 7,170 and FF 19,300 annually, depending on family income, the number of children in the family, the residential status of the student, the distance to the higher education institution, and the level of the programme a student follows. Only a quarter of the students (about 405,000) receive a grant, which at maximum covers half of the costs of study and the cost of living. Students not eligible for a grant may receive an interest free loan (*prêts d'honneur*), which is income contingent loans and is allocated by a committee of the education institution (*Académie*). Since 1991, some groups of students (those from low-income families with a maximum income of three times the social minimum) have become eligible for bank loans at commercial rates guaranteed by government.
In addition to the direct student support, French families with studying children benefit from child allowances and tax deductions. Parents are financially responsible for their children until the age of 18. In addition, parents can benefit from child allowances and tax reductions if their children are under the age of 26 and are following (higher) education. The amounts of these benefits depend on the number of children in the family. Child allowances for the first child amount FF 2,054, for the second child FF 2,660 and for any further child FF 2,855 annually. Furthermore, tax reductions are available for families with (studying) children.
Finally, students may be eligible for a lodging-allowance of FF1,053 in Paris and FF 924 in other parts of the country. Students are also indirectly subsidised through support in kind, like cheap meals and housing facilities.
Students receiving student financial support have to pass all exams of the annual programme in order to stay eligible for student grants. This implies that student support at maximum can be provided for the nominal duration of a study programme.

4.5.3 Quality assessment

The French evaluation procedure in higher education is the prime example of a 'vertical' evaluation system. By this an evaluation is meant that follows the hierarchical lines: it assesses certain aspects of the efficacy and efficiency of the higher education institution's management. In the French higher education system, the quality aspects involved include the climate that the institution provides for student learning. The main emphasis is on the particular contract that exists between the individual institution and the Ministry of Education. Students are not directly involved in this evaluation procedure. The assessment and enhancement of the quality of teaching is not directly made by inspectors. However, the assessment is carried out by committees of peers on the basis of personal or institutional reports. In this procedure, the *Comité National d'Evaluation* gives general advice to Faculties, higher education institutions or to disciplines in all of the country.
In cases faculty members seek promotion, they are indirectly assessed by the *Conseil National de Universités*, which is divided into sections by discipline.

4.5.3.1 Implications of the quality assessment for funding

There are no direct links between the result of quality assessment and university funding. However, indirectly, the results may influence the responses to requests for additional teaching posts of universities.

5. Germany

5.1 System characteristics

The first starting-point concerning German higher education to be emphasised is that higher education policy in Germany is in fact an aggregate of sixteen potentially different policies, given that the sixteen states (*Länder*) are responsible for higher education. The second point is that the government role regarding higher education is traditionally rather strong, as can be noticed from the various supervisory rights of government and the public funding mechanisms. At the same time, the notion of academic freedom is considered of paramount importance. The emphasis on the research function of the university means that scientists determine teaching and research, and that their right to administer the internal affairs of higher education institutions is respected.

The integration of differentiation, competition, and the general performance of the institutions into higher education policy is one of the current issues. Also, the growing number of students, the low priority of higher education on the political agenda, and the time students take to obtain a degree are major concerns. Finally, in discussing higher education policy, the reunification of East and West Germany has to be taken into account.

German higher education is a binary system consisting of universities (*Wissenschaftliche Hochschulen*) and *Fachhochschulen*. Studies at the universities lead either to the *Diplom*, awarded by the respective institutions, or to the state examination (*Staatsexamen*) (for teachers, law, medicine, and pharmacy). The nominal length of studies is supposed to be 10-12 semesters (this varies by subject). *Fachhochschulen* award the *Diplom* (FH) degree, which is supposed to be passed after a normal length of study of 8-9 semesters. The *Fachhochschulen* are vocational education oriented, and their professors conduct only applied research to a certain extent. While university professors have to teach only 8 hours per week, the *Fachhochschul*-professors' teaching load amounts to 18 hours. *Fachhochschulen* are expected to play the role of providing short courses with practical and vocational orientation. Most programmes require students to spend some time before or during their studies in practical situations (internships).

Access to universities is, in principle, open to all those who have passed the final examination of secondary education, and have been awarded the general *Abitur* (*allgemeine Hochschulreife*). Those holding the *Abitur* degree have the right to study at any university, in whatever subject they want. To be admitted to *Fachhochschulen*, a specialized *Abitur* (*Fachhochschulreife*) is required, which is awarded at the so-called *Fachoberschulen*. The individual degree holder is eligible to study a special subject only according to the specialisation of his/her *Abitur*. Currently, there are no tuition fees in German higher education.
German higher education institutions are open for access only “in principle”. Institutions have to accept students based on the number of student places available in the respective fields of study at the respective institutions. The number of student places is calculated on the base of national norms, student-staff ratios, according to the *Kapazitätsverordnung*. In those fields of study in which student demand exceeds regionally or nationally the number of student places available, access is administered by a national admission office (*Zentralstelle für die Vergabe von Studienplätzen*, ZVS). Nationally agreed (among the *Länder*-Ministers for Higher Education), in this case, a field of study is either declared to fall under limited admission (numerus clausus), or under an “allocation system” (*Ortsverteilungsverfahren*), in which students, who have to apply for a student place at a central office, are

not sure of being allocated to the institution of their first choice. In the case of a numerus clausus, *Abitur*-scores and social factors (such as “queuing time” for a student place) are taken into account.

Maybe due to the still "non-advanced age" of the *Fachhochschul*-sector, only one fourth of the student population is enrolled in this sector. Of the 337 institutions in Germany 90 are universities, 1 is a *Gesamthochschule*, 16 are *Theologische Hochschulen*, 46 are arts and music colleges, 6 are pedagogical *Hochschulen*, 147 are general *Fachhochschulen*, 31 *Verwaltungshochschulen*. *Fachhochschulen* are usually smaller in size according to student numbers, while some universities have grown to spectacular dimensions (e.g. in 1996/97: LMU Munich 58,000 students; FU Berlin 44,000; University of Cologne 60,000; University of Münster 44,000; University of Hamburg 42,000). 78 Institutions are non-public, but the number of students in private institutions compared with the overall population is negligible. With only few exceptions higher education institutions are governed and financed by their respective states. Their legal status is as a public institution and at the same time an organizational unit of the state (*Körperschaft des Öffentlichen Rechts und zugleich staatliche Einrichtung*).

In the reunified Germany in the “Wintersemester” 1996/97 1,838,400 students were enrolled in 335 institutions of higher education. In 1993 in former West Germany about 33% of the 18-21 age group was enrolled in higher education. The former GDR, with its 208,300 students in 1996/97, had a relatively low enrolment percentage of the same age group (22.5% in 1993), compared with Western standards. As in many other countries, enrolment in German higher education has grown tremendously since the 1960s: in 1960 only 4.3% of the 19-26 age group was enrolled in higher education in West Germany compared to 25.1% in 1991, while the newly enrolled students in 1960 and 1989 represented 7.9% and 29.1% of the 19-21 age group, respectively. This percentage of the newly enrolled age group continued to increase (in 1991 35.6% in West Germany, 31.8% in all Germany). Table 5.1 shows enrolment figures from 1980 onwards.

Table 5.1: Enrolment in German higher education (headcount; x 1,000)

	West Germany			GDR
	Universities	Fachhochschulen	Total	Total
1980	842	202	1,044	130
1985	1,036	301	1,337	130
1990	1,212	373	1,585	133
1994	1,278	398	1,676	181
1997	1,246	385	1,630	208
1999	1,329	467	1,796	
2000	1,291	475	1,765	

Sources: Federal Ministry of Education and Science, Basic and Structural data.
AKTUELL Bildungswissenschaft: Studenten an Hochschulen, 1975 bis 1991, 7/92, BMBW.
Statistisches Bundesamt, Statistisches Jahrbuch 1997,
http://www.statistik-bund.de/presse/deutsch/pm/p8309071.htm

5.2 The budget of the institutions

In table 5.2, figures are presented for the total expenditure of all German institutions of higher education from 1980 through 1997. Public expenditures (1975 - 1992) on higher education are presented in table 5.3. Despite the

enormous growth in enrolment (see table 5.1) public expenditure (in real prices) hardly increased. As a consequence the German system of higher education is in a financial crisis.
In 1992, 32,769 million DM was spent from the public purse on higher education. The percentage allocation was as follows:

- basic subsidies (*Grundmittel*): 26,630 million DM (81.3%);
- additional research grants (*Drittmittel*): 2.327 million DM (7.1%);
- student aid, postgraduate study grants, etc.: 3.812 million DM (11.6%).

The federal government (*Bund*) provided only 17% of these funds, while the *Länder* governments financed the residual and major share of the higher education expenditure.
Concerning the additional research income (*Drittmittel*) of the higher education institutions, that is mainly the universities, compared to 1992 the figure had nearly doubled in 1996 to 4.500 million DM, and increased further to 4.700 million DM in 1997.

Table 5.2: Expenditure of German institutions of higher education (in million DM)

	Universities		Fachhochschulen		Total
	Current exp	investment	current exp	investment	
1980	14613	2444	1178	192	18427
1985	18895	2586	1533	275	23309
1990	24876	3442	1980	376	30675
1993	41527	4241	3198	598	44725
1997	45800		5200		50900

Note: From 1991 on: former GDR included; academic hospitals included.
Source: Statistisches Bundesamt, Finanzen der Hochschulen 1993, Finanzen der Hochschulen, 1997.

Table 5.3: Public expenditure on higher education (in million DM)

	1975	1980	1987	1989	1992
Basic subsidies	10391	13104	16626	17799	26630
Drittmittel	987	1247	1817	2021	2327
Student aid	2199	2466	2054	2058	3812
Total	13577	16817	20497	21878	32769
Total (prices 1980)	16992	16817	16940	17240	22460

Note: 1992: former GDR included.
Source: Wissenschaftsrat, Eckdaten und Kennzahlen zur Lage der Hochschulen, Stand 1996.

In the next section, attention will be paid to the way basic subsidies are allocated to the institutions of higher education. First, the allocation of additional research grants (*Drittmittel*) will be discussed briefly.
Academics compete for *Drittmittel*. The total amount of additional money available is limited, and those who want to benefit from these funds have to apply. Applications are usually scrutinized by peers (peer review), before the respective foundation or the German Research Society (DFG) funds projects. This is, however, not a competition between institutions but rather between individual researchers or research groups.

Higher education's main competitors for both public and private research funding are, without any doubt, the publicly maintained non-university research institutions. Contrasting the research budget of these institutions against research money spent at universities, the *Wissenschaftsrat* came to the conclusion that, indeed, the proportions changed exactly at the time when universities had to bear a teaching overload. While in 1975, universities spent 47.2% of the German public institutions' research budget, the share amounted to only 42.8% in 1987, which might not tell the whole truth, since funds devoted to research are not easily separated from the overall funds devoted to higher education institutions. The share of the non-university research units grew from 43.1 to 46.3% during the same period.

5.3 Funding mechanism

5.3.1 Grundmittel

German higher education is publicly funded, and institutions have to follow the budgeting and accounting laws of German public administration. These laws, although set by the individual states, are more or less similar across the country. The main restrictions derive from rules such as:

- the line item budgets (representing expenditure categories) are fixed prior to the fiscal year;
- the budget may not be spent "across" line items;
- institutions do not get lump sum funding for staff expenditure, rather it is - according to the *Stellenplan* - allocated on a position by position basis; thus, institutions cannot spend personnel funds for other purposes, even if this is deemed to be necessary and appropriate;
- funds (unspent balances) may not be transferred to the following fiscal year.

The annual budget, in which the state subsidies for the individual institution are presented, is included in the state law. The budget is subdivided into expenditure categories (line items) and positions (for personnel (described in the so-called *Stellenplan*). The budget is an integrated budget for education and research. Teaching and research are not funded separately. Usually the budget is already subdivided according to the institutional structure, and the positions are already assigned to the departments and institutes. The budget thus pre-determines the total expenditure process for the fiscal year.

The public (basic) funding of institutions of higher education is - apart from some exceptions (see section 5.3.3) - not the result of using a formula for calculating budget components. The funding is based on institutional budget requests, each approved - in a process of budget negotiations - by the authorities on the basis of institutional assessments (allowances by reimbursement). The starting point is the *Stellenplan* of the last year. Therefore, the budgeting process can be characterised as incremental and input-oriented. The amount of *Grundmittel* received by a university or Fachhochschule is not so much influenced by the actual number of students.

During the last few years in four *Länder* a small part of the budget is allocated by means of formula funding. These states are: Niedersachsen (1% of the budget), Nordrhein-Westfalen (4.5%), Sachsen (5.2%) and Rheinland-Pfalz (5.8%). These will be discussed below.

5.3.2 Investments

Financial investments in new buildings, equipment for new buildings, and equipment above a certain threshold level (150,000 DM) is financed jointly by the *Länder* and the federal Minister of Education. The *Länder* ministers may decide to bear the total amount of these investments. However, if they want to receive federal money, they have to process the project through the national planning procedure (*Rahmenplan*), in which the *Wissenschaftsrat* evaluates the application and a joint national body of the Länder and the federal government makes the decision on whether or not to allocate funds. Construction and maintenance of buildings is neither decided nor administered by

the institutions themselves. Special *Länder* administration "offices" (*Staatshochbauverwaltung*) are in charge of these tasks. Only the operating of the buildings is budgeted and administered by the institutions.

5.3.3 Developments

There are signs that state (*Länder*) governments are willing to give institutions more flexibility and autonomy with regard to the (internal) allocation of funds, and with less limitations fixed in advance. In a few states (Hessen, Niedersachsen, Hamburg, Bremen and Nordrhein-Westfalen) some selected institutions have been provided with a certain extended flexibility to spend across the line items. In quite a number of states, pilot attempts are planned or underway to test "block grant budgeting" (*Globalhaushalt*), which should give the institutions more leeway in the internal allocation of funds and positions and with respect to budget carry-over to the following fiscal year.

During the last few years in all the *Länder* the introduction of performance budgeting for the allocation of parts of the basic funding has been discussed. In four states, pilot attempts already have been made. It may be expected that all the states will introduce some form of formula funding in the coming years. Therefore, in Germany, the committee of education ministers (*Kultusministerkonferenz*) installed a working group to investigate the possibility of introducing some form of formula funding. It was felt that, especially where the teaching budget is concerned, the German universities were not in an 'equal' position. The investigations aimed at drafting proposals for making the teaching budget more dependent on variables connected to teaching. Variables such as teaching load, performance and innovation plans may be playing a role in this. First, the working group presented an overview of the current situation in the respective states (*Länder*) of Germany with regard to the issue of formula funding. It concluded that only four states employed - to some (limited) extent - formula funding. These are Niedersachsen, Nordrhein-Westfalen, Rheinland-Pfalz, and Sachsen. These four states will be described briefly below.[7] However, such formula-funds only concern funds for non-personnel expenditures. The salary budgets continue to be distributed outside of a formula; in fact, in their yearly financial reports and budgets, universities often do not even include personnel budgets into their overviews. This is due to the fact that personnel expenditures can almost not be influenced at all by the institutions themselves.

5.3.3.1 Niedersachsen

In Niedersachsen just under 1% of the total higher education budget is allocated by means of a formula. This only concerns so-called supplementary (i.e. margin) funds for teaching and research, falling within two categories: means for teaching assistants (*Hilfskraftmittel*) and means for material goods (*Lehrmittel*). Apart from a constant amount of Hilfskraftmittel, the extra funds are allocated using the following weights:

	Hilfskraftmittel	Lehrmittel
students within normative course length	66.7%	50%
full professor positions (*Stellen*)	33.3%	
academic staff positions (*Stellen*)		50%

The normative length of the curriculum in Germany - the so-called *Fachstudiendauer* - is normally 3 to 4 years (6 to 8 semesters) for Fachhochschulen and 4 to 5 years for universities (usually 9 semesters). For the category of Hilfskraftsmittel (teaching assistants) no further weighting scheme is in use, while for the category of Lehrmittel (teaching materials) the following differentiation is made:

students within Regelstudienzeit:	- humanities/social sciences	1
	- science	3

[7] Sekretariat der Ständigen Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland, *Differenzierung der Mittelverteilung im Hochschulbereich*, October 1995.

academic positions:	- humanities/social sciences	1
	- science/engineering	3

5.3.3.2 Nordrhein-Westfalen

In 1998, in Nordrhein-Westfalen 4.5 per cent of the higher education budget is allocated by means of a performance-oriented formula. Until 1992, supplementary funds for teaching and research were allocated on the basis of the number of academic staff positions and the number of students within the normative length of their programme (*Regelstudienzeit*). From 1993 onwards, other parameters and indicators were in use. For the 1993 budget, supplementary funds for universities and Fachhochschulen were distributed on the basis of the number of degrees (*Absolventen*). In 1994, a pool of funds was formed, to which each institution had to contribute 10 per cent of its core funds for teaching and research. Together with the supplementary funds, this pool was distributed on the basis of the number of degrees (*Absolventen*) per institution. In 1995, the 10 per cent contribution of each institution was doubled to 20 per cent. For that year, next to the number of graduates, also each institution's success in attracting research council funds (*Drittmittel*) and its number of PhD degrees (*Promotionen*) were taken into account. Therefore, through these additional parameters, the institutional performance in the area of research is playing a role in the distribution of state funds. *Drittmittel* include not only Research council funds, supplied by the German Research Council (the DFG), but also research funds allocated by charitable foundations (e.g. the Volkswagen Stiftung, the Fritz Thyssen Stiftung and the Robert Bosch Stiftung).

For the 1996 budget, the institutional contribution to the 'pool' was raised further to 35 per cent of its core funds and two additional parameters were included, viz. the number of students in the first through fourth semester (the so-called *Grundstudium*) and the number of academic positions (*Stellen*). In 1998 the contribution to the pool was increased to 50 per cent of the core funds for teaching and research. The weighting of the parameters for universities and Fachhochschulen is in 1998 as follows:

	Universities	Fachhochschulen
Absolventen	35%	50%
Drittmittel	20%	10%
Promotionen	5%	-
Students in Grundstudium	20%	25%
Stellen	20%	15%

The number of graduates (Absolventen) is weighted by the time to degree (i.e. the actual duration of the student's education career), in such a way that graduates with a shorter time to degree receive a higher weight (up to 1.3) than those which take more time. Also a distinction in programmes and faculties is made: for graduates, PhD-degrees, students and academic positions the weighting is 2 : 4.5 : 4.5 for social sciences/humanities : science : engineering; it is 7 : 2 : 1 for Drittmittel in the corresponding faculties/departments.

5.3.3.3 Rheinland-Pfalz

In Rheinland-Pfalz 5.8 per cent of the higher education budget is allocated by means of a formula. In 1994, for the first time, funds for teaching and research were distributed on the basis of a formula that used the following parameters and weighting scheme:

students within Regelstudienzeit, plus graduates	45%
professor positions, plus 50% of other academic positions	20%
revenues from research councils and foundations (*Drittmittel*)	30%
Habilitationen	2.5%
PhD-degrees	2.5%

The number of students is not differentiated according to subject area. However, the number of students in Fachhochschulen is multiplied by 0.8. For the parameter 'academic positions', personnel in the categories medicine and engineering receive a weight of 1.5.

5.3.3.4 Sachsen

For the 1995 budget, in which 5.2 per cent is allocated by means of a formula, the state of Sachsen distributes non-personnel funds for teaching and research according to the following parameters:

number of academic positions	30%
number of students	40%
Drittmittel revenues	25%
PhD-degrees plus number of *Habilitationen*	5%

No weighting with respect to subject area is made here, with the exception of the number of academic positions, for which the following scheme is relevant:

professors in science, engineering and veterinary science	2.0
professors in other academic subject categories	1.0
other academic positions	0.5

The allocation system in Sachsen is still being developed and refined.

5.4 University income from other activities

5.4.1 Contract teaching and contract research

There is no reliable information available about contract teaching. It can be stated, however, that institutions of higher education do not earn much in the field of contract teaching.

Academic research is in general funded by two mutually complementary financing instruments: on the one hand in their budgets for higher education, the *Länder* provide basic funding for staff, equipment and materials, which serves to cover teaching as well as the training of new academics and scientists. On the other hand individual academics and scientists can apply for supplementary funds from external sources for large-scale research projects and programmes. These funds come predominantly from public budgets (approximately 80%) and they are granted for a limited period of time. The outside funds are provided by predominantly state-financed funding institutions

(above all the *Deutsche Forschungsgemeinschaft)*, federal and land ministries, foundations and funding societies, industry, associations and international organisations.

Outside funding to complement basic endowments is becoming increasingly important. By raising external funds, institutions of higher education have managed to mitigate, but not compensate for, the effects of their shortage of funds. Between 1970 and 1997, the volume of external funding of higher education increased from 630 million DM to 4,700 million DM.

There is a tradition of raising private external funds for research activities at German universities. Annual income from private sector research funding came to about half a billion DM in 1993.

5.5 Issues indirectly related to funding

5.5.1 Staff issues

5.5.1.1 Characteristics of staff employed

The provision of positions for scientific personnel in higher education institutions did not keep pace with the growing student numbers. The student-staff ratio increased considerably for the university and arts/music colleges sectors (from 9:1 in 1965 to 16:1 in 1989 and 23:1 in 1996), while the change in the ratio in the *Fachhochschul*-sector appears to be of even higher (from 16:1 in 1970 to 37:1 in 1989).

The student-staff ratio is not used for funding higher education, it only reflects how the institutions have in fact been funded and staffed in a specific year in relation to their student enrolment. For looking at this condition, sometimes use is made of an official ratio or parameter, the *Curricularnormwert*, which indicates the hours per semester and week an individual teaching staff member is supposed to commit per individual student (varying between subject groups). This key parameter is used to assess the difference between the supply of student places (based on the teaching staff available) and the actual student demand. This relationship is important for the decision whether admission to a subject is administered at the central admission office (applying a numerus clausus or the distribution mechanism) or decentral level at the individual institutions. It is also used to determine the capacity of an institution.

Table 5.4: University staff at German universities (headcount; x 1,000)[1]

	Academic	Non-academic	Total[2]	Student-staff ratio[3]
1992	152	236	408	24.7
1993	153	237	415	24.7
1994	155	235	418	24.1
1995	160	239	428	23.2
1996	162	237	425	22.9

1 Without Gesamthochschulen and arts and music colleges.

2: Research assistents included.

3: Based on 33.2% of total time of academic staff spent on teaching (see section 5.5.1.2).

Source: Statistisches Bundesamt, Personal an Hochschulen 1996.

In table 5.5, it is shown that during the period 1992-1996 approximately 60% of total staff of institutes of higher education worked on a full-time basis. Table 5.6 makes clear that one fourth of the full-time academic staff employed holds the rank of professor.

Table 5.5: Full-time and part-time staff (in %) at all institutes of higher education

	Full-time staff	Part-time staff	Total
1992	63%	37%	100%
1993	61%	39%	100%
1994	60%	40%	100%
1995	61%	39%	100%
1996	61%	39%	100%

Source: Based on figures of the Statistisches Bundesamt, Personal an Hochschulen 1996.

Table 5.6: Distribution of full-time academic staff by function (in %)

	Professors	Senior lecturers	Lecturers	Other grades	Total
1992	24%	15%	56%	5%	100%
1993	25%	13%	58%	4%	100%
1994	25%	10%	61%	4%	100%
1995	25%	11%	61%	4%	100%
1996	24%	10%	61%	4%	100%

Source: Based on figures of the Statistisches Bundesamt, Personal an Hochschulen 1996.

5.5.1.2 Academic staff by type of activity

One of the results of an international comparative study on the academic profession concerned the time spent by academic staff on activities such as teaching, research, administration, services and other activities (Enders and Teichler, 1995). The study presented detailed information for specific groups of academics. The time spent on the different activities was separated for the period when classes are in session and for periods when classes are out of session. In table 5.7, data for the academic staff in Germany are given.

Table 5.7: Percentage of time of academic staff spent on different activities

teaching		research		service/administration	
Term	no classes	term	no classes	term	no classes
30	15	44	59	26	26

Source: Enders and Teichler, 1995.

It can be concluded that German academic staff on average spends most of its time on research, particularly during periods when no classes are given. If all other activities, apart from teaching and research, are attributed to teaching and research, and term time, respectively non-term time activities, are multiplied by 7/11 and 4/11 (taking account of respective duration), we can estimate that academic staff on average spends 33 per cent of its time on teaching and 67 per cent on research.

5.5.2 Student related issues

5.5.2.1 Student choice and institutional funding

It was stated in section 5.3.1 that the amount of funding (*Grundmittel*) a university receives (in general) is not influenced by its actual number of students. However, in a few *Länder* a very limited part of the basic funding is allocated on the basis of a formula in which the number of students is one of the elements (see section 5.3.3).

5.5.2.2 Tuition fees

In German higher education, normally no tuition fees are charged. However, since 1997/98, in some *Länder*, students who exceed certain enrolment periods have to pay a fee of DM 1000 per semester. This was done in response to the debate (since 1995) on restructuring the funding of higher education in Germany. In this debate it was suggested to introduce tuition fees in order to be able to generate means for the ever-increasing number of students. This debate is not finished yet. Both those in favour of tuition fees and the opponents use fundamental arguments for and against the introduction of fees. Even the Ministers of Education of the different *Länder* do not agree on the issue.

Although German students do not have to pay tuition fees, they have to pay an annual *Sozialbeitrage* of 100 to 200 DM. This is used for the activities of *Das Deutsche Studentenwerk*.

5.5.2.3 Access, selection and student support

Article 12 of the German Constitution states that higher education provides open admission for people who made their *Abitur*. However, some subjects have entrance restrictions because of the large number of applications in relation to the available study places in the programmes concerned. In these cases, the student places available are assigned by two national selection procedures. One for study programmes in medicine, veterinary studies and dentistry, and one system for other studies with a limited number of places. Limits on access are only allowed if: 1) the restrictions are absolutely necessary because the capacity is fully used; 2) the selection procedures have to be based on objective criteria; and 3) all students with an *Abitur* must be given a fair chance. In addition, preferences concerning the university have to be honoured. Numerus clausus arrangements are anchored by law and do not fall under the authority of the institutions, nevertheless institutions may add some additional arrangements. The selection mechanisms of the different Länder are attuned to each other.

When the demand exceeds the supply of study places, 60% of the places are divided on the basis of the candidates' average grade. The other 40% of the places is reserved for candidates who have waited the longest period of time.

The German system of student financial aid is divided into direct and indirect parts. A limited group of students (25%), receives direct support through the Bundesausbildungs-förderungsgesetz (BAföG), which is provided on a 50% grant 50% loan basis. Eligibility for BAföG and the amount to which one is entitled depends on parental income. The maximum amount of BAföG depends on the residential status of students. Students living with their parents may receive at maximum DM 670 per month and independent students are monthly granted a maximum amount of DM 905 (this is including a rent-surcharge of maximum DM 310). These maximum amounts can be upgraded by DM 80 per month if a student has a private health insurance. German students do not have to meet study progress demands except that they have to pass a *Zwischenprüfung* after two years of study in order to stay eligible for student aid (BAföG).

Next to that, the parents of all students may benefit from child allowances (about DM 250 per month) and education allowances (DM 200 per month for students living with their parents and DM 350 for independent students). For about 5% of the students tax deductions through the *Kinderfreibetrag* are benificial. Because the child allowances are reduced with the amount received as *Kinderfreibetrag*, only students from families with an taxable income of DM 170,000 or higher gain from it. In addition, a very selective group of students (only a small percentage of the total student population) may receive a scholarship on the basis of academic achievement

(*Begabtenförderung*). Furthermore, students may benefit from cheap housing and meals through student facilities (*Das Deutsche Studentenwerk*).

5.5.3 Quality assessment

Quality assurance in Germany is a responsibility of the individual federal states (*Länder*). Apart from a few activities by higher education institutions on their own (especially the Nordverbund of universities) that involve assessing study programmes, only two states developed significant initiatives with respect to quality assurance. In the most populous state, Northrhine-Westfalia, initiatives have been taken to improve the quality of teaching in the first half of the 1990s, but —partly due to opposition of the higher education institutions against the rather direct involvement of government and students without a proper role for the higher education institutions — these did not develop into a quality assurance system.

Only Lower Saxony has introduced a full-fledged procedure of internal and external quality assessment. Based explicitly on the Dutch experiences, it involves 'horizontal' assessments of study programmes across all higher education institutions in the state, co-ordinated by an independent Central Quality Assessment Agency. The external visiting teams that are part of this procedure are composed mainly of academics but include representatives of other stakeholders, for example, specialists who can assess the quality of higher education with regard to the labour market; also the visiting teams are expected to consider the inclusion of a student.

6. Netherlands

6.1 System characteristics

The comprehensive Higher Education and Research Act (WHW) (in force since 1 August 1993), regulates higher education, teaching hospitals and academic research in the Netherlands. Previous legislation (consisting of more than 20 separate laws) provided to a large extent for ex ante regulation and planning, assigning a central role to government. The 1993 Act has its origins in the 1985 policy paper 'Autonomy and Quality in Higher Education'. The guiding principle of this policy paper and the 1993 Act is to give the institutions greater autonomy, within the parameters laid down by government. Detailed ex ante control by the government has been replaced by ex post control of a more general nature. The government remains responsible for the macro-efficiency of the system and intervenes only where necessary (selective control) in order to ensure that funds are employed effectively and that intended results have been achieved. Quality control is exercised by the institutions themselves, using external experts (in teaching and research assessments). On behalf of the government, the Inspectorate for Higher Education is responsible for the meta-evaluation.

The Dutch higher education system is a binary system, consisting of 13 universities and 63 institutions offering higher vocational education (*hoger beroepsonderwijs*). The latter, the so-called HBO-institutions (or *Hogescholen*), are comparable to the German Fachhochschulen or the British (former) polytechnics. The study programmes the HBO institutions offer are at maximum four years. The 13 universities consist of a number of classical universities, three technical universities and one agricultural university. Their task is teaching and research, plus related services. The Netherlands also has an Open University offering distance HBO- and university-level education. HBO-institutions are primarily occupied with teaching, although some are increasingly engaged in applied, contract research.

University students aim for a final qualification (depending on the subject they study: the *doctorandus (drs.)*, *meester (mr.)*, or *ingenieur (ir.)* degree) that is comparable to a Master's degree. Most university first degree programmes have an official duration of four years. Engineering and natural science programmes have a duration of five years. A PhD degree can be obtained after completing a dissertation, which officially takes research lasting four years.

HBO-students completing their studies receive a qualification that is comparable to a Bachelor's degree. Some HBO-institutions offer their graduates the possibility of upgrading this to a Master's degree. This involves a full cost fee (there is no government funding for this) and one extra year of study, usually (at least partly) in a British (*new*) university.

In 1998 the HBO-sector is the largest, with around 290,500 students enrolled either full-time (84% of the students) or part-time (16% of enrolments). The university sector has some 160,300 students (full-time: 94%; part-time: 6%), including the students that have used up the time legally allowed to them (usually 6 years) to be registered as a student. For the latter category of students two options remain: they can either be registered as an *auditor* (with no entitlement to student support; paying a higher tuition fee than ordinary students) or as an *extraneus* (no possibility to receive teaching and only allowed to take examinations; not entitled to student support and paying an examination fee). The number of auditors in universities in 1995/96 was 14,800; the number of extranei 7,700.

The growth in the number of 'ordinary' university students has slowed down since the end of the 1980s, and since 1993 the number of university students has actually been decreasing (from 188,000 to 160.000). This phenomenon is mainly due to demographic trends and partly to new governmental student aid policies. For the HBO sector,

enrolments recently have stabilised. However, for this sector the government still predicts some growth as a result of its policies announced last year.

6.2 The budget of the institutions

Universities and HBO-institutions get their income in the first place through three so-called flows of funds. In addition to these, there are tuition fees and examination fees paid by students.

The first flow of funds includes for the universities the basic block grants allocated for teaching, research and related activities. For HBO-institutions the block grant only covers teaching tasks. The first flow of funds also contains a number of specific (targeted) allocations, the most important one being the compensation for unemployment benefits that the institutions have to pay themselves to laid-off staff. If we exclude the grants paid to academic hospitals, the first flow of funds to universities for 1998 is Dfl 4,334 million, with the block grant accounting for 91% of this amount. For HBO-institutions the corresponding figure is Dfl 2,685 million (95% of this is the block grant).

The first flow of funds (i.e. the core funds) is supplied by the Ministry of Education, Science and Culture to all institutions, with the exception of the agricultural institutions (one university and six HBO-institutions) who receive their grant from the Ministry of Agriculture. The way the block grant is calculated and built up is described in the next section. Although difficult to determine exactly, it can be estimated that 36% of the university block grant is for covering the cost of teaching and 64% for research activities. In practice, though, universities are allowed to determine their own distribution of funds over teaching and research. They can also make their own internal distribution over faculties, departments and institutes.

The second flow of funds consists of allocations for research distributed through the Dutch research council NWO (Netherlands Research Organisation). This research council pays salaries of researchers (and support staff) working either in NWO-institutions (40%) or in universities (60%). It also contributes partly to other costs (mainly investments), even though the larger part of material and overhead costs are to be paid by the receiving university. NWO acts as an intermediary in granting funds for separate research proposals submitted by (teams of) individual researchers that seek funding for their projects. Projects are funded on a competitive basis. Research council funds represent about Dfl 255 million annually.

The third flow of funds concerns contract research and contract teaching carried out for government, non-profit organisations, private companies, charitable boards, and international bodies, such as the European Community. For universities this supplementary source of income has been growing fast since the early 1980s. It now represents about 15% of university income for teaching and research (that is: not counting income from other services provided by universities). For the HBO-sector it is difficult to obtain figures for income from contract work. Surveys reveal that it covers about 8% of HBO-income.

In table 6.1 the recurrent funds to universities and HBO-institutions (excluding academic hospitals, interest, and other revenues from activities not related to research or teaching) are presented.

Table 6.1: Sources of funds of universities and HBO-institutions

source of funds	universities	HBO-institutions
block grant and other core funds	73%	74%
tuition fees	7%	18%
research council grants	5%	-
contract teaching, contract research	15%	8%
total	100%	100%

For universities' and HBO-institutions' capital costs, the government also has a budget available. From 1994 (HBO), respectively 1995 (universities) on this budget is integrated into the recurrent (block) grant.
HBO-institutions and universities nowadays own their buildings and land. The HBO-institutions had to 'buy' their property from the government (through loan financing) and from 1994 on receive a part of their block grant (i.e. per student) funding as a compensation for capital costs. Universities received their estate property from the government at zero cost. To cover all maintenance and investment costs from 1995 on they have to rely on their block grant (lump sum), which was raised in 1995 through the inclusion of the university investment budget (Dfl 170 million). However, universities argue they require at least Dfl 300 million annually to reasonably cover infrastructure costs. This despite the fact that they are free to buy and sell property and operate on the capital market.

6.3 Funding mechanism

The funding of universities and HBO-institutions takes the form of a central government grant, calculated on the basis of a general formula. The yardsticks applied in the formula relate to the nature, extent and implementation of the institutions' activities, i.e. mainly teaching and research. The central government grant is fixed by the Minister for each institution. For reasons of calculation, the budget is separated into a teaching component and a research component.
Higher education institutions have been funded since the early 1980s by means of a block grant. Along with the introduction of the WHW act, the funding formulas for determining the size of the central government grant to institutions were amended; for the university sector a new, highly simplified funding model came into existence for the 1993 budget. For the HBO-sector, recently a number of simplifications were carried out. For the near future, also a revised model is expected. In the final section of this chapter future plans for the funding mechanism will be discussed.
The method used for calculating the teaching and research parts in the basic government grant (first flow of funds) for the universities is called HOBEK, which is short for 'higher education funding' (*hoger-onderwijsbekostiging*). It is largely formula-based.

6.3.1 Teaching

For university teaching the HOBEK-model allocates two components:

- A teaching part, based on student and diploma numbers.
- An interweaveness part.

Through the first (formula-based) part, funds are allocated to universities on the basis of the number of registered students and the number of first degrees and professional (e.g. physician, dentist) degrees. Only students that have been registered less than the normative length of their programme (five years for engineering and natural science students; four years for the rest) qualify for funding. This implies that students in their 5th or 6th year, as well as auditors and extranei, are not funded. Students that are in the so-called second phase of their medicine, dentistry, veterinary science and dentistry programmes are funded only for the normative period (two years, one year) of this phase.
The tariff per student and the tariff per diploma is the same. There is a distinction between two categories of students and diplomas, i.e. programmes in arts, humanities, law, social sciences and languages on the one hand, and programmes in science, engineering, agriculture and medicine (including dentistry, pharmacy and veterinary

science) on the other. For the former (the 'inexpensive' subjects) the tariff is Dfl 5,000; for the latter (the 'expensive' programmes) the tariff is 50% higher: Dfl 7,500. Thus, universities receive four times Dfl 5,000 for a registered Economics student and another Dfl 5,000 if he/she manages to obtain a Master's degree. A time lag of two years is applied: for the 1995 budget, registered students and diplomas for the academic year 1993/94 are used in the calculations. Therefore, no average (e.g. over a three-year period) is used. This feature, which is currently in discussion, may lead to sudden changes in a university's (teaching) funds.
In 1995, total student-plus-diploma funding amounted to Dfl 870 million, which is about 23% of HOBEK funding. One has to note that this part of funding is not open-ended: a reduction factor is applied if this HOBEK component exceeds the budget that is made available by Parliament for this part of the universities' teaching costs. Therefore, the HOBEK model is a distribution model, not a 'claim model'. Rising (teaching) performance does not lead to a higher budget for the sector as a whole. However, it may lead to some universities improving their relative funding position vis-a-vis the others.
The available teaching budget is increased annually by taking account of inflation and pay rises in the higher education sector, while it may be reduced to implement cut-backs. For the year 1995, the resulting reduction factor was 0.98.

The second part of the teaching budget is called 'interweaveness', as it is included to allow for the fact that academic research and academic teaching to a large extent are intertwined. The existence of this seemingly odd feature of the HOBEK model dates back to discussions in which a combined funding model for the HBO and university sector was proposed. In these discussions, that also addressed the funding tariff per student, it became clear that university teaching was considerably more expensive than HBO-teaching. The interweaveness component therefore was introduced to allow for this fact. This is the reason to discuss the interweaveness component as part of the teaching component of HOBEK.
The level of the interweaveness component is dependent on the combined amounts of the teaching budget and the research budget (see below) per university. It is a 14% (one-seventh) 'premium' upon the student-plus-diploma funding and the research funding. In 1995 the interweaveness component represents about 13% of HOBEK funding. Because, as we will see, a part of a university's research allocation is fixed, a part of the interweaveness allocation is also constant (i.e. independent of student or diploma numbers).

6.3.2 Research

The allocation of research funds to universities nowadays consists of three separate components:

- Teaching related research.
- Funding of PhD-programmes
- Strategic research.

The teaching related research allocation is a basic allocation to each university that intends to express the fact that research is a prerequisite for university teaching. The allocation of this component accordingly depends on the teaching load and the teaching programmes in each university. For the university sector as a whole, a maximum of 15% of available research funds is used for allocations under this heading. The allocation is calculated by using a formula: it is a 40% premium on the teaching tariffs. Therefore, the available budget for this component is determined in proportion to the teaching budgets (excluding interweaveness) of the universities.
The combined effect of the teaching component, the teaching-related research component, and the interweaveness component leads to the tariff per unit (student or diploma) in the inexpensive programmes of Dfl 8,000. This amount (which excludes the tuition fee) consists of the following components: 5,000 (the basic teaching tariff); 2,000 (= 0.4 * 5,000; for education-related research), plus 1,000 (= 0.2 * 5,000 due to interweaveness, which in turn

is built up of two components: a one-seventh mark-up on the unit teaching tariff and a one-seventh mark-up on the education-related research tariff per unit; thus, a total mark-up of $1/7 + 1/7 * 0.4 = 0.2$). The corresponding calculation for the expensive programme rate leads to a unit tariff of Dfl 12,000.

The second component in the research funds is an allocation based on the number of PhD degrees awarded (again, a two-year lag is applied). It is a compensation (premium) for doctoral work carried out in universities. Two rates apply: a rate of Dfl 60,000 for 'inexpensive' doctoral theses (e.g. in social sciences and humanities), and a rate of Dfl 120,000 for expensive ones (in exact, technical, and medical disciplines). In the 1995 budget Dfl 245 million is allocated in terms of PhD-related research funds. This is some 6.5% of the total HOBEK allocation. If the number of PhD degrees increases, funds will be transferred from the strategic research component (see below).

The third, and most important part of research funding (in 1995: Dfl 1,760 million; 47% of the overall HOBEK allocation) is represented by the strategic research component. This component represents some 75% of the 1995 HOBEK-research funds allocated to universities. The name of this component reflects that the Ministry intends to fund research that has strategic relevance, meaning 'relevance to society'. The Ministry and the universities have agreed that quality and social relevance are to play an important role in allocating this component. However, universities regard a reshuffling of research funds a major intrusion into their autonomy and so far have been able to avoid major reallocations. Thus, this part of research funding is still based mainly on historical allocations, with over the years some additional allocations made to relatively new or 'growing' universities. Thus, unlike for teaching, most of the funds for research are not appropriated in a normative way.
The latter, of course, is due to the character of research: research activities can hardly be captured in terms of volumes and prices. However, in the past, attempts were made to incorporate incentives into the funding mechanism in order to capture and steer somehow the outcomes of research. An important attempt was made in 1983, when the system of 'conditional funding' was introduced. The goal of this system was to enhance quality and coherence in university research and to assess the relevance of research to society. To this end, university departments (faculties) had to draw up research programmes that should conform to the following conditions:

1. A sizeable scale of the programme (at least five full-time equivalent of researchers involved).
2. Tthe programme should extend over five years.
3. The quality of the programme was to be examined by independent, external peers, selected from the disciplinary fields.

One of the basic ideas of this was to have differences in research quality translated into funding decisions. However, due to the opposition of universities this was aborted. The research budget of each institution in 1983 was more or less maintained and frozen for the ensuing years. In this way the conditional funding system lost part of its bite, although from that year on university faculties were much more focused upon generating research output and revealing that output, as a means of justifying the public funds granted to them. A negative effect of the system was its contribution to the assumption that for academics research is the most important part of a university's activities and the main determinant of a university career.
From 1993 on, the universities agreed to have their research programmes examined in a system of peer review (i.e. by international committees of independent experts in the respective disciplines). These research assessments are carried out every six years under the auspices of the Association of Universities in the Netherlands. The goal of the assessments is to look at the quality of research programmes in terms of scientific productivity, scientific relevance and scientific long-term viability. The assessments produce ratings for each university, however, not as a single rating but as qualification on a number of dimensions. Because the assessment reports are published, they perform an important accountability function and are used as input in the formation of a university's research policy. It has

to be emphasised that, unlike in the United Kingdom, the results are not used as inputs in the Ministry's decisions on research funding.

6.3.3 Developments

For both sectors, universities and HBO-institutions, the funding formulas are output-oriented, rather than input-oriented. Where necessary, the outcomes of the funding models are adjusted to stay within the limits of the overall budget for higher education and research. Student numbers as such do not qualify for funding, because in both sectors the normative length of the programmes is taken into account. For universities, due to the relatively large size of the strategic research allocation, the share of HOBEK-funds that directly is tied to student numbers, diplomas or PhD-degrees amounts to 46% of the HOBEK-allocation. The other 54% is more or less historically determined and thus represents a constant amount. The research funding components are tied only for some 25% to quantitative measures. The largest part of the research budget is allocated to universities on a historic, or rather incremental, basis. Teaching and research are not funded on a separate basis. The Humboltian idea, that academic research is a prerequisite for teaching, still affects the method and level of university funding.

Before 1993, when HOBEK was introduced, a considerably more differentiated and complicated model was used for the funding of universities. It included more tariffs (staff/student ratios), more components and led to separate budgets for personnel (academic and support staff) and material costs. Moreover, it had been adjusted (by bringing in more details and correction factors) during the period it was in use (1984-1992). The present HOBEK model is very simple in structure. It makes a distinction between cheap and expensive 'performance units' (students, degrees), and personnel and other costs are integrated into the funding tariffs. The combined allocations for teaching and research in the first flow of funds are handed over to the universities as a block grant - a lump sum, that can be spent at the institution's own discretion, provided the legal tasks are performed adequately.

For the HBO-institutions, almost the entire teaching allocation is formula-based. There are no floors in the allocation, except for special arrangements taken for the funding of art schools and a few teacher training institutions. Just like the universities, the *hogescholen* also receive a lump sum.

The HOBEK model is a distribution model, not a 'claim model'. The outcome of the funding model is 'adjusted' to make it correspond to the overall budget available for teaching and research. Therefore, rising performance in terms of student numbers, graduate output, or research output does not automatically lead to a higher budget for the university sector as a whole. Instead, it leads to some universities improving their relative funding position at the expense of others. This characteristic of HOBEK gradually became to be regarded as undesirable. In 1995, the Minister of Education announced a change in the funding mechanism. The Minister and the universities agreed that the outcome of the allocation formula should not produce budgets that are too sensitive to changes in student numbers. For instance, although the additional funding for an extra student is 5,000 guilders for an arts student, the combined effect of the mark-ups and multipliers in HOBEK leads to a marginal revenue of (at least) 8,000 guilders per student (not counting the tuition fee). In many cases this marginal revenue per student will be higher than the marginal cost per student. So the HOBEK model includes incentives for the universities to recruit additional students. This may induce (some) universities to become 'student hunters' and may lead to budget reallocations among universities. The Minister and the universities see this type of behaviour as (possibly) having undesirable side effects in terms of redundant staff and, consequently, unemployment allowances.

In order to establish a more stable allocation mechanism for the university sector and to prevent universities from 'competing too much for students', the Minister of Education at first announced the idea of 'capacity funding' system. In such system, bilateral negotiations between the Ministry of Education and each individual university lead to a long-term fixed output ('capacity') in terms of graduates and research that will be translated into a budget. However, this idea was abandoned as it was deemed to include too few incentives that will encourage performance and quality. For the 1997 budget as well as the 1998 budget, a transitional version of HOBEK was used as a

funding model. After many rounds of discussion between the Minister and the VSNU, the following amendments to HOBEK were accepted by the universities (in May 1996):

- The interweaveness component is 'frozen' and transformed into constant allocations (i.e. in relation to the previous year's value) per university.
- The education-related research component (15% of research funding) is also made student- (and diploma-) independent.
- In the teaching compartment (i.e. the student plus diploma funding) the weight attached to the number of students is lowered from 80% to 10%; the weight attached to the number of diplomas drops from 20% to 10%. The remaining part of the teaching component (80%) is 'frozen'.
- In the PhD- and designer certificate-related research component a moving average is used.

It has to be stressed that the revised HOBEK model (called STABEK, denoting a stable funding model) is only a temporary model, primarily intended to accomplish a non-competitive situation and an atmosphere in which institutions will look more at their internal situation instead of looking at competitors. The idea is that more attention is to be paid to improving the quality of teaching. To this end (and also to partly compensate cutbacks) the Minister has set up a separate fund.

For the 1998 budget, an additional feature was introduced in STABEK. A two-part compartment for strengthening the system of so-called Research Schools in the Netherlands was added to the three, already existing research budget compartments. In line with ideas expressed earlier by the Minister for Education (e.g. in the Science Budget), through the first part of this compartment, universities are encouraged to continue on the road towards establishing research schools. Currently more than 100 research schools have been established, covering all disciplinary fields. The aim of research schools is to have a structure in which, firstly, researchers from different universities concentrate their research activities on certain (sub-) disciplinary fields and, secondly, the training of new researchers (PhD students) is located. This strategy, based on arguments of scale and synergy, seeks to strengthen and improve the quality and profile of university research in general.
The second part in the research school compartment is targeted at supporting those research schools that are considered to be among - or show potential to become part of - the best research institutes in the world. The underlying strategy for this component is to reward excellence. For the 'general' as well as the 'excellence' component the amount of funds available is Dfl 100 million, transferred from the strategic research component (described earlier). NWO, the Dutch research council, is to decide which research research schools qualify for the 'excellence' support. However, up to now, no formal criteria have been disclosed and, for the 1998 budget, both the general and the excellence component for each university are allocated in relation to the other (HOBEK/STABEK) research allocations per university.
In 1998 the Dutch Minister of Education expressed plans to strengthen the performance element in the funding system, at least as far as the teaching component (including the so-called interweaveness part) is concerned. The idea is that universities will receive funds for teaching on the basis of:

- The number of diplomas produced by universities.
- The number of first-year students (freshmen) enrolled in universities.
- A fixed amount per university, independent of enrolments or diploma numbers.

At least half of the budget will be based on achievement, the first item in the list. Achievement is measured in terms of diplomas, i.e. Master's(-level) degrees. A moving average will be used for measuring the number of degrees. The weight attached to degrees used to be less than 20% in the days of HOBEK.

On the basis of the first year enrolments, 25% of the teaching budget is allocated. The underlying rationale for this component is that students are believed to base their choice of university on the quality of the programmes offered by the university. However, this reasoning may not be valid in a non-transparent higher education market and students may use other selection criteria.
The third component in the above list is a constant allocation per university, representing 25% of the total teaching budget. This element is to provide stability in funding for the universities.

The current atmosphere in the negotiations between the Minister and the institutions is burdened with a number of controversial issues. The fact that individual universities are responsible for paying unemployment benefits to previous employees out of a subsidy that has proven to be insufficient makes negotiations difficult. The same holds for the universities' responsibility for the maintenance of buildings and infrastructure. Both 'decentralisation' operations have put a heavy load on the universities' operational budget. On top of that, the Association of Dutch Universities (*VSNU*) has calculated that the core funding of universities (including tuition fee income) has fallen some Dfl 280 million in real terms in the same period, due to cutbacks on higher education and insufficient compensation for inflation and general salary increases. Going back in time even further, the VSNU estimated that during the period 1981-1992 the real core funding per student has fallen 29.7 percent.

6.4 University income from other activities

In section 6.2 it has been stated that overlooking the income from recurrent funds to universities (excluding academic hospitals, interest, and other revenues from activities not related to research or teaching) the share of contract research and contract teaching in total funding is 15%. If interest and other revenues from the third flow of funds are included this share increases to 23% (in 1993). The third flow of funds is becoming more and more important for the Dutch universities, as may become clear from the figures in table 6.2.

Table 6.2: Development of the third flow of funds from 1985 till 1993 (Mil. Dfl.)

1985	1996	1987	1988	1989	1990	1991	1992	1993
296	370	425	472	549	667	788	945	937

Source: Ministry of Education, Culture and Science, 1995.

6.5 Issues indirectly related to funding

6.5.1 Staff issues

6.5.1.1 Characteristics of staff employed

Table 6.3 gives an impression of the distribution of staff over functions and gender. In table 6.4 a distinction is made between tenured and non-tenured staff.

Table 6.3: Staff at Dutch universities at 31-12-1996 by function and gender (in fte and %)

	Male	Female	Total
Professors	2315 (95%)	111 (5%)	2426 (100%)
Senior lecturers	2433 (93%)	190 (7%)	2623 (100%)
Lecturers	4756 (81%)	1106 (19%)	5862 (100%)
Other grades	7118 (66%)	3673 (34%)	10791 (100%)
Non academic staff	11839 (53%)	8630 (42%)	20469 (100%)
Total	28461 (67%)	13710 (33%)	42171 (100%)

Source: VSNU, 1997.

Table 6.3 shows that, at the end of 1996, 49% of total staff was non-academic. Total female staff as a proportion of total staff is 33%. The proportion of female non-academic staff is much higher (42 %) than the proportion of female academic staff (23%). Especially the proportions of female professors (5%) and female senior lecturers (7%) are remarkably low. From table 6.4 it becomes clear that during the period 1990-1996 the proportion of tenured staff has increased from 68% to 73%.

Table 6.4 Tenured and non-tenured staff (in fte) as a proportion of total staff

Year	Tenured staff	Non-tenured staff
1990	68%	32%
1992	68%	32%
1994	70%	30%
1996	73%	27%

Source: VSNU, 1997.

6.5.1.2 Academic staff by type of activity

The international comparative study on the academic profession sponsored by the Carnegie Foundation (Enders and Teichler, 1995) gives information on the time spent by academic staff on activities like teaching, research, administration, services and other activities. In table 6.5, a distinction is made between periods during which classes are in session and periods when classes are not in session (no classes).

Table 6.5: Percentage of time of academic staff spent on different activities

Teaching		Research		Service/administration	
Term	No classes	Term	No classes	Term	No classes
39	23	33	46	28	31

Source: Enders and Teichler, 1995.

The table shows that Dutch academic staff on average spends relatively much time on teaching, even during periods when no classes are given. If we recalculate the figures in order to attribute the administrative and other activities to teaching and research activities, multiplying the term figure by 7/11 and the non-term figure by 4/11, we arrive at an estimate of the time spent by academic staff on teaching and research: 47% is on teaching while 53% is on research.

6.5.2 Student related issues

6.5.2.1 Student choice and institutional funding

Even though the influence of the number of students on the university budget is decreasing, still it has an impact in two ways. First, because students have to pay tuition fees, changes in the number of students over the years influence the tuition income of institutions. A few years ago, the direct relationship between governmental grants allocated to the institutions and the revenues institutions received from tuition fees was abolished. Although the national funding budget partly reckons with the revenues from tuition fees, the level of government grants allocated to an individual institution is not related to its tuition income.

The second way in which the number of students affects the university budget, is through the general funding formula. As described above, one parameter of the funding formula concerns the number of students enrolled. Today, about 10% of the budget allocated for teaching and teaching-related research is related to the number of students. Since the total government budget for the universities is fixed, the influence of a change in student numbers is limited at the national level. However, a change in enrolment will positively or negatively affect the funding level of an individual institution when the change is relatively larger in this university than in the other universities.

Finally, the different tariffs applied to students in cheap and expensive studies may influence the university budget if the relative distribution of students over these two categories of studies changes as compared to this distribution in other institutions.

6.5.2.2 Tuition fees

All students have to pay a tuition fee. As long as a student receives a study grant, he or she has to pay the governmental determined tuition fee (Dfl 2,816 for academic year 1999/2000; Dfl 2,874 for 2000/2001). In this case (which refers to the majority of the students) the tuition fee is either compensated through the grant, or the student can get a loan for it. If a student isn't entitled to a study grant he or she has to pay the institutionally determined tuition fee. For these students the institutions can determine what they want to charge with as a minimum the level of the governmental determined tuition fee (Dfl 2,816 at the moment). A recent study shows that in practice the institutions hardly use the opportunity to charge higher tuition fees for the non-study grant students (Jongbloed and Koelman, 1999). In general they charge the minimum level. As a consequence the Ministry of Education, Culture and Science has decided for the moment to not further increase the institutional autonomy regarding the determination of tuition fees.

6.5.2.3 Access, selection and student support

Admission to higher education is by law open to all qualified for higher education. However, a small number of programmes have an entrance restriction. The number of students for these programmes is limited because of labour market considerations. Most of the courses with an enrolment restriction train people for specific jobs and are vocationally oriented. Numerus clausus is applied to some subjects because of labour market considerations (universities: biology, medical studies; *hogescholen*: veterinary management, physical therapy, ergo therapy and some other therapy studies, tourism, industrial design, journalism and social juridical service; further some institutional fixi are applicable). Only a limited number of candidates cannot enter the higher education programme of their choice and apply for a study place through the weighted lottery system.

Recently, a new selection system for the numerus clausus programmes has been discussed. The main difference with the old system is that all candidates with an average grade of 8 or higher (on a scale of 1 – 10) in their final secondary education exams will be directly admitted to the programme of their choice. The other applicants will have to go through a weighted lottery procedure.

Student support in the Netherlands consists of grants, loans and supplementary grants. All students receive a basic grant amounting to monthly Dfl.125 for students living at home and Dfl. 425 for students living away from their parents' home. Students may voluntarily take out a loan of maximum Dfl. 750 per month. Dependent on parental income students may also be eligible for a supplementary grant (Dfl. 395 at maximum). Since 1996 students receive their grant as an initial loan. If they meet a study progress requirement of 50% of the first year exams and get their final degree within the nominal duration plus two years, this loan will be changed into a gift. Otherwise, students will have to repay all the financial aid they have received during study. No indirect sources of student support are available for Dutch students, except for cheap meals and subsidies on study books and participation in student life.

6.5.3 Quality assessment

The quality assessment procedure developed in the Netherlands in 1986–1990 has acted as an example for developments in this area in a number of other European countries. It is a prime example of a 'horizontal' evaluation procedure, i.e. it applies to the level of study programmes (not the faculties or the institution as a whole). It does so in a nationally comparative way by incorporating all programmes in a certain disciplinary area in a single external evaluation process (the process goes 'horizontally' through all higher education institutions). The procedure starts with a self-evaluation exercise performed by the study programme that results in a self-evaluation report, containing a description of the programme and analyses of a number of quality aspects, covering input, process and output. The visiting committee that is appointed for this occasion by the Dutch Association of Universities (VSNU) collects the self-evaluation reports of all programmes in the discipline. A visiting committee consists for the largest part of academic colleagues from the same discipline but different institutions than the persons to be evaluated ('peers', hence 'peer review'). It may include representatives of the profession or of graduates' employers, as well as a student.

The visiting committee studies the reports, visits the study programmes, on the basis of these experiences evaluates them according to their strengths and weaknesses and gives recommendations for improvement. It does not give a summary rating, nor does it make a ranking of the programmes. Such evaluation procedures are organised for each programme of study once every six years. For the self-evaluation reports, detailed guidelines are given by the VSNU. One of the subjects to be covered is the internal quality management, in which students are expected to play a role, namely in regular evaluations of individual courses, and in less frequent evaluations of (aspects of) the whole programme.

Students can play a role also — but need not do so — in the internal process of self-evaluation in the framework of the VSNU quality assessment. Student involvement through filling in evaluation forms or taking part in other internal evaluation activities can be seen as a minimum standard achieved all over Europe — although in all European countries the frequency and intensity of student evaluations differ strongly from one higher education institution to another.

6.5.3.1 Implications of the quality assessment for funding

If university programmes over a longer period show poor results regarding their quality, both in teaching and research, which will also show up in the evaluation procedures, then the Minister of Education is allowed to withdraw public funding for this programme. However, until now, this situation has never occurred.

7. Sweden

7.1 System characteristics

The first Swedish university was founded in 1477 in Uppsala. Sweden now has eleven universities, including Luleå University of Technology and the Swedish University of Agricultural Sciences. In addition, there are 55 institutions of higher education (including colleges of art, colleges of health sciences, and educational centres with special examination and degree-awarding rights). All the universities and most of the institutions of higher education are run by the state. Responsibility for colleges of health sciences generally lies with regional authorities.
During the 1990s, higher education has undergone considerable expansion. Today, nearly 250,000 individuals are pursuing full-time studies at Swedish universities and institutions of higher education. During the first half of the 1990s the number of new students increased by almost 42 percent.

The Ministry of Education and Science is responsible for the national higher education policy. The allocation of funds takes place through the budget proposal made by the government and accepted by Parliament. Until 1993 a central planning agency (National Board of Universities and Colleges, or *Universitetes och Högskoleämbetet*) was responsible for drawing up the budget and the admission of students. In 1993 a major reform took place, which represented a drastic change from the regulatory framework of 1977. In the 1993 reform the universities and institutions of higher education were given greater autonomy. Since then the central government lays down certain objectives and parameters, mainly financial, and delegates decisions about the orientation of the educational programmes provided to the higher education institutions themselves. The reform was carried out in order to create an open system of higher education (freedom of entry for private competitors, who, after meeting quality criteria, are also accepted for funding), a system of quasi-contracts between government and universities, performance related lump-sum funding, external quality assessment and audit, deregulation, and more managerial governance.
Diversity and competition between higher education institutions is a new element and incentives for improved quality are given through the new financing system as well as the work done at the Department of Evaluation and Quality Audit within the National Agency for Higher Education. The Agency also gives advice to the Government in matters concerning accreditation of academic degrees and the right of certain university colleges to establish professorships.

7.2 The budget of the institutions

It is estimated that total expenditure on higher education was SEK 37.6 billion in 1996. This figure includes SEK 7.2 billions in terms of study grants to students in higher education, and SEK 2,3 billions on account of private institutions. This means that the universities and the other higher education institutions spent some SEK 26.8 billion on education and research/postgraduate degree programmes.
Since 1994/95, considerable savings have been made in basic higher education, primarily by reducing the compensation paid for FTE students and the annual performance equivalents. The compensation per year-student for most of the educational fields has fallen by around 17% in real terms.
Expenses are covered by government grants and external income. As in other Nordic countries, there are no tuition fees in Sweden, except for a small fee paid to the student union for social services, et cetera. Direct state and regional authority grants account for about 60% of the resources of the institutions. The remaining portion

comprises external resources for contract work provided by research councils[8] and sectoral bodies, together with local authorities and county councils.

Compared to the situation in other countries, higher education in Sweden has a more relaxed funding situation and has escaped the financial turmoil that other systems experienced during the 1980s. From about the mid-1980s on the higher education resources have in fact been growing, in spite of a decrease in the overall educational budget.

On July 1st, 1993 a new allocation system was introduced for the funding of basic higher education (that is: excluding research and postgraduate education). The previous input (cost-) oriented system was replaced by a goal and performance oriented system. In January 1994 proposals were developed for incorporating the allocation of building, construction and equipment funds into the formula used for allocating the funds for current expenses. These measures were executed in the academic year 1995/96.

Funds are made available as a lump sum. Year-end balances may be kept and carried over to the next budget-year. Deficits have to be covered by the institutions themselves. On the basis of figures for actual student numbers and student results at the end of the year, the final institutional allocation is settled with the budget (see below).

7.3 Funding mechanism

Until the 1977 reform, the system of higher education could be characterised as collegial, with the administrative and political power mostly in the hands of full professors. Swedish universities and professional schools with permanent research funding were run by a governing board whose members, including its chair, the rector, were (s)elected from among the tenured staff. Academics recruited the decision-making boards in accordance with professorial criteria. The colleges without permanent research resources were run by a rector or a board appointed by the government.

The reforms in the 1970s led to extensive decentralisation and the introduction of external participation in the decision-making bodies. The 1977 higher education reforms decentralised several major functions including the allocation of resources. These reforms also resulted in teaching and research (together with postgraduate studies) being funded separately. The rationale for this division was that the government wanted separate policies with respect to these two areas.

Education policy since the middle of the 1980s has continued to emphasise decentralisation, and much of the decision-making power has been transferred from the national to the local level. Much of the financial decision-making power in the higher education sector has been decentralsied. In the past the funding system was highly centralised, and budgets specified particular items and areas. After the mid-1980s, the funding was changed to broad programme budgeting, and since the late 1980s the institutions are free to decide for themselves how to best use the money they are granted.

In addition, all universities and colleges can now introduce (and also abolish) life-time or temporary professorial positions. The power to create new tenured and non-tenured chairs from the institutions' budgets has rested with the institutions since 1982. A large number of new chairs, permanent ones as well as shorter-term adjunct professorships, have been created, mainly in engineering, the natural sciences, and medicine. The developments at the local level were rapid once central co-ordination gave way to decentralised planning: The number of new chairs installed by the institutions themselves far outnumbered the number of professorships introduced by the central authorities. Some of the non-permanent professorships are funded through external sources (funding that is not part of the state institutional grants).

[8] In Sweden there are six research councils: the European Commission-Research and Development Council (EC-R&D council), the Swedish Council for Planning and coordination of Researh (FRN), the Swedish Medical Research Council (MFR), the Swedish Natural Science Research Council (NFR), the Swedish National Board for Industrial and Technical Development (NUTEK) and the Swedish Research Council for Engineering Sciences (TFR).

The larger autonomy Swedish institutions have when it comes to finances, personnel planning and organisation has a price. Some of the traditional academic freedom has (probably) disappeared. Since the institutions have the legal responsibility for their own staff and laboratories, etc. they have to find money, one way or another, to finance the operations.
Since 1990, higher education is funded through three-year (rolling) budgets. This means that the entire grant is reconsidered every three years on the basis of an extensive evaluation. In between, a yearly appropriation is decided upon by means of standard operating procedures. The formal development of the higher education budgetary system reflects the new emphasis on decentralisation and evaluation. Since 1993 the three-year budgets have been based on the number of active students at each institution (see below).

7.3.1 Teaching

The new funding system in operation since 1993, is based on an Educational task contract negotiated between the Ministry and each state university and other higher education institution. In these contracts, the three-year objectives of the institutions are generally stated and elaborated into more detail for the next fiscal year. The "educational task contracts" (as they are sometimes called) for 1998 contain the following objectives:

- The minimum number of degrees.
- The minimum total number of FTE students.
- The fields of study in which the number of students is to increase or decrease.
- The programmes in which the share of women or men is to increase.
- The follow-up to be made in the Annual Report.
- Special assignments.

Based on the targets formulated in the educational task contracts, the preliminary allocation of teaching funds is based on the results achieved at each institution on the first two of the items listed above:

A. The number of credits accumulated by students during the academic year.
B. The number of students.

It is important to know that the Swedish educational programmes are offered in the form of a series of single subject courses, out of which students can put together their own programme. Final qualifications may require different amounts of credit points, which are prescribed in examination regulations. Depending on the effort to be undertaken, each subject course, if passed successfully, leads to a specific number of credit points. The number of students is expressed in full-time equivalents. Roughly, one week's work leads to one credit point and, as the Swedish academic year consists of 40 weeks, in one year a student can accumulate 40 credit points. Consequently, in calculating students, one FTE student is a student who during one year has been registered for courses adding up to 40 credit points. One FTE study result has been achieved if the student has earned 40 credit points during the year. A student who has earned only 30 credit points has achieved a 0.75 FTE study result.
Both regarding the number of students enrolled and the number of credits accumulated, the targets are mentioned in the educational task contracts, based on which the institutions get their preliminary budgets.
In addition to this funding base, the number of students and credits accumulated are rewarded at different rates. The different rates originate from differences in the costs of study per cluster of disciplines. The tariffs consist of an overhead tariff and an activity (i.e. direct teaching costs) tariff. The different tariffs can be found in table 7.1.
The tariffs were determined on the basis of a special investigation into the cost of basic higher education. This investigation determined the cost of teaching, services and overhead in the cluster of law and humanities as well as in some social science subjects. This was used as a basis to which weights were applied for determining the tariffs

of other subjects. For both funding bases five tariff categories plus a 'miscellaneous' category are distinguished. Taken together, the student tariff and the performance tariff generate the yearly per capita allocation for a full time undergraduate student (in each of six categories) who has succeeded in collecting 40 credit points.

Table 7.1: Tariff (in Swedish Crowns) per student (fte) and for student performance (year-load, i.e. 40 credits), academic year 1995/96 and fiscal year 1998

	1995/96		1998	
area	student tariff	Performance tariff	student tariff	performance tariff
Humanities, theology, Law, social sciences	14024	14242	13343	13968
Science, engineering, Pharmacy, health stud.	37858	33600	36037	32953
Dentistry c.s.	34589	41724	32724	40921
Medicine	46597	58874	44025	57740
Education*	27263	33299	25781	32658
Miscellaneous	31806	26579	30274	26067

* Excluding the practical part of teacher training

Source: Högskoleverket (1997); Eriksson and Fritzell (1998).

The annual teaching budget *T* for institution *i* in year *t* is calculated by applying the following formula (which, for the sake of clarity, disregards adjustments due to compensation for price inflation):

$$\mathbf{T_{i,t} = (S_{i,1,t}*TS_{1,t} + C_{i,1,t}/40*TC_{1,t}) + (S_{i,2,t}*TS_{2,t} + C_{i,2,t}/40*TC_{2,t}) + ... + (S_{i,6,t}*TS_{6,t} + C_{i,6,t}/40*TC_{6,t})}$$

where:

$T_{1,t}$ teaching budget for institution i in year t

$S_{i,j,t}$ number of full time equivalent students in institution i enrolled in programmes belonging to cluster j (j=1,...,6) in year t

$TS_{j,t}$ tariff per full time student (overhead plus direct teaching costs) in programmes belonging to cluster j (j=1,...,6) in year t

$C_{i,j,t}$ number of credits accumulated in institution i in subjects belonging to cluster j (j = 1,...,6) during year t

$TC_{j,t}$ tariff per annual performance equivalent in subjects belonging to cluster j (j = 1,...,6) during year t

The grant for undergraduate education is allocated as a block grant. This means that the universities are free to spend the grant as they see fit. The student tariff includes a compensation for capital costs (including rents for the university buildings).

As stated above, the total amount of money made available for teaching is included in a contract, negotiated between the Ministry of Education and each individual higher education institution. The contract runs over a three-year period. The contract states the maximum number of (full-time) students the government is willing to fund and the minimum amount of student results the government is expecting. Tied to the student numbers and the student

results is the maximum teaching budget granted to the higher education institution for each year during the contract period. The education contract also provides for extra resources intended for special tasks, for instance, for giving courses in 'small' programs such as Egyptology, seismology and Celtic languages or for developing courses in new fields (e.g. environmental technology).

The results shown during the three-year period form the basis for negotiations about the new three-year contract. The only condition tied to the spending of public funds in this respect is that the long-term goals of the education contract have to be fulfilled. To give institutions flexibility between fiscal years and to facilitate their long-term planning, institutions are allowed to transfer unused parts of the budget or surplus students to the next fiscal year. Institutions can only save grants or FTE study results that correspond to a maximum 10% of the budget.
The teaching budget is based on projections of student numbers. However, institutions are free to take on more students, though this will not affect their budget.

7.3.2 Research

The funding of research is separated from the funding of teaching. For research, the allocation system introduced as a consequence of the reforms of 1977 is still in place. Research funds for covering costs of research staff are allocated incrementally by the Ministry of Education. Next to the direct research funds, there are indirect funds allocated through Research Councils that supply funds to researchers on the basis of project proposals. Competing proposals are judged by peers. The allocation of funds for investments, interdisciplinary projects, and information systems is supervised by a co-ordination board of the different Councils. Apart from Research Councils, also private organisations allocate considerable research funds to the universities.
In the 1994/95 fiscal year, revenue for research and postgraduate research training at Swedish universities and university colleges was SEK 13.9 billion. About 55% of these resources were allocated in the form of government faculty allocations and other R&D allocations. The remainder came from research councils, other government authorities and public utilities, local authorities, companies, etc. The overwhelming proportion of R&D resources (98%) went to universities and institutions with permanent research resources.

7.3.3 Developments

Roughly two-thirds of the institutions' core budget (teaching and research grants, excluding Research Council allocations) is allocated on the basis of a formula. The formula contains an output- (performance-) based part and an input-based part. The input element of the formula should - in view of the government - make institutions more demand-driven. The performance (i.e. student results) element included in the formula is given a higher weight than the input (i.e. student load) element for 4 out of 5 main subject areas (see table 7.1). On average 60% of the teaching funds is based on the number of credit points gained by students, while 40% is based on the number of students. The ratio 60/40 is a political compromise between 70/30 and 50/50 (with 70/30 perhaps being proposed to leave room for compromise).

Plans (in 1993) to include a quality premium into the allocation model were abandoned. Originally the then government wanted quality premiums of in total 5% of the teaching budget to be introduced. These were to be distributed on the basis of the universities' mandatory plans for quality improvement. The next government opted for a model without the quality premium, but with quality audit findings used in the regular budgetary process. However, it is still unclear how these will be used.
A thorough investigation of the effects of the 1993 funding arrangements was commissioned by the government. The so-called RUT93 Commission that evaluated the 1993 reform published its findings in 1995. Earlier there had been a report by a committee on the funding of universities (SOU 1994). So far, all institutions seem to have produced sufficient outputs, although no one knows what would have happened if they had not. Some universities,

like Gothenburg University, have chosen to increase their student volume far beyond their obligations. Most have made some increases to make sure they reach the specified outputs. All in all this amounted to roughly a 10% increase of the 'system'. The idea of a three-year budgeting system is kept by the government. There have been some minor adjustments to the assignments or contracts for each university. During the contract period there is a kind of check on yearly results. However, this is mainly through the fact that budgets are yearly and new decisions are made every year. For example, in the budget of January 1995 the government explicitly argued that universities had large amounts saved from year 1 and 2, which they were 'allowed to keep'. In other words, there was no reduction for year 3. It is important to note that cutbacks were not part of the agenda.

A reported effect of the funding system is that university departments pay more attention to drop-outs, try to track them and persuade them to continue their studies. This seems to question the cliche that concern for others is stronger when market mechanisms are absent. A similar effect is reported on quality audit and assessment: more attention is paid to evaluating current activities and, hence, making improvement possible. This so far counters the widely felt fear that a performance related funding arrangement would bring about lower standards. A reported consequence is that the general status of teaching is rising in relation to that of research.

7.4 University income from other activities

In addition to regular funding from the government for teaching and research (also through Research Councils), Swedish universities also receive financial resources for activities such as contract research and contract teaching. The average share of income from contract activities differs between institutions with a considerable amount of research funding and institutions with only a small research capacity. The relative share of the contract activities is about 4% on average at the universities with substantial research funds. In universities without major research activities, the proportion of funding from contract activities is about 8%. However, substantial differences exist between universities, ranging from 1% to about 34%. The income from contract research is at about the same level as the income from contract teaching activities, although here also differences between institutions are apparent. Universities with large research funds are more involved in contract research, whereas universities with a smaller research budget concentrate on contract teaching.

Both contract research and contract teaching activities show a large variety of clients. Most of the activities are commissioned by industry, national authorities, regional authorities and international organisations. The national and regional Swedish authorities fund about 50% of the contract activities.

7.5 Issues indirectly related to funding

7.5.1 Staff issues

In 1997, the total number of FTE staff employed in higher education was 44,750. Of these, 21,060 FTE staff was involved in teaching and research, which is about 47%. About 36% is technical and administrative staff. In addition, 6,200 posts were defined as post-graduate posts (14%). Finally, 3% of the staff were librarians.

7.5.1.1 Academic staff by type of activity

The time spent by academic staff on activities like teaching, research, administration, services and other activities is presented in table 7.2. The figures are separated for periods when classes are in session and for periods when classes are not in session.

Table 7.2: Percentage of time of academic staff spent on different activities

Teaching		Research		Service/administration	
term	No classes	term	no classes	term	no classes
38	16	32	49	30	35

Source: Enders and Teichler, 1995.

This table shows that Swedish academic staff on average spends roughly equal amounts of time on teaching, research and other activities during term time. However, during periods when no classes are given, they spend most of their time on research. If we distribute the third column in the table over teaching and research (assuming that administrative and other activities mostly relate directly to their teaching and research activities), we can recalculate the figures and arrive at an average distribution of 44/56 for the ratio teaching/research over the academic year. For this, the values for term time activities were multiplied by 7/11 and the values for activities during off-term time by 4/11 (in order to compensate for the lengths of both periods over the year).

7.5.2 Student related issues

7.5.2.1 Student choice and institutional funding

As can be read from the description of the national mechanism of funding universities, the number of students plays an important role in the budget allocated to the institutions, as well as the number of study credits earned by the students.

7.5.2.2 Tuition fees

In Sweden higher education is for free, in the sense that students do not have to pay tuition fees.

7.5.2.3 Access, selection and student support

Admission to higher education is rather selective in Sweden. About one third of the annual number of applicants are denied access. To be admitted to higher education, candidates have to meet general criteria applicable to all studies and to specific demands for certain study programmes. The general criteria are decided by parliament, the specific ones by the institutions themselves. The general criteria are an upper secondary diploma, or four years of working experience and knowledge of the English language at the level of two years upper secondary education in combination with an age of 25 years or older. In addition, the outcomes of an aptitude test provide satisfactory entrance qualification. The specific entrance criteria set by the institutions often concern a certain level of knowledge in specific fields required for specific programmes. Universities have full autonomy to decide on such criteria. Since 1993, universities have been allowed to apply specific tests or interviews on an experimental basis to select students.

Concerning student financial support, in 1988 the system of mainly loan contributions to students independent from their parental income was changed into a system with an increased emphasis on student grants. Until 1988, the basic grant students received covered only 5% of their total costs. Since then, all students eligible receive a grant covering about 30% of their costs. The amount granted is SEK 1900 monthly (for a nine-month period). The rest of the aid is provided as a loan. The maximum loan amount is SEK 4955 monthly (also available for nine months). About 30% of the students does not receive any aid because their personal income is too high. Most of them are part-time students with a job. In order to remain eligible for financial support, students have to show a study progress of 75% - 100%. The study progress requirements depend on the programme a student is enrolled in: traditional university studies and engineering programmes require 75% study progress, more vocationally oriented programmes require a 100% score. The rate of study progress is assessed every semester.

Indirect student support by way of child allowances or tax benefits is not available. However, students may benefit from subsidies through facilities like student housing, sports facilities and subsidised health care.

7.5.3 Quality assessment

The Swedish quality assurance system consists of two main procedures. One is the programme evaluation for accreditation (a 'horizontal' review), but that is a one-time experience for each study programme. The other, more important one, is the regular audit of universities and colleges by the independent state agency *Högskoleverket*: this is a 'vertical' procedure, for the moment in a four year cycle (the first cycle covered the period 1996 -1999). As an audit system – in the sense of the British quality audit – the object for the evaluation is not the quality as such in programmes, courses, research etc., but the nature and implementation of higher education institutions' quality enhancement activities. The teams that make up the external input in this evaluation consist of two or three well-established academic leaders, one person from industry or public administration and one student (from another institution than the one being audited).

There are no direct linkages between the results of the quality assurance system and the funding of universities.

8. United Kingdom

8.1 System characteristics

The higher education system in the United Kingdom (i.e. England, Wales, Scotland, Northern Ireland) has what might be called a unified structure. After the abolition of the binary line in 1992, all polytechnics, central institutions (Scotland) and a few colleges of higher education obtained university status. Today there are 52 'old' universities (36 in England, 6 in Wales, 8 in Scotland, 2 in Northern Ireland) and some 107 'new universities' (33 former polytechnics and 51 PCFC-colleges in England, 9 polytechnics/colleges in Wales, 14 central institutions in Scotland). More than 40 of the former polytechnics and colleges have changed their name to university. In total, there are over 180 higher education institutions, including a number of further education colleges, teacher training institutions and LEA-maintained institutions.

For UK students, a distinction can be made according to the level of the course taken. Undergraduate students have the intention of achieving a first degree (BA or national certificate). The Bachelor's degree takes three years of study (in Scotland four years). Some former polytechnics and colleges offer higher national certificates and professional qualifications, most of them after two years of study. Postgraduate courses lead to Master's and PhD degrees or postgraduate diplomas, certificates and a range of professional qualifications. The most common higher degree is the Master's degree, with respect to which a distinction can be made between a taught Master's (MA, MSc, or MBA) degree (that can be obtained usually after one year) and a research Master's (BPhil, MPhil) being a two-year degree. Doctorate programmes, leading to a PhD-degree, take (generally) three years of research work. There are three modes of attendance: full-time, sandwich and part-time. Full-time and sandwich students usually study more than 21 weeks per year.

The total number of students has grown dramatically to 2,031,100 in 1998, with 1,800,000 at higher education institutions and 231,000 at further education institutions. The rise in higher education enrolments is a prominent feature of the UK system. It has strongly been supported (even 'commanded') by the government. From 1986 on, the participation rate for the reference 20-24 age group rose from 22% to over 35%. Expansion of higher education was far greater than expected in the Government's plans. In view of this, the Government announced a policy of 'consolidation' under which controls on the growth of student numbers would be applied in order to limit public expenditure. The Secretary of State has asked the respective funding agencies (Higher Education Funding Councils) responsible for England, Wales, Scotland and Northern Ireland to control the number of students whose fees are compensated by Local Education Authorities (LEA's) and to limit the funds available for growth. This situation represents an example of the way the UK government has increasingly tried to steer its higher education institutions.

8.2 The budget of the institutions

In 1992 regional (i.e. for England, Wales, Scotland and Northern Ireland) independent, non-departmental Higher Education Funding Councils (respectively HEFCE, HEFCW, SHEFC and NIEC) were established, replacing the Universities Funding Council (UFC) and the Polytechnics and Colleges Funding Council (PCFC). A Further Education Funding Council was installed for the colleges of further education.

Universities and colleges receive an annual grant from their Funding Councils that is largely determined by formula (see next section). The grants enable them to carry out teaching, research and related activities. Funds are provided in the form of a block grant. Institutions are free to distribute this grant internally at their own discretion, as long as

the funds are used for the purposes for which they are provided. The rest of the Council (exchequer) grant is made up of an Equipment and Furniture grant and a grant issued by the Computer Board (now Joint Information Systems Committee).

In its most recent quantitative overview of UK higher education (referring to 1997/98) the Higher Education Statistics Agency (HESA) indicates that the total income of the higher education institutions amounted to £11.6 billion, an increase of 5.1% compared with the previous year. The institutions have reported a 7.4% increase in income from research grants and contracts (£1.7 billion in total). Other operating income increased by 6% to £2.2 billion, while the Funding Council's grants amounted to £4.5 billion showing an increase of 3.1%. The latter constituted the major part (38.7%) of the institutional income.

Total institutional expenditure in 1997/98 increased by 4.0% from 1996/97 to £11.3 billion. Staff costs represented 57.2% of total expenditure, a slight % decrease from 1996/97.

8.3 Funding mechanism

In this section the calculation of the Funding Council's grants for teaching and research will be discussed. Because the funding mechanisms of the different funding councils broadly look alike, we will here concentrate on the funding of universities in England, as carried out by the Higher Education Funding Council for England (HEFCE). The amount of funding distributed by the HEFCE is presented in table 8.1.

Table 8.1: Recurrent grants for higher education (£ million)

	1995/96	1996/97	1997/98	1998/99	1999/2000
teaching	2270	2224	2380	2694	2924
research	636	638	704	829	855
capital	353	173	*	*	*
other related funds	301				
non-formula funding		270	306	334	435
flexibility margin		14	15	10	10
total	3560	3319	3405	3867	4224

* From 1997/98 onwards, capital funds are incorporated in the core-allocations awarded to the institutions.

The funds for teaching, research and related activities are largely formula-based. The formulae take account of the size and activities of individual institutions and the quality of their research. In distributing funds for teaching and research, the HEFCE aims to maintain diversity and increase opportunities, encourage efficiency in the use of public funding, maintain and enhance quality, and provide stability in the funding from year to year.

The formulae were introduced in 1993/94. For the 'new' universities it replaced the 'competitive tendering' model that had been used for the funding of polytechnics from 1989 onwards. For the 'old' university sector, an experiment with competitive tendering in 1991/92 failed and was replaced by a 'core plus margin' approach (see below). In the tendering system the polytechnics were invited to place bids for extra student places, on top of the places already funded through the block grant. Institutions could determine their own prices (tariffs) per student (for the respective subject areas). Apart from the block grant and the extra funds received through tendering, polytechnics were allowed to recruit so-called fees-only students. These are students for which the institutions receive only tuition fees and no further council funding. Thus, competitive elements were introduced into the

funding system. This met with a lot of criticism from the part of the institutions, although simultaneously it led to a considerable increase of enrolments in polytechnics.
In the period leading up to the abolishment of the binary divide, two research assessment exercises had been carried out in the 'old' universities, respectively in 1986 and 1989. These were executed in order to align progressively the research component of the council grant with quality assessment ratings. In 1992 the third assessment took place, covering all institutions of the former UFC and the former PCFC. The results of this exercise (i.e. the quality ratings per academic subject area) were used as inputs in the new research funding formula.
Below the formulae used in the process of allocating funds to institutions are discussed. It is important to note that funds for teaching, funds for research and income from tuition fees are separate and independent parts of the institutional allocation. The formula for teaching funds is price- (or efficiency-) oriented, the formula for research is quality-oriented, and the 'formula' for tuition fees is volume-oriented.

8.3.1 Teaching

Institutions receive teaching funds in the form of an HEFCE grant and student fees. The grant is allocated to institutions by using a so-called 'core-plus-margin' approach. In this approach the core is the part of an institution's grant for teaching that is to a large extent based on the budget allocated in the previous year, thus providing financial stability. The core funding in the academic year 1999/2000 makes up £2,791 million, which represents 95.4% of the funds for teaching. The margin (£133 million) represents the part of teaching funds intended for the funding of additional student places, the adjustment to the core, and the support for widening participation from disadvantaged backgrounds. The margin is allocated on the basis of competition. However, also the core is indirectly affected by competition, as will be discussed below.
The funding methods for teaching and research were reviewed in 1996/97. The new method for funding teaching was introduced in 1998/99 for higher education institutions (HEIs) and in 1999/2000 for those further education colleges (FECs) which the HEFCE funds to provide some higher education. In calculating HFCE teaching funds for each institution on the basis of this new method there are four main stages. First a standard resource for the institution is calculated. This is a notional calculation of what the institution would get if the grant was calculated afresh each year. It is based on each institution's profile of students, and takes into account: the number of students, subject-related factors, student-related factors, and institution-related factors. Second the actual resource for the institution is calculated. This is based on the teaching grant that was actually paid by the HEFCE to the institution for the previous year, plus the assumptions of student tuition fee income, and then adjusted for various factors such as inflation. Third the standard resource is compared with the actual resource and the percentage difference between them is worked out. Finally if the difference between the standard resource and the actual resource is no more than 5% (whether plus or minus 5%) then the HEFCE grant will be carried forward from one year to the next. For institutions outside the plus or minus 5% tolerance band, the grant and/or the student numbers will be adjusted so that they move to within the tolerance band over an agreed period.
Calculating a standard resource (the first stage of the new method) consists of five steps, starting with collecting information on FTE student data per institution. The collected data on students are disaggregated according to 48 different categories (24 for FECs):

four price groups (subjects)
x two modes (full-time and sandwich, or part-time)
x three levels (undergraduate, postgraduate taught or postgraduate research)
x two lengths of study during the year (standard or long).

The calculations of standard resource are performed separately for each of these student categories.

In the second step the FTEs from step 1 are weighted by the appropriate price group weights, i.e. each Fte is multiplied by the appropriate price group weight. The underlying assumption is that different subjects require different levels of resource. Four broad groups of subjects (*price groups*) are defined for funding and relative cost weights for each subject based on sector averages are set. These cost weights are translated into levels of resource which depend on the total amount of money available each year. The current subjects (or price groups) are:

A. The clinical stages of medicine and dentistry courses and veterinary sciences; cost weight 4.5.
B. Laboratory-based subjects (science, pre-clinical stages of medicine and dentistry, engineering and technology); cost weight 2 (for HEIs) .5 or 2 for (FECs).
C. Subjects with a studio, laboratory or fieldwork element; cost weight 1.5.
D. All other subjects; cost weight 1.

In the third step additional FTEs for each of the student and institutional premiums which apply are calculated. The premiums are expressed as additional weighted FTEs, calculated in relation to either the unweighted FTE (from step 1) or the price group weighted FTEs (from step 2), depending on whether the additional cost which the premium seeks to reflect varies according to the subjects being studied. The premiums are:

a) Long course premium. If the course is long, and the student FTE is in price groups B, C or D, the additional FTEs = price group weighted FTEs (Step 2) x 0.25. If the course is standard length, and/or the student FTE is in price group A, the additional FTEs = zero.

b) Part-time premium. If the course is part-time, the additional FTEs = unweighted FTEs (Step 1) x 0.05. If the course is full-time or sandwich, the additional FTEs = zero.

c) Mature full-time undergraduate students premium (HEIs only). If the student FTE is full-time or sandwich undergraduate, the additional FTEs = unweighted FTEs (Step 1) x proportion of full-time or sandwich students who are mature x 0.05. We calculate the proportion of students who are mature from individual student records. Students are counted as mature if they are at least 25 years old on entry. For all part-time or postgraduate students, the additional FTEs = zero.

d) London premium. If the institution is based in London, the additional FTEs = price group weighted FTEs (Step 2) x either 0.08 (if in inner London) or 0.05 (if in outer London). For institutions outside London, the additional FTEs = zero.

e) Pensions premium (HEIs only). If the institution is part of the Universities Superannuation Scheme, the additional FTEs = price group weighted FTEs (Step 2) x 0.02. For all other institutions, the additional FTEs = zero.

f) Specialist college premium (HEIs only). If the institution is eligible for the premium, the additional FTEs = price group weighted FTEs (Step 2) x a variable percentage. This percentage depends on the particular characteristics of the institution, but is commonly 10 per cent. Institutions are eligible for the premium if they have at least 60 per cent of their FTEs in no more than two subjects, and if, without the premium, their actual resource would be at least 8 per cent above standard resource. For all other institutions, the additional FTEs = zero.

g) Small institution premium (HEIs only). If the institution is eligible for the premium, the additional FTEs = unweighted FTEs (Step 1) x a variable percentage. Institutions are eligible for the premium if they have no more than 1,000 FTEs in total (including any students on further education courses), and they are not already receiving a specialist college premium of more than 10%. The value of the premium in percentage terms is calculated on a sliding scale, where the fewer FTEs an institution has, the larger its premium. For all other institutions, the additional FTEs = zero.

h) Old and historic buildings premium (HEIs only). If the institution is eligible for the premium, the additional FTEs = unweighted FTEs (Step 1) x a variable percentage. Institutions are eligible for the premium if they have buildings (excluding residences for students) constructed before 1914, which they have owned since at least 1 April 1998. The larger the floor space attributable to the old and historic buildings, the larger the value of the premium in percentage terms. For all other institutions, the additional FTEs = zero.

In the fourth step the total weighted FTEs are calculated, i.e. the price group weighted FTEs from step 2 are added to the additional weighted FTEs for each student or institutional premium.

Finally in the fifth step the standard resource for each category is calculated, implying that the total weighted FTEs in that category (step 4) is multiplied with the base price (£2,682 for 1999-2000). The total standard resource is the sum of the standard resource calculated for each student category.
Next the calculated standard resource, as indicated above, is compared with the actual resource, and the difference between them is expressed as a percentage. If the percentage difference is more than 5%, action is taken to bring the institution within the ± 5% tolerance band by adjusting its student numbers and/or funding.

Each year a funding agreement (or contract) is drawn up between an institution and the Funding Council. This agreement is constructed in broad terms. It implies a weighted volume of activity that is being funded against the resouce which is being allocated. Institutions can vary their student recruitment as long as the weighted volume of activity is being maintained within certain implied limits. So, for example, they may vary the balance of recruitment between full-time and part-time students or between different price groups. When the funding announcements are made institutions cannot be sure about the recruitment in that year. However, if recruitment results in the actual resource differing by more than 5% from standard resource (as explained above), then action is taken to draw the institution back within that tolerance band.
The Funding Council sets minimum numbers for students in some medical and dental courses. If institutions fall short of the minimum numbers, the grant is reduced.
The government requires the Funding Council to control the numbers of certain types of student to ensure that public expenditure limits are not breached. These are home and EU full-time undergraduates, and students on initial teacher training courses. For each institution the Funding Council sets a Maximum Student Number (MaSN) for such students. A one-off penalty is imposed for institutions that exceed their MaSN beyond a permitted margin. The penalty is equivalent to the fees attributable to these extra students so that institutions do not benefit financially from their over-recruitment. The total MASNs allocated in 1999-2000 was 852,220.
Since 1993/94, the Funding Council has engaged in quality assessment of teaching. This is achieved through a rolling programme of assessments by subject, which includes institutional visits. Where quality is found to be unsatisfactory, the institution is allowed up to 12 months to remedy the situation. An institution with a subject that remains rated unsatisfactory after two visits by the Funding Council's assessors will have the relevant part of core funding (and student places) immediately or successively withdrawn.

8.3.2 Research

Public funds for research are provided under the dual support system: the Funding Council contributes to the salaries of permanent academic staff, premises and central computing costs, and Research Councils provide for direct project costs and make a contribution to indirect project costs. There are six Research Councils, funded by the Government through the Office of Science and Technology. They support research in their fields of interest, both in their own establishments and in universities. In the period 1992-1995 funds were transferred from the Funding Council's block recurrent grant to the Research Councils to enable them to meet more of their direct costs and to contribute to the indirect costs (overheads) of their projects. As far as Funding Council (UFC or HEFC) funding is concerned, we note that, especially as a result of the research assessment exercises, research funds are tied increasingly to research productivity and research quality. These exercises, by means of peer review, lead to a rating of the different research subject areas. The assessments have led to a series of selected cutbacks and a reshuffling of research funds.

At this stage Research Council funding will be disregarded, and the funding of research by the HEFCE will be discussed.
The HEFCE is committed to promoting excellence in research. For this purpose, it allocated £855million in 1999/2000 to institutions under two main headings:

- quality-related research (QR) funding;
- generic research (GR) funding.

Quality related funding concerns the predominant part of the funds (£835m); only £20m was spent on GR.
There are three separate components of QR funding: mainstream QR allocated to reflect the quality and volume of research at institutions in different subjects (£743.3m); funds for the supervision of research students (£65.6m); and London extra costs allocated to reflect the additional costs of provision in London (£26.1m).
For mainstream QR the volume and quality of research is decisive. Sums of money are made available within each of 69 subject areas, also known as Units of Assessment (UOAs). Each subject is assigned to one of three cost weights, which have been calculated to reflect the relative costs of research in those subjects. These are multiplied by the volume of research in each subject to work out the total funding for that subject.
The amount of QR-funds allocated to each institution within each subject is proportional to a volume measure multiplied by a quality measure:

Amount = Quality x Volume

The quality of research is established by peer review in a Research Assessment Exercise (RAE), conducted every four or five years. In 1996, the last research assessment took place, informing funding decisions until 2001/2002. In the last RAE each institution was awarded a rating, on a scale of 1 to 5* (five star), for its research in each unit of assessment in which it was active. The research ratings are converted into a funding scale, ranging from 0 to 4.05. Ratings 1 and 2 attract no funding, while a rating of 5* attracts approximately four times as much funding as a rating of 3b for the same volume of research activity. The result is a very selective funding of research. For example, in 1999/2000 75% of HEFCE research funds will go to 26 higher education institutions.
The HEFCE can vary the relationship between the RAE ratings and the quality measure applied in the funding formula to make research funding more or less selective.

Generic research (GR) funds is a component of research funding that is targeted at encouraging institutions to bring in income from contract research. This income is called ‘qualifying income’. GR was introduced only recently (1994) in response to the theme of wealth creation in the 1993 Science and Technology White Paper ‘Realising our Potential’. GR rewards collaborative research projects. Collaborative research is a type of contract research where the institution retains the intellectual property and publication rights to the related research. It therefore is research that does not have a single beneficiary and is regarded by the Government as important in its policy of wealth creation. The amount of GR available is distributed between the institutions in proportion to their qualifying income. The purpose of GR is to encourage research collaboration between higher education and industry. During 2000 its effectiveness will be reviewed.

8.3.3 Developments

Funding higher education in the UK has undergone quite a lot of changes in the last 15 years. The current ‘grip’ of the government on its higher education sector represents a major change from the autonomous (some would say: elite) status of (especially) the university sector in the years before the Thatcher-regime. The government has introduced competition among institutions, called for improved information on the quality of teaching and research,

and especially required value for money in the use of (scarce) public resources. As a consequence, accountability and efficiency have become the key words in education policy. Between 1989 and 1994, public funding per student was reduced by 30%, but because enrolments increased by more than 50% during these years, the income of the institutions increased. From 1995 onwards, the government continued the reductions on funding per student but also put a cap on any further expansion in student numbers.

The role of the funding councils in these matters has not been confined to financial planning and provision of funds, but also was extended to the area of quality assessment. In research funding a high priority is given to selectivity, rewarding quality. The funding of teaching is aimed at providing stability (through a core plus margin approach) to the institutions and - at the same time - forcing them to drive down the cost per student. Although many of the policy instruments used (still are) met with a lot of criticism, evidence suggests that quality has been maintained.

When the government expenditure plans at the end of 1995 indicated a further annual reduction of funds, at least until the year 2000, many universities threatened to induce supplementary student fees of their own in order to remain solvent while providing higher education of satisfactory quality. This was the background against which the Dearing Committee was set up in February 1996. Their major task was 'to make recommendations on how the purpose, shape, structure, size and funding of higher education, including support for students, should develop to meet the needs of the United Kingdom over the next 20 years.' In addition to the Dearing Committee, a number of practical problems with the current funding formula made that the HEFCE came up with proposals to apply some changes in the funding method for teaching and research in 1996, leading to the new funding methods discussed above (sections 8.3.1 and 8.3.2).

While the Funding Councils' proposals for changing the funding methods were part of the public debate on funding of higher education in the second half of the 1990s, it was the Dearing Committee, which reported in July 1997, that attracted most attention. Its report was particularly concerned with the question of the immediate threat to the quality of higher education if additional funds are not forthcoming. Dearing therefore examined the long-term prospects for bringing new funds into higher education. It was found that the only realistic source for the kind of funding needed was the students and their families. In particular, those with higher education qualifications were considered to be the main beneficiaries from higher education in the form of improved employment prospects and pay.

The new Labour Government accepted the Dearing analysis and came up with its own proposals. First it said that students have to pay tuition fees up to £1000 per year, depending on parental income. In addition, tuition should be free for students from lower income families. These ideas have been worked out and implemented starting from the academic year 1998-99. Furthermore, the additional costs should be balanced by increased loans which have to be repaid through an extended time-scale.

8.4 University income from other activities

In section 8.2 it was already indicated that the higher education institutions receive funding from many different public and private sources. Table 8.2 (next page) provides insight into the various sources of income of English HEIs. Based on this information, apart from the regular funding of HEIs, the relative importance of other activities can be indicated. It has to be mentioned here that the fees charged to regular full-time students were paid by the Local Education Authorities (LEAs) and thus made part of the regular governmental funding structure of institutions until 1997-98. Starting in 1998-99, regular students have to pay for tuition fees themselves.

The additional income of institutions can be separated into five categories. First of all, English HEIs are allowed to attract additional students on top of the minimum target number of student places for which the institution gets its regular funds (core plus margin funding from HEFCE). However, the additional students have to be fees-only students that pay tuition fees at a cost-covering rate. Most of these students come from overseas. In total, the fees

paid by these students make up almost 5% of the total income of the institutions. In addition to that, part-time students are obliged to pay tuition fees that are not taken care of by the LEAs. They do not have to pay a full cost-covering rate. But still, the revenue of institutions from these is about 3% of their total income. Finally, institutions derive income from tuition fees for non-credit bearing courses and further education non-advanced courses, from teaching students from other institutions and from grants made by research councils and other bodies in support of the training of research students. In total, almost 3% of the income of the institutions come from these types of fees.

From the perspective of research income for activities which are not funded by the regular research grants coming from HEFCE and the Research Councils, a number of other sources can be identified. First of all, over 3% of the institutional income comes from UK based charities, including research grants and contract income from all charitable foundations, trusts, etc. Furthermore, institutions derive over 6% of their income from other research activities funded on a temporary (contract) basis by UK government bodies at central and decentralised level and from UK health and hospital authorities. Grants from UK industry, commercial companies and public corporations determine almost 2% of institutional revenues, while EU sources cover over 1%. Still 1% of total income comes from research activities funded by non-EU overseas commissioners and other principals.

Contract teaching activities and other services rendered by English HEIs make up 4,5% of their budget. These include all validation fees for courses such as run by other institutions, income in respect of the provision of Teaching Company Schemes, all grants for teaching and other non-research services for government bodies, health and hospital authorities, industry and other firms, EU and other overseas organisations.

The fourth category of income concerns money institutions derive from sources for all kinds of activities, like catering and residences, organising conferences, selling specific services to local authorities or health authorities (including the funding of any employees of the institution, including some posts in academic teaching), etc.

Finally, institutions may take part of their income from endowments, like investments (for specific purposes) and interest received on net surpluses. This determines about 2,5% of their budget.

A careful breakdown of these figures into public versus private sources of funds suggests that about 2/3 of the funds come from public and 1/3 from private sources. At the beginning of the 1980s this division was about 86% public and 14% private (Williams, 1998b).

Table 8.2: The income of English universities and collegeges by source (in £ million)

Source of income	1994-95		1995-96	
	amount (£m)	as a % of total income	amount (£m)	as a % of total income
HEFCE (originating from the DfEE)	3512	42,9%	3553	40,6%
LEA Fees (originating from the DfEE)	989	12,1%	1021	11,7%
Other Fee Income	905	11,0%	1098	12,6%
overseas student fees	*386*	*4,7%*	*431*	*4,9%*
part-time fees	*218*	*2,7%*		
non-credit bearing course fees	*144*	*1,8%*		
other fees & support grants	*157*	*1,9%*		
Research Councils (Office of Science and Technology)	417	5,1%	446	5,1%
UK Charities	268	3,3%	290	3,3%
Other Research Income	517	6,3%	558	6,4%
UK government bodies, health & hospital authorities	*193*	*2,4%*		
UK industry, commerce and public corporations	*130*	*1,6%*		
EU sources	*115*	*1,4%*		

other overseas sources	*48*	*0,6%*		
other sources	*31*	*0,4%*		
Income from Non-Research Services	344	4,2%	394	4,5%
course validation fees	*10*	*0,1%*		
teaching companies	*14*	*0,2%*		
UK government bodies, health & hospital authorities	*87*	*1,1%*		
UK industry, commerce and public corporations	*60*	*0,7%*		
EU sources	*25*	*0,3%*		
other overseas sources	*8*	*0,1%*		
other sources	*138*	*1,7%*		
Other Operating Income	1041	12,7%	1169	13,4%
residences and catering	*546*	*6,7%*	*595*	*6,8%*
grants from local authorities	*2*	*0,0%*		
income from health & hospital authorities	*110*	*1,3%*		
released from capital grants	*17*	*0,2%*		
income from intellectual property rights	*3*	*0,0%*		
other general income	*362*	*4,4%*		
Endowments & Interest receivable	199	2,4%	216	2,5%
Total Income	8191	100,0%	8745	100%

Source: HESA finance record 1994-95 and 1995-96, English HEIs.

8.5 Issues indirectly related to funding

8.5.1 Staff issues

8.5.1.1 Characteristics of staff employed

Concerning academic staff, a distinction can be made by grades of employment, such as professors, lecturers, etc. Table 8.3 provides insight into the distribution of academic staff according to their academic position.

Table 8.3: Academic staff by grade, UK 1994-95

	Professors	Senior lecturers & researchers	Lecturers	Researchers	Other grades	Total
full-time	7424	18766	42925	26393	7144	102701
part-time	295	1099	4658	2715	3235	12020
Total	7719	19865	47583	29108	10379	114721

Source: HESA staff record, 1994-95.

From this table it can be seen that the Lecturers form the largest category of academics in British higher education, followed by researchers and senior staff members. This indicates a major involvement with teaching in British higher education institution. This distinction will be further elaborated on in the next section.

However, no data are available on the number of staff with tenured positions.

8.5.1.2 Academic staff by type of activity

From an international comparative study published by Enders and Teichler (1995), we can derive the time spent by academic staff on activities like teaching, research, administration, services and other activities. We have separate figures for the period when classes are in session (*term*) and for periods when classes are not in session. Table 8.4 presents the data.

Table 8.4: Percentage of time of academic staff spent on different activities

teaching		research		service/administration	
term	no classes	term	no classes	term	no classes
36	13	33	56	31	31

Source: Enders and Teichler, 1995.

We conclude that academic staff on average spends roughly equal amounts of time on teaching, research and other activities during term time. However, during vacation periods, they spend most of their time on research. If other activities are attributed to teaching and research, and if we take account of the duration of term-time and non-term time (7, respectively 4 months), we can calculate that academic staff on average spends 40 per cent of its time on teaching and 60 per cent on research.

8.5.2 Student related issues

8.5.2.1 Student choice and institutional funding

The institutional budget is partly influenced by the number of students. The standard resource for each institution, for example, is based on each institution's profile of students, taking into account the number of students, subject-related factors, student-related factors, and institution-related factors. The funding agreement between an instituion and the Funding Council states the number of students for which core funds for teaching are provided and also states the number of 'margin' (additional) students. If the institution enrols over 5% fewer or more students than agreed upon action will be taken. This limits the competition between institutions concerning recruitment of core student groups. However, institutions are free to accept additional 'fees-only students' on a cost covering basis.

8.5.2.2 Tuition fees

Up to 1997/98, the level of tuition fees were considerable in the UK, varying between £1,300 - £4,985, depending on the discipline. However, for British full-time students these fees were paid by the Local Education Authorities (LEAs), which implies that the students themselves did not have to pay. Other students had to pay the fees themselves or even a full-cost covering rate.

Mainly as a result of the recommendations of the Dearing Committee, the tuition system has been changed, starting in the academic year 1998-99. Full-time students are charged £1,000 (£1,025 for the year 1999/2000), which they have to pay for themselves. However, students from low-income families will be (partially) exempted from paying tuition fees. The students get the opportunity to take out a loan for paying the fee. The repayment of these loans is income contingent.

8.5.2.3 Access, selection and student support

Although governmental policy aims at enlarged participation, following higher education is regarded as a privilege. There is no such thing as a right on higher education and selection is rather rigorous. The number of applicants is about 430,000 annually, while only 250,000 places are available at the moment. Because of their autonomous status, the universities have responsibility for the selection of students. They decide on the criteria themselves, which even may differ from department to department. Decisions are made in a subjective manner and universities are not obliged to explain the reasons for admission or rejection.

To regulate admission and prevent that one applicant may hold more than one study place, a national admission system is in action. This national system also guarantees that all potential students are aware of the rules applied by all universities and that there is a standardised time schedule. The national system is also of importance to regulate participation in relation to the national funding mechanism. Government funds a fixed number of student places per university and study programme. Therefore, a well functioning admission system is quite important. Practically all candidates have to compete for a study place through the selection procedure.

Student aid is provided in the form of grants (awards) and loans. Depending on the status of full-time student and on parental income, students may be eligible for *mandatory awards*. The maximum amount for independent students living in London is £2,105 annually and for students outside London £1,710. Students living at their parents' home may receive £1,260 at most. *Discretionary awards* are admitted to students not eligible for mandatory awards. For instance, if they are part-time students. Of the total number of students, 75% receive an allowance. In principle, no direct relationship is made between the provision of student financial support and the performance of students. However, students have to be enrolled in a full-time higher education programme in order to be eligible for financial assistance. Students, who fail to pass all exams of an academic year, are expelled from their institution and therefore are no longer entitled to any student support. As such, students indirectly have to meet a 100% annual study progress demand.
Student loans are available to all students. There are no income restrictions. Amounts differ for independent students living in London, independent students outside London and students living at home. These three groups may take up an annual loan of £2,035, £1,645 and £1,260 respectively. Only 41% of the students took a loan in 1992/93, a figure increased to about 63% in 1997/98. On top, students in severe financial need may apply to *Access Funds* or *Hardship Funds*, from which they may receive allowances. In practice, the total amount of grants and loans together is often inadequate to fund students. Students take part-time jobs and accumulate debts in the form of bank over-drafts.
In principle, students are supposed to receive a parental contribution. About 44% of university students benefit from living at university accommodations. For the former polytechnic students this is 17.5%. However, rents do not differ very much from rents for accommodation on the private market. Students cannot benefit from other social allowances.

8.5.3 Quality assessment

Between 1992 and 1998, two quality assurance systems were operational in the UK. One was a 'horizontal' quality assessment, along the same principles as in the Netherlands, but operated by the funding councils. The funding councils' involvement implied:

1) A focus on summary judgements (from 'excellent' to 'unsatisfactory') rather than improvement-oriented recommendations to the study programme. This was necessary, because the evaluation outcomes were used to inform budget decisions.
2) External reviews by semi-professional evaluation teams made up of academics on secondment to the funding councils and from former higher education inspectors. Students are not included in these teams.

The other system was the quality audit, a 'vertical' procedure to review the university's quality assurance mechanisms. This procedure was owned and co-ordinated by the association of the universities (CVCP). The emphasis in this audit procedure was on how the university discharged its responsibility to monitor and enhance the quality of its study programmes. Given this more or less managerial character, the external review teams did not contain students.

8.5.3.1 Implications of the quality assessment of teaching for funding

The quality assessment procedure regarding the quality of teaching may affect the funding position of institutions, or specific programmes at particular institutions. The HEFCE has a statutory duty to ensure that the quality of higher education is assessed in all the institutions it is funding. This is achieved through a rolling programme of assessments per subject, including institutional visits. Where quality is not approved, the institution is allowed up to 12 months to remedy the position. If the provision of education remains unsatisfactory, core funding and student places for that subject will be withdrawn.

8.5.3.2 Implications of the quality assessment of research for funding

Part of the research funds coming in are directly linked to the quality of the research conducted at each institution or departments of it. The quality of research is assessed by peer review in a Research Assessment Exercise (RAE) conducted every four or five years. The rating scores and the quality weights attached to each assessed unit during this RAE influence at what rate the unit will be funded for the period to come (the procedure has been described in more detail in section 8.3.2).

9. Comparative overview

In this report, a number of issues related to the funding of universities in seven European countries have been presented in detail. In this chapter a brief summary will be given and attention will be drawn to the major differences, similarities and trends. This chapter will be focused on the following topics: 1) public funding of universities, 2) university income from other activities, 3) staff issues, 4) student related issues, and 5) quality assurance.

9.1 Public funding of universities

Concerning the level of public funding, it can be stated that in all countries included in this report direct government contributions constitute the major share of the funding of universities. Particularly because research is primarily executed in the university sector, the universities in most countries observed take the largest share of the public means available for higher education, as pointed out in table 9.1.

Table 9.1: The relative share of universities in the public budget available for higher education (excluding and including research grants from research councils)

	DK	Flanders	France[1]	Germ[2]	Neth	S[3]	Eng[4]
% of HE budget	48%	53%	63%	75%	62%	94%	100%
incl. research grants	68%	59%		78%	64%	96%	100%

Notes: 1) For France, the proportion of expenditure of universities in total higher education was taken.
2) In Germany the universities include *Medizinische Einrichtungen* and *Kunsthochschulen*.
3) Excluding expenditure for student financial support.
4) Since 1992, higher education in the UK is a unified system of universities and polytechnics. In these figures the Further Education institutions are not included.

In this report, the mechanism applied for allocating public funds to the universities has been studied in detail. In order to come up with a brief summary of the most important similarities and differences between the funding models of the seven countries studied, the countries will be compared on the basis of the major general characteristics of the models. This comparison is shown in table 9.2.

Table 9.2: Comparative overview of the funding of universities in seven European countries

	budget form	budget period	teaching and research	basis of funding for teaching	Capital funds	different tariffs for teaching by subject group
Denmark	lump sum	1 year transferable	separated	output	Separated	yes
Flanders	lump sum	1 year	separated (partly integrated)	input	Separated	yes
France	lump sum	1 year	separated	input	Separated	yes
Germany	line item budgeting	1 year	Grundmittel integrated	input	Separated	no (no tariffs used)
Netherlands	lump sum	1 year	partly integrated	mix of input and output	Integrated	yes
Sweden	lump sum	annual budget within 3- years contract	separated	mix of input and output	Integrated in lump sum	yes
UK	lump sum	1 year	separated	input	integrated into current funds	yes (reductions per subject category)

Source: CHEPS, 1998.

From table 9.2 we can conclude that in most countries the universities receive their public funds by way of a lump sum (block grant). This means that they relatively autonomous as regards the internal allocation of public funds. However, this spending freedom has also to be put into perspective. Because the major share of university expenditure concerns the payment of salaries, and because the personnel structure is difficult to change, a big part of the university budget in practice is fixed. In as far as universities have the authority to make their own decisions on how to allocate their funds over various departments and tasks, they can attempt to attune their human resources policies towards their own strategies and goals. This statement does not hold for France, since most of the academic staff of French universities is directly selected, appointed and paid by the Ministry of Education.

Germany is the only country in which the allocation of funds is still strongly regulated by the central authorities and earmarked to certain tasks and items. From that perspective, the spending freedom of German universities is relatively small compared to other countries.

Concerning the budgeting period, it can be deduced from this table that in most countries the grants allocated to the universities are annually decided upon. This means that some variation will exist in the universities' budget every year. However, the variable part of the allocations is limited. The budget allocated to universities in most countries depends on changes in student and graduate numbers in preceding years. Therefore, the budget is roughly in line with the university's activity level, unless serious drops in student/graduate numbers occur. Nevertheless, general governmental saving measures can generate financial uncertainties at the institutional level.

Only in Sweden, contracts spanning three years are used in order to create relatively stable financial conditions for the institutions, but the final amounts of the grants still are determined annually.

In most of the countries analysed, the budget for teaching is determined separately from the budget for research. A major part of the research funds is distributed through the so-called research councils on a competitive basis. In Flanders, Germany and the Netherlands, the basic funds allocated to the universities comprise allocations that are simultaneously for teaching and research. This can be regarded as an expression of the interrelatedness of teaching and research in universities. In Flanders, the basic funds received by the universities are for teaching and teaching-related research activities. This latter category of activities takes about a quarter of this budget. In Germany, the *Grundmittel* universities receive are meant for both teaching and basic research. In case of the Netherlands, the funding model for teaching includes a purely teaching component and a so-called interweaveness part. This latter part of the basic funding allows for the fact that academic teaching and research to a large extent are intertwined. This part only covers about 13% of the basic funds. The major part of the basic public research funds, however, is determined separately, but, as in Flanders, the build-up of these funds does not prescribe the use of funds.
In Flanders, Germany and the Netherlands the universities can also apply for public research grants provided through the research councils. The size of this part of ('targeted') research funding can be deduced from table 9.1.

Keeping in mind that 'performance based' funding is one of the most important economic topics concerning higher education, it is surprising to see that still many countries employ an input-oriented funding model for teaching. Funding models are called input based, whenever the variation in public funds mostly depends on student and/or staff numbers. Output-oriented funding models focus on the number of degrees or credits awarded. Only the Danish funding model can be called output-driven, whereas the Dutch and Swedish funding formulae integrate some input and output criteria.
Whereas the funding for teaching is mainly input driven in most countries, research funding in most countries integrates more competitive and output-oriented criteria. At least the funds allocated through the research councils are given to the best applicants of the tendering procedures.
Capital grants more and more are becoming integrated into the general block grants allocated to the universities. This trend is in line with the trend of making universities responsible for their own infrastructure, incl. buildings and equipment. In a number of countries, the responsibility for maintaining capital goods has been transferred to the institutions in recent years. These policies form part of the general approach of giving universities more autonomy.
A final characteristic of the funding of universities, which received special attention in this report, concerns the use of differentiated tariffs for allocating public funds to universities. Here we aimed at getting an answer on how governments deal with the funding of class-room based and laboratory-based disciplines. Do they differentiate between expensive and cheap study programmes and how are such distinctions elaborated in practice? As can be concluded from the information in this report, all countries analysed somehow make a distinction into cheap and expensive programmes. In the Netherlands, this distinction is rather straightforward by placing study programmes into two categories: cheap programmes, funded at lower rates per student and graduate, and expensive programmes, funded at a higher rate per student and graduate. In most other countries, a more differentiated tariff structure is used.

9.2 University income from other activities

Traditionally, in the seven countries included higher education has been publicly funded. The degree of private funding is in general relatively low.

One of the major trends in the funding of higher education in Europe is an increasing substitution of public funds by income from private sources. As national governments are reducing the relative funding level for higher education, universities and other higher education institutions are increasingly involved in getting income from other sources, e.g. generated through tuition fees or contract activities.

Tuition fees are gaining importance in a number of countries and are being discussed in others. However, in countries where tuition fees are charged for publicly funded institutions, the rates are part of central regulation. Students can also be compensated for paying fees, e.g. through the national system of student support, like in Flanders and the Netherlands. In England, until recently the Local Education Authorities fully compensated the tuition fees of regular students. However, from the academic year 1998/99 onwards, students have to pay the charges (of £1000 annually) themselves. Students from lower-income families are exempted from paying fees or are charged a reduced rate.

Although we did not focus on longitudinal data concerning the funding structure of universities in this report, it can be stated that universities are becoming more market-oriented. The involvement of universities with industry and non-profit organisations is growing. This results in a lot of so-called contract activities. Research groups more and more participate in tendering procedures, in which they actively seek externally funded research. In addition, the educational market is widening, particularly in the field of postgraduate courses. Therefore, universities are increasing their supply of postgraduate courses and modules which are 'sold' for profitable market prices. In addition, universities also try to expand their share on the strongly growing consultancy market. Individual academics and research groups are increasingly involved in selling their expertise outside the universities.

However, the major part of the university budget still comes from the central (and regional/local) governments. The distribution of the revenues of institutions according to source is shown in table 9.3. It has to be noted that the percentages are calculated on the basis of our information on the budgets of the institutions and the income from other than core-activities. In some cases we had to make estimations.

Table 9.3: Major sources of income of universities as a percentage of total income (1995/96)

Source	DK	Fl	F	G	Nl	S	Eng
public funds	94%	ca.90%	60%	97%	70%	96%	57%
basic public funds	78%	ca.74%	-	84%	66%	82%	41%
research councils	16%	ca.16%	-	13%	4%	14%	5%
(tuition) fees	0%	ca. 5%	9%	0%	7%	0%	24%
contract activities	3%	-	31%	3%	15%	4%	11%
other income	3%	ca. 5%	-	-	8%	-	19%
Total	100%	100%	100%	100%	100%	100%	100%

Source: CHEPS, 1998.

Public funds can also include part of the tuition fees, as is the case in England. It has to be noted that other income may also include contract activities for governmental bodies at all levels.

- = no data available

Particularly in Denmark, Germany, and Sweden, where no or hardly any tuition fees are charged, the income from external sources still is relatively low. On the other hand, in countries where tuition fees play an important role, the Netherlands and the UK, the fees are fully paid (UK) or partly compensated for (NL) by the official authorities. In the case of France, it has to be reminded that the expenditure of staff employed by the government, which concerns the major share of all university staff (ca. 80%), is not included in the higher education budget. This is the most important explanation for the relatively high level of income from fees and contract activities of French universities.

However, one has to note that the public research infrastructure, e.g. the existence of large public research organisations outside the universities, also has an influence on the shares of public and private funds of universities. It can be read from this table that the British universities are the most market driven ones.

9.3 Staff issues

Staff issues have been addressed in this report because it concerns the major expenditure item in the universities' budgets. The number of personnel and the distribution of staff over different categories can be expected to have a considerable impact on the relative level of expenditure of universities and on their flexibility to cope with changes in their environment. Differences in staff structure may give some rough indications for explaining differences between countries in terms of cost structure and the focus of the activities of universities.
Some characteristics of the staff structure have been addressed, such as the distribution over academic staff and non-academic staff, full-time and part-time staff, tenured staff and temporarily employed staff, and the time spent on teaching versus the time spent on research. As far as information is available, these items are presented in table 9.4.

Table 9.4: Characteristics of the staff structure in West-European universities

Characteristics	DK	Fl	F	G	Nl	S	Eng
Academic staff	53%	56%	55%	44%	51%	61%	-
Non-academic staff	47%	44%	45%	56%	49%	39%	-
Full-time staff	80%	77%	-	61%	73%	-	87%
Part-time staff	20%	23%	-	39%	27%	-	13%
Tenured academic staff	80%	-	90%	-	73%	-	-
Temporary academ. staff	20%	-	10%	-	27%	-	-
Time spent on teaching	55%	-	57%	33%	47%	44%	40%
Time spent on research	45%	-	43%	67%	53%	56%	60%

Source: CHEPS, 1998.

From this table it is clear that the proportion of academic staff in most countries is a bit over 50% of total staff employed. The majority of staff is in full-time employment, ranging from 73% to 87%. As far as information is available, the relative share of staff holding tenured positions ranges between 73% to 90%. This implies that the human resources management of most universities is rather inflexible. In addition to that, quite some variation is identified concerning the time spent on teaching and research. The time spent on teaching varies from 33% in Germany to 57% in France.

9.4 Student related issues

Concerning the funding of universities, also some 'student related issues' are worth mentioning. First of all, we discuss to what extent choices of students may have an impact on the funding of universities. Particularly the importance of student numbers in the funding formula for teaching (and research) is important for this. This issue has already come up in our overview of the funding formulas in section 9.1.

Most of the countries analysed use an input-oriented funding formula. However, the relative role of students in this formula is not equally large in these countries. For instance, the university budgets of Belgium, the UK and, since 1996, the Netherlands are primarily based on the budgets granted in the previous year. Here, changes in student numbers are translated into budget changes.
In the case of France, the Netherlands (pre-1996) and Sweden, university budgets vary along with the number of students enrolled (within the official duration of studies).

Three countries (partly) use an output-oriented funding method: Denmark, the Netherlands and Sweden. In Denmark, the public funding for teaching fully depends on the number of courses passed by students. The Dutch and Swedish way of funding represents a mix of input and output funding. In the Swedish funding formula, the tariff per student is about 15% higher than the tariff per full-time equivalent of credits earned. As a result, the number of students is slightly more important than the number of credits. However, the universities negotiate on a triannual basis the maximum number of students funded and the minimum amount of credits to be funded, which gives both the government as well as the universities some financial stability.
The second way in which student choices matter is that in most of the countries a sort of a tariff catalogue is used. As a result, the proportion of expensive and cheap students is translated into university budgets.
A third item by which student choice may have an impact on the income of universities is through tuition fees. Some countries do not charge tuition fees (Denmark, Germany and Sweden). In the other countries analysed students have to pay tuition fees. However, in Flanders, France and the Netherlands, the level of the public grants to the universities stands in direct relationship to the amount the institutions receive from tuition fees. In the case of the French private sector, students have to pay almost full cost covering fees and thus, student choice matters. However, the French private institutions are very selective. They do not have a policy of increasing revenues by taking in extra students. In the UK, higher education institutions may benefit the most from charging fees from certain categories of students. They are encouraged to take in additional full-fee paying students (fees-only students). In the Netherlands the universities and *hogescholen* are free to set the tuition fee (with a government determined minimum rate) for a certain category of students. In practice the institutions hardly make use of this possibility of generating extra income.
Finally, student support is generally considered to have some impact on the individual choice to enter higher education or not. In this respect, the financial facilities provided to students to meet the costs of study (tuition, books, etc.) and the costs of living can have an impact on the demand for higher education. Particularly in countries where access is open for all who qualify for higher education and where student numbers determine the level of public funding, student support may indirectly influence the number of students and as such the level of grants allocated to individual universities. This is the case in Flanders, the French public universities and the Netherlands.

9.5 Quality assessment

On the topic of quality assurance, it can be stated that in all countries observed, a national system of quality assessment of teaching (and research) is in operation. Many countries use a system of self evaluation complemented with external peer review. The role of students in the assessment procedures is relatively small, but in most countries a few students and graduates are involved in the external review procedure.
The financial implications of the outcomes of the quality assurance process quite often are vague. In the UK, the linkage is most explicitly made between the results of the quality assessments and the funding provided to the institutions, especially in the area of research. In most countries, if the quality is repeatedly considered to be unsatisfactory, the government can withdraw its funding. However, in none of the countries, such measures have been taken yet. The mere threat is apparently enough to affect the institutions' behavior in an anticipating way.

References

General

Johnstone, D.B. (1998), *The Financing and Management of Higher Education: A Status Report on Worldwide Reforms*, Paper prepared for the UNESCO World Conference on Higher Education, Paris, October 5-9, 1998, World Bank, Washington.

Scheele, J.P., P.A.M. Maassen & D.F. Westerheijden (eds.) (1998), *To be Continued…: Follow-Up of Quality Assurance in Higher Education*, Elsevier/De Tijdstroom, Utrecht

Vossensteyn, J.J. (1997), *Access: Selection and affordability, A comparative analysis of the barriers for entrance in higher education in nine West-European countries*, CHEPS-higher education monitor, Thematic report III, Ministerie van Onderwijs, Cultuur en Wetenschappen, Beleidsgerichte studies Hoger onderwijs en Wetenschappelijk onderzoek, nr. 51, Zoetermeer

Denmark:

Eurydice (1992), *Information on Denmark*, Eurydice, Brussles

Finanslov 1995 (budget act 1995) (1994), Ministry of Finance, Copenhagen

Ministry of Education http://www.uvm.dk/eng/news

Ministry of Research and Information Technology (1998), *Governing and management of universities in Denmark*, Copenhagen

Ministry of Research and Information Technology (1998), *Funding of higher education*, Copenhagen

Ministry of Research and Information Technology http://www.fsk.dk/cgi-bin/left-org-main.cgi

Ministry of Research and Information Technology http://www.fsk.dk/fsk/publ/1999/udkont/eng/clean.htm

Rasmussen, J. (1995), *Finance Education*, Report for the TACIS/EDRUS-project, Aalborg

Skjodt, K. (1996), Financing higher education in Denmark, *Higher Education Management*, Vol. 8, No. 1, pp. 41-49

Straarup, R. (1993), *Formula funding in higher education in Denmark*, Mimeo, Copenhagen

Flanders:

CHEPS (1995), *Bekostiging van het hoger onderwijs: Deelrapport VI*, CSHOB, Enschede

CHEPS (1995), *Aspecten van hoger onderwijs*, WRR V86 Voorstudies en Achtergronden, SDU, Den Haag

Grenzüberschreitendes Netzwerk Bildungsforschung, Flandern, Niederlande, Niedersachsen und Nordrhein-Westfalen (1997), *Die Hochschulfinanzierung in der Grenzregion, Ein Ländervergleich*, Ministerium für Wissenschaft und Forschung des Landes Nordrhein-Westfalen

Ministerie van de Vlaamse Gemeenschap, Departement Onderwijs, Administratie Algemene Onderwijsdiensten en Voorlichting (1991), *12 juni 1991 Decreet betreffende de Universiteiten in de Vlaamse Gemeenschap, Verzameling van documenten*, Centrun voor Informatie en Documentatie

Onderwijsdecreet IX inzake de financiering van de universiteiten (inclusief het amendement van 1996)

Verstraete L. (1998a), Het personeelsbestand aan de Vlaamse universiteiten op 1 februari '98 en in zijn evolutie, in: *Universiteit & Beleid*, Vol. 12, nr. 4

Verstraete L. (1998b), De evolutie van de universitaire basisfinanciering 1993-1998, in: *Universiteit & Beleid*, Vol. 12, nr. 4

Vlaamse Interuniversitaire Raad (1994*), Statistische gegevens betreffende het personeel aan de Vlaamse universiteiten*, telling 1-1-1994

Vlaamse Interuniversitaire Raad (1996*), Statistische gegevens betreffende het personeel aan de Vlaamse universiteiten*, telling 1-1-1996

Vlaamse Interuniversitaire Raad http://www.vlir.be/beheer/basisfinanciering.html/

Vlaamse Interuniversitaire Raad http://www.vlir.be/statistiek/effectief.html

France:

CHEPS (1995), *Aspecten van hoger onderwijs*, WRR V86 Voorstudies en Achtergronden, SDU, Den Haag

Chevaillier, T. (1998), Moving away from central planning: using contracts to steer higher education in France, in: *European Journal of Education*, Vol. 33, NO. 1, 1998

Martin, J.C. and A. Verdaguer (1997), The French higher education system, Answers to questions for international comparative studies, in: P.A.M. Maassen, L.C.J. Goedegebuure and J. File, *Management Structures in European and South African higher education systems*, The national reports, Centre for Higher Education Policy Studies, University of Twente, Enschede

Ministère de l'éducation nationale, de la recherche et de la tochnologie (1997), *Repères & références statistiques sur les enseignements et la formation*, Vanves

Ministère de l'éducation nationale, de l'enseignement supérieur et de la recherche (1996), *Informations sur le financement et les effectifs de l'enseignement supérieur*, Bureau du budget de l'enseignement supérieur, Direction Générale des Finances et du Controle de Gestion, Paris

Ministère de l'Éducation Nationale, de la Recherche et de la Tegnologie (1998), *Financement et effectifs de l'enseignement supérieur*, Bureau du budget de l'enseignement supérieur, Direction Générale des Finances et du Controle de Gestion, MENESR, Paris

Germany:

BMBW (Bundesministerium für Bildung und Wissenschaft) (1992), *AKTUELL Bildungswissenschaft: Studenten an Hochschulen*, 1975 bis 1991, 7/92, BMBW

Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie (Federal Ministry of Education and Science) (1994), *Grund und Strukturdaten 1994/95*, Bonn

Deutsches Studentenwerk (1998), *Das soziale Bild der Studentenschaft in der Bundesrepublik Deutschland*. Vorbericht, Bonn

Enders, J. and U. Teichler (1995), *Der Hochschullehrerberuf im internationalen Vergleich, Ergebnisse einer Befragung über die wissenschaftliche Profession in 13 Ländern*, Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie, Bonn

Fichtner, Dieter (1997), Sruktur und Finanzierung der Hochschulmedizin, in: *Forschung und Lehre*, pp.562-565

Goedegebuure, L. *et al.* (1994), *Higher Education Policy: An international comparative perspective*, Pergamon Press, Oxford

Grenzüberschreitendes Netzwerk Bildungsforschung, Flandern, Niederlande, Niedersachsen und Nordrhein-Westfalen (1997), *Die Hochschulfinanzierung in der Grenzregion, Ein Ländervergleich*, Ministerium für Wissenschaft und Forschung des Landes Nordrhein-Westfalen

Hochschullehrerbundes Landesverband Nordrhein-Westfalen (1998), *Leistungsanreize in der Hochschule. Möglichkeiten und Grenzen*, Bad Honnef

Hochschulrektorenkonferenz (1996), *The Financing of Higher Education*, Bonn

Jongbloed, B.W.A., J.B.J. Koelman, R. Goudriaan, H. de Groot, H.M.M. Haring en D.C. van Ingen (1994), *Kosten en doelmatigheid van het hoger onderwijs in Nederland, Duitsland en Groot-Brittannië*, SDU, Den Haag

Jongbloed, B.W.A. and J.B.J. Koelman (1996), *Universiteiten en hogescholen vergeleken*, SDU, Den Haag

KMK (Kultusministerkonferenz) (1994), *Higher Education and Academic Degrees in the Federal Republic of Germany*, Bonn

Ministerium für Wissenschaft und Forschung des Landes Nordrhein-Westfalen, (1998), *Finanzautonomie, Kostenrechnung und erfolgsorientierte Mittelverteilung*, Düsseldorf

Statistisches Bundesamt (1993), *Finanzen der Hochschulen*, Wiesbaden

Statistisches Bundesamt (1998), *Personal an Hochschulen 1996*, Wiesbaden

Statistisches Bundesamt (1998), *Statistical Yearbook 1997*, Wiesbaden

Statistisches Bundesamt (1999), *Finanzen der Hochschulen 1997*, Wiesbaden

Statistisches Bundesamt, http://www.statistik-bund.de/presse/deutsch/pm/p9280061.htm

Statistisches Bundesamt, http://www.statistik-bund.de/presse/deutsch/pm/p8309071.htm

Wissenschaftsrat (1996), *Eckdaten und Kennzahlen zur Lage der Hochschulen*, Stand 1996, Köln

Wissenschaftsrat (1996), *Empfelungen und Stellungnahmen* 1995, Köln

The Netherlands:

Enders, J. and U. Teichler (1995), *Der Hochschullehrerberuf im internationalen Vergleich, Ergebnisse einer Befragung über die wissenschaftliche Profession in 13 Ländern*, Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie, Bonn.

Jongbloed, B. and J. Koelman (1999), *Het retributiebeleid van instellingen voor hoger onderwijs. Een empirisch onderzoek naar effecten, motieven en vormgeving*, Center for Higher Education Policy Studies (CHEPS)/University of Twente, Enschede.

Koelman, J.B.J. (1998), The funding of universities in the Netherlands: developments and trends, in: *Higher Education*, 35: 127-141.

Ministerie van Onderwijs, Wetenschappen (Ministry of Education) (1993), *Financiële Schema's 1994-1998*, SDU, Den Haag.

Ministerie van Onderwijs, Cultuur en Wetenschappen (Ministry of Education) (1995), *Financiële Schema's 1996-2000*, SDU, Den Haag.

Ministerie van Onderwijs, Cultuur en Wetenschappen (Ministry of Education) (1995), *Hoger onderwijs in cijfers 1995*, detailtabellen, SDU, Den Haag

Ministerie van Onderwijs, Cultuur en Wetenschappen (Ministry of Education) (1998), *Financiële Schema's 1998-2000*, SDU, Den Haag

Ministerie van Onderwijs, Cultuur en Wetenschappen (Ministry of Education) (1998), *Onderwijs, Cultuur en Wetenschappen in kerncijfers*, SDU, Den Haag

Ministerie van Onderwijs, Cultuur en Wetenschappen (Ministry of Education) (2000), www.minocw.nl/onderwij/stufi/stukost/lesgeld.htm

Vereniging van Samenwerkende Nederlandse Universiteiten, *STABEK-4* (Minutes of a Board-meeting on May, 3, 1996, VSNU, Utrecht

Vereniging van Samenwerkende Nederlandse Universiteiten (1997), *Wetenschappelijk Onderwijs Personeelsinformatie 1997*, VSNA, Utrecht

Sweden:

CHEPS (1995), *Bekostiging van het hoger onderwijs: Deelrapport VI, CSHOB*, Enschede

Enders, J. and U. Teichler (1995), *Der Hochschullehrerberuf im internationalen Vergleich, Ergebnisse einer Befragung über die wissenschaftliche Profession in 13 Ländern*, Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie, Bonn

Eriksson, L. and A. Fritzell (1998), Description of the Swedish system for appropriations for undergraduate education, National Agency for Higher Education, Stockholm

Högskoleverket (1996), (National Agency for Higher Education), *Arsrapport för universitet & högskolor 1994/95*, Sveriges Officiella statistik

Högskoleverket (1997), (National Agency for Higher Education), *Arsrapport för universitet & högskolor 1995/96*, Sveriges Officiella statistik

Högskoleverket (1998), *Swedish Universities and University Colleges 1997, Short version of Annual report*, National Agency for Higher Education, Stockholm.

Högskoleverket (1999), www.hsv.se/english/higher/system.html

Niklasson, L. (1995), *Game-like regulation of universities - will the new regulatory framework for higher education work?*, paper presented at the 1995 CHER conference, Rome

The UK (England and Scotland):

CHEPS (1995), *Aspecten van hoger onderwijs*, WRR V86 Voorstudies en Achtergronden, SDU, Den Haag

Enders, J. and U. Teichler (1995), *Der Hochschullehrerberuf im internationalen Vergleich, Ergebnisse einer Befragung über die wissenschaftliche Profession in 13 Ländern*, Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie, Bonn

Department for Education (1995), *Student enrolments on higher education courses in England and the United Kingdom*, DFE News 107/95, 19 May, 1995, GSS/DFE/HESA

HEFCE, *A guide to funding higher education in England* (http://back.niss.ac.uk)

HEFCE (1993), *Research Funding Method*, Circular 7

HEFCE (1997), *Funding higher education in England, How the HEFCE allocates its funds in 1997-98*, Higher Education Funding Council for England, Bristol.

HEFCE (2000), *Funding higher education in England, How the HEFCE allocates its funds in 2000-2001*. http://www.niss.ac.uk/education/hefce/pub00/00_07.html

HESA (1995), *Higher education statistics for the United Kingdom 1992/93*, Cheltenham.

HESA (1999), http://www.hesa.ac.uk/Press/pn35/pn35.htm

Universities Statistical Record (1995), *University Statistics 1993/94*, Vol.3, Finance, USR, Cheltenham

Universities Statistical Record (1994), *University Statistics 1993/94*, Vol.1, Students and Staff, USR, Cheltenham

Williams, G. (1998), Current debates on the funding of mass higher education in the United Kingdom, in: *European Journal of Education*, Vol. 33, No. 1.

Williams, G. (1998b), Advantages and Disadvantages of Diversified Funding in Universities, in: *Tertiary Education and Management*, Vol. 4, No. 2, pp. 85-93.

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HESA
HIGHER EDUCATION STATISTICS AGENCY

EMBARGO: 09.30 hours, Thursday 30 September, 1999

A QUANTITATIVE OVERVIEW OF H.E. IN 1997/98

The Higher Education Statistics Agency (HESA) in conjunction with the Department for Education and Employment (DfEE), today releases the publication *Higher Education Statistics for the United Kingdom 1997/98*. Combining HESA data with that provided by the University and Colleges Admission Service, the Open University, the Further Education Funding Councils and the DfEE, this publication provides a valuable profile of the UK HE sector for 1997/98.

Figures for 1997/98 highlight the continuing development of UK higher education. In this academic year there was a total of 2,031,103 HE level enrolments, 1,800,064 at HEIs and a further 231,039 at FE institutions. 64.8% of all students studied full-time, and there were just under 990,000 first degree students. Of the 437,128 qualifiers, 59.2% were at first degree level. Of the 269,469 respondents to the HESA first destination survey, 63.4% of qualifiers were known to have entered employment. The sector had an academic workforce of 128,076 staff and a total income of £11.6 billion.

Other Key Points

- There were 213,264 overseas domiciled students at UK HEIs, an increase of 7.1% from last year.
- 41.3% of first year students were known to be aged 25 and over.
- There were 60,200 UK domiciled students taking Initial Teaching Training (ITT) courses. 76.4% of these students were female.
- There were 446,457 UCAS applicants for 1998 entry, of which 73.9% (329,788) were accepted.
- 86.3% of academic staff were employed full-time.
- 1997/98 saw 838,728 UK domiciled students receiving UK LEA mandatory/discretionary awards.
- 22.0% of UK 18-21 year olds enrolled at UK HEIs, compared with Spain (26.0%) and Greece (29.0%).

Notes for Editors

1. The Volume Higher Education Statistics for the United Kingdom 1997/98 provides a statistical overview of Higher Education in the UK for 1997/98.
2. The Volume is available, price £32, from the Customer Services Team, HESA Services Ltd., 18 Royal Crescent, Cheltenham, GL50 3DA; telephone: 01242 255577. An electronic version on disk is available, price £35 + VAT. A list of other publications is also available from the Customer Services Team.
3. HESA cannot accept responsibility for any inferences or conclusions derived from the data by third parties.
4. Press enquiries should be directed to Jo Roper, Data Provision Officer, at HESA, 18 Royal Crescent, Cheltenham, GL50 3DA; telephone 01242 255577. Other enquiries about HESA data should be addressed to the Data Provision Team at the same address.

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