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Management Mechanisms and Financing of Higher Education in Germany

by

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Abstract. *The higher education sector has to face competition much in the same way as other economic entities do. Much has been done to introduce reforms making use of economic terms and concepts. This paper will highlight the manner in which different models for financing higher education can contribute to the management of higher education.*

The general higher education framework in Germany – which differs from that in other countries – has to be taken into account. Amongst these differences are notably:

- *the absence of fees as an instrument for the financing and management of higher education;*
- *the fact that only a restricted number of students are selected by institutions of higher education. Where student numbers for subjects in great demand are too high, applicants are distributed amongst various universities by a central office.*

This paper is divided into four part: (1) an analysis of the German higher education system,; (2) an examination of different management methods relating to a new system of distributing students amongst the different types of institutions (ordinary universities and universities of applied sciences – Fachhochschulen). A discussion of the management of student distribution within a given university follows. (3) In this context, it is recommended to introduce a market-oriented system of tuition fees instead of making provisions for student admission on the basis of available capacity, curricular standards (CNW) and centralized procedures of the distribution of students; (4) conclusions are drawn from these reforms in order to develop systems for performance analysis (management accounting and control).

German universities in transition

In the past few years, the government, politicians, industrial managers and society have strongly criticized German universities (Küpper, 1998). Many shortcomings in education, in research and in the management of universities have been identified. Only a handful of German scientists seem to reach world notoriety and their research is quite often not up to international standards. Furthermore, there is an insufficient exchange of students with other countries.

One important reason for this criticism may lie in the unification of Europe and globalisation since the fall of communism. Society recognizes that there is worldwide competition not only in an economic sense but also between universities. People are discovering the importance of higher education and the excellence of research, and they are beginning to consider science to be the basis of national prosperity in the future.

While the “student revolution” of the 1960s strengthened the democratic structure of today’s universities, economic ideas and concepts are now coming to the fore. In the 1970s, the inclusion of students’ representatives on university and faculty boards became important. The organizational structure of universities was changed. In recent years however, the influence of these boards has been reduced so that the chancellors and deans of universities have regained much more power (Fandel, 1998). Overall, universities will become more efficient and rate higher on an international competition scale. Economic ideas of competition and the instruments of economic management are therefore becoming more important. Today, the mechanisms of management and finance of the whole German higher education system are more than ever on the agenda.

In this paper, I will develop the ways in which models of financing higher education can contribute to its management. This will be done in four parts 1) an analysis of the German higher education system, 2) an examination of different management methods relating to a new system of distributing students amongst the different types of institutions (ordinary universities and universities of applied sciences – *Fachhochschulen*). The management of student distribution within a given university is then discussed. 3) In this context, it is recommended to introduce a market-oriented system of tuition fees instead of making provisions for student admission on the basis of available capacity, curricular standards (CNW) and centralized procedures for

the distribution of students; (4) conclusions are drawn from these reforms in order to develop systems performance analysis (management accounting and control).

Problems and failures of the contemporary system of higher education in Germany

Framework and deficiencies of the contemporary system of higher education

The vigorous criticism German universities undergo needs to be moderated considering the great challenges they have had to face over the last thirty years. Thus, the number of students doubled between 1970 and 1990, while financial and other resources provided by the government did not rise in proportion, but remained constant. Nevertheless, the teaching quality in most departments remained high and most German students are successful if they go abroad. I believe that the shortfalls of German universities do not primarily lie in teaching but in research. Many German scientists have little international contact. They are not frequently present at international conferences and their publications are not represented enough in highly ranked international journals. Some of the best young scientists move to the United States and do not return.

Even if German universities do not receive enough funding, the central problem of the university system does not lie in financial but in structural deficiencies. There are several important parameters which undermine the competitiveness of German universities, which differ from those of other countries:

- the absence of fees as an instrument towards the financing and management of higher education
- the fact that only a restricted number of students are selected by the universities themselves. Where numbers of students for subjects in great demand are too high, they are distributed amongst various universities by a central office for the allocation of study places throughout the country
- the number of students to be trained by a faculty is calculated via a formula fixed by capacity regulations. This does not necessarily correspond to the space and equipment available and it can only be changed following an arduous political process
- the fact that – based on the constitutionally guaranteed free choice of training institution – students can take legal action for admission
- the courts often rule against universities; one court even judged that universities must not fix an “inadmissible educational level”.

Parameters and objectives for improvement

In the last few years, many universities and departments have tried to improve their teaching in various ways. They have set up introductory courses in learning techniques that are needed by students and strengthened student consultation and course guidance. Methods and procedures for the evaluation of courses, subjects, faculties and universities have been introduced (Harnier *et al.* 1998). In many disciplines and faculties, the examination system has been changed into a credit point system. Over the past few years, some departments have introduced bachelor as well as master courses in addition to, or instead of, the “Diplom”. I think that these improvements are important – but they are not sufficient. The German higher education system needs strategic changes to reach the level of competitiveness demanded by politicians, economic managers and others.

Therefore, it is essential that core parameters of the German higher education system and framework be changed. The most important ones seem to be:

- Universities must have the right to select their students themselves.
- All students must have the chance to select a university.
- This would mean that the system of central distribution of students for the disciplines in great demand would have to be abolished, at least in some subjects, such as business administration.
- The ratio between the number of students and the number of faculty staff, especially professors, must be reduced to improve education for those with high potential.
- Universities must differentiate their teaching to a greater extent.
- Universities must be more autonomous. The organizational principle of subsidiarity could be followed; universities should decide without government influence more frequently. They would gain more responsibility in the process. This necessitates and justifies the development of efficient controlling and performance-measuring instruments for universities.
- The management of universities must be more efficient. They need to be headed by professionals.

At present, I see an opportunity to realize at least some of these objectives. Many people in Germany are aware that the higher education system needs change, since it influences know-how which is the most important, and perhaps the only, resource for German competitiveness in the globalisation process. From my point of view, there are two central means of reaching this goal: changing the distribution of students amongst different institutions of higher education and installing new mechanisms of

management and control within universities. In both of these, the financial aspect plays a prominent role. Before analysing these two means of change, we have to look at the core dimensions and levels of the German higher education system.

Core elements for managing the higher education system

Important aspects of management mechanisms

The deficiencies of the German higher education system make it clear that we need other mechanisms to manage and control it. In the economic sciences, we know that different mechanisms coordinate the demands, activities and decisions of different units on a global level, within a national economy or within a firm. I think that some aspects of this are transferable to social systems. Therefore, it is appropriate to describe and analyze the higher education system. The most important aspects of these management mechanisms are (Küpper, 2001a):

- the organizational structure;
- the mechanisms of planning and control;
- the incentive system;
- the information systems;
- the coordination mechanisms.

The organizational structure is characterized by the distribution of tasks and responsibilities which determine the hierarchical system of an institution. The processes of planning and control are determined by the centralization or decentralization of decisions and the number as well as the type of inspections. Incentives can be monetary and non-monetary. Within universities, non-monetary incentives, like time for research, free choice of research issues, reputation and so on, are important besides monetary aspects such as salary, personnel and asset resources etc.

One can characterize different management mechanisms for economic and social systems with these criteria (Figure 1). There are two extreme types: on the one hand, we find centralized coordination systems. In such systems, many decisions are centralized and the system thus has many aspects of a planned economy. On the other hand, there are decentralized systems. Here we find some market elements, where activities are determined by market demand. Between these two ends of the spectrum, we can find several mixed types. Until now, the German higher education system had many aspects of a centralized system, *e.g.* the absence of fees, the central allocation of a number of students to the universities and the centralized mechanisms to distribute resources.

Figure 1. **Important aspects and specifications for monitoring systems**

Dimensions	Specification
Organisation	Hierarchy.....autonomy
Planning, control	Bureaucracy.....related to the market
Motivation	Obligation.....incentives
Information	Related to supply.....related to demand
Coordination	Plans.....target agreement.....prices

Centralized planned economic systems ↔ Decentralized market economic systems

Source: Author.

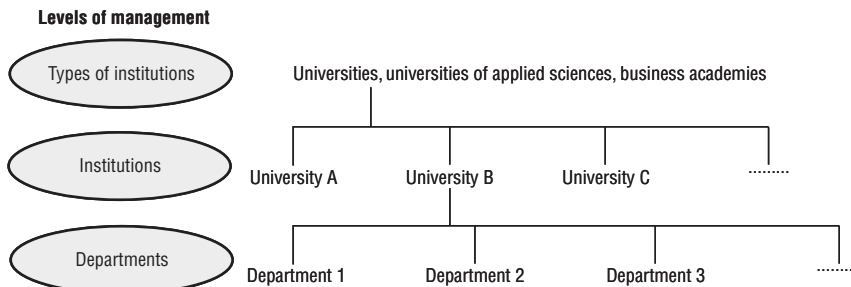
Levels of management in the higher education system

The higher education system is ruled by many regulations and political decisions, referring back to different institutions and persons. In Germany, we have to distinguish between at least three levels within the whole system (Figure 2):

- the types of institutions for higher education;
- the different institutions within each type;
- the departments within each of these institutions.

The structure of the higher education system is determined by law and politics. In Germany, scientific universities and universities of applied sciences (*Fachhochschulen*) are two different types of universities with quite

Figure 2. **Levels of management within the higher education system**



Source: Author.

different legal status, tasks, rules of admission and types of professors. Scientific universities are more theoretical and universities of applied sciences are more practically oriented. Until now, professorship at a scientific university required not only a doctoral degree but also a postdoctoral qualification (*Habilitation*). This postdoctoral qualification will be changed in future, but the scientific demands will remain, e.g. several papers in highly ranked scientific journals. Several years of practical experience besides the doctorate are also a prerequisite for a professorship at a university of applied sciences. In some regions (*Länder*), especially in Baden-Württemberg, several business academies were set up after 1975 (Wissenschaftsrat, 1994; Zabeck/Zimmermann, 1995). They combine academic with practical education. Their students are trained at the academy for six months and work in a company such as Daimler, IBM, Bosch, etc., for the rest of the year. The course of study lasts three years and is completed with a diploma which is rated on a level with the diploma of a university.

Management mechanisms within different types of higher education institutions

Current problems of the management mechanisms

One of the German higher education system's most important problems is the distribution of students across the different types of institutions. In Germany the proportion of young people who wish to attend a university is not higher than in other countries such as France, the United Kingdom or the USA. Nevertheless, we have in many disciplines the worst ratio between the number of applicants and the number of student places available at scientific universities. The reason for this shortcoming lies in the distribution of students within different types of academic institutions. Today, most students attend a scientific university, while the rest attend a university of applied sciences or a business academy (which exist only in a few German regions, *Länder*). The allocation is determined by a central system designed to determine the places at a university, i.e. by the so-called "curricular standard CNW". For example, for business administration, this CNW is 1.9 for scientific universities and 5.4 for universities of applied sciences (Table 1). This means that a scientific university has to accept nearly three times as many students as a university of applied sciences.

As a consequence, most of Germany's scientific universities suffer from overload, whereas some universities of applied sciences lack students. The allocation of students to both types of academic institutions in Germany in the 1990s, in 1995 and 2000, is shown in Figure 3 (*Bundesministerium für Bildung und Forschung 2000/2001*). At scientific universities, many lectures are attended by 200 to 1000 students. At universities of applied sciences and business academies however, small classes of 20 to 30 students are common. I think that this is one reason why some young people first apply to an academy or a highly

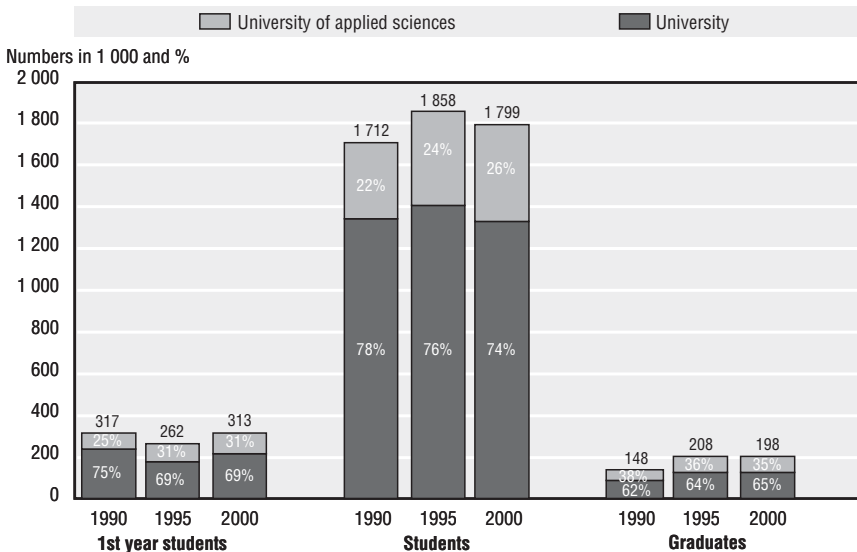
Table 1. **Curricular standards for selected study courses with admission restrictions**

Degree course	Scientific university	University of applied sciences
Architecture	4.8	7.3
Civil engineering	4.2	6.4
Business administration	1.9	5.4
Electrotechnology	4.2	6.4
Computer science	3.6	6.2
Mechanical engineering	4.2	6.4
Industrial engineering	2.0	5.9

ranked university of applied sciences, whilst accepting a place at a scientific university only if they do not succeed in getting a place in one of these primarily favoured institutions. The training at scientific universities may be efficient economically, but it is not appropriate for developing high potential in sciences.

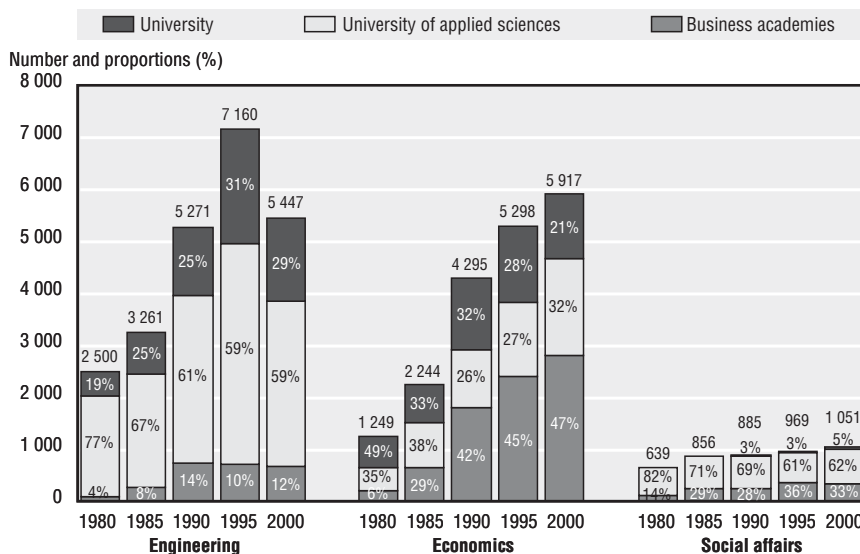
In some disciplines such as business administration and engineering, business academies take in a significant number of students, but only in a few German regions. Figure 4 shows that in Baden-Württemberg (Statistisches

Figure 3. **First year students, students and graduates of universities and universities of applied sciences**



Source: Author.

Figure 4. Graduates in engineering, economics and social sciences at universities, universities of applied sciences and business academies (Berufsakademien) in Baden-Württemberg, 1980-2000



Source: Author.

Landesamt Baden-Württemberg, 2001) an increasing number of graduates come from this region.

Advantages of a market-oriented system for fees

The distribution of students within different types of academic institutions seems to be one of the central problems of the German system. Changing this allocation system will take a long time. Therefore, one cannot be optimistic at this point. The distribution within one type of institution, especially scientific universities, could be improved over a shorter time. In my opinion, the introduction of a market-oriented system of fees could be an efficient instrument to realize several of the objectives mentioned above.

In Germany, important political groups and their official representatives are explicitly against the introduction of fees. The German SPD based government prohibited tuition fees for the first academic year of study and had this prohibition codified in the legal framework for higher education. But it is not clear if this paragraph will withstand the Federal Constitutional Court and future elections in Germany. Therefore, it is worthwhile to analyze the

arguments and potential sources of fees. I personally believe that we will progressively introduce fees in Germany in the years to come.

In economics, one can demonstrate that supply and demand is regulated much more efficiently through the existence of markets than by centralized planning systems. This argument also holds for universities. The absence of fees accounts for many shortfalls and undesirable developments. For example, it does not ensure that young people of the lower social classes have access to university in the same way as offspring of upper-class parents. In Germany, their share has continually declined over the last 20 years (Schnitzer *et al.* 2000). As more students come from the upper classes, this means that the lower classes actually finance free studies for the upper-class students via taxation, as several scientific studies show (Grüske, 1994; Grüske, 2002). Therefore, one can say that the withdrawal of tuition fees is antisocial.

The central argument for fees lies in their function as a parameter for matching supply and demand for higher education in the same way as the pricing of goods within a market. For this reason, in my opinion, one should avoid using them as an instrument for institutional financing. Fees can be effective in three ways:

- They regulate demand with the supply of education within the different disciplines at different universities.
- They motivate the students to study. If students pay fees, they will use institutions of higher education more efficiently and reduce the duration of study, as is evident in several countries
- Like a market price, they give information on the value of a course of study, its characteristics and quality.

In order to fulfil these three functions, fees must vary according to subjects and universities. Thus, fees must be the result of a decentralized (market-oriented) decision process. They must not be determined by a central body. Universities, and especially their faculties, must earn the right to decide upon their own level of fees. If a faculty is attractive to students, if its training provides a sound basis for a profession, if its quality and scientific standards meet the demands of students, then such a faculty can request high fees. On the other hand, if available places are not filled in a given faculty, its professors are made aware that they must adapt their teaching (to attract more students) or reduce fees.

In order to use a fee system as a regulatory mechanism and not for the pure financing of universities, it is necessary to allocate at least part of the public funds dedicated to education directly to registered students to cover their fees. One possible way of doing this is that applicants who obtain the right to study on the basis of a relevant higher education entrance qualification (“Abitur”) is awarded a “virtual study voucher”. This voucher

would provide the right to study without fees and could only be used for this. It would differ according to the type of course so that those admitted for study at scientific universities would be awarded a higher amount to pay the higher fee. The amount of the voucher should not necessarily be sufficient to finance a complete period of study. Thus, while it could be fixed high enough to cover a short study period at a business academy or a university of applied sciences in a discipline with low fees, it could be lower than that necessary to finance a more attractive course with high student demand and high costs.

Two further aspects of the financing of universities seem to be important. Firstly, universities need to receive further funds from the government to ensure the fulfilment of their primary mandate, regardless of the type and the number of their students. Such direct financing by the state would provide support to areas such as research, which does not depend on student numbers, or to promote disciplines which are relevant for society but do not attract high student demand. Thus, universities must have different sources to finance their budget:

- a basic allocation of funds from the government;
- fees from their students;
- third-party funded research;
- fund-raising from industry and private persons;
- donations from alumni, etc.

Secondly, there is a need for an effective system supporting students financially by virtual study vouchers (as discussed previously), monetary grants given by universities, by government, private persons, alumni etc., together with loans from banks, guaranteed by the government or a university. It is important that there be an effective system of scholarships so that all qualifying young people have the chance to attend higher education. One prior objective has to be that more students come from the lower classes. The social component of such a system will be crucial for its acceptance in society.

The motivating, information and coordinating functions of a fee-based system is necessary to manage higher education today in a much more effective and efficient way. At the same time, this must not be done at the expense of the lower social classes. On the contrary, a system of financing students and of scholarships needs to be set up that leads to a situation where more people with university degrees come from the lower classes than at present.

Management mechanisms within the universities

Controlling systems for universities

A key element for improving the effectiveness of the German system of higher education is to focus on the management system of the university

system itself. In the past, German universities have been directed to a high degree by public ministries and government, both local and national, from which they receive most of their money. Their expenses were fixed by the public budget, voted by parliament, so that government influence (Ministries of Education and Finance, Parliament) has been very high. Thus, management mechanisms have necessarily involved a high degree of centralization and bureaucracy.

More recently, we are noticing a tendency to increase the autonomy of the universities in several German regions. Their budget is being progressively separated from the national budget, and universities will eventually be given their own global budget. Within this budget they can decide autonomously on the distribution of the assigned resources, without approval by the ministry. The reverse side of autonomy must be an increasing responsibility, for which universities need other management tools. But instead of bureaucratic instruments, modern instruments to control the use of assets and financial funding need to be set up. In this situation one can learn a lot from experiences in the private enterprise, where output and goal-oriented budgeting is used to regulate divisions and subsidiaries possessing a high degree of autonomy. A result of this is that decisions are taken by the entities which are best equipped to do this from an information point of view. This is the root of the principle of subsidiarity. Figure 5 shows different coordinating mechanisms with their respective characteristics relevant for the management of universities (Küpper 2001a, Küpper/Sinz 1998).

Today especially, output-oriented budgeting systems based on different performance measures, such as the number of students and graduates, the number of diplomas awarded, third-party funds collected, etc., are being discussed and set up. Furthermore, the distribution of funds on the basis of target agreements is becoming more and more important. In order to justify such methods of budgeting and to monitor whether targets are met, one needs performance measures. All these mechanisms tend to be more market-oriented than the bureaucratic budgeting mechanisms practiced until now.

Accounting as an important part of the university management system

In order to use such management mechanisms, the universities have to set up effective information systems. In practice, financial and cost accounting are the central information systems of most companies. Thus is being intensively discussed in Germany whether standard private sector methods of bookkeeping, involving financial and cost accounting with balance sheet and income statements, can be transferred to universities (Küpper, 2000). It is believed by some that universities will work more efficiently if they use such accounting systems.

Figure 5. **Important characteristics of comprehensive coordination systems**

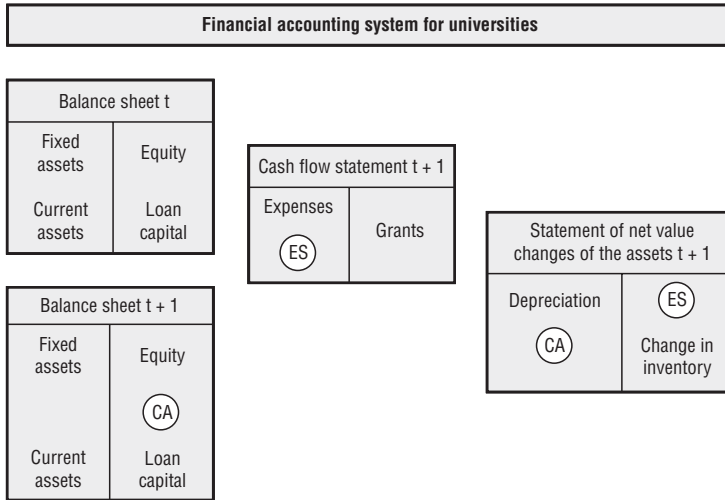
	Centralized bureaucratic systems	Budgeting		Target system		Market elements
		input-oriented	output-oriented	key figures	goal specification	
Organisation	• hierarchic	• hierarchic	• budgeting		• participation	• selection of students and assistants • profit participation
Planning	• structural planning • top-down planning	• structural planning	• structural planning	• structural planning	• structural planning	• decentralization
Control	• external audit	• compliance with the budget • external audit	• performance compliance with the budget • external audit	• performance • variance analysis • external audit	• external audit • variance analysis	• attractivity: • student applicants, third-party funded projects
Incentive system	• calls • third-party funded projects	• calls • third-party funded projects	• calls • third-party funded projects • performance-based allocation of resources • awards	• calls • third-party-funded projects • performance-based allocation of resources	• calls • third-party funded projects • profit participation	• calls • third-party funded projects • allocation of resources
Information system	• cameralistic accountancy	• cameralistic accountancy	• finance, activity and costs accounting	• teaching load • scientific performance • resources	• finance, activity and costs accounting • indicators	• benchmark universities • evaluations

The principal objective of private sector companies is to make a reasonable profit and to increase their shareholder value. This target determines the structure of the information system of financial accounting as well as managerial accounting. On the other hand, profit making is not an objective in higher education, so that one cannot apply private sector financial and managerial accounting systems to universities without modification. While efficiency is one of their objectives, this is to be achieved within a non-profit making context.

Although public universities are non-profit organisations, their economic weight is substantial. They control a budget which is large in monetary terms, financed by government, fees, fund-raising and other sources. To manage their expenses they need a sophisticated accounting system. As the central goals of universities are non-profit making, universities need to develop financial and cost accounting systems which differ from those systems

Figure 6. **Components of a financial accounting system for public universities**

(CA = changes of the assets; ES = expense surplus)

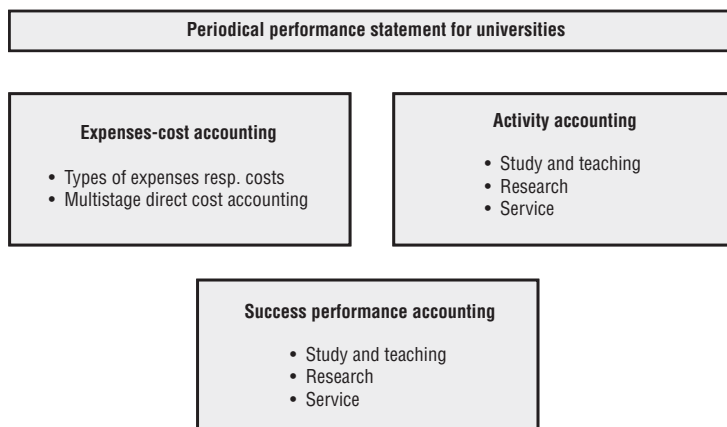


Source: Author.

applied in the profit sector (Küpper, 2000; Küpper, 2001b) and which are adapted to their primary objective. To use traditional accounting systems unchanged could become dangerous for them.

The basis of their financial accounting system has to be a cash flow statement to reveal the flow of capital that they receive from the government and other funding sources. In a public university, a balance sheet can describe and classify its existing assets particularly well. As the liabilities of such universities are often not high, they are not at present of great interest. As long as universities do not offer the results of their activities in teaching and research on a free market and as they do not aim at making a profit, an income statement is of no value and could be misleading. Instead, it could be useful to show the changes of net asset values over time. Thus, the financial accounting system of a university may consist of three types of document (Figure 6): a cash flow statement, a balance sheet and a statement of net value changes of assets employed. Such a system would be used as a basic tool to review the financial performance of a university by auditors and by the government.

To support decision-making, universities also need a form of cost accounting system (Küpper, 2002). The main problem in setting up such a system is the lack of market-based sales revenues, since most of the revenues arise from government funding. However, the problem of allocation of public funds to activities in teaching, research and services cannot be solved without

Figure 7. **Components of a performance statement of universities**

Source: Author

some degree of arbitrariness. For this reason, any university performance monitoring system should show the monetary expenses and costs of input on the one side, and the non-monetary output in teaching, research and service processes on the other (Figure 7). Performance indicators can be developed by the use of ratios of output measures to monetary (or non-monetary) input measures. As universities undertake different types of activities and pursue different goals in teaching, research and services, it makes no sense to rate their performance by only one key figure. These performance measures are calculated in a third part of this internal accounting system.

In Germany, universities chancellors attempt to classify expenses and costs, revenues and non-monetary measures of university output in a uniform way in order to make comparisons possible (AK Hochschulrechnungswesen, 1999; Kronthaler, 1999). The most important current expenses and costs relate to the input of material, external services, labour, information, fees, capital etc. These are complemented by expenses for investments in buildings, machines, computers, etc. Table 2 gives a classification of important output measures in teaching and study, research and services, and Table 3 shows some examples of performance indicators of universities.

Performance indicators need to be recorded for the whole university. In order to make evaluations, they have to be compared with other universities as benchmarks. For this reason, the chancellors of the German scientific universities suggest publishing performance statements. A proposal for this is shown in Figure 8.

Table 2. **Classification of university output measures**

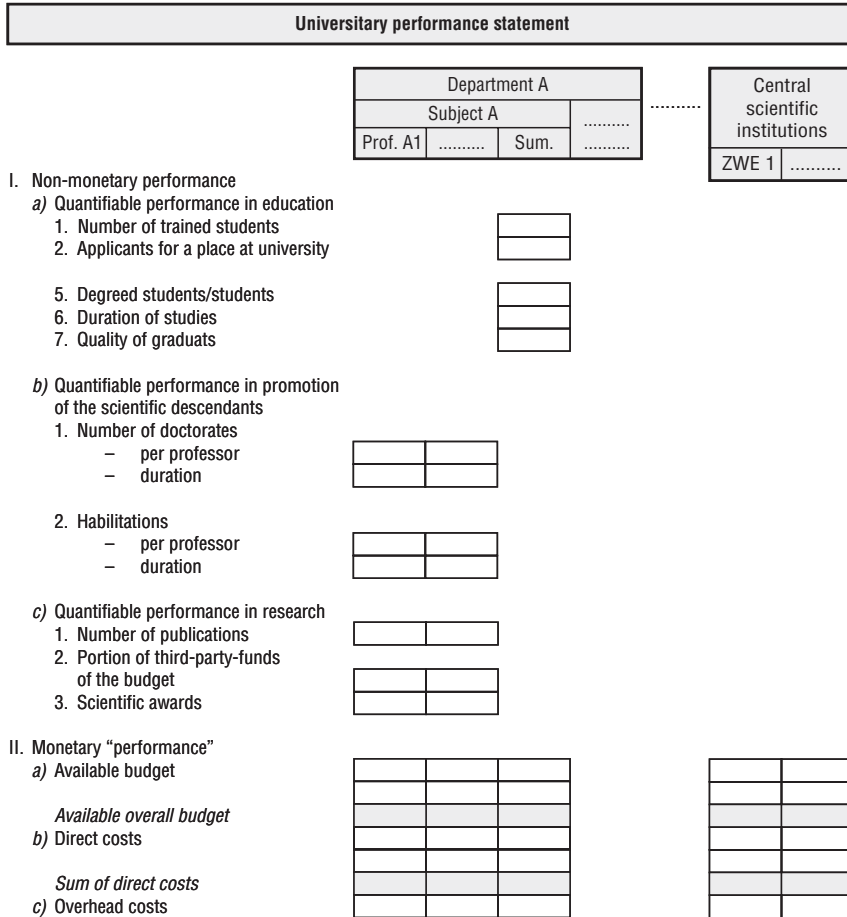
Academic studies and teaching	Research	Service
Students	Promotion of scientific graduates	Libraries
Places in higher education	Post-graduate studies courses	Acquisitions
First-year students	Doctorates	Users
Undergraduate students	Habilitations	
Graduate students		
Student dropout		
Teaching	Utilisation of scientific results	Personnel administration
Number of courses	Scientific publications	Attended persons
Course hours	Patents	Recruitments
Tests	Third-party funds from	
Tests in undergraduate studies	Industry	Student administration
Tests in graduate studies	Public institutions	
		Finance administration
Graduates		

Important decisions in the university sector are time-consuming and the time taken to reach them is long. Since they relate to investments in assets and personnel, annual or similar periodic measures cannot show the performance and the success of such long-term activities, nor their potential, in a satisfactory manner. Strategic accounting systems need to be set up alongside the periodic systems. A central task of future research in higher

Table 3. **Classification and examples of university performance measures**

Academic studies and teaching	Research	Promotion of scientific novices
Applicants per place at university	Publications per professor	Postgraduate students per professor
Applicants per student in first semester	Publications per academic staff	Postgraduate students per graduates
Students per professor	Third-party funds per professor	Number of doctorates per professor
Number of tests per professor	Third-party funds per academic	Average length of doctoral studies
Graduation rate (based on number of first-year students)	Staff	Habilitations per professor
Graduates per professor	Scientific award per academic staff	Average length of habilitation
	Patents per academic staff	
Average duration of studies per degree programme		Service
Average age of graduates		<i>Library:</i>
		Acquisition of books per staff member in library

Figure 8. **Basic structure of an university performance statement**



Source: Author.

education is to develop instruments to measure intellectual capital (Edvinsson/Malone, 1997; Roos et al., 1997) which is a most important component and an essential characteristic of universities.

In Germany, different attempts to introduce new accounting systems in universities are currently taking place. In several counties, such as Lower-Saxony (Niedersachsen), the application of the legally codified system of economic accounting (HGB) is being tried. The results show that this system is not appropriate for universities. As a result, a commission composed of German university chancellors recommended developing a special accounting system based on the ideas outlined in this paper. One problem is that standard

software systems available have been set up for private sector accounting. For this reason, it is necessary to adapt these systems for use in universities. There exist various projects, e.g. at the Technical University of Munich and at the HIS GmbH (*Hochschul-Informationen-System GmbH*), designed to develop suitable software systems for university accounting. In a further Bavarian project, a data warehouse system has been developed which will be important to obtain the data for a periodic performance system (Sinz et. al, 2001). There is thus a good prospect for the development of a university-specific accounting system necessary to manage universities in an efficient manner.

Conclusions

The reform of the system of higher education in Germany began later than in other countries such as the Netherlands. However, for several years there has been strong pressure from industry, politicians and society to improve its effectiveness and the efficiency. It has taken a long time to initiate these processes and much change is necessary. Those at universities, professors as well as most students, have shown resistance to such reforms. Nevertheless, as the discussions developed and better insights into the problem have been obtained, there has arisen increased willingness to change the framework and to set up modern management mechanisms. New laws in several regions (Länder) of the Federal Republic of Germany, the activities of the presidents and chancellors of German universities, as well as changing attitudes within faculties, give reason to hope that major changes in the German system of higher education will take place. I believe that many universities, as well as the entire system of university management mechanisms, will undergo radical change in the coming years. Perhaps one will be astonished at the flexibility of a formerly complacent system.

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Index to volume 14

The following section contains a list of contribution published in Volume 14/2002. The list is organised in alphabetical order of authors. The title of articles is listed only once in the case of multiple authors.

Appropriate articles are abstracted/indexed in Current Index to Journals in Education (ERIC).

Contributions	Vol. No.	Pages
BABA, Masateru <i>The Rationale Behind Public Funding of Private Universities in Japan</i>	14.1	83-93
BARBLAN, Andris <i>The International Provision of Higher Education: Do Universities Need GATS?</i>	14.3	77-92
ÉCHEVIN, Claude and RAY, Daniel <i>Measuring Internationalisation in Educational Institutions – Case Study: French Management Schools</i>	14.1	95-108
HARMAN, Grant <i>Academic Leaders or Corporate Managers: Deans and Heads in Australian Higher Education, 1977 to 1997</i>	14.2	53-70
HENKEL, Mary <i>Academic Identity in Transformation? The Case of the United Kingdom</i>	14.3	137-147
KNIAZEV, Evgeni <i>Coping with the New Challenges in Managing A Russian University</i>	14.1	109-126
LANG, Daniel W. <i>There are Mergers, and there are Mergers: The forms of Inter-Institutional Combination</i>	14.1	11-50
LAPERCHE, Blandine <i>The Four Key Factors for Commercialising Research The Case of a Young University in a Region in Crisis</i>	14.3	149-175
LARSEN, Kurt and VINCENT-LANCRIN, Stéphan <i>International Trade in Educational Services: Good or Bad?</i>	14.3	9-45
MOK, Joshua K.H. and LO Eric H.C. <i>Marketization and the Changing Governance in Higher Education: A Comparative Study</i>	14.1	51-82
ROSENBERG, Josef <i>Transformation of Universities in the Czech Republic: Experiences of the University of West Bohemia in Pilsen</i>	14.2	71-85

Contributions	Vol. No.	Pages
SAUVÉ, Pierre <i>Trade, Education and the GATS: What's In, What's Out, What's All the Fuss About?</i>	14.3	47-76
SCHENKER-WICKI, Andrea <i>Accreditation and Quality Assurance – The Swiss Model</i>	14.2	27-38
SMITH, Tom and WHITCHURCH, Celia <i>The Future of the Tripartite Mission: Re-examining the Relationship Linking Universities, Medical Schools and Health Systems</i>	14.2	39-52
TEICHLER, Ulrich <i>Diversification of Higher Education and the Profile of the Individual Institution</i>	14.3	177-188
TEMPLE, Paul <i>Reform in a Fragmented System: Higher Education in Bosnia-Herzegovina</i>	14.2	87-98
VAN DAMME, Dirk <i>Trends and Models in International Quality Assurance in Higher Education in Relation to Trade in Education</i>	14.3	93-136
VAN TILBURG, Peter <i>Higher Education: Engine of Change or Adherence to Trends? An Inventory of Views</i>	14.2	9-26

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Higher Education Management and Policy	3
Editorial Advisory Group	5
Table of Contents	7
The Management of Change in Higher Education	9
<i>Sir Howard Newby</i> <i>HEFCE, United Kingdom</i>	9
Incentives and Accountability: Instruments of Change in Higher Education	23
<i>Bernard Belloc</i> <i>Conférence des Présidents d'université, France</i>	23
Public Universities a Benchmark for Higher Education in Brazil.....	43
<i>Wrana Maria Panizzi</i> <i>Federal University of Rio Grande do Sul, Brazil</i>	43
Ministerial Steering and Institutional Responses: Recent Developments of the Finnish Higher Education System.....	57
<i>Seppo Hölttä and Eila Rekilä</i> <i>University of Tampere and University of Vaasa, Finland</i>	57
Management Mechanisms and Financing of Higher Education in Germany	71
<i>Hans-Ulrich Küpper</i> <i>Bavarian Institute for Research and Planning into Higher Education, Germany</i> ...	71
Sticks and Carrots: The Effectiveness of Government Policy on Higher Education in England Since 1979	91
<i>John Taylor, Director</i> <i>International Centre for Higher Education Management, United Kingdom</i>	91
University Research Activities: On-going Transformations and New Challenges	105
<i>Philippe Larédo</i> <i>Université de Marne la Vallée and École des Mines de Paris, France</i>	105
INDEX TO VOLUME 14	125
INFORMATION FOR AUTHORS	127

Table of Contents

The Management of Change in Higher Education <i>Sir Howard Newby</i>	9
Incentives and Accountability: Instruments of Change in Higher Education <i>Bernard Belloc</i>	23
Public Universities: A Benchmark for Higher Education in Brazil <i>Wrana Maria Panizzi</i>	43
Ministerial Steering and Institutional Responses: Recent Developments of the Finnish Higher Education System <i>Seppo Hölttä and Eila Rekilä</i>	57
Management Mechanisms and Financing of Higher Education in Germany <i>Hans-Ulrich Küpper</i>	71
Sticks and Carrots: The Effectiveness of Government Policy on Higher Education in England Since 1979 <i>John Taylor</i>	91
University Research Activities: On-going Transformations and New Challenges <i>Philippe Larédo</i>	105
Index to volume 14	125



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