

Diversity and Diversification of Higher Education: Trends, Challenges and Policies

U. Teichler

Ulrich Teichler

Professor, International Centre for Higher Education Research, University of Kassel (Germany). Address: Universität Kassel, Mönchebergstraße, 19, 34109, Kassel. E-mail: teichler@incher.uni-kassel.de

Abstract. Most current discussions of diversity within higher education systems focus on comparing and contrasting universities located at different positions in the vertical rankings hierarchy. This paper innovates by identifying trends and patterns in horizontal diversification—i. e., diversity of types of study programs, educational concepts, and specializations—and ultimately reaches the conclusion that the current frenzy over rankings is causing quality to be unevenly distributed throughout higher education systems and undermining the concept of “the wisdom of the many”. It begins by distinguishing between the various types of diversity. It

then describes various educational reforms and attempts to engineer horizontal diversity across Europe. A discussion follows about the origins of ranking systems and how they took root and gained currency in Europe, where informal differences between universities had previously been seen as trivial and secondary to formal differences, and the possible damaging implications such rankings might have for the quality of education throughout the entire world. Higher education policymakers, the paper concludes, must deliberately focus on bolstering the quality of all educational institutions, not just those with the highest rankings.

Keywords: higher education policy, vertical diversity between universities, institutional diversity, world-class universities, rankings, elite higher education, mass higher education, universal higher education.

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Many analyses of the worldwide development of higher education point out that Europe has for a long time provided the world with a model or various models of the modern university: an institution of intellectual excitement and curiosity, where the pursuit of knowledge and truth for its own sake is undertaken without any respect to authority and where the constant critique of conventional wisdom is viewed as the major source of new insights and innovation. A close tie between teaching and research and a high degree of academic freedom are often pointed out as other key features of the modern university. Some analyses refer in this context to the development of European universities over a period of 800 years and refer to the es-

1. Introduction

establishment of the universities in Bologna and Paris, while others see the modern university shaped by the Humboldtian concept formulated in the early 19th century of the “unity of research and teaching” as well as the Napoleonic and the “Oxbridge” approaches.

For more than 50 years, however, higher education in the United States of America has had a profound influence on higher education in other countries. Namely, two features—powerful university administrations and the provision of doctoral training in the framework of graduate schools—have been adapted in one way or other in many other countries. We might argue, though, that the U.S. higher education system has had the strongest influence worldwide in another respect—in popularizing the idea that a substantial expansion of student enrolment is desirable and that a high extent of diversity within the higher education system is beneficial both in serving the increasing variety of students and in assuring a high quality of research in select sectors of higher education.

Rankings of world-class universities currently draw more attention than any other issue of diversity in higher education. It is widely assumed that the practice of placing an emphasis on differences between individual institutions of higher education and fostering some exceptional high-quality universities originated in the U.S. and has spread from there in recent years to Europe (see [Stensaker, Kehm, 2009. P. viii]). What is overlooked frequently in Europe, however, is the fact that diversity in terms of a steep vertical hierarchy of quality and reputation of higher education institutions has a long tradition in Japan, China and some other Asian countries and that this is taken even more seriously in these countries than in the U.S.

This article is based on the conviction that the current debates on diversity with a prime focus vertical diversity between universities at the top—i. e., about 500 institutions among the more than 20,000 institutions of higher education—can be understood better when analyzed within the framework of the overall “diversity” of the “structures,” the “patterns” or the “shape” and the “size” of higher education system as they have developed and changed worldwide over the last five decades or more. Therefore, the development of the discourse on diversity of higher education in economically advanced countries will be described. Subsequently, comments will be made on the current views on diversity inherent in the concepts of “world-class universities”.

Fundamentally, we note that diversity is among the most popular and controversial issues in higher education policy because policies in this domain are widely viewed as being very powerful. The shape and size of higher education, though continuously and incrementally changing, are often regulated to a substantial extent by external actors (e. g., national governments and parliaments), and these externally-driven regulations might have an enormous influence on the internal core activities in higher education institutions and thus on the

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services which higher education actually provides to society (cf. the authors' prior analyses in [Teichler, 2005, 2008, 2010]).

The key activities of higher education—teaching and learning, research and possibly service—are undertaken in diverse institutional settings. These settings vary both within countries and across countries according to the tasks, functions and composition, as well as the level and substance of activities, the stages of study programmes, etc.

In referring to the macro-level of society, the term “higher education system” tends to be employed in referring to all higher education within a country. This customary use of the term underscores that higher education—in spite of the universalist nature of some disciplines, international cooperation and exchange and the cosmopolitan attitude of many scholars—is strongly shaped by modes of supervision and funding, organisational rules, curricular practices, etc., which are determined within individual countries and consequently are likely to vary between countries. The term “higher education system” is not only used for countries with strong national powers of coordination, but also for federal countries (e. g., Canada, the U.S., Germany, Switzerland, Brazil and Nigeria) where individual states, provinces, etc., within a given country have the strongest influence on the institutional setting, because rules and practices in higher education tend to be somewhat similar in these countries as well (see [Cortés, Teichler, 2010]).

Nonetheless, perceptions of what constitutes a higher education system vary and have changed over time. Until the 1950s, attention was paid in economically advanced countries primarily to universities, which were primarily understood as doctoral degree-granting institutions characterized by a close link between research and teaching, while other institutions—for example, teacher-training institutions—with some features similar to universities were not considered as highly relevant entities of a university system. Thereafter, the term “higher education” became popular. This suggests that other institutions characterized not by a close link between teaching and research but rather by a predominant teaching function have much in common with universities. Since about the 1980s, international organisations such as UNESCO, OECD and the World Bank have been actively using terms such as “tertiary education,” “post-secondary education” and “third-level education”. The use of such terms implies that any education for students beyond secondary education can be viewed as sharing a common function, though the level of intellectual ambition and the link to scientific knowledge might vary.

The single most obvious element of diversity in higher education is that of disciplines. Theories, methods and areas of knowledge develop their specific territories of discourse, and institutions of higher education, as a rule, are subdivided into disciplinary units that might

2. Concepts, Definitions and Classifications of Diversity

be called, for example, faculties, schools, departments or institutes. The distinctions between disciplines, however, are taken so much for granted that they are hardly referred to in the discourse about the diversity of higher education.

The major debate on diversity in higher education addresses variations beyond those of systems and disciplines. Most analyses are interested in the variations between *institutional segments* in which teaching, learning and research take place. This might be called the shape, the pattern or the structure of the higher education system, whereby attention is paid primarily to the types of higher education institutions and programmes, the levels of study programmes or to the levels and profiles of the individual institutions of higher education or the individual departments. Some studies on diversity in higher education, however, have also considered other dimensions such as organisational differences, the financial regime of the institutions (e.g., the distinction between public and private higher education) and modes of delivery of educational programmes—for example, distance education [Birnbaum, 1983; Huisman, 1995].

In most analyses of diversity and its evolution (often called diversification), higher education systems are described concretely according to

- types of higher education institutions or types of study programmes,
- levels of programmes
- variations of reputation and prestige
- substantive profiles of institutions and study programmes.

In looking at these descriptions systematically, it becomes clear that three kinds of distinctions are made:

- Whether diversity is based on *formal elements* that are used as descriptors in laws and other regulations (e.g., institutional types, levels of programmes, official functions of study programmes) or on *informal elements* (e.g., profiles and reputation),
- Whether differences are *vertical* (in terms of levels of quality, reputation, selectivity, etc.) or *horizontal* (in terms of substantive profiles, conceptual schools, etc.), and
- Whether differences can be observed *between institutional settings* (“inter-institutional,” i.e., between institutions of higher education) or *within institutional settings* (“intra-institutional,” e.g., levels of study programmes and degrees or differences of academic productivity of scholars within a university or within a department).

Efforts are often made to describe *the overall character of the higher education system* according to its features of diversity. Analyses

that focus on formal elements describe higher education systems in which a single institutional type clearly dominates as “unitary.” For example, almost all institutions of higher education in Italy are universities, i. e., doctoral degree-granting institutions. Other systems are called “binary,” “two-type” or “multi-type”: for instance, in Germany, where higher education has been characterized since the 1970s by a distinction between universities and *Fachhochschulen*. Finally, some systems have been called *multi-level*. Higher education systems in France and in the United States, for example, are often described by levels of study programmes and degrees rather than by types of institutions [Teichler, 1988].

Some countries use their own classifications to characterize their higher education systems without having any international comparison in mind. For example, the Carnegie classification in the U.S., named after the foundation that initiated the search for a widely accepted classification, groups institutions of higher education according to their involvement in research and doctoral training into categories such as research universities, comprehensive universities (with selective areas of high-quality research and doctoral programmes), four-year colleges, two-year colleges, and so on.

Finally, some descriptions of the diversity of institutional settings refer to a wider range of elements somewhat associated to institutional diversity—for example, modes of access and admission, types of students served, various types of academic and professional missions, or whether an emphasis is placed on the link between teaching and research or predominantly on teaching.

The most famous concept of a general trend toward diversification of higher education, however, did not mention any formal distinctions within higher education system. Rather, it claimed that there is a trend of diversification in terms of functions of the higher education system and that this was bound to lead to different sectors within in the higher education, but it remained unclear how the sectors differ according to institutional patterns.

The American higher education researcher Martin Trow [1974] coined the terms “elite higher education,” “mass higher education” and “universal higher education.” He argued that higher education is fairly homogeneous if fewer than 15 per cent of a corresponding age group are enrolled. “Elite education” is characterized by a strong emphasis on research, a high intellectual level and the training of society’s future elite. When the enrolment rate surpasses 15 per cent, “mass higher education” emerges alongside “elite higher education.” Mass higher education takes over the function of serving those additional students enrolling in higher education institutions and is not at all or only moderately linked with research, thereby “protecting” elite higher education, which continues to serve a more select stu-

3. “Elite”, “Mass” and “Universal” Higher Education

dent population and to be strongly involved in research. When more than 50 per cent are enrolled, “universal higher education” emerges as a third functional segment along elite and mass higher education.

Trow’s concept often has been misunderstood. He has not argued that mass higher education substitutes elite higher education in the process of expansion of higher education. Rather, he assumes that mass higher education supplements elite higher education, and he considers a coexistence of elite and mass higher education as a desirable phenomenon that contributes in the best possible way to an increasing breadth of functions of higher education [Burrage, 2010]. According to Trow, countries might vary in the way they arrange the increasing diversity through different formal and informal features of the higher education system. On this matter, he expressed a preference for soft and informal borderlines over clear, distinct formal sectors, and he preferred gradual, strongly market-led change to governmental steering of diversity.

Trow’s concept became so famous because he pointed out with a set of popular terms that higher education was bound to become more diverse in the process of expansion. This would occur because the growing number of students would be more diverse in their motives, talents and future prospects and because one could not expect that high-quality research could be undertaken all over the expanding higher education system. But his concept was clearly underestimating the varying extent of diversity between countries over various stages of development. In some countries, there was already a substantial amount of diversity (certainly vertical, but possibly somewhat horizontal as well) at a time when the enrolment rate was very small. For example, in the United States, Japan and China, the quality and reputation of some select universities had already become dramatically different from those at many other universities at a time when only one or two per cent of the corresponding age groups were enrolled. It is not fully clear whether the extent of diversity substantially increased in these countries in the process of expansion. By contrast, vertical diversity was very small in some European countries in the past, and it increased only moderately in the process of the expansion of higher education.

We might argue that most countries in the world nowadays can be classified into three groups:

- Countries with steep vertical diversity between universities (and possibly departments), e. g., the U.S, Japan, and China;
- countries with somewhat substantial vertical diversity, e. g., the United Kingdom;
- countries with at most moderate vertical diversity, e. g., Germany, the Netherlands and some other European countries.

Some countries do not fit in such a typology: For example, the major distinction is made in many Latin American countries not between

institutions but between professors; those who are privileged to be substantially involved in research are distinguished from others who have primarily teaching tasks.

What is called “moderate vertical diversity” above can be illustrated with some figures. In Germany, there are about 80 public universities responsible for conducting research and teaching a student population of more than 10,000. The top 10 universities succeeded in the 1990s and the first decade of the 21st century in getting more than 30 per cent of all the funds awarded by the German Research Association (DFG), the major and most prestigious public research funding agency in Germany, while those who ranked from 31st to 40th got only somewhat more than 10 per cent, i. e., about one-third of that of the top 10 [Deutsche Forschungsgemeinschaft, 2012]. However, if one takes into consideration the size of the universities and weighs the funds according to the different drawing power of the disciplines, the top 10 universities in Germany got less than twice as many funds per professor than the average universities [Teichler, 2014].

As the current international debate about diversity often refers to the U.S. or other countries with a traditionally steep vertical hierarchy of higher education institutions, the international variety of diversity within higher education might be best illustrated by providing details on a country with moderate diversity, e. g., Germany. The following analysis, however, will not only address the development in Germany but rather aims to explain the discourse on diversity across economically advanced countries over the last five or six decades.

In the 1950s, a paradigmatic change occurred in the public debates on education all over the economically advanced countries of the world. The idea that economic progress depends to a considerable extent on “human capital,” advanced by economists, began to spread. A growth in the number of young people studying beyond compulsory education was viewed as a major force to stimulate economic growth. For example, the argument presented in Germany in the early 1960s—that Germany would once again become a developing country if the number of students undergoing secondary education and higher education did not rise substantially—turned out to be influential. The link between educational expansion and economic growth became a key issue of educational policy of the OECD (Organisation for Economic Co-operation and Development), the “think-tank” for economic policy of economically advanced countries, during the first years after its foundation in 1958. However, at that time, attention was paid primarily to the expansion of enrolment, not to diversity, i. e., the composition of students according to various levels and higher education profiles.

Diversity of higher education became a key issue only about a decade later. At that time, the conviction began to spread that expenditures for higher education could not be increased at the rate at

4. Changing Patterns of the Higher Education System in Germany and Other European Countries up to the 1990s

which student enrolment was growing. The opinion were frequently voiced that an increase in high-quality research was as necessary and feasible as much as the increase of student enrolment. Finally, it became obvious that the student population was becoming more diverse in the process of expansion. In contrast to the patterns of the diversity visible in the United States of America, however, the idea spread in Europe in the 1960s that the system of higher education should be diversified formally between different types of higher education institutions and possibly according to different lengths of study programmes. Terms such as “short-cycle higher education” [OECD, 1973], “non-university higher education” [Taylor et al., 2008] and “alternatives to universities” [OECD, 1991] were introduced to characterize a sector of higher education different from that of traditional universities. However, a consensus about an appropriate term was never reached, partly because most terms sounded pejorative in comparison to university education, and partly because the major distinctions between university education and other higher education varied across countries. In many countries, study programmes at other institutions of higher education were shorter than those at universities, and in a substantial number of countries these study programmes were aimed at being more applied and less theoretical in nature and at preparing students more directly for future job tasks than study programmes at universities.

Germany was among those countries where the search for a new formal pattern for the higher education system was viewed as indispensable, and a controversial debate about the most desirable pattern was ignited [Peisert, Framhein, 1978; Kehm, Teichler, 1992; Kehm, 1999, 2006; Teichler, 2014]. Up until the 1960s, less than 10 per cent of the corresponding age groups enrolled in universities, and many higher education institutions were somewhat similar to universities, e. g. teacher training colleges. After four years of primary education and nine years of highly-selective academic secondary education at a gymnasium, one had to pass the *Abitur*, the demanding final examination. This traditionally entitled students to enrol at any German university in any field of study. Moreover, students could, if they wished to do so, leave the university after any semester and enrol at another university of their choice. Student mobility within Germany was viewed as valuable for broadening the students’ knowledge base and enhancing their competences, and it was possible because the quality differences between the universities were viewed as marginal—important, perhaps, only for the academic careers of those who want to become university professors themselves. The study programmes lasted four or five years (six years in medical fields), and the university degree was considered internationally equivalent to a master’s degree. Many students studied longer than the required period, possibly because they spent time acquiring work experience and earning money to pay their living expenditures, because they want-

ed to broaden their knowledge or because they wanted to improve their final exam grades. In some fields, it was even possible to opt for a doctoral degree as one's first degree. Professors at all universities shared an equally responsibility for research and teaching, and professors could only negotiate for higher salaries if another university offered them a professorship. Thus, mobility between universities was attractive for professors, and the professors themselves, rather than the universities, were seen as the major carriers of academic quality.

Around 1970, the decision was made to establish a second type of higher education in the Federal Republic of Germany, mostly through upgrading of former engineering schools and higher vocational schools—the so-called *Fachhochschulen* (literally translated: specialized institutions of higher education, later known in English as “universities of applied sciences”). In *Fachhochschulen*, students could be admitted with one year less of secondary education than was required for entry to universities, had to study for only three years or up to four years including internships, and the curricula were meant to be applied rather than theoretical. The professors of these institutions had to be holders of a doctoral degree but also had to have a few years of practical experience outside academia, i. e., in the professional area for which they trained their students. Research was an optional task of *Fachhochschule* professors, who had a teaching load more than twice as high than that of university professors, and research was required to emphasize application over theory. Over the years, about two-thirds of beginner students in Germany enrolled at universities and about one third at these institutions, predominantly in the areas of engineering, business studies and social work.

In addition, an experiment was undertaken in Germany in the 1970s to establish so-called *Gesamthochschulen* (comprehensive universities). Programmes at these institutions led to an applied first degree and possibly to a second degree equivalent to a university degree. This model did not become very popular, notably because professors disliked having two different educational philosophies within the same institution [Cerych et al., 1981].

Various European countries established a similar pattern of two types of institutions differing not only according to the length of study programmes, but also according to the educational concept (i. e., applied vs. theoretical)—for example, the Netherlands, Austria, Finland and Switzerland. This was in contrast to the so-called “binary structure” in England and most other parts of the United Kingdom. The second type of higher education, the polytechnics established in the 1960s, had the same entry requirements as universities, offered both bachelor and master programmes and were less clearly distinct in their educational philosophy from the universities than the German universities of applied sciences. The binary structure ceased to exist in the United Kingdom in 1992, when all polytechnics were formally given the status of universities, even though most of their ac-

ademic reputations did not match those of the “old universities” (cf. [Scott, 1996]).

Moves towards increasing the formal diversity of higher education within the European countries went in very different directions. In addition, countries differed substantially in the extent of informal diversity. In some countries (e. g., Germany and the Netherlands) quality differences between universities remained within limits. In other countries (e. g. the United Kingdom) quality differences were more substantial but remained clearly much smaller than, for example, in the United States, Japan and China. The Europeans liked this variety between European countries. For example, the heads of national governments in Europe agreed in the 1970s that the European Community could play a role in education policies only if the variety of national systems in the European countries remained untouched.

In some respects, the diversification of higher education primarily through types of higher education institutions can be viewed as a success story. For example, surveys have shown that the difference in the incomes of Germans who graduated from Fachhochschulen and those who graduated from universities was not as large as the difference between the incomes of bachelor’s and master’s degree holders in the United Kingdom and in the U. S. Also, the proportion of graduates from Fachhochschulen in Germany who considered their studies as useful for their job or were satisfied with their overall professional situation turned out to be similar to that of graduates from universities (see for example [Teichler, Buttgerreit, 1992]). There were, however, continuous efforts on the part of Fachhochschulen to become more similar to universities—a phenomenon called “academic drift”. Efforts were made, with varying degrees of success, to increase the required duration of the study programme, to make the name of the institution more similar to those of the universities at least in the international context (by calling themselves “universities of applied sciences”), by getting more actively involved in research and by striving for the right to award doctoral degrees. In sum, other higher education institutions in Germany were relatively successful according their specific institutional profile, but they never lost the conviction that they must become more similar to universities in order to consolidate or raise their status relative to universities. This also holds true for similar institutions in other European countries; they praised their own specific features as successes and concurrently tried to move closer to the universities in various respects.

6. The Bologna Reform: High Expectations Linked to Common Modes of Formal Diversity in Europe

In the late 1990s, ministers in charge of higher education in the European countries—initially from four countries in the Sorbonne Declaration in 1998 and thereafter from 29 countries in the Bologna Declaration of 1999—called for the establishment of a similar pattern of formal diversity of higher education systems all over Europe. Actually,

they recommended introducing everywhere a system of “cycles” of study programmes and degrees. This move towards a “convergent” (i. e., not necessarily an identical) pattern of higher education systems was primarily advocated in these declarations in order to make higher education in continental European countries more attractive for students from outside Europe (the clear majority of countries outside Europe had a bachelor-master system or another cycle system of study programmes and degrees), and in order to facilitate intra-European (mostly temporary) student mobility. In actuality, many other objectives of higher education reform were linked to this structural reform. Among other things, the popularity of short study programmes was expected to increase, students were expected to be prepared in a more targeted manner for employment and work, teaching and learning were to strive towards enhancing competences rather than accumulating knowledge, equality of opportunity was to be fostered, and efforts were to be made to increase the chances of successful study, thus decreasing dropout rates.

As a consequence, “cycles” or “stages” of study programmes and degrees became the single most important formal dimension of diversification in those European countries where a bachelor-master or similar system had not existed in the past. This did not mean, however, that differences between types of higher education institutions became irrelevant or were eliminated in countries in which two or more institutional types had existed before. Rather, both universities and other higher education institutions today offer bachelor programmes, and while universities offer a magnitude of often research-based master-level programmes, other institutions of higher education generally offer fewer and more application-oriented programmes [Taylor et al., 2008].

About a decade after the Bologna Declaration, many evaluation studies were undertaken to record the achievements and failures of the reform efforts. They came to the conclusion that a cycle system of study programmes and degrees had become the dominant (but not consistent) pattern all over the more than 40 countries participating at the time. Altogether, however, countries strived for common goals and had many specific national objectives. Common elements increased in certain respects and variety between countries increased in other respects [Kehm, Huisman, Stensaker, 2009; Surssock, Smidt, 2010; CHEPS, INCHER, ECOTEC, 2010; Curaij et al., 2012).

With regards to the formal structure of study programmes and degrees, all countries moved towards a bachelor-master structure of study programmes in the majority of fields of study, but no consensus could be reached about the length of study programmes. Eighteen countries consistently introduced three-year bachelor and two-year master programmes, six countries a 4–2 system, four countries 3-year bachelor programmes and one or 1 ½ years master programmes, and 19 countries have varied models [Eurydice, 2010].

The contribution of such a similar structure of study programmes and degree to international student mobility is visible in one respect, but marginal in another respect. In fact, the number of students in Europe coming from countries outside Europe doubled within eight years. As the world population of students increased by about 50 per cent during those years, another approximately 50 per cent of the growth of students coming from outside Europe can be explained by the growing attractiveness of study in Europe, which has significantly increased at the master's level. By contrast, intra-European student mobility does not have to be increased as a consequence of the spread of the bachelor-structure of study programmes and degrees [Teichler, Ferencz, Wächter, 2011].

The introduction of the bachelor-master structure across European countries was not as successful as some advocates had hoped in making short study attractive. Prior experience had shown that only about 30 per cent of bachelor graduates in the United Kingdom and about 40 per cent in the United States moved on to advanced study. In the European countries, where a university degree in the past was viewed as equivalent to a master's degree, many professors and students remained sceptical as to the value of a bachelor degree. A comparative study of various national graduate surveys showed some years after the introduction of a bachelor-master structure that 7 per cent of bachelor graduates from German universities had begun pursuing master's-level studies within two years after being awarded a bachelor's degree (what is more, 24 per cent were both students and employed). The respective figures were 73 per cent for Norway, 68 per cent for Austria and 57 per cent in Italy [Schomburg, Teichler, 2011].

**7. Informal
Diversity:
Ranks and
Profiles**

As already pointed out, a steep hierarchy of reputational differences between universities has been in place for many decades in countries such as the United States, Japan and China. These differences concern the assumed quality of research and teaching and the labour market value of degrees. But attention has also been increasingly paid to informal differences between universities and departments since about the 1970s in European countries where these differences were seen as trivial in the past. A trend towards more emphasis being placed on informal vertical diversity within higher education systems could be observed over the years, and there were indications in various countries that vertical differences were on the rise [Teichler, 2009]. Vertical diversification eventually became a key topic of higher education policy all over the world in the first years of the 21st century, when ranking lists of world-class universities became popular.

A multitude of factors seems to have contributed to the popularity of such rankings. First, the more the educational attainment of the population grew, the more the interest increased in societies shaped

by inequality of income, status and power, where small differences in educational attainment had begun to have a larger effect. While distinctions between a graduate and non-graduate might have been crucial in the past, smaller distinctions among graduates—for example, according to the prestige of their university—play a similar role today. Second, the more the ideas of a “knowledge society” and “knowledge economy” gained currency, the more the conviction spread that the future of society and economy depends on high-quality research undertaken in top universities. Third, the more international cooperation and mobility increased and the more the world seems to globalize, the more top universities were viewed as operating on a worldwide arena [Teichler, 2012].

Fourth, steering and governance of higher education was increasingly shaped by mechanisms of incentives and sanctions, and higher education was increasingly characterized by features of competition; rankings lists could serve as mechanisms of stimulating competition. Fifth, evaluation of the performance of higher education through various means played an increasingly large role in higher education; more evidence of the performance was demanded, and institutions of higher education were held more accountable for their activities. Finally, political journals and magazines became more interested in higher education and science as important sectors of the society. As the academic life and the features of teaching, learning and research may seem dry and boring for a broader audience, the “sexy” shape of information through ranking lists—similar to league tables in soccer and beauty contests—was seen as appealing. Actually, political journals and magazines became major drivers in the establishment and dissemination of rankings lists of universities.

The spread of ranking lists was accompanied from its outset by a very controversial debate about their strengths, problems and dangers. Obviously, however, this controversial debate has not limited the popularity of rankings and the speculations related to them (see the debate on rankings in [Sadlak, Liu, 2007; Kehm, Stensaker, 2009; Hazelkorn, 2011; Shin, Toutkoushian, Teichler, 2011]).

According to their proponents, two achievements of rankings are most valuable:

- Rankings can be viewed as an instrument of *transparency*. Students and their parents, employers, other stakeholders and those steering and governing higher education can get informed about the quality of individual universities and can make rational decisions on that basis, e. g., where to enrol, from where to recruit graduates, or where to allocate research funds in the future.
- Rankings are advocated as instruments of *stimulating healthy competition* between universities and scholars and thus contribute to an enhancement of the quality of higher education.

In the discourse on the strengths and weaknesses of ranking, substantial attention is paid to *methodological issues*. The indicators employed are often based on questionable sources of information and measurement. Moreover, the information is viewed as being compiled in a biased way, thus giving undue preference primarily to large universities, universities with large science and engineering departments, universities in countries with a steep vertical hierarchy, and universities in English-speaking countries. The advocates of rankings, however, interpret the methodological debates as an indication of the general acceptance of such rankings and as a call for methodological improvements.

The major critique of rankings, however, is fundamental: *Rankings are seen as a normative system of assessment that aims to shape higher education systems using the criteria of assessment as a guide*. According to this critique, rankings are aimed at contributing to a higher education system in which

- the best researchers and the highest quality of research are *concentrated in a few universities*, thus reducing the chances of other universities to build up select excellent areas of research and contributing to an even steeper vertical diversity between higher education institutions,
- universities direct most of their energy towards the improvement of their research performance rank, which is based on certain criteria, and, as a consequence, *care less about the relevance of research, about teaching and learning and about other potential functions* of higher education, and
- lower-ranked universities tend to imitate those at the top and thus *undermine the horizontal diversity of higher education*.

According to the critical voices, the popularity of rankings is based on the belief that the future of the knowledge society primarily depends on the success of a small minority of scholars in cutting-edge research, while anything else is of low importance. This is opposite to the notion of the emergence of a “highly educated society” in which progress depends on the “wisdom of many” (Teichler, 2014).

8. Varied Responses to Steep Informal Vertical Diversity

Rankings of world-class universities often have been advocated as appropriate for a global society. Their proponents assert that individual universities no longer act in a predominantly national context, but rather in a more or less borderless worldwide environment. Ironically, however, the debates about global rankings have become very nationalistic; attention is paid primarily to the distribution of the top 100 or top 500 universities according to country. A country is rated as strong in academia if the absolute number of universities in these top

lists are high, and policies have been initiated in many countries to increase the number of its universities in these top lists.

For example, China has undertaken policies to make the already very steep vertical hierarchy of universities even steeper in order to help a few top Chinese universities to catch with top universities from other countries. Also, in Germany, where only a moderate vertical hierarchy of universities had existed in the past and where such a state of affairs was viewed widely as beneficial in various respects, pressure mounted to increase vertical diversity. In the framework of the so-called Excellence Initiative established in 2006, ten top universities won in a competition about 100 million Euros each for a period of five years in order to improve their strategies and their quality [Kehm, 2013]. In the meantime, however, the Science Council (*Wissenschaftsrat*, i. e., the most important actor in Germany in formulating higher education policies), suggests that more measures for the enhancement of higher education must be undertaken along the Excellence Initiative in order to stimulate horizontal diversity, to ensure a high quality of research outside a few top universities and to ensure the quality and relevance of teaching and learning [Wissenschaftsrat, 2013].

The European Commission [2011] has voiced concern that the usual practice of sorting world-class universities in absolute numbers according to country could lead to the concentration of high-quality higher education in just a few countries. As a counterbalance, the Commission published a list that sorts countries according to number of inhabitants per top 500 university. According to that calculation, small countries such as Denmark, Norway, Sweden and Switzerland have a clearly higher density of world-class universities (less than two million inhabitants per world-class university) than countries such as the United Kingdom, France, Germany and Japan, while the United States ranks even lower.

Moreover, the European Commission supported the establishment of a “multi-rank” system. According to such a system, universities are not classified according to a common overall score of academic quality, but rather according to variety of tasks and functions—e. g., different programme orientations, research intensiveness, intensiveness of innovation, international orientation of research, international orientation of teaching, modes of delivery, involvement in life-long learning, cultural engagement and regional engagement [Bartelse, van Vught, 2009].

It might be added here that many experts view a steep vertical hierarchy among universities as a barrier to international mobility and cooperation. If universities want to exchange students and undertake collaborative research only with other universities ranked similarly or higher, cooperation and mobility could be realized among only a very small number of universities. Therefore, some advocates of increasing international cooperation and mobility among universities call for

the universities to accept broader “zones of mutual trust” among universities that include more than just a few neighbours in a ranking list [Teichler, 2012].

9. Conclusion Patterns in higher education systems can help form important frameworks in which to coordinate the core activities within higher education systems. They can be powerful means of achieving the desired extent of homogeneity and diversity of the system. There is a constant tension between two principles in this context. On the one hand, there is the perception that higher education serves internal and societal needs best if research, teaching and learning and possibly other activities are more diverse horizontally and vertically. On the other hand, higher education is strongly shaped by a value system that defines what the best research, teaching and learning styles look like. As a consequence, the existing diversity of higher education in any country at any point in time is threatened by the inclination of those not on the top to apply such a value system to imitate those at the top.

Although systematic knowledge is universal in some respects and is sought for all over the world, we consider higher education systems to be national entities, and we note substantial differences between countries that cannot be explained by the logic of the knowledge systems. For example, there is a tradition of a steep quality hierarchy among universities in the United States, Japan and China and, by contrast, a very moderate quality hierarchy in Germany and some other European countries. Formal and informal diversity has increased to some extent in all countries as a consequence of growth of student enrolment and research activities, but related policy measures has continued to vary across countries.

As a result of the process that is often called internationalisation or globalisation, growing efforts and trends towards an increasing similarity of national systems of higher education can be observed. The recent decision of many European countries in the framework of the Bologna Process to make cycles of study programmes and degrees more similar across countries and elevate the cycle structure to the most important formal mechanism of diversity in higher education is one example of such development. The attention paid to rankings of world-class universities is another example and seems to be an even more powerful trend or policy that establishes or reinforces steep quality hierarchies between individual universities. One can argue, though, that the international “regime”—i.e., the enormous informal power—of rankings is a questionable mechanism for shaping higher education systems. Rankings do not promote a balance between, on the one hand, the need for increasing horizontal and vertical variety and, on the other hand, the inclination of lower-ranked universities to imitate top universities; they clearly support the latter and fail to enable the needed balance. As a consequence, higher ed-

education policies which strive for a better balance are urgently needed in all countries: not only competition and imitation of the best as far as the quality of research is concerned, but also variety of horizontal profiles, strong support for teaching and other activities, a stronger emphasis on the societal relevance of higher education and more efforts to strengthen quality and relevance below the top level and, thus, support for the “wisdom of the many” in a “highly educated society.” Rankings, increase of informal vertical differences in research and imitation of the best occur anyway, but horizontal diversity, enhancement of the quality and relevance of teaching and control of quality outside an elite sector of higher education can flourish only if deliberately supported by higher education policy.

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