

# Chapter 1

## The Relevance of the Academy

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### 1.1 Introduction

At the turn of the twenty-first century, frequent and profound questions are being raised concerning the purposes and accomplishments of contemporary higher education and learning. We note a lively debate on the current issues and on the future of higher education in the public policy domain, within the higher education system, and among researchers specialized on higher education as their theme of inquiry.

For a long period, issues of higher education have been addressed with little attention paid to the academic profession, i.e. those persons who are in charge of the daily life of research, teaching and whatever else is understood to belong to the core functions of higher education: How they interpret the tasks and challenges of higher education and what they do that actually shapes the processes and the outcomes of higher education. In recent years, however, the academic profession has become a focus of systematic inquiry. The comparative study of the academic profession in more than a dozen countries in the early 1990s, initiated by the U.S. based Carnegie Foundation for the Advancement of Teaching, often is considered

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the starting point of systematic worldwide inquiry (Altbach 1996). A more recent comparative study “The Changing Academic Profession”, initiated by scholars from various countries, comprised even 19 higher education systems and also provided information on recent developments, such as the impact of internationalisation, the growing power of management, and the rising expectations as far as the relevance of higher education is concerned (see the major results in Teichler et al. 2013). Actually, various chapters of this volume draw either from both surveys or notably the latter survey. In addition, we note quite a substantial number of recent studies on the views and activities of the academic profession that focus on specific countries, specific career stages, or specific areas of context and activities.

In order to synthesize the state of knowledge and to identify key issues that deserve more attention in future analysis, an international conference “Changing Conditions and Changing Approaches of Academic Work” was held on 4–6 June 2012 in Berlin. The conference brought together more than 200 experts from more than 40 countries—among them many who had been active in research on the academic profession. The conference was arranged by the Centre for Higher Education Research of the University of Kassel (INCHER–Kassel). It was made possible by generous support from the German Ministry of Education and Research.

The coordinators of the conference came to the conclusion that a few themes were frequently touched upon by the various contributions to the conference that might deserve special attention. These eventually were reflected in the titles of two books comprising the major contributions, i.e. “Relevance of Academic Work in Comparative Perspective” (this book) and “Recruiting and Managing the Academic Profession”.

The editors of this book are grateful for the substantial support provided by various institutions and persons: The Federal Ministry of Education and Research, Berlin and Bonn, for supporting the conference financially; the International Centre for Higher Education Research of the University of Kassel for arranging the conference, Katharina Benderoth and many of her colleagues for managing the conference as well as Christiane Rittgerott and Dagmar Mann for taking care of the editing process.

## **1.2 Relevance—From What Perspective?**

Relevance is a term employed with a relatively positive normative thrust for addressing the outcomes of higher education in general or more specifically the outcomes of academia that impact society. Such outcomes might include the utilization of knowledge by graduates from institutions of higher education and the contribution of systematic knowledge to technological advancement, economic growth, societal well-being and cultural richness. It might also include the practical endeavors of higher education beyond the creation, preservation and dissemination of knowledge—for example, health services in university hospitals, community services, internships, or the direct involvement of academics and students in political processes.

Yet, the discourse on issues of relevance does not always have a positive tone. Political leaders and economic leaders might have very articulate expectations as regards what higher education should “deliver” and might assert that higher education is “esoteric” and “ivory-tower” if it does not follow suit. Parents and children might question the appropriateness of higher education if it is not geared to the expectations of “status seekers”. In response, these external expectations might be viewed by academics as subordinating knowledge to “finalized” expectations, thus hindering the “pursuit of knowledge for its own sake”, as well as the preparation of graduates for “indeterminate” work tasks. Finally, representatives of higher education often point out that they themselves may be “relevant” in a way that is neither called for nor desired by society: They call into question the prevailing norms of society, challenge conventional wisdom, and serve a critical function.

This book addresses the relevance issue in higher education primarily from the point of view of academics. Many contributions of this book draw from surveys aimed at understanding how academics perceive societal expectations and how they define themselves and their tasks. Their views are highly interesting in this domain, because on the one hand societal expectations as regards higher education have become quite explicit and pressing in recent years (see the overview of the discourses in Cummings 2006; Brennan 2007) and the academics, on the other hand, have enormous room for manoeuvre in reflecting on the objectives and in shaping the priorities of their professional work (see the overview of respective survey results in Höhle and Teichler 2013).

### 1.3 What Is “Relevant” Varies by Time and Place

In sketching the history of higher education according to its societal embedment we have to point out that the issue of relevance was high on the agenda from the beginning. By tracing the history of modern universities back to its European origins more than 800 years ago (see Rüegg 2000–2011), we note that the classical university was established to serve the needs of the Holy Roman Church in managing a large and geographically dispersed religious bureaucracy in the context of a primarily agricultural economy. Hence law, language, philosophy and theology were of high relevance. Over the decades, the religious centers diversified and the governments became the most important reference power of universities, while a similar range of disciplines, with a growing presence of medicine, dominated up to the nineteenth century. Since the nineteenth century with the emerging industrialization and modernisation, the relevant external powers became more diverse. Correspondingly the disciplines within higher education increased with a growing emphasis on the natural sciences and engineering. Over the latter half of the twentieth century we find a growing emphasis on the social and life sciences as well as medicine.

In recent years, we note an increasing variety of narratives as far as the disciplinary developments and their relationships to societal expectations are concerned. On the one hand, claims are made that global trends, for example, recently coined as heading

toward a “knowledge society” or knowledge economy, call for a growing emphasis on science, engineering and information technology. But if we take the distribution of students across disciplines as an indicators, we note a clear dominance of the natural sciences in the Soviet Union and its neighbors from the 1950s to the 1980s and recently in some Asian countries, and a strong emphasis on a balance between science and engineering on the one hand and the humanities and social sciences in most Western European countries. The dominance of humanities and social sciences in the U.S. is hardly mentioned in this discourse, and the Latin American countries seem to continue to adhere to a combination of an emphasis to the humanities and social science combined with a stress on the traditional professions, especially law and medicine. But irrespective of the diverse preferences as regards the composition and the role of the various disciplines, an increasing expectation of relevance has accompanied the growth of student numbers and research activities all over the world. In this framework, all disciplines are expected both to be relevant and not to confine them too much to the most obvious thrust of relevance, i.e. an emphasis placed on professional specialization.

#### **1.4 Relevance and the Range of Functions of Higher Education**

The history of higher education is often depicted as a vulnerable balance between exposure to the pressures to deliver what those in power like, on the one hand, against the struggle to secure space to pursue knowledge without instrumental pressures, on the other hand. The latter direction hopefully contributes to the well-being of society through enabling it to do something that was not expected, through innovation in the widest sense. The discourse on higher education and society, however, has never been “balanced” and “rational” in discussing the functions of higher education *sine ira et studio*, but rather has often been a heated and demagogic discourse. Often, external demands were so powerful that radical calls for “autonomy” and “academic freedom” were considered necessary as the antitheses. Most experts agree, though, that the university has never been an “ivory tower”.

The notions of relevance in higher education might vary according to the different functions of higher education and the role attributed to these functions. For example, accounts of the academic professions in major encyclopedias of higher education describe the role of the key functions differently. On the one hand, Altbach (1991) sees higher education largely driven by its teaching and learning. On the other hand, Enders (2006) describes the academics as primarily shaped by their research identity that carries over to teaching and learning. We know that the respective views apply more convincingly to certain periods, certain countries and certain sectors of the higher education system. Beyond that, there are completely divergent views on whether higher education can be characterized as having a third function and what that third function actually is.

## 1.5 What Is Relevant Teaching?

In the discourse about the actual and the desirable character of teaching and learning, four dimensions are often referred to that touch upon the issue of relevance: an academic versus a professional emphasis, the emphasis placed on the cognitive domain versus a mix of cognitive and affective learning towards personality development, the attention paid to the acquisition of knowledge versus the output of the learning process, e.g. competencies, and finally the emphasis placed on learning through direct experience versus the learning in classroom settings.

First, in all disciplines, students have to learn the theories, methods and knowledge systems of the respective disciplines. The objectives of teaching and learning often were defined across disciplines. Rüegg (2011, p. 11) describes the founders' views of the University of Berlin early in the nineteenth century as follows: "The task of universities was to show how to discover knowledge by 'making apparent the principles at the basis of all knowledge in such a way that the ability to work one's way into any sphere of knowledge would emerge'." Disciplines, however, vary to the extent the knowledge system is clearly in the forefront or to what extent it is supplemented or confronted with logic and the practices of professional problem-solving. In some countries, as in the U.S., dichotomous terms such as liberal education vs. professional education or academic disciplines versus professional disciplines shape this discourse, while in other countries, the notions are less polarized. For example, higher education in Austria defines the role of university programs as academic and thereby laying the foundation for professional work, while other higher education programs have the task of professional preparation. While often the proponents of a strong role of academic reasoning are accused of advocating knowledge for its own sake and the proponents of professional reasoning as merely yielding to the customary "rules and tools" of professional practice without any critical and innovative perspective, most academics seems to believe—as surveys of the academic profession show—teaching and learning can combine a strong academic thrust with high professional relevance.

Second, study programs at universities in some countries are explicitly expected to concentrate on the cognitive domain. In these cases as well, study is assumed to affect the students' values and attitudes, but the teaching and learning processes is not expected to make learning beyond the cognitive domain part of the curriculum. "Bildung durch Wissenschaft" was the term in German idealism that influenced the Humboldtian "idea" of the university. In contrast, the explicit socialisation of a "well-rounded personality" is seen as a widespread ideal in the Anglo-Saxon world of higher education. For example, this was prominent in Martin Trow's (1976) understanding of "elite higher education".

Third, pedagogical ideas in recent decades have emerged in higher education that stress that the goal of teaching and learning should not be defined in terms of the abilities attained at the end of a teaching and learning process as exhibited on the job or in other life spheres rather than the acquisition of knowledge. Terms such

a “competences” (see Weinert 2001; Blömeke et al. 2013), “qualifications” and “learning outcomes” are employed to underscore such a call for output awareness in higher education. Views differ concerning whether or not such a shift from attention paid to the acquisition of knowledge towards attention focusing on competence leads to a stronger emphasis being placed on the relevance of teaching.

Fourth, study programs in many countries have been enriched in recent decades by activities aimed at ensuring experience beyond the usual classroom teaching and learning out of one’s home university. These activities help the students to cope with the professional practice or other domains of practice. Learning in projects or similar modes of teaching and learning have become more common. Internships are not confined anymore to a few strong professionally oriented programs, and other modes of “experiential learning” are expected to serve a similar function. Finally, temporary study abroad has become a quite popular means of over-coming the possible narrowness of study programs at home by “learning by contrast”, acquiring knowledge of the host country, increasing foreign language proficiency and enhancing inter-cultural understanding, whereby learning through direct experience outside the classroom setting is an integral component (see Kehm und Teichler 2007).

Irrespective of whether a distinction is made according to these three dimensions or not, we note a consensus in the analysis of the changing educational function of higher education in the recent five or six decades that the expansion from an average enrolment of the respective age groups of around 5 % in economically advanced countries in the early 1950s towards an average of about 50 % around 2010 has been accompanied with the expectation that higher education is more visibly useful for technological progress, economic growth, societal well-being and cultural enhancement. The process of increasing student enrolment in higher education was called “mass higher education” by Martin Trow (1974). The OECD employed successively from the 1970s to the 1990s the terms “short-cycle higher education”, “non-university higher education” and “alternatives to universities” (see Papadopoulos 1994) to characterize the sector separate from traditional universities in which study was expected to more directly provide professional preparation and the transmission of applied knowledge. Eventually many institutions of that type in various European countries opted for the term Universities for applied sciences to indicate both the academic quality close to the traditional universities and the strong emphasis on application or relevance.

It would misleading to assume a wide division between the university sector appreciating academic highly and emphasizing a close link between teaching and research on the one hand and on the other hand the applied sector with its stress on the intended relevance of teaching and learning. According to the survey *The Changing Academic Profession* (see Teichler et al. 2013), 65 % of professors at universities underscored that they emphasized practically oriented knowledge and skills in their teaching—only 11 % less than was the case for professors at institutions of higher education with a dominant teaching approach.

In recent years—possibly reinforced by the growth of enrolments and the increasing belief that knowledge is essential if the labor force is to become a productive agent for technological progress and economic growth—the call for the relevance of teaching and learning is ever more frequently invoked. The popularity of the term “employability” (see Yorke 2007; Vusakovic 2007) certainly signals a call to higher education to subordinate teaching and learning to the presumed demands of the employment system.

The discussion in higher education suggests that some academics are ready to accept such a call. Others, in opposition to such demands, call for the preservation of academic freedom in such a way that students are freed from direct measures of relevance during the course of their studies. However, a sizeable minority of academics seem to have a different understanding of relevance. They suggest the most relevant education a university can provide is one that stresses a broad education and critical thinking, as was articulated by the English pedagogue, Cardinal Newman, in *The Idea of the University*: “A useful education is one that teaches some mechanical art or some physical secret. A liberal education develops the whole man.” (Newman 1992). Similarly, Sir Alexander Hamilton elaborated on the concept of a liberal education:

...An education in which the individual is cultivated, not as an instrument towards some ulterior end, but as an end unto himself alone; in other words, an education, in which his absolute perfection as a man, and not merely his relative dexterity as a professional man.

## 1.6 What Is Relevant Research?

It is generally assumed that the role of research in higher education in the modern Europe was strongly shaped by the “idea of the university” formulated by Alexander von Humboldt that ought to be incorporated into the University of Berlin founded in 1810. The call for the “unity of research and teaching” certainly spread all over the world, while the other key principles of “solitude and freedom” as well as the “community of scholars and learners” might have a less persuasive influence all over the world. Knowledge was assumed to unfold its potential only, if there was a freedom of research, teaching and learning and this also meant freedom from the state and the church in contrast to the highly directive higher education reform in France some years earlier. Most scholars interpreting these concepts came to the conclusion that academic freedom implies the right of scholars to pursue knowledge for its own sake, but that free academic pursuit eventually would turn out to be more relevant for the “nation” than academic endeavors within a dirigiste regime of higher education.

While the Humboldtian ideal of research was formulated at a time when the principles of philosophy still were expected to guide the principles of research across disciplines, we note, first, the spread of the natural sciences in the universities during the course of the nineteenth century. Second, disciplines with a strong “functional” paradigmatic framework, such as engineering as well as economics and business grew. They remained outside the traditional universities in many countries

for a long time, for example Germany, but they became an integral part of the newly emerging university systems in the United States, notably through the Land Grant universities, Russia and Japan. The American notion of the more practical nature of research was not confined to these disciplines: According to Daniel Boorstin (1962), the American character was not as inclined as its European forebears to commit to deep reflection on the why's of natural phenomena but more inclined to tackling practical challenges such as improving the technology related to the how's—how to harvest cotton, how to erect bigger and safer bridges to span turbulent rivers, how to eradicate cholera.

Yet, the view gained enormous support among academics of many disciplines that research was needed and would be qualitatively most excellent, if it was kept free of pressures for relevance. In many countries, the universities being equally in charge of higher education and research were understood to have their stronghold in “basic research”, and support schemes for basic research were established in many countries as deliberately separate from research under the regime of relevance and application.

Experts agree, however, that basic research clearly embarking in unforeseen knowledge creation free from pressures of relevance became an “endangered species”. This is certainly to a considerable extent due to the growing interests of economy and society of receiving useful knowledge. Certainly, the vast industrialization in the nineteenth century was a major trigger, and the Nobel Prize can be viewed as both the highest symbol of academic excellence and as part of industrial history. The race for constructing an atomic bomb in the 1930s and 1940s is seen both as a dilemma in the relationships between basic and applied research as well as in the ethics of research. The Allied powers of World War II often have attributed their military success to the strength of their applied research. The cold war competition in space research is another story of linkages between politics, military regimes and applied research. When the paradigms of the cold war lost momentum, the term “knowledge economy” was the next slogan calling for the priority of application. But apart from the specific undercurrent of that slogan, many experts point out that the universities have moved from transmitting and preserving knowledge to producing knowledge as a direct productive element of society (Etzkowitz 2001; Scott 2006).

But there were also developments in the logic of research tilting towards the erosion of a clear distinction between basic and applied research. Notably, the discourse on “mode 1” and “mode 2” research spreading during the 1990s called such a clear divide into question (see Gibbons et al. 1994; Nowotny et al. 2001).

For many years, calls were made for a “balance” between basic research and applied research. For example, Vannevar Bush (1960), who was one of the founders of the U.S. National Science Board, developed an eloquent exposition of this argument: Basic to applied to development. But over the years, funds allocated to applied research and development exceeded those allocated to basic research to such an extent that most scholars considered the call for “balance” as a lost cause.

Views differ, however, on whether the allocation of funds is a convincing indicator in this respect. Academic approaches and the search for the enhancement



of knowledge irrespective of technological, economic and societal expectations are viewed by some experts as being relatively strong; this is because academics are given the strongest influence in defining the criteria for “quality” even under the growing pressures exerted by industry, governments and university managers to enhance utility and efficiency (see Kogan et al. 2000). The increased competition among research universities to be visible in international rankings as “world class” universities seems to reflect the popularity of a mix of criteria, where the role of the intrinsic value of academic quality and that of utilitarian research are interwoven.

Turning again to the comparative study on *The Changing Academic Profession*, we note that many academics consider the “high expectations of useful results and application” as “a threat to the quality of research”. This was stated by 52 % of the professors at universities that emphasize both teaching and research and by 46 % of the professors at institutions of higher education predominantly in charge of teaching. When asked to characterize their primary research activities, however, many academic characterize their research as both theoretically and practically oriented. Actually, of the professors at the universities that emphasize both teaching and research 60 % described their primary research activities as basic and theoretically oriented, 68 % as applied and practically oriented, 20 % as commercially oriented or towards technology transfer, and 47 % as socially oriented or as intended for the betterment of society. Among professors at institutions that were primarily focused on teaching, the emphasis on basic and theoretically oriented research was somewhat less frequent (49 % on average across countries). But other approaches were also prominent: 79 % stressed an applied focus, 25 % were commercially oriented and 49 % were socially oriented (see Teichler et al. 2013).

## 1.7 What Is Relevant Service?

While research as well as teaching and learning are undisputed functions of higher education, we note a controversial discourse whether a third function of importance can be named and, if so, how it could be characterized. In some countries, legislation or other regulations name activities close to research and teaching as third functions, e.g. technology transfer or continuing professional education. Moreover, some regulations of that kind addressed the cross-cutting meta-functions, e.g. serving the quality of opportunity.

In recent years, along with the growing pressure on higher education to demonstrate a visible relevance to society, the view has spread that a third function can and has to be named alongside teaching and research. Macfarlane (2005) pointed out five different interpretations of the nature of these third mission activities. Culum et al. (2013, p. 175) summarized this classification as follows: “(I) administration—taken negatively in general, with third mission activities seen as increasing the burdens on academics, (II) customer service for students and business organizations, (III) collegial virtue—as a moral obligation in supporting colleagues, (IV) civic duty

as in doing voluntary work or outreach for the benefit of the local community, not necessarily connected with scholarly expertise, and (V) integrated learning which connects academic study work with community based projects and internships, carried out by students rather than by academic staff (e.g. academic service learning, social internships).”

This list certainly does not completely cover all the key issues discussed in various countries in the discourse on the tasks and activities of higher education beyond teaching and research. For example, no mention is made of the long established health service offered at university hospitals. Also, direct involvement in the political process is widely held as the task of the universities in Latin-American countries. On the other hand, activities such as internships are often understood as integral part of the teaching and learning domain.

In a review of the themes of the third function in various countries, Culum et al. (2013) identify three priorities:

- Relationships between higher education and industry/business beyond the teaching and research activities, where activities such as technology transfer and consultancy could be viewed as a third function.
- University civic links with community, e.g. direct involvement in the improvement of living conditions in the local community. Often, education for citizenship is an important theme as well.
- Activities—education, research or beyond that—to contribute to sustainable development, whereby a broad range of societal needs might be the target of these activities.

Obviously, no generally agreed term has developed for this area; the reference to the third function is kind of pointer to an area where there is a lack of agreement. If at all, the term “service function” has gained some popularity. In the framework often reference is made to the U.S. higher education expert Ernest Boyer (1990) who underscored the three “holy pillars” of academic work: teaching, research, and service. Ernest Boyer argued that these pillars represented different modes of scholarship that academics might combine in different degree depending on their personal preferences as well as the needs of the particular setting where they worked.

The term “service” met with reluctance by some experts, because it is often employed—as for example in the classification by Macfarlane (2005)—not only for elements that could be understood as outputs of higher education, but also for the internally directed services within the higher education system.

Whatever priorities and delineations we note in the discourse on the third function of higher education, issues are addressed as a rule that are linked to the outside world und understood to be “relevant” by definition. There are at least two points of caution: Those in higher education might consider activities as important for society that are hardly viewed as highly important by external stakeholders. Moreover, representatives of higher education might be involved in activities beyond teaching and research that have no sound knowledge basis of teaching and research;

according to a widespread view, activities could legitimately be called third function, service function etc. only, if they are clearly nourished by the knowledge creation, dissemination, and preservation functions of higher education; otherwise they should be understood as private activities of persons who happen to be academics and students alongside.

The lack of widely agreed concepts and terms make the study of the third function of higher education in large-scale surveys almost an impossible task. Thus, it is not surprising to note that a clear reference to the third function is made in the Changing Academic Profession survey only in a question about civic involvement of academics. Accordingly, only about 5 % of senior academics indicate that they have been substantially involved in the previous year in local, national or international politics, while about one third have been members of community organizations or have participated in community-based projects.

## 1.8 The Changing Context

What is behind these differences in the perception of the academy, especially the differences over time? Chapter 2 outlines several of the major trends that characterize the changing context of the academy: the globalization of the world economy including the international mobility of talent, the emergence of the knowledge society, the massification of higher educational systems, and the increased vigilance related to the use of public funds. Though with regard to public funds, there is indeed a complex pattern. In both East Asia and Latin America public funding has tended to increase whereas in the Anglophone countries the opposite trend is apparent. An extreme case of decline is Greece (as reported in Chap. 3).

As the landscape of higher education has in recent years undergone significant changes, so correspondingly have the backgrounds, specializations, expectations and work roles of academic staff. In many countries the academic profession is ageing, increasingly insecure, more accountable, more internationalized and less likely to be organized along disciplinary lines. It is expected to be more professional in teaching, more productive in research and more entrepreneurial in everything. In many places (as discussed in Chap. 4) the very definition of an academic has become ambiguous as have the boundaries between academic jobs and the jobs of other professionals, both within and beyond the walls of the academy.

## 1.9 Differentiation of Academic Workplaces and Roles

Perhaps the most frequently mentioned recent trend in higher education has been its massification, that is, the shift from the provision to a small elite group to the provision for most if not all of the age cohort. With the expansion of higher

education has come increasing differentiation (Chap. 5), increasing expectations from society, and the evolution of professional roles that may take academics away from their original disciplines towards new forms of identity and loyalty. At the same time, knowledge has come to be identified as the most vital resource of contemporary societies, and many nations have taken great strides to improve their capacity for knowledge creation and application (Chap. 6). This new devotion to knowledge has both expanded the role of the academy and challenged the coherence and viability of the traditional academic role. As discussed in the introduction to this chapter, a prominent trend in recent years is the quest for greater relevance.

## 1.10 Dimensions of Relevance

Most of the latter chapters of this book explore different dimensions of relevance. Postiglione et al. (Chap. 7) highlight the relations of the coordination of academic systems to relevance, suggesting that the relations may differ depending on whether an academic oligarch, statist, or model is in place. They argue that the market model is associated with the most intrusive signals and hence with the least attractive academic environment, yet it also may be associated with the greatest responsiveness.

Lee (Chap. 8) focuses exclusively on the research side; is the classical distinction between basic and applied research still valid? What factors are associated with greater productivity and in particular what is the role of collaborative research involving partners who are in and outside of the academy?

Culum (Chap. 9) explores the service role of the academy. What is it? How important is it for academics? What factors dispose academics to engage in service? While much has been written about teaching and research, 'service' has been highlighted less in the academic world. Service is still a vaguely defined concept—or scholarly discipline—and its conceptualization has been an on-going process. Some argue that the value of and commitment to (community) service remains on the margin of reality and academic debate, and that it is still searching for a broader and a more intense scientific discourse.

Jung (Chap. 10) considers gender differences in the relevance of academic work. Are females more inclined to be responsive to clients both within academia (students) and outside? This study includes cases in five countries (Australia, Brazil, China, England, and the United States) in order to observe if the results are similar across different systems. The results show that there still exist differences between genders in terms of their educational background, employment status, and working institution. As well, regarding research scholarship, male academics have more involvement than female academics. However, female academics in the junior group and the soft disciplines are actively involved in research scholarship.

## 1.11 Trends in the Emerging Countries

The final chapters of the book consider the changing meaning and importance of relevance in the emerging countries. These systems start from a low enrolment ratio, but they are expanding with the infusion of new resources. This opens up new opportunities, but also leads to conflicting pressures. Arguably the universities in Latin America and East Asia start from a base of high relevance, at least in teaching. The curriculum is focused on training for the professions—in East Asia a bias to engineering; in Latin America a bias towards law, business, medicine.

But as these nations seek to develop, there is a group of scholars connected with international standards and therefore part of the global academic community (Marquina, Chap. 11). This sector, that is called “elite”, has a considerable distance from the rest of academics in terms of working conditions, productivity and perceptions of their profession. This distance is significantly lower in mature countries. The comparison shows a significant difference between the elite group and the rest for each of the six countries, a difference that is not as significant in mature countries taken in the aggregate. This would be a major dynamic that reduces the difference in the academic professions of the mature and the emerging countries.

Stack et al. (Chap. 12) focus on the policy level related to the new emphasis on research, specifically contrasting Brazil and Mexico. Of the roughly dozen Latin American universities that figure in the international rankings, half are Brazilian, while just one is Mexican. This disparity is largely the result of the differences between the two countries economic development models. Since the 1960s or before, Brazilian higher education policy has focused on developing a competitive research sector as part of a broader strategy for economic development. In contrast, Mexican government policies have largely focused on increasing access to higher education, with limited investment in science and technology. Such differences appear to have an impact on the perceptions of academics in both countries toward their profession, as well as in their scientific production.

Riquelme (Chap. 13) follows up with a case study of Argentina, pointing out how there are big differences between universities with respect to their engaging in technology transfer partnerships with outside entities. The production and circulation of knowledge among professors is a reflection of different teacher-researcher activities, which vary according to the university and field they belong to. The authors identified four functions carried out by universities and their groups: research (R), teaching (T), extension (E) and transfer (Tr). The specific characteristics and scope of these four types of activities are in turn modeled by the institutions’ tradition, their particular traits and status in the field as well as their connection to—according to each case—social and productive demands from local, regional and even the national environment.

Finally Balbachevsky (Chap. 14) provides an overview on the future of the Latin American model. Which among Argentina, Brazil, and Mexico will achieve the greatest progress towards excellence and relevance?

## 1.12 Conclusion

The chapters of this book were prepared for a special conference in Berlin seeking to capture the major highlights of three different comparative higher education research projects. Most draw explicitly on data from these projects. The focus of this volume is the relevance of the academy. A second volume is in preparation focusing on academic careers and on academic perceptions of the management of higher education.

The early chapters of this book focus on the relevance debate in the more advanced countries. They report a strong bias by academics towards instruction that grapples with real-life settings and thus in that respect is relevant. Academics also espouse a determination to conduct research that is socially oriented and intended for the betterment of society. While academics strive for relevance in their teaching and research, they appear reluctant to devote time or effort for the dissemination of the findings from their research; it would appear that the increasing demands on academics related to their teaching and research obligations as well as the failures of the research system foster this reluctance.

In contrast with the academics of the more advanced societies, those in the emerging countries, most notably Argentina, Brazil, and Mexico express a greater commitment to service. But in these same systems, a division is emerging between an upper tier of academics who are more focused on world-class research and instruction and a second level of academics who embrace service along with their teaching and research. It remains to be seen whether or not the international pressures for excellence will erode the inclination towards relevant service of the academics of the emerging nations.

## References

- Altbach, P. G. (1991). The academic profession. In P. G. Altbach (Ed.), *International higher education: An encyclopaedia* (pp. 23–45). New York: Garland Publishing.
- Altbach, P. G. (Ed.). (1996). *The international academic profession: Portraits of fourteen countries*. Princeton: Carnegie Foundation.
- Blömeke, S., Zlatkin-Troitschanskaia, O., Kuhn, C., & Fege, J. (Eds.). (2013). *Modeling and measuring competencies in higher education: Tasks and challenges*. Rotterdam: Sense Publishers.
- Boorstin, D. J. (1962). *The Americans: The colonial experience*. London: Penguin Books.
- Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton: Carnegie Foundation.
- Brennan, J. (2007). The academic profession and increasing expectations of relevance. In M. Kogan & U. Teichler (Eds.), *Key challenges of the academic profession (Werkstattberichte)* (Vol. 65, pp. 19–28). Kassel: International Centre for Higher Education Research Kassel.
- Bush, V. (1960). *Science: The endless frontier*. Washington, D.C.: National Science Foundation.
- Culum, B., Roncevic, N., & Ledic, J. (2013). Facing new expectations—Integrating third mission activities into the university. In B. M. Kehm & U. Teichler (Eds.), *The academic profession in Europe: New tasks and new challenges* (pp. 163–195). Dordrecht: Springer.
- Cummings, W. K. (2006). The third revolution of higher education: Becoming more relevant. In Research Institute of Higher Education (Ed.), *Reports of changing academic profession*

- project workshop on quality, relevance and governance in the changing academia: International perspective* (pp. 209–222). Hiroshima: Hiroshima University, RIHE.
- Enders, J. (2006). The academic profession. In J. F. Forest & P. G. Altbach (Eds.), *International handbook of higher education* (pp. 1–21). Dordrecht: Springer.
- Etzkowitz, H. (2001). The second academic revolution and the rise of entrepreneurial science. *Technology and Society Magazine*, 20(2), 18–29.
- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., & Scott, P. (1994). *The new production of knowledge*. London: Sage.
- Kehm, B. M., & Teichler, U. (2007). Research on internationalisation in higher education. *Journal of Studies in International Education*, 11(3–4), 260–273.
- Kogan, M., Bauer, M., Bleiklie, I., & Henkel, M. (Eds.). (2000). *Transforming higher education: A comparative study*. London/Philadelphia: J. Kingsley Publishers.
- Macfarlane, B. (2005). Placing service in academic life. In R. Barnett (Ed.), *Reshaping the university: New relations between research scholarship and teaching* (pp. 165–177). Berkshire: Open University Press.
- Newman, J. H. (1992). *The idea of the university*. New Haven: Yale University Press.
- Nowotny, H., Scott, P., & Gibbons, M. (2001). *Re-thinking science: Knowledge and the public in an age of uncertainty*. Cambridge: Polity Press.
- Papadopoulos, G. S. (1994). *Education 1960–1990: The OECD perspective*. Paris: OECD.
- Rüegg, W. (Ed.). (2000–2011). *A history of the university in Europe*. 4 Volumes. Cambridge: Cambridge University Press.
- Rüegg, W. (2011). Themes. In W. Rüegg (Ed.), *A history of the University in Europe. Volume IV: Universities since 1945* (pp. 3–30). Cambridge: Cambridge University Press.
- Scott, P. (2006). The mission of the university: Medieval to postmodern transformations. *Journal of Higher Education*, 77(1), 1–39.
- Teichler, U., & Höhle, E. A. (Eds.). (2013). *The work situation of the academic profession: Findings of a survey in twelve European countries*. Dordrecht: Springer.
- Teichler, U., Arimoto, A., & Cummings, W. K. (2013). *The changing academic profession: Major findings of a comparative survey*. Dordrecht: Springer.
- Trow, M. (1974). Problems in the transition from elite to mass higher education. In OECD (Ed.), *Policies for higher education* (pp. 51–101). Paris: OECD.
- Trow, M. (1976). Elite higher education: An endangered species? *Minerva*, 14(3), 355–376.
- Vukasovic, M. (2007). Deconstructing and reconstructing employability. In E. Froment, J. Kohler, L. Purser, & L. Wilson (Eds.), *EUA Bologna handbook (part 1.4–2)*. Berlin: Raabe.
- Weinert, F. E. (2001). Concept of competence: A conceptual clarification. In D. S. Rychen & L. H. Salgnik (Eds.), *Defining and selecting key competencies* (pp. 45–66). Göttingen: Hogrefe.
- Yorke, M. (2007). Employability in higher education. In E. Froment, J. Kohler, L. Purser, & L. Wilson (Eds.), *EUA Bologna handbook (part 1.4–1)*. Berlin: Raabe.