Academic Markets, Academic Careers: Where Do We Stand?

Gaële Goastellec, Elke Park, Gülay Ates and Kevin Toffel

As underlined by a growing number of studies, academic careers are changing. The massification of higher education and the resulting changes in the composition of student bodies and faculty, in the role of diplomas and the content of studies, as well as—more broadly—changes in the role of higher education systems in society have led to a more complex organisation of both academic markets and careers. What do we know about the changing face of academia? How have these changes been analysed so far? What is yet to be explored?

Through a literature review, this paper is an attempt to frame the changes in academic markets and careers in comparative perspective. In order to do so, the first section presents a historical perspective of research on academic markets and the dimensions identified as central in the analysis and understanding of academic markets and careers. The second section addresses the three main stages of academic careers: young academics (Ph.D. candidates and post-doctoral fellows), middle rank and adjunct staff and the professoriate. Finally, the concluding section comprehensively discusses academic career paths.

1 Academic Markets and Recruitment Procedures: A Historical Perspective

The development of research on academic markets is concomitant with the sociology of higher education structuring as a domain. It evolved initially as a sub-stream dedicated to the study of the "academic man", alongside the two main focuses on

G. Goastellec (✉) · E. Park · K. Toffel
Politics and Organizations of Higher Education Research Unit at the Observatory Science, Policy and Society (OSPS), University of Lausanne, Lausanne, Switzerland
e-mail: gaele.goastellec@unil.ch

G.Ates
University of Klagenfurt, Klagenfurt, Austria

University of Vienna, Vienna, Austria

B. M. Kehm, U. Teichler (eds.), *The Academic Profession in Europe: New Tasks and New Challenges,* The Changing Academy – The Changing Academic Profession in International Comparative Perspective 5, DOI 10.1007/978-94-007-4614-5_6,

educational inequalities and higher education effects on students as well as another sub-stream focusing on governance and organisation.

1.1 From Prestige and Performance to Inbreeding

Building up a historical perspective on the American sociology of higher education, Burton Clark (2007) identifies the works of Wilson (1943) and Riesman (1956) as amongst the first to focus on higher education as a profession. Riesman provides an analysis of a merit-based academic structure, describing prestige rankings of higher education institutions and the imbrications of local and national disciplinary interests. Wilson focuses on academic hierarchies and selection problems, academic status, processes and functions with a special focus on prestige and competition.

The latter has largely influenced the founding work of Caplow and McGee (1958) who were the precursors in analysing academic careers in relation with labour markets. They provide an in-depth analysis of how vacancies occur and question the evaluation of performance, departments' strategies regarding salaries, procedures of recruitment, recruitment processes and governance, etc. Thus, they identify the main dimensions of academic markets and put recruitment procedures at the core of the organisation of academic markets. They reveal the governance processes behind academic job vacancies and the decisive dimension of prestige as a measure of performance. This dimension of prestige is not a new focus: at the beginning of the twentieth century, Cattel (1906, 1912) already measured the "excellence" of American universities' departments through the numbers of "big men" they had.

The link between prestige and performance in the academic marketplace is a continuous topic of concern in the research on academic markets. As underlined by Caplow and McGee (1958), "disciplinary prestige is a feature of a social system, not a scientific measurement. It is correlated with professional achievement but not identical with it" (p. 128). Following McGee, Crane (1970) evaluates the relative importance attributed to the prestige of doctoral origin and scholarly performance, showing that greater importance is given to the former in the recruitment process (in the Anglo-American higher education systems). The relevant research addresses social mobility and local recruitment, as well as the link between the size of an academic market, the degree of competition and performance.

It is here that a specificity of the academic market compared with other sectors appears: the evaluation by peers (as underlined by Siow 1995). Williams et al. (1974) also showed that in the UK candidates for junior academic positions had better chances of being hired when they had first-class honours degrees, were coming from the Oxbridge universities and were applying to the universities where they graduated. On the scientific activity side, they came to the conclusion that academics that had published at least three books and worked in at least two universities were more often appointed or promoted. A decade later, a new study on British Departments of Geography also underlined the importance of academic inbreeding (Johnston and Brack 1983). Recruitment processes and careers remain a highly sensitive dimension in most higher education systems. A recent study (RIHE 2009) tends to show that in comparative perspective a certain decline of academic inbreeding can be observed. One hypothesis is that the tendency towards inbreeding is not only linked to national or local rules regarding recruitment or to the increasing internationalisation of higher education system that tend to affirm mobility as a criterion to measure academic excellence. It is also strongly linked to the national dynamics of academic markets—increasing or decreasing in size—and the ratio between the number of applicants and the number of positions: when the pressure at the entrance of the academic market reaches a certain level, academic departments tend to hire their former students more easily. When the number of positions to fulfil is important compared with the number of Ph.D. produced, departments are not under such a pressure to provide an employment opportunity to their former students. Of course, these tendencies also vary depending on the department, on the national and international higher education market and the "value" attributed to its Ph.D.

1.2 The Academic Labour Market

The tension between supply and demand in the academic market has particularly been studied through questioning the possible shortages in faculties: starting in the 1970s, projections of future shortages of faculties in the United States were made which lead to a renewed interest in academic job markets and, more specifically, the adequacy between the number of Ph.D.s produced and the positions to be filled (Cartter 1976). At the end of the 1980s, Bowen and Schuster predicted future academic shortages in sciences and arts. Since then, research increasingly focused on the construction of a supply and demand policy (see for the French case, Zetlaoui 1999; Cytermann 2003; on the Swiss Case, Barras 1994; CUS 1998; Meyer and Nyffeler 2001; Felli et al. 2006; on the United Kingdom, Hursfield and Neathey 2001; HEFCE 2003; Metcalf et al. 2005; on a European comparison, Bonaccorsi et al. 2004). What is mainly discussed here is first, the level of production of Ph.D.s with regard to the academic market and especially the anticipation of baby boomers retirement, the attractiveness of academic careers, especially in some disciplines where the private market strongly competes with academia in terms of remuneration, and the anticipation of the context transformations weighting on faculty needs, such as the students' influx evolution in different institutions and disciplines. These different levels of market opportunities depending on discipline lead to a sharper division across the academic community (Barnett 2004).

The study of the supply and demand dimension also includes the international mobility issue and its corollary, the brain drain/brain gain issue: the brain gain not only concerns internationalised markets such as the United States or Switzerland, Canada and the United Kingdom (see Felli et al. 2007), but also countries such as South Africa which are very attractive to SADC academics. The brain drain issue mainly matters in "developing" countries, losing their best academics not only to financially more attractive countries (see, for example Nunn 2005, or UNESCO 2004 on south-east European countries), but also in countries such as France which produce too many academics in comparison with the size of their markets (Jalowiecki and Gorzelak 2004).

Salaries and other material retributions are part of the supply and demand dimension. This important feature of academic markets, academic wages, was first addressed by economists: in *The Wealth of Nations* (1776) Adam Smith suggested to link professors' incomes to the number of students registered in their class. Two centuries later, Williams et al. (1974) proposed an analysis of factors affecting salaries. Both the evolution of academics salaries in regard to other professions and the flexibility of higher education institutions to define themselves the faculties' individual salaries are important features of academic markets. For example, looking at the United States, Ehrenberg (2002) underlines the decline of academic salaries in public institutions compared with private institutions and the increased dispersion of medium average salaries within the higher education institutions. More recently, in an international study comparing 15 higher education systems, Rumbley et al. (2008) compared academic salaries around the world, pointing out contextual variations (between countries, institutions, disciplines) and statutory variations (rank, tenure, full-time, length of the career, etc.), as well as differences in salaries progression in the course of a career, depending on the national market structure and governance.

Finally, the salary issue is twofold: on the one side, it addresses the heterogeneity of wages depending on status, institution, higher education system and individual characteristics (gender, ethno-racial origin, etc.). On the other side, it examines the classical distortion between the social prestige of the academic profession and its economic power.

1.3 Governance of Academic Careers

To understand the even more complex dynamics at play in academic markets, the latest studies tend to rely on comparative approaches to grasp academic employment rules, governance and career paths (Altbach 2000; Kaulisch and Salerno 2005; Musselin 2005a). They develop a holistic, comprehensive approach of academic market mechanisms, identifying the complex national interplays of labour market salaries, status, recruitment processes, workloads, career patterns, promotion rules, etc. to finally point out the emergence of more regulated internal labour markets as a common evolution of national higher education systems (Musselin 2005b). Regarding the analysis of market governance, she underlines that through the development of individual assessment and incentive devices, higher education institutions play an increased role in issues traditionally managed by the academic profession. This trend is also highlighted by Enders (1999), who notices an increase in institutional-level power regarding faculty management with the simultaneous diversification of the academic profession. Focusing on the United States, some researchers also come to the conclusion that this change in management corresponds to a shift from a collegial model of governance to a management model (Kogan et al. 1994).

With each higher education system being characterised by a specific market legislation and organisation, some authors also point out the societal dimension of academic markets: for example, in "The coconut tree" Altman and Bournois (2004), studying management science academics, outline the main parameters of French academic careers, the social and cultural contexts, through describing recruitment and promotion processes, the role of aggregation for professors etc. Finally, they compare the French academic structure to a coconut tree that is characterised by precise leaf positions based on a combination of grade and time that positions "every actor in a unique, personalised, precise, organic, official and public situation" (Altman and Bournois 2004, p. 323).

Finally, research on academic markets emphasises that the organisation of the academic market is particularly crystallised in the hiring of academic staff, by recruitment or promotion, on internal or external, local, national or international markets. These diverse recruitment processes build up original recruitment criteria and eventually produce direct or indirect discrimination (Musselin and Pigeyre 2008). Their study provides insights of the higher education configurations and more broadly, reveal how they "are interwoven with overall pattern of the higher education system and its external relationships" (Enders 2000, p. 22) and embedded in social norms (Lewis 1975).

2 Stages of Academic Careers

When trying to identify the main stages of academic careers, the researcher is confronted with the diversity of the status composing each national academic market. In order to provide a broad framework for comparison of academic careers, this section identifies three main categories that cover distinct realities depending on national contexts but still, they allow for some comparisons: young academics, including doctoral and post-doctoral students, middle-ranking staff and adjuncts, and the professoriate. This section attempts to picture the trends and the diversity of these three main careers' stages.

2.1 Young Academics and Doctoral Education

The development of doctoral education in Europe is linked to the notion of increasing the national research capacity via doctoral holders. Since 1990, in the United States and Canada, the reform processes "focused on: preparing doctoral students to better balance their research and teaching responsibilities as future faculty members; encouraging students to actively participate as leaders and public intellectuals in the civic arena; and on helping universities to ensure that greater numbers of students who enrol in doctoral programmes complete those programmes (especially underrepresented minorities, who have historically completed at lower rates than majority students)" (Council of Graduate Schools 2006, p. 1). On the European level, the EUA's Doctoral Programmes Project—initiated in 2004—established a particular close intercommunication between the European Higher Education Area and the

European Research Area (EHEA and ERA). The linkage increased awareness to reconsider the role of doctoral education in the knowledge society, to see doctoral candidates as early-stage researchers, and to harmonise the European system of education and research (Council of Graduate Schools 2006; European Commission 2000; European Commission 2004; EUA 2004–2005; Kehm 2006; European Commission 2007; Marginson and Wende 2007). Taking this into account, doctoral education does not only respond to a career inside but also outside academe.

In the last few years, a vast amount of research on Ph.D. candidates and young researchers emerged. Overall qualitative analysis gives insight into the multifaceted factors not only to illustrate and/or explain the heterogeneous doctoral education systems in Europe but also the multifarious situation and perception of (post-)doctoral candidates and holders. In Europe, there is still a diverse landscape, for example, at the dimension of Ph.D. programme duration and/or course design, forms of financing, recruitment, admission procedures, contents of the doctoral thesis agreements and/or status of doctorates (Kehm and Kreckel 2008b).

National reports provide continuous information about the situation, individual perspectives and subjective perceptions of (post-)doctoral candidates and (post-) doctoral graduates (Schlegel 2001; Marsh and Rowe 2002; Gerhardt and Briede 2005; Bundesministerium für Bildung 2006; Pechar and Campbell 2008). The nexus of comparative analyses of doctoral programmes across Europe is that there is still a “diversity not only across different countries in Europe, but also across universities within the same country and across faculties within the same university” (EUA 2004- 2005, p. 6). The comparative analyses of the regulatory framework of doctoral programmes show an ongoing transformation process even beyond Europe (Weiler 2004; Berning and Falk 2005; Kehm 2005, 2006, 2007; Metcalf 2006; Pechar 2008).

2.1.1 Doctorates

All over Europe, the percentage of doctoral holders is increasing (Kehm and Kreckel 2008a). For the years 1998–2006, Auriol (2010) reports a 40 % augmentation in the OECD countries. Referring to Meri (2007), 3 % of the students in the European Union (EU) were in doctoral programmes. In 2004, Europe had twice as many doctoral holders as the United States and six times more than Japan (Meri 2007). Of course, there is a wide variation amongst the disciplines and differences between men and women. In addition, there are differences between postgraduate and post-doctoral levels. Looking at the average age of doctoral holders, in the United Kingdom, 45 % of the doctoral holders are in the 25–29 age group, in Sweden 35 % are in the 30–34 age group, and the German and Swiss majority is between 30 and 34 years old (Burkhardt 2008). Regarding the financial funding of doctorates, candidates of natural and agricultural sciences or engineering state to have financial support through teaching and research-assistant contracts, fellowships or scholarships. Doctorates in the area of medical or social sciences and humanities are reliant on occupations outside of academe, loans, personal or family savings (Auriol

2010). Another pan-European quantitative online survey is the "Eurodoc-survey on the situation of doctoral candidates within Europe". Its main results give information about structures, motivation, working conditions, supervision, assistance, funding, mobility, productivity, obstacles, time-to-degree, employment situation, and desire to stay in academia, self-perception being prepared for job market, and funding (Eurodoc 2011). The distinction between "time-to-degree" ("quality and structure of programme, supervision, funding and additional duties") and "transition to employment" ("generic skills", employability, "career prospects inside and outside academe, and research versus the professional orientation of doctoral studies") remains a heuristic distinction for surveys on doctoral candidates and doctoral graduates (Kehm 2005). As some institutional changes bear new research questions, other research activities are reminiscent of the one of the last 30 years.

At a disciplinary level, the question "What is a doctorate" was asked by Probst and Lepori (2008) and a few years earlier, e.g. by Johnson (2001). Similar questions were asked by Teichler and Sadlak in 2000, although they had a broader focus on a more general dimension. Thus, reshaping the doctoral education sparked a new interest in how to allocate the time between taught courses and/or research training (Marsh and Rowe 2002; Fry and Ketteridge 2003; Kiley and Mullins 2004; Craighead and Craighead 2006; Locke and Teichler 2007; Lovat and Holbrook 2008; Bluett 2010).

According to Scott (Council of Graduate School 2006, p. 5), the question, if the doctorate is seen "as a first step in a research career vs. as an ultimate academic degree (and the related tension between perceptions of doctoral students as employees vs. as trainees)", is still substantial. The understanding of this remains blurry due to the lack of international comparative reliable large-scale quantitative data. Seen from this perspective the nomenclature may give a sense of the status of doctoral candidates. The German term "Nachwuchs", in France the so-called "jeunes chercheurs", in British English "'new blood' lecturer" or "junior staff", and in American English "early career researcher" doctoral education is increasingly seen as a socialisation process towards becoming a researcher and/or future faculty member.

Institutional embeddedness seems to be essential in order to enhance career opportunities for young academics at higher education institutions. While in some disciplines, research-intensive activities start at the bachelor's or master's level (sciences), other fields (the humanities, e.g.) tend to postpone it to the post-doctoral level (Melin and Janson 2006). Various studies showed that the cultural and disciplinary influence has a strong impact on the organisation of the research–lecture interrelation (Abbott 2001; Multrus 2004; Enders 2004). Kreckel's (2008) descriptive analysis presents the influence of historically grown cultures (Francophone, Humboldtian or Anglo-American model) on the relationship between research, training and promoting young talents. Kehm (2005, p. 16) concludes that there are two predominant models of doctoral programmes: "personal relationship" and "contractual relationship". She shows that there is a "distinction between research doctorates and professional doctorates". In Great Britain, for example, a research doctorate leads to an academic career, and professional doctorate to an employment promotion outside academe (Kehm and Kreckel 2008a). Throughout Europe, individual and professional doctorates seem to be increasingly devalued. Referring to Green and Powell (2005, p. 236) “the concept of professionally oriented research, as opposed to academic research, gives a rise to a false dichotomy.” Following Fiedler and Hebecker (2006) doctoral graduates are early-stage researchers, who obtained professional training as a key qualification. However, Enders (2004, p. 428) underlines that “it would (…) be a misunderstanding to assume that further diversification will bring about a breakdown of traditional concepts of scholarly work and training. More likely new approaches are emerging that are partly vested within and partly parallel to the prevailing doctoral training context”. Nonetheless, according to Kehm and Kreckel (2008b) the research doctorate seems to be the best way to enable an academic career, and this in spite of different doctoral education models in Europe.

In most disciplines, obtaining a doctoral degree is still a necessary step towards an academic career. The social and an institutional embeddedness of doctoral candidates plays a crucial part in the transition process for those who want to remain in university (Jantz and Krüger 2009). In contrast to doctoral candidates in structured programmes, especially candidates in individualised junior–senior relationship and professional doctoral programmes are often not integrated in institutional structures. However, an adjustment towards more structured doctoral programmes emerged and can be seen as a worldwide trend (Reichert and Tauch 2003; Kehm 2009). Candidates in structural doctoral programmes have a curriculum with individual supervision, a pre-assigned time to degree, a provided financial basis and are generally more involved institutionally. These developments have not yet been sufficiently reflected in recent literature, only few investigations distinguish between candidates at individual doctoral study and structured doctoral programmes (Mau and Gottschall 2008; Enders and Kottmann 2009).The formative years of scholars (Teichler 2006) are essential and Kehm and Kreckel (2008a) distinguish between the tenure-track model (GB and USA), the “habilitation” model (G) and a mixture of both models in France. One of the most important findings of Kehm and Kreckel (2008a, p. 284) is:

> Die vielleicht wichtigste Einsicht aus der Perspektive des wissenschaftlichen Nachwuchses ist die, dass gerade das [deutsche, sic!] Karrieresystem, in dem die Funktion der Nachwuchsqualifikation das größte Gewicht hat und das den größten Anteil an Qualifikationsstellen bereitstellt (…) auch gleichzeitig dasjenige ist, das im Vergleich zu den drei anderen [UK, USA, F, sic!] für Promovierende die geringsten Chancen bietet, auf eine selbständige und unbefristete Hochschullehrstelle zu gelangen (…).

The EU report *She Figures 2009* (2009, graph 3.1) demonstrates a gender gap for the EU27, which starts at the Ph.D. level and has an enormous impact on all other levels of the academic career path. At the first two levels of higher education degrees the majority are female students, but at doctoral level male candidates begin to predominate. Furthermore, it is visualised that at the first level of newly qualified doctorates 44 % are female, however, at the next “take-off phase in the academic career” the number decreases to 36 % and the proportion drops to 18 % at the highest career level (European Commission 2009).

2.1.2 Post-doctorate

Looking at the post-doctoral level, Janson et al. (2006) notice a trend towards a longer period of employment insecurity after the receipt of the doctorate for those who would like to remain in academe. For Germany, Böhmer and Hornbostel (2009) show that even for funded post-doctorates this in-between phase before entering into permanent employment extends up to 6 years. Regarding the security of employment at German and Austrian universities this trajectory is a high-risk venture. However, this is less the case in Great Britain and the United States. Generally, German applicants of post-doctoral programmes are a relatively homogenous group with an academic background. The academic pathways of this group were initiated at an early stage.

Qualitative analyses of the situation of post-doctoral students or graduates are more common than systematic representative surveys. The national and disciplinary approaches are mainly concentrating on research/working conditions, autonomy, and the prospects and perspectives to fix-term contracts (Burgess and Band 1998; Gaughan and Robin 2004; Ma and Stephan 2004; Moguérou 2005; Recotillet 2007; Åkerlind 2008; Horta 2009). A similar comparative analysis discusses the training systems, position of young academics and factors affecting the recruitment and retention of young scientists. The paper compares five countries and shows the negative effects of several uncertainties regarding the recruitment and retention of young academics at the Ph.D. level (Huisman and de Weert 2002). One of the main findings is that the uncertainties reduce the attractiveness, status and easy recruitment in the area of research in higher education. For some disciplines, the post-doctoral phase at universities is financially less attractive compared with wages doctorate holders earn in the private sector: a career in academe does not seem to pay off (Recotillet 2007; National Postdoctoral Association 2009).

2.2 Middle Rank and Adjuncts/Contingent Faculties

What is the immediate future of young academics? What is the next step before they can access the professoriate? After having presented the doctoral and post-doctoral steps, we focus on the career level located between academic training (Ph.D. and post-doctorate) and the professorship: who is this group and how can it be defined?

According to national and disciplinary specificities, it is not a homogeneous group, neither in age, working conditions, and salary nor job type. However, recent literature defines two main profiles that can help to understand and classify this category of academic workers: middle-ranking[1] staff and adjunct or contingent staff.

[1]As we shall see, this designation is somewhat unfortunate. We have chosen it because it is particularly used by Teichler (1996) in an international comparison and we think that it can fairly well account for this population.

This partition is based on two main significant differences: on the one hand, the type of duties and, on the other hand, the type of contracts. Middle-ranking staff is mainly hired as lecturers and researchers with or without tenure track while adjuncts are usually untenured part-timers hired for teaching. It is clear that this categorisation is porous and that the trajectories are more complex than that. Thus, this dichotomous classification has to be considered as an *ideal type* in the very Weberian sense.

In the current context of profound institutional changes related not only to new public management but also to an increasing internationalisation (Brennan 2006; Enders and de Weert 2009), roles and expectations of academics have changed. These structural changes have undoubtedly had an impact on how academic careers are build, i.e. on the successive stages leading to the professorship. If these transformations affect the whole academic world and the entire body of academic staff—from Ph.D. students to professors—they probably have a particularly important impact on the category we are trying to define here.

As a matter of fact, "middle rank" is a poor word because it sets this section of the population in opposition against the juniors (Ph.D. students and post-doctorates) on the one hand, and on the other hand, against the professors. Called "Mittelbau" in Germany, "Maîtres de conferences" in France or "corps intermediaries" in Switzerland, this category is assigned to a middle position, a position of transit. Unlike adjuncts, the middle-ranking stage is an "intermediary position" which is part of the traditional career path.

2.2.1 Being Part of the Middle Rank: A Required Step on the Path of an Academic Career

Although in some cases an academic can go straight from a post-doctoral position to the professoriate, thus skipping the intermediate position, the move via the middle-rank status seems to be almost mandatory in the course of an academic career, although various models coexist. While in France, people will be lecturer (Maître de conférences) and get tenured very early in their career (average around 33 years of age), the "Mittelbau" in Germany cannot hope to obtain tenure before the average age of 42 (Musselin 2005a). German academics have to wait several years after obtaining the doctorate in order to apply for a professorship (Teichler 2008). The same occurs in the Netherlands (Enders et al. 2006). In the United States, it is less clear and it seems that the hierarchy is less obvious (Finkelstein and Frances 2006; Kreckel 2010). As a result, what differs are both the average length of the middle-ranking position in a career, the status associated with the position (tenured/untenured) and the degree of freedom associated with the position.

An important concept to take into account in discussing this stage of an academic career is socialisation (Musselin 2003). Although the professional learning process takes more or less formalised and institutionalised forms according to national contexts, this career stage is often described as a time to learn the academic job. Thus, this intermediate position can be seen as a transition period. However, this definition of middle-ranking staff is deeply linked to the chair system. The chair system being characterised by a relative process of disappearance, including in Germany (Teichler and Bracht 2006), one could expect a change towards a more autonomous status, which is already happening with a certain number of recently created fellowships (Fellow professors in Switzerland, Junior professors in Germany, etc.).

These logics are not trivial. Indeed, as noted by Christine Musselin, whatever the national contexts, there is a "before" and "after" tenure and the routes leading there are extremely contrasted. We can thus consider this period as a pivotal moment of socialisation that begins, as was shown before, during the Ph.D. and seems to continue through the different career stages until the professoriate. This socialisation process can be seen as a period in which the academic staff must prove itself in the academic world (Musselin 2004).

As we already noticed, the specific national contexts vary very strongly. For example, Teichler (1996) pointed out that while 79 % of German academic staff worked under precarious employment conditions (fixed-term contracts in particular), only 9 % of lower ranking Japanese staff were in that case. If most of the professors in European, US and Japanese universities are permanently employed (e.g. more than 90 % in Germany and in the Netherlands), this number decreases considerably when we consider non-professorial staff (Kreckel 2010).

2.2.2 Adjunct Staff: A Dead End?

The "class of adjuncts" refers to very different positions and situations (Musselin 2006)[2]. Generally, adjunct staff is a group of people characterised by particular conditions of precarious employment (i.e. fixed term contract) and little formal commitment to the departments for which they work (i.e. low career perspectives). Contrary to the status of middle-ranking staff, which is usually a specific level on the career path, the position of adjunct does not really provide further career opportunities. As pointed out by Naomi Jeffery Petersen (2005, p. 1) many adjuncts are hired in order to teach but they "are unlikely [to be] part of the infrastructure of programmatic design and administration that core faculty are". Indeed, with teaching as their main responsibility, they do not take part in the decision-making process and are thus not often considered as potential faculties to be hired for the tenured workplace (Ellison 2002; Jeffery Petersen 2005).

Adjuncts must rather be regarded as a supplementary workforce to ensure that the demands of mass-education are met in a context in which the flow of students can vary annually from one discipline to another. Over the last decades, the increase

[2] For example, in the nine categories established by Christine Musselin trying to grasp the entirety of the French academics, the name of adjuncts can be associated with two or three different categories…. Moreover, after the name of Teichler (1996) to which I referred above, the class of adjuncts may be associated with that of junior staff. The problem is that, as we shall see, the word "junior" refers implicitly to the young age, which is neither an inherent characteristic of adjuncts nor even a variable that could define all of them….

of adjuncts in universities has been substantial in France (Le Saout and Loirand 1998). In the United States, the percentage of part-timers has doubled between 1968 and 1998 (Wilson as cited in Feldman and Turnley 2001a; Finkelstein and Frances 2006; Monks 2007).

While middle-ranking staff is composed of a relatively young age group, adjuncts are a more diverse population, particularly in terms of age. In their paper, Feldman and Turnley (2001a, b) insist on the influence the career stage has on job satisfaction. One important point they stress is to consider adjunct positions not only in a negative way. Flexibility can sometimes be attractive for academics with young children or for dual-career couples.

Another significant aspect of the adjunct position is that the implications of being an adjunct differ depending on the career stage. For young academics, the position of adjuncts can be perceived as a way to consolidate their knowledge and increase their network; however, many are forced to remain in this position and are unable to find a regular job. The flexibility provided by adjunct positions may be perceived differently, particularly in relation to the time of the career in which it occurs as Feldman and Turnley showed (2001a, b). Although, part of the adjuncts seem to move towards this type of employment because of flexibility, the precariousness of their situation and even more the little prospect of advancement remain apparent in the survey carried out by the two American researchers.

Many articles (Teichler 1996; Enders and Teichler 1997; Feldman and Turnley 2001a, b; Ellison 2002) on both middle-ranking staff and adjuncts address the question of job-satisfaction of this population compared with that of professors (or more generally of academics). They conclude that across Europe satisfaction is generally much lower for junior and middle-ranking staff than for professors (Enders and Teichler 1997). This lack of job-satisfaction is mainly related to two factors: the little and uncertain prospects of advancement and the lack of employment security (Teichler 1996). Apparently the reasons for this dissatisfaction differ only slightly between the two populations although their status and working conditions are different. For both middle-ranking staff and adjuncts, this dissatisfaction is often due to limited career prospects. In addition, the adjunct staff also questions the marginalisation they suffer and how little they are given the possibility to contribute to policy decisions in the department (Le Saout and Loirand 1998; Ellison 2002)[3].

As pointed out by Le Saout and Loirand (1998), salary issues also have to be considered. In France, it seems that the considerably lower salary of adjunct staff could be one of the main motivations for hiring academic personnel on the basis of fixed-term contracts (without tenure-track, see also Monks 2007 for the United States).

American literature is much more prolific on the analysis of the adjunct population than the European. It is obvious that the adjunct category is more strongly represented in American literature because of its more formal and more common

[3] It should be noted that this theme comes in both countries for which the statute in question is asked. In Germany because of the relatively hierarchical structure in chair, and the United States because of the fact that the literature cited here deals mainly with the case of community colleges.

representation in higher education institutions but also due to the organisation of adjuncts in associations (e.g. the International Association of Adjunct Practitioners).

We can make the hypothesis that in the HES (Hautes Écoles Spécialisées) in Switzerland, the HBO (Hoger Beroepsonderwijs) in the Netherlands (Enders et al. 2006) or in Community Colleges in the United States (Ellison 2002), which are devoted to teaching and do very little research, adjuncts are certainly over-represented: there is a high probability that adjuncts are mainly used to compensate the massification of education and thus are more represented in the higher education institutions that play this role. Assuming that the capital chiefly recoverable in academia is that of publication—while teaching is considered less important (Teichler 1996; Musselin 2005b, 2008)[4]—it is not surprising that adjuncts are usually recruited for teaching with limited career prospects[5].

It will therefore be interesting to look at the distribution of adjuncts and middle-ranking staff in different institutions and disciplines and to question the subtypes of academics that compose these two broad categories: middle-rank staff can be full- or part-timers, have tenure or not, be characterised by important teaching loads or more research oriented. How are these diverse categories represented in the various national contexts, institutions, and disciplines? What paths exist between these types of working contracts? What are the profiles of the faculties presented in each of these categories? Do we observe gender inequalities? Social inequalities? Ethno-racial inequalities?

This distribution should be further examined and the status occupied by those academics analysed in the light of the types of governance carried out in each country. Is there a relationship to be established between academic careers' structure and status and higher education governance models?

2.3 *The Professoriate—Tenure*

2.3.1 A Story of Loss

Looking at recent literature on the "professoriate", the overall impression is one of crisis, decline and a loss of prestige and status ("Decline of Donnish dominion" Halsey 1992; "Decline of the Guru" Altbach 2002; *The Professoriate in Crisis* by Finkelstein and Altbach 1997).

There is a sense of good-bye, a literature of regret ("The last professors", "The Shrinking Professoriate"). The traditional "professor" seems to be a dying species

[4] Although again, this varies greatly from one discipline to another. As Musselin (2005b) recalls, if disciplines such as biology or physics have few similarities between the work of teaching and of research (teaching theories and methods versus laboratory work) it is quite another story for a discipline such as history where teaching and research activities are more intertwined.

[5] By using the concept of capital in a Bourdieusian sense, we mean here the type of symbolic currency which is efficient into the academic field.

("Gone for good", "The Vanishing Professor") and old ideals of intellectual autonomy, financial security and academic freedom are slowly eroding.

The "Golden Age" for the professoriate "characterised by institutional expansion, autonomy, available research funds and growing prestige and salaries" has come to an end (Altbach 2005, p. 147). Rather, the significant changes in academic work over the last two decades have presented the professoriate with demands for efficiency and accountability and the pressures to adapt to an increasingly competitive environment.

The recent comprehensive analytical accounts on the state of the professoriate (mostly *The Professoriate: Profile of a Profession* by Altbach 2005; Enders and de Weert 2009; Kogan and Teichler 2007) have identified a series of common challenges to the profession, most importantly the issue of performance and accountability/evaluation vs. academic freedom.

Some authors identify an ongoing "proletarianisation" of academic work (Enders and de Weert 2009, p. 256). Professors "are now increasingly treated the same way as ordinary workers" (Enders and de Weert 2009, p. 252). They notice a transition from "professor"—implying high social status, employment security, and the traditional values of autonomy and academic freedom—to "knowledge worker" in less secure forms of employment and responsible to a new corporate style management within universities ("Professor or Knowledge Worker" Gould 2006).

2.3.2 Professorial Tasks: Shifts in the Balance of Teaching and Research

However, the tasks of the professoriate—what professors actually do—have also changed. A "significant reconfiguration of academic work" (Altbach 2005, p. 157) has taken place and brought with it a shift in the balance of teaching and research. Since the early 1990s, various studies identified a significant shift from teaching to research (see also Honan and Teferra 2000). As publications seem to have become a measure of academic quality and prestige, the increasingly competitive nature of academic work has led away from teaching to a stronger emphasis on research in order to succeed in the struggle for academic survival. A recent study on promotion decisions in comprehensive universities showed that along with a factual marked increase in publications in mostly teaching colleges the "pressures for scholarly productivity and research activity increased" (Youn and Price 2009, p. 215). According to a study by Fairweather (2005) on faculty salaries research output was also better rewarded than teaching, and Bauerlein (2009) maintains that the strong focus on scholarship and publications has led to a decline in teaching quality (see also Allen 2009 "The Publishable Perishable Professoriate"). In his influential "Scholarship Reconsidered" (1994), Ernest Boyer already argued that the professoriate should pay more attention to teaching and learning and this position has been upheld widely since (see Court 1999 "Negotiating the Research Imperative"; Braxton 2006). Today, Altbach (2005, p. 157) identifies a "movement to emphasise teaching as central responsibility"; this movement seems to have partly come into effect as some authors already note that—in regard to the award of tenure—"teaching accounts for more than it did a decade ago" (Tierney 2004, p. 229). The relative disregard for teaching during the 1990s and attempts to upgrade and enhance the status of teaching have also been a prominent topic in the German debate, both politically as well as academically (see Schimank 2001; Meier and Schimank 2009; Huber 2004; for an overview of the debate on the alleged de-coupling of teaching and research see de Weert 2009).

Beyond the teaching/research nexus, professorial tasks traditionally include service to the institution, while increasing demands for external income generation present a relatively new phenomenon. Another issue that has recently arisen is the use and role of professors as "managers" or "leaders" within the institutional context, especially with stronger non-academic management structures imposed on most higher education institutions and a certain loss of influence of collegial bodies in the governance of universities. According to a recent UK study, there is currently no clear consensus as to what role professors should play in the operational and strategic steering of universities (Macfarlane 2010; on the role and tasks of professors regarding professional support and leadership see also Tight 2002).

2.3.3 Changes in Work Contract: An Appointment Revolution?

The most important development and prominent "threat" to the "full professor" identified and expressed in various works is, however, the "rise of the part-time profession" (Altbach et al. 2009, p. 90) and the increase in off-track appointments. The American Federation of Teachers concludes: "In recent years, the most notable—and potentially the most destructive—trend in higher education has been a significant shift away from employing tenured and tenure-track faculty members in favour of employing full-time non tenure-track faculty members, part-time/adjunct faculty members and graduate employees" (AFT 2009, p. 3).

Schuster and Finkelstein (2006) provide a comprehensive scope of what they call an "Appointment Revolution". Drawing on data from the Carnegie survey (Boyer et al. 1994) and the National Study of Postsecondary Faculty (NSOPF:04), they show that the number of tenured positions has dramatically declined in favour of non tenure-track fixed contracts: The proportion of full-time faculty who were in fixed contract (non tenure eligible) was barely perceptible in the 1960s, but has risen to over a quarter of the full-time faculty more than the last 30 years, and 58.6 % of new hires in 2003 were non-tenured off track positions (Finkelstein 2007, p. 149). The full-time professoriate is in retreat (see also AFT 1999), and a recent UNESCO report concludes pessimistically: "The professoriate faces significant difficulties everywhere […and] the decline of a real full-time professoriate is undermining high-quality higher education" (Altbach et al. 2009, p. 89 f.).

Martin Finkelstein further explores this "trend toward hiring off the tenure track" in Kogan and Teichler (2007) and predicts the development of "parallel systems": tenure vs. fixed contract and a growing reliance on contingent faculty rather than full-time tenure-track and tenured faculty (Finkelstein 2007, p. 148).

This trend is supported by the current data from the US Department of Education IPEDS Fall Staff survey. The MLA study, Education in the Balance (2008) also clearly illustrates the decrease in numbers of tenured positions and subsequent increase in fixed term/part-time workers based on the IPEDS data.

Philip Altbach further elaborates on the “new structure of the professoriate” (Altbach 2005, p. 154) by which he means the introduction of a caste system, with few on top in old tenured positions, a new middle class (full-time non-tenure-track faculty), and part-timers as pariah. Whereas in the 1991 encyclopaedia article by Altbach, the term “professoriate” was used interchangeably with “academic profession”, today this equation seems no longer valid. The professoriate is rather a very special—potentially endangered—sub-part of the academic profession.

2.3.4 The Erosion of Tenure?

The erosion of tenure as “permanent or continuous employment until retirement” (for a detailed analysis on the definition see Trower 2000a) touches on the heart of academic identity and autonomy. Altbach (2005, p. 155) states: “clearly the era of unfettered professorial autonomy following the award of tenure is coming to a close”. With a growing need for institutional flexibility on the part of the universities (firing unproductive staff or faculty “deadwood”, counteracting professorial laziness) and diminishing fiscal resources (lower costs by hiring non-tenure-track teachers and part-timers) tenure and professorial job security have been criticised as a hindrance to the economic demands of the “corporate university” and have increasingly come under attack.

In the United States, tenure was introduced in the early to mid-twentieth century as a means to safeguard and protect academic expression from political interference and external pressures and remains a cornerstone of academic identity. The idea of tenure has sparked heated debates during the 1980s and 1990s (see Tierney 2004, p. 228), the so-called “tenure wars” (tenure being “the abortion issue of the academy”, Chait 2005, p. 306). There were a number of studies and careful analyses that followed in the framework of the Harvard Project on Faculty Appointments, including Richard P. Chait’s comprehensive “Questions of Tenure” (2005) and the volume “Policies on Faculty Appointment” (2000b) edited by Cathy Trower. The latter ultimately consists of a helpful descriptive listing of definitions of tenure and does not provide further analysis. Still, both works minutely dissect the wide range of definitions and ultimately highlight the diverse meaning of tenure in various institutions. Today, the tenure debate has somewhat died down, and no convergent trends across countries emerge (RIHE 2009).

2.3.5 The Chair System: A Pyramidal Hierarchy in Transition

In countries with traditional chair systems (“Ordinarienuniversität”), such as Austria and Germany reforms towards greater institutional flexibility and a loosening of the rigidity of the career structure have been on the agenda for a while now. These reforms or reform-attempts received considerable public attention, however, with few exceptions and not counting the various descriptive accounts of the situation (for an international overview see Kreckel 2008), the implications for academic careers and the professoriate have not yet been fully analysed in secondary literature.

These systems were traditionally characterised by a "built-in gap between professorial staff and all other" and a strongly hierarchical structure as opposed to faculty/tenure-track models (see Enders 2001, p. 4). In Austria, for example, the civil servant status of university professors was abolished and a far-reaching transformation of the university system took place in the early 2000s. Pechar (2005) criticises the introduction of NPM structures in Austrian higher education while at the same time maintaining the strict division between professorial and non-professorial estates and a clear hierarchical split between academic personnel along with "unbearable dependencies" and subordination to professors (also Enders 2001, p. 11).

Recent attempts to introduce a tenure-track career structure ("Laufbahnmodell") in these countries, such as the introduction of assistant or associate professoriates in Austria and Switzerland or the German Junior-Professur have thus far also received relatively little attention in the relevant literature (CH: Kreckel 2008, p. 310; D: Federkeil and Buch 2007).

2.3.6 The Future of the Professoriate

A number of works also explore the changing demographic makeup of the professoriate. The recent ACE Study "Too many rungs on the ladder" (ACE 2008) on faculty demographics and the future leadership of higher education focuses on two main trends, first, the issue of the "graying professoriate" (see also Gilroy 2009; Wheeler 2008) and—again—the rising numbers of part-time and non-tenure-line faculty. In 2005, more than 54 % of full-time faculty in the United States were older than 50 compared with just 22.5 % in 1969 (Schuster and Finkelstein 2006, p. 58). The issue of retirement and new ways to manage retirements is further discussed in Wheeler (2008).

Further, Schuster and Finkelstein (2006) mention a growing "feminisation" of the professoriate and a "clear movement toward diversification among faculty by race and ethnicity" (Schuster and Finkelstein 2006, p. 53). This trend is supported by data from the ISPED Fall Staff survey and various other sources.

Up until today, the Carnegie Study on the Academic Profession (Carnegie Foundation: survey conducted in 1992, publications 1994–1995) remains a cornerstone for research on academic careers and the condition and attitudes of the professoriate. It was the first comprehensive international study on the subject (results for United States published in Altbach 1996; for Germany in Enders and Teichler 1995, see also Teichler 1999) and 18 years later many authors still rely heavily on its results (see Altbach 2005). Recently, the CAP survey on "The Changing Academic Profession" (2005–2007) followed in its footsteps providing broad data and insight in the current state of the professoriate (published results forthcoming).

3 Conclusions: Are Academic Careers Becoming a Political Object?

This chapter has underlined the multi-dimensional aspects of research on the academic marketplace and the increased complexity of this social object they illustrate. Behind the question of academic markets and the different positions they articulate, lies the question of the career paths structure. The increased number of faculties, the multiplication of their roles and status and the complexification of the ins and outs of academic markets have lead to the recent development of both research and policy debates questioning the structure of career paths and their consequence.

3.1 European Market and Policy Debates

On the research policy side, the implementation of a European higher education and research area has increased the sensitivity of the career organisation issue. For example, in 2004, a French report for the minister of education (Bonaccorsi et al. 2004) questioned the impact of the European higher education and research area on the necessity to adapt researchers' status. Beside the status dimension, three dimensions were particularly at shake: mobility, tenure track and salaries.

As well, the European Science Foundation has launched in 2007 a forum, working as an interface between the ESF member organisations, the European Commission, the EUA and the league of European research universities (ESF 2009). The goal of this forum was to develop collaboratively a "roadmap for research career development in Europe" (p. 4), but also to develop tools to promote the different stages of career and improve the coordination between national and European levels. In the end, the purpose was as well to improve the visibility of the ERA by reinforcing the European academic labour market. The report recently published (2009) proposed as an implementation plan the following dimensions:

- Structuring of research careers.
- Improving the attractiveness and competitiveness of European research careers.
- Providing equal playing fields for researchers of all backgrounds.
- Supporting the development of portfolio careers.
- Developing and implementing European policies for research career development.

These reports underline the problematic lying behind the career structure issue on the political side: how to create an attractive European academic market? They also provide with an idea of the various dimensions at stake in the organisation of academic careers, dimensions that are questioned by an increasing number of researchers.

3.2 Characterisation of Careers

If one had to question at the most practical level, the organisation of academic career paths, one probably could start by wondering what makes academic careers different from others. And indeed, some researches do compare academic careers structures' characteristics with those of the private sector. For example, (Baruch and Hall 2004) analyse the evolution of the career systems, showing the shift from an "exclusive, stand alone model" to what other researchers have qualified of "protean" (Hall 1976, 1986), boundaryless (DeFillippi and Arthur 1994), intelligent (Arthur et al. 1995), resilience (Waterman et al. 1994), and post-corporate (Peiperl and Baruch 1997) model. Baruch and Hall also underline an important dimension of the change: "A greater openness of the career information system" (p. 246). In the same private/public career perspectives, Arthur et al. (1995) describe the specificities of academic career models, underlying a relatively flat structure, a high level of empowerment and autonomy, high career mobility, multi-directional career paths, existence of sabbatical, the use of alternative work arrangements, resilience, importance of international and global dimension, etc.

At another level Enders (2001), quoting Neave and Rhoades (1987), recalls the traditional ideal typical differentiation between the chair model—mainly based on the statutory and prestige domination of the professoriate—and the department-college model—characterised by a more collegial-based organisation. Sharing the articulation of three stages, i.e. "contract, regular employee, tenure" and as such highly structured, these model of careers are presented as challenged by the creation of new status that erode the former distinctions.

Other research (Kaulisch and Salerno 2005) evaluate the influence of different career systems on the sequence, timing, and likelihood of major events in academic careers. In a close perspective, Altman and Bournois (2004), focusing on a national case study, attempt to identify a model of career while outlining the main parameters weighting on the academic careers such as the social and cultural context.

A wide range of works focuses on the "formative years of scholars" (Teichler 2006), the stages between receipt of the doctorate and the appointment to professor as the decisive phase in the course of an academic career. (Wissenschaftliche Wege zur Professur oder ins Abseits? Janson et al. 2006; Kreckel 2008; Enders 2001). These mostly descriptive comparative accounts highlight the uncertainty of academic careers due to high selectivity and generally portray embarking on a career in academia as a "high risk endeavour" (also Berberet 2008; Huisman and de Weert 2002). While employment conditions and career patterns for young academics vary substantially by country, short-term employment until about the age of 40 and high levels of selectivity are seen as common characteristics of academic careers in many countries.

On a more analytical level there is growing consensus in recent literature that the traditional structure of academic career paths is currently being challenged fundamentally: "The ground beneath our feet is shifting—in a way it has not perhaps in a century […] and the traditional academic career characterised by a terminal degree in the discipline and then a career lockstep largely defined by a probationary, pretenure period, and movement through the academic ranks to a full professorship" is becoming a thing of the past (Finkelstein 2007, p. 154).

Meanwhile, some research analyse the impacts of change in higher education governance on academic careers. Harley et al. (2004), for example, underline the necessity to understand power relationships to understand how careers are changing. As well, Enders stipulates that the sensitive dimension regarding the implementation of managerialism and its consequences on academic staff is whether it will improve their support or their control (2001, p. 5).

3.3 Questioning Inequalities in Academic Careers

If a large number of research focusses on the institutional dimension of academic markets and careers, an increasing number of works also question the weight of social inequalities in academic markets. Beside the now classic "gender" dimension to read inequalities of careers, new dimensions of inequalities are now questioned that include both the ethno-racial dimension and the socio-economic one.

For example, Long and Fox (1995) underline the relatively lower attainments of women and minorities in science and discuss the processes through which these differences are produced. In the same vein, Wolfinger et al. (2009), focusing on the becoming of Ph.D. recipients, show that the often-used mode of pipelines to conceptualise academic careers tend not no reveal gender inequalities.

Bonaccorsi et al. (2004) and Kaulisch and Böhmer (2010), interrogating differences in access to tenure position in Germany 8 years after the Ph.D. graduation, reveal differences between disciplines, but surprisingly no gender or socio-economic influence, while international mobility after graduation seems determining. By doing so, they underline the fact that in Germany, inequality patterns occur before the Ph.D. graduation.

In the United States, an increasing number of studies are carried out focusing on the ethno-racial dimension. For example, Diggs et al. (2009) identify the barriers to recruitment and retention of faculty of colour. In the same vein, Trower (2009) compares the tenure-track life of faculties depending on their ethno-racial belonging to show how ethnic belongings influence academic careers.

Finally, in a short but insightful article, Altbach and Musselin (2008), drawing on the recognition that in some countries career structures are dysfunctional, characterise an efficient career structure by the fact that it allows universities to be attractive, stimulating and rewarding to their faculties, and that to achieve these characteristics, career stability, transparency in the career organisations, rigorous and meritocratic procedures, and the guarantee that high academic achievement will lead to career stability and success.

This research on inequalities in academic careers put in light the influence of societal and sectorial changes on the career paths, as well as the impact of these shifts regarding the work of the academic profession. Finally, they share a query on how to make higher education functional through an effective career structure.

References

Abbott, A. (2001). *Chaos of disciplines*. Chicago: University of Chicago Press.

ACE. (2008). *Too many rungs on the ladder? Faculty demographics and the future leadership of higher education* (ACE Issue Brief. September 2008). Washington: American Council on Education.

AFT. (1999). *The vanishing professor*. Washington: American Federation of Teachers.

AFT. (2009). *American academic. The state of the higher education workforce 1997–2007*. Washington: American Federation of Teachers.

Åkerlind, G. (2008). Growing and developing as a university researcher. *Higher Education*, *55*, 241–254.

Allen, D. (2009). The publishable perishable professoriate. http://www.academia.org/the-publishable-perishable-professoriate.

Altbach, P. G. (Ed.). (1996). *The international survey of the academic profession. Portraits of fourteen countries*. Princeton: The Carnegie Foundation for the Advancement of Teaching.

Altbach, P. G. (2000). The deterioration of the academic estate: International patterns of academic work. In P. G. Altbach (Ed.), *The changing academic workplace: Comparative perspectives* (pp. 11–33). Chestnut Hill: Center for International Higher Education, Boston College.

Altbach, P. G. (2002). *The decline of the Guru: The academic profession in developing and middle income countries*. New York: Palgrave.

Altbach, P. G. (2005). Academic challenges: The American professoriate in comparative perspective. In A. Welch (Ed.), *The professoriate: Profile of a profession* (pp. 147–165). Dordrecht: Springer.

Altbach, P. G., & Musselin, C. (2008). Academic career structures: Bad ideas. *International Higher Education, 53*, 2–3.

Altbach, P., Reisberg, L., & Rumbley, L. E. (2009). *Trends in global higher education: Tracking an academic revolution*. A report prepared for the UNESCO 2009 World Conference on Higher Education. Paris: UNESCO.

Altman, Y., & Bournois, F. (2004). The "Coconut Tree" model of careers: The case of French academic. *Journal of Vocational Behavior, 64*(2), 320–328.

Arthur, M. B., Claman, P. H., & De Fillipi, R. J. (1995). Intelligent enterprise, intelligent careers. *Academy of Management Executive, 9*, 7–22.

Auriol, L. (2010). *Careers of doctorate holders: Employment and mobility patterns* (STI Working Paper 2010/4). Paris: OECD.

Barnett, R. (2004). The purposes of higher education and the changing face of academia. *London Review of Education, 2*(1), 61–73.

Barras, J. M. (1994). *L'Encouragement de la Relève dans les Hautes Écoles: Quelques Réflexions sous l'Angle de la Planification Universitaire*. Dissertation, Colloque de la CUS et de l'OFES.

Baruch, Y., & Hall, D. T. (2004). The academic career: A model for future careers in other sectors? *Journal of Vocational Behavior, 64*(2), 241–262.

Bauerlein, M. (2009). *Professors on the production line, students on their own* (AEI Future of American Education Project. Working Paper 2009-01). Washington, DC.

Berberet, J. (2008). Perceptions of early career faculty: Managing the transition from graduate school to the professorial career. *TIAA-CREF Institute Research Dialogue, 92*(June). http://www.tiaa-crefinstitute.org/articles/92.html.

Berning, E., & Falk, S. (2005). Das Promotionswesen im Umbruch. *Beiträge zur Hochschulforschung, 27*(1), 48–72.

Bluett, J. (2010). Oh, do not ask 'What is it?' An explication of the PhD through creative practice and its implications for the teaching of English. *English in Education, 44*(1), 45–58.

Böhmer, S., & Hornbostel, S. (2009). *Postdocs in Deutschland: Vergleich von Nachwuchsgruppenleiterprogrammen* (iFQ-Working Paper). Bonn: IFQ Institut für Forschungsinformation und Qualitätssicherung.

Bonaccorsi, F., Goujon, M., Srodogora, S. B., & Lerberghe, P. van. (2004). Les Carrières Scientifiques: Une Approche Fondée sur des Éléments d'Analyse Comparative Européenne. Rapport à Monsieur le Ministre de l'Education Nationale, de l'Enseignement Supérieur et de la Recherche, n°2004-140.
Bowen, H. R., & Schuster, J. H. (1986). *American professors. A national resource imperiled*. Oxford: Oxford University Press.
Boyer, E. L. (1994). *Scholarship reconsidered: Priorities of the professoriate*. Princeton: The Carnegie Foundation for the Advancement of Teaching.
Boyer, E. L., Altbach, P. G., & Whitelaw, M. J. (1994). *The academic profession: An international perspective*. Princeton: The Carnegie Foundation for the Advancement of Teaching.
Braxton, J. M. (Ed.). (2006). *Analyzing faculty work and rewards using Boyer's four domains of scholarship*. San Francisco: Jossey-Bass.
Brennan, J. (2006). The changing academic profession: The driving forces. In RIHE (Ed.), *Reports of changing academic profession project workshop on quality, relevance, and governance in the changing academia: International perspectives* (pp. 37–44). Hiroshima: Research Institute for Higher Education, Hiroshima University.
Bundesministerium für Bildung, Wissenschaft und Kultur. (2006). *Bericht über die Nachwuchsförderung und die Entwicklung der Personalstruktur der Universitäten gem. § 121 (19) UG 2002*. Wien: Bundesministerium für Bildung.
Burgess, R. G., & Band, S. (1998). Developments in postgraduate education and training in the UK. *European Journal of Education, 33*(2), 146–159.
Burkhardt, A. (Ed.). (2008). *Wagnis Wissenschaft. Akademische Karrierewege und das Fördersystem in Deutschland.* Leipzig: Akademische Verlagsanstalt.
Caplow, T., & McGee, R. J. (1958). *The academic marketplace*. New York: Basic Books.
Cartter, A. M. (1976). *PhD's and the academic labor market*. New York: McGraw Hill.
Cattel, J. M. (1906). A statistical study of American men of Science II: The measurement of scientific merit. *Science, 24*(622), 699–707.
Cattell, J. M. (1912). University control. *Science, New Series, 35*(908), 797–808.
Chait, R. P. (Ed.). (2005). *The questions of Tenure*. Cambridge: Harvard University Press.
Clark, B. (2007). Development of the sociology of higher education. In P. J. Gumport (Ed.), *Sociology of higher education, an evolving field*. Baltimore: John Hopkins University Press.
Council of Graduate Schools. (2006). A transatlantic dialogue on doctoral education. *Communicator, 39*(8), 1–2, 5.
Court, S. (1999). Negotiating the research imperative: The views of UK academics on their career opportunities. *Higher Education Quarterly, 53*, 65–87.
Craighead, L. W., & Craighead, W. E. (2006). PhD training in clinical psychology: Fix it before it breaks. *Clinical Psychology: Science and Practice, 13*, 235–241.
Crane, D. (1970). The academic marketplace revisited: A study of faculty mobility using the carter ratings. *The American Journal of Sociology, 75*(6), 953–964.
CUS. (1998). Plan Pluriannuel des Universités et Hautes Écoles Suisses pour la Période 2000–2003, Berne, CUS-CPU, juillet.
Cytermann, J. R. (2003). *Recrutement et Renouvellement des Enseignants-Chercheurs: Disparités entre Établissements et entre Disciplines*. Dissertation, Journée d'étude du RESUP, Paris X Nanterre.
de. Weert, E. (2009). The organised contradictions of teaching and research: Reshaping the academic profession. In J. Enders (Ed.), *The changing face of academic life. Analytical and comparative perspectives* (pp. 134–154). Basingstoke: Macmillan.
DeFillippi, R. J., & Arthur, M. B. (1994). The boundaryless career: A competency-based prospective. *Journal of Organizational Behaviour, 15*(4), 307–324.
Diggs, G. A., Garrisson-Wade, D. F., Estrada, D., & Galindo, R. (2009). Smiling faces and colored spaces: The experiences of faculty of color pursing tenure in the academy. *The Urban Review, 41*(4), 312–333.
Ehrenberg, R. G. (2003). Studying ourselves: The academic labor market. *Journal of Labor Economics, 21*(2), 267–287.

Ellison, A. B. (2002). *The accidental faculty: Adjunct instructors in community colleges*. Unpublished manuscript. ERIC Document Reproduction Service No. ED 466874.
Enders, J. (1999). Crisis? What crisis? The academic professions in the "Knowledge" society. *Higher Education, 38*(1), 71–81.
Enders, J. (2000). A chair system in transition: Appointments, promotions, and gate-keeping in German higher education. In P. G. Altbach (Ed.), *The changing academic workplace: Comparative perspectives* (pp. 36–60). Chestnut Hill: Center for International Higher Education Lynch School of Education, Boston College.
Enders, J. (2001). A chair system in transition: Appointments, promotions, and gate-keeping in German higher education. *Higher Education, 41*(1–2), 3–25.
Enders, J. (2004). Research training and careers in transition: A European perspective on the many faces of Ph.D. *Studies in Continuing Education, 26*(3), 419–429.
Enders, J., & Weert, E. de. (2009). Towards a T-shaped profession: Academic work and career in the knowledge society. In J. Enders & E. Weert de (Eds.), *The changing face of academic life. Analytical and comparative perspectives* (pp. 251–270). Basingstoke: Macmillan.
Enders, J., & Kottmann, A. (2009). *Deutsche Forschungsgemeinschaft. Neue Ausbildungsformen—andere Werdegänge? Ausbildungs- und Berufsverläufe von Absolventinnen und Absolventen der Graduiertenkollegs der DFG*. Weinheim: Wiley.
Enders, J., & Teichler, U. (Eds.). (1995). *Der Hochschullehrerberuf. Aktuelle Studien und ihre hochschulpolitische Diskussion*. Neuwied: Luchterhand.
Enders, J., & Teichler, U. (1997). A victim of their own success? Employment and working conditions of academic staff in comparative perspective. *The Journal of Higher Education, 34*(3), 347–372.
Enders, J., Kaiser, F., & Weert, E. de. (2006). The changing academic profession: The case of the Netherlands. In RIHE (Ed.), *Reports of changing academic profession project workshop on quality, relevance, and governance in the changing academia: International perspectives* (pp. 167–182). Hiroshima: Research Institute for Higher Education, Hiroshima University.
ESF. (2009). *Research careers in Europe. Landscape and horizons. Report by the ESF member organisation forum on research careers.* Strasbourg: European Science Foundation.
EUA. (2004–2005). *Doctoral programmes for the European knowledge society. Report on the EUA doctoral programmes project.* Brussels: European University Association.
Eurodoc. (2011). *The Eurodoc survey on the situation of doctoral candidates 2008/2009. Almost 9000 young researchers gave insights into their situation in the doctoral phase. First findings discussed in experts workshop in Bonn*. Brussels: The European Council of Doctoral Candidates and Junior Researchers (E. pub. release).
European Commission. (2000). Towards a European research area. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. COM 6.
European Commission. (2004). *Europe needs more scientists. Increasing human resources for science and technology in Europe. Report by the High Level Group on Increasing Human Resources for Science and Technology in Europe 2004.* http://europa.eu.int/comm/research/conferences/2004/sciprof/pdf/final_eng.pdf.
European Commission. (2007). *Seventh framework programme (2007–2013): Building the Europe of knowledge*. Luxembourg: Publications Office of the European Union.
European Commission. (2009). *She figures 2009: Statistics and indicators on gender equality in science*. Luxembourg: Publications Office of the European Union.
Fairweather, J. S. (2005). Beyond the rhetoric: Trends in the relative values of teaching and research in faculty salaries. *The Journal of Higher Education, 76*(4), 401–442.
Federkeil, G., & Buch, F. (2007). Fünf Jahre Juniorprofessur—Zweite CHE-Befragung zum Stand der Einführung. CHE Arbeitspapier Nr. 90.
Feldman, D. C., & Turnely, W. H. (2001a). Contingent employment in academic career: Relative deprivation among adjunct faculty. *Journal of Vocational Behavior, 64*(2), 284–307.
Feldman, D. C., & Turnely, W. H. (2001b). A field study of adjunct faculty: The impact of career stage on reactions to non-tenure-track jobs. *Journal of Career Development, 28*(1), 1–16.

Felli, R., Goastellec, G., Baschung, L., & Leresche, J.-P. (2006). Politique Fédérale d'Encouragement de la Relève Académique et Stratégies Institutionnelles des Universités. Les Cahiers de l'Observatoire, Lausanne, OSPS-Unil, N°15.

Felli, R., Goastellec, G., & Leresche, J. P. (2007). Les Marchés du Travail Académique en France et en Suisse: des Imbrications Différenciées. *Formation Emploi, 100,* 49–64.

Fiedler, W., & Hebecker, E. (2006). Strukturiertes Promovieren in Europa. In W. Fielder & E. Hebecker (Eds.), *Promovieren in Europa. Strukturen, Status und Perspektiven im Bologna-Prozess* (pp. 11–17). Opladen: Leske und Budrich.

Finkelstein, M. (2007). The new look of academic careers in the United States. In M. Kogan & U. Teichler (Eds.), *Key challenges to the academic profession* (pp. 145–158, Werkstattberichte, Vol. 65). Kassel: International Centre for Higher Education Research Kassel (INCHER-Kassel) and UNESCO Forum on Higher Education, Research and Knowledge.

Finkelstein, M., & Altbach, P. (Eds.). (1997). *The academic profession: The professoriate in crisis*. New York: Garland.

Finkelstein, M., & Frances, C. (2006). The American academic profession: Context and characteristics. In RIHE (Ed.), *Reports of changing academic profession project workshop on quality, relevance, and governance in the changing academia: International perspectives* (pp. 231–254). Hiroshima: Research Institute for Higher Education, Hiroshima University.

Fry, H., & Ketteridge, S. (2003). *A handbook for teaching and learning in higher education: Enhancing academic practice*. London: Routledge.

Gaughan, M., & Robin, S. (2004). National science training policy and early scientific careers in France and the United States. *Research Policy, 33*, 569–581.

Gerhardt, A., & Briede, U. (2005). Zur Situation Promovierender in Deutschland. Ergebnisse einer bundesweiten THESIS—Doktorandenfragung. *Beiträge zur Hochschulforschung, 1*, 74–95.

Gilroy, M. (2009). The graying professoriate. *Education Digest, 74,* 63–64.

Gould, E. (2006). Professor or knowledge worker? The politics of defining faculty work. *Higher Education in Europe, 31*(3), 241–249.

Green, H., & Powell, S. (2005). *Doctoral study in contemporary higher education*. New York: Society for Research into Higher Education, and Open University Press.

Hall, D. T. (1976). *Careers in organizations*. Glenview: Scott Foresman.

Hall, D. T. (1986). *Career development in organizations*. San Francisco: Jossey-Bass.

Halsey, A. H. (1992). *Decline of donnish dominion. The British academic professions in the twentieth century*. Oxford: Oxford University Press.

Harley, S., Muller-Camen, M., & Collin, A. (2004). From academic communities to managed organisations: The implication for academic careers in UK and German universities. *Journal of Vocational Behavior, 64*(2), 329–345.

HEFCE. (2003). Consultation on "golden hellos". *Policy Development Consultation, 13*.

Honan, J. P., & Teferra, D. (2000). The American academic profession: Key policy challenges. In P. Altbach (Ed.), *The changing academic workplace: Comparative perspectives* (pp. 234–258). Boston: Center for International Higher Education.

Horta, H. (2009). Holding a post-doctoral position before becoming a faculty member: Does it bring benefits for the scholarly enterprise? *Higher Education, 58*(5), 689–721.

Huber, L. (2004). Forschendes Lernen. 10 Thesen zum Verhältnis von Forschung und Lehre aus der Perspektive des Studiums. *Die Hochschule, 13*(2), 29–49.

Huisman, J., & Weert, E. de. (2002). Academic careers from a European perspective. *The Journal of Higher Education, 73*(1), 141–160.

Hursfield, J., & Neathey, F. (2001). Recruitment and retention of staff in UK higher education. A survey and case studies. London: IRS Research.

Jalowiecki, B., & Gorzelak, G. J. (2004). La Fuite des Cerveaux, le Gain des Cerveaux et la Mobilité: Théories et Modèles Prospectifs. In UNESCO (Ed.), *L'Enseignement Supérieur en Europe* (pp. 299–308). Paris: UNESCO.

Janson, K., Schomburg, H., & Teichler, U. (2006). *Wissenschaftliche Wege zur Professur oder ins Abseits? Strukturinformationen zu Arbeitsmarkt und Beschäftigung an Hochschulen in*

Deutschland und den USA. Studie für das German Academic International Network (GAIN), New York. Kassel: International Centre for Higher Education Research (INCHER-Kassel).
Jantz, J., & Krüger, A. K. (2009). Promovieren in Deutschland. In L. Guzy & A. Mihr (Eds.), *Wohin mit uns? Wissenschaftlerinnen und Wissenschaftler der Zukunft* (pp. 169–180). Frankfurt a. M.: Lang.
Jeffery Petersen, N. (2005). *Adjunct faculty engagement in teaching, scholarship and service: Gaps in role definitions and related stress in schools of education*. Michigan Association of Teacher Educators conference October 28–29, 2005 Saginaw, Michigan.
Johnson, J. C. (2001). Research design for cultural anthropology PhD students. *Anthropology News, 42*(3), 22–22.
Johnston, R. T., & Brack, E. V. (1983). Appointment and promotion in the academic labour market: A preliminary survey of British university departments of geography, 1933–1982. *Transactions of the Institute of British Geographers, 8*(1), 100–111.
Kaulisch, M., & Böhmer, S. (2010). Inequality in academic careers in Germany. Indications from postdoctoral careers. In G. Goastellec (Ed.), *Inequalities in, through and by higher education*. Amsterdam: Sense.
Kaulisch, M., & Salerno, C. (2005). Conceptual framework to study academic career systems. IQ. http://www.forschungsinfo.de/iq/agora/career_systems/career_sytem.html.
Kehm, B. M. (2005). Developing doctoral degrees and qualifications in Europe. Good practice and issues of concern. *Beiträge zur Hochschulforschung, 27*(1), 10–33.
Kehm, B. M. (2006). Doctoral education in Europe and North America: A comparative analysis. In U. Teichler (Ed.), *The formative years of scholars* (pp. 67–78). London: Portland.
Kehm, B. M. (2007). Quo Vadis doctoral education? New European approaches in the context of global changes. *European Journal of Education, 42*(3), 307–319.
Kehm, B. M. (2009). Pressure for change and modernisation. In J. Enders & E. Weert de (Eds.), *The changing face of academic life: Analytical and comparative perspectives* (pp. 155–170). Basingstoke: MacMillan.
Kehm, B. M., & Kreckel, R. (2008a). *Kapitel 6: Internationaler Vergleich. Bundesbericht zur Förderung des wissenschaftlichen Nachwuchses*. Bonn: Bundesministerium für Bildung und Forschung.
Kehm, B., & Kreckel, R. (2008b). Internationaler Vergleich. Wagnis Wissenschaft. Akademische Karrierewege und das Fördersystem in Deutschland. In A. Burkhardt (Ed.), *Wagnis Wissenschaft. Akademische Karrierewege und das Fördersystem in Deutschland* (pp. 535–608). Leipzig: Akademische Verlagsanstalt.
Kiley, M., & Mullins, G. (2004). Examining the examiners: How inexperienced examiners approach the assessment of research theses. *International Journal of Educational Research, 41*(2), 121–135.
Kogan, M., & Teichler, U. (Eds.). (2007). *Key challenges to the academic profession* (Werkstattberichte, Vol. 65). Kassel: International Centre for Higher Education Research Kassel (INCHER-Kassel) and UNESCO Forum on Higher Education, Research and Knowledge.
Kogan, M., Moses, I., & El-Kahwas, E. (1994). *Staffing higher education: Meeting new challenges*. London: Kingsley.
Kreckel, R. (Ed.). (2008). *Zwischen Promotion und Professur. Das wissenschaftliche Personal in Deutschland im Vergleich mit Frankreich, GB, USA, den Niederlanden, Österreich und der Schweiz*. Leipzig: Akademische Verlagsanstalt.
Kreckel, R. (2010). *Quo vadis deutsche Wissenschaft? Wie sieht die Zukunft in der deutschen Hochschullandschaft aus?* Paper presented at the KISSWIN-Nachwuchstagung: "Lust auf wissenschaftliche Karriere in Deutschland", Berlin.
Le Saout, R., & Loirand, G. (1998). Les Charges d'Enseignement Vacataires. Les Paradoxes d'un Statut Perverti. *Genèses, 30*, 146–157.
Lewis, L. S. (1975). *Scaling the ivory tower. Merits and its limits in academic careers*. Baltimore: John Hopkins University Press.

Locke, W., & Teichler, U. (Eds.). (2007). *The changing academic conditions for academic work and careers in select countries* (Werkstattberichte, Vol. 66). Kassel: International Centre for Higher Education Research Kassel (INCHER-Kassel).
Long, J. S., & Fox, M. F. (1995). Scientific careers: Universalism and particularism. *Annual Review of Sociology, 21*, 45–71.
Lovat, T., A., & Holbrook, A. (2008). Ways of knowing in doctoral examination: How well is the doctoral regime? *Educational Research Review, 3*(1), 66–76.
Ma, J., & Stephan, P. E. (2004). *The growing postdoc population at U.S. research universities*. Paper prepared for the IAA-CREF Institute Conference. Recruitment, Retention, and Retirement: The Three R's of Higher Education in the 21st Century. New York: TIAA-CREF Institute and Department of Economics.
Macfarlane, B. (2010). Professors as intellectual leaders: Formation, identity and role. *Studies in Higher Education, 36*(1), 57–73.
Marginson, S., & Wende, M. Van Der. (2007). *Globalisation and higher education* (OECD education working papers series. Working Paper No. 8). Paris: OECD.
Marsh, H. W., & Rowe, K. J. (2002). PhD students' evaluations of research supervision: Issues, complexities, and challenges in a nationwide Australian experiment in benchmarking universities. *The Journal of Higher Education, 73*(3), 313–348.
Mau, S., & Gottschall, K. (2008). Strukturierte Promotionsprogramme in den Sozialwissenschaften. *Soziologie, 37*(1), 41–60.
Meier, F., & Schimank, U. (2009). Matthäus schlägt Humboldt? New Public Management und die Einheit von Forschung und Lehre. *Beiträge zur Hochschulforschung, 31*(1), 42–61.
Melin, G., & Janson, K. (2006). What skills and knowledge should a PhD have? Changing preconditions for PhD education and post doc work. In U. Teichler (Ed.), *The formative years of scholars* (pp. 79–84). London: Portland.
Meri, T. (2007). *Doctorate holders. The beginning of their career. Science and technology—statistics in focus*. Luxembourg: Eurostat.
Metcalf, J. (2006). The changing nature of doctoral programmes. In U. Teichler (Ed.), *The formative years of scholars* (pp. 79–84). London: Portland.
Metcalf, H., Rolfe, H., Stevens, P., & Weale, M. (2005). *Recruitment and retention of academic staff in higher education*. (Research Brief, D. f. E. a. Skills. RB 658. Research Report No. 658). London: National Institute of Economic and Social Research.
Meyer, T., & Nyffeler, B. (2001). L'Encouragement de la Relève Universitaire: Entre la Vocation et la Chaire? Mesures Spéciales de la Confédération pour l'Encouragement de la Relève Universitaire dans les Hautes Écoles. Rapport sur l'Enquête Qualitative 2000. OFES.
Modern Language Association (MLA). (2008). *Education in the balance: A report on the academic workforce in English*. Report of the 2007 ADE Ad Hoc Committee on Staffing. The Modern Language Association of America and the Association of Departments of English. http://www.mla.org/pdf/workforce_rpt03.pdf.
Moguérou, P. (2005). Doctoral and postdoctoral education in science and engineering: Europe in the international competition. *European Journal of Education, 40*(4), 367–392.
Monks, J. (2007). The relative earnings of contingent faculty in higher education. *Journal of Labour Research, 28*(3), 487–501.
Multrus, F. (2004). *Fachkulturen. Begriffsbestimmung, Herleitung und Analysen. Eine empirische Untersuchung über Studierende deutscher Hochschulen.* Dissertation, Universität Konstanz, Konstanz.
Musselin, C. (2003). *Marchés du Travail Scientifique et Mobilités en Europe*. Dissertation, Conseil Scientifique du CNRS.
Musselin, C. (2004). Towards a European academic labour market? Some lessons drawn from empirical studies on academic mobility. *Higher Education, 48*(1), 55–78.
Musselin, C. (2005a). *Le Marché des Universitaires, France, Allemagne, Etats-Unis*. Paris: Sciences-Po.
Musselin, C. (2005b). European academic labor markets in transition. *Higher Education, 49*(1–2), 135–154.

Musselin, C. (2006). The French academic professions. In RIHE (Ed.), *Reports of changing academic profession project workshop on quality, relevance, and governance in the changing academia: International perspectives* (pp. 115–128). Hiroshima: Research Institute for Higher Education, Hiroshima University.

Musselin, C. (2008). *Les Universitaires*. Paris: La Découverte.

Musselin, C., & Pigeyre, F. (2008). Les Effets des Mécanismes de Recrutement Collégial sur la Discrimination: le Cas des Recrutements Universitaires. *Sociologie du travail, 50*(1), 48–70.

National Postdoctoral Association. (2009). Fact Sheet on U.S. Postdoctoral Stipends. http://www.nationalpostdoc.org/atf/cf/%7B89152E81-F2cB-430C-B151-49D071AEB33E%7D/PostdocoralFactSheet.pdf.

Neave, G., & Rhoades, G. (1987). The academic estate in Western Europe. In B. R. Clark (Ed.), *The academic profession: National, disciplinary, and institutional settings* (pp. 211–270). Berkeley: University of California Press.

NSOPF:04. (2005). *2004 National study of postsecondary faculty. Report on faculty and instructional staff in fall 2003.* Washington: US Department of Education. National Center for Education Statistics.

Nunn, A. (2005). *The "Brain Drain". Academic and skilled migration to the UK and its impacts on Africa*. Report to the AUT and NATFHE. Leeds: Leeds Metropolitan University.

Pechar, H. (2005). Hire and Fire? Akademische Karrieren unter den Bedingungen des UG 2002. In H. Welte, M. Auer, & C. Meister-Scheytt (Eds.), *Management an Universitäten zwischen Tradition und (Post-) Moderne* (pp. 317–337). Mering: Rainer Hampp.

Pechar, H. (2008). "Doktorat neu"—ein österreichischer Blick auf eine europäische Reformdebatte. In B. M. Kehm (Ed.), *Hochschule im Wandel. Die Universität als Forschungsgegenstand. Festschrift für Ulrich Teichler* (pp. 319–334). Frankfurt a. M.: Campus.

Pechar, H., & Campbell, D. F. J. (2008). *Internationaler Vergleich und empirische Befragung von WissenschaftlerInnen und DoktorandInnen. Forschungsprojekt im Auftrag des FWF (Fonds zur Förderung der wissenschaftlichen Forschung) und des BMWF (Bundesministerium für Wissenschaft und Forschung)*. Vienna: Institut für Wissenschaftskommunikation und Hochschulforschung.

Peiperl, M., & Baruch, Y. (1997). Back to square zero: The post-corporate career. *Organizational Dynamics, 25*(4), 7–22.

Probst, C., & Lepori, B. (2008). What is a doctorate? Changing meanings and practices in communication sciences in Switzerland. *European Journal of Education, 43*(4), 477–494.

Recotillet, I. (2007). PhD graduates with post-doctoral qualification in the private sector: Does it pay off? *Labour, 21*(3), 473–502.

Reichert, S., & Tauch, C. (2003). *Trends 2003. Progress towards the European higher education area.* Genève: European University Association.

Riesman, D. (1956). *The academic profession. Constraint and variety in American education.* Lincoln: University of Nebraska Press.

RIHE. (2009). *The changing academic profession over 1992–2007: International, comparative and quantitative perspectives* (International Seminar Report, No.°13). Hiroshima: Research Institute for Higher Education, Hiroshima University.

Rumbley, L., Pacheco, I., & Altbach, P. G. (2008). *International comparison of academic salaries: An exploratory study*. Chestnut Hill: Boston College Center for International Higher Education.

Schimank, U. (2001). Jenseits von Humboldt? Muster und Entwicklungspfade des Verhältnisses von Forschung und Lehre in verschiedenen europäischen Hochschulsystemen. *Leviathan Sonderheft, 20*, 295–325.

Schlegel, J. (2001). Prinzipien der Nachwuchsförderung in Deutschland. http://www.nt.tuwien.ac.at/nthft/temp/oefg/text/ws_sicherung/Beitrag_3.pdf.

Schuster, J., & Finkelstein, M. (2006). *The American faculty: The restructuring of academic work and careers*. Baltimore: Johns Hopkins University Press.

Siow, A. (1995). *The organization of the market for professors* (Working Paper UT-ECIPA-SIO-Ws91-01). Toronto.

Teichler, U. (1996). The conditions of the academic profession: An international comparative analysis of the academic profession in Western Europe, Japan and the United States. In P. A. M. Maassen & F. A. Van Vught (Eds.), *Inside academia: New challenges for the academic profession* (pp. 15–65). Utrecht: De Tijdstroom.

Teichler, U. (1999). Der Professor im internationalen Vergleich: Aspekte zu Tätigkeit und Selbstbild. *Forschung und Lehre, 5*, 242–245.

Teichler, U. (Ed.). (2006). *The formative years of scholars*. London: Portland.

Teichler, U. (2008). Academic staff in Germany: Per Aspera ad Astra? The changing academic profession in international comparative and quantitative persepectives. In RIHE (Ed.), *Report of the international conference on the changing academic profession project* (pp. 131–152). Hiroshima: Research Institute for Higher Education, Hiroshima University.

Teichler, U., & Bracht, O. (2006). The academic profession in Germany. In RIHE (Ed.), *Reports of changing academic profession project workshop on quality, relevance, and governance in the changing academia: International perspectives* (pp. 129–150). Hiroshima: Research Institute for Higher Education, Hiroshima University.

Teichler, U., & Sadlak, J. (Eds.). (2000). *Higher education research. Its relationship to policy and practice*. New York: Elsevier.

Tierney, W. G. (2004). Turning the lights out: Tenure in the 21st century. *The Journal of Higher Education, 75*(2), 228–233.

Tight, M. (2002). What does it mean to be a professor? *Higher Education Review, 34*(2), 15–32.

Trower, C. A. (2000a). The ties that bind, the meaning, purpose, and locus of tenure. In C. A. Trower (Ed.), *Policies on faculty appointment: Standard practices and unusual arrangements* (pp. 79–109). Bolton: Anker.

Trower, C. A. (Ed.). (2000b). *Policies on faculty appointment: Standard practices and unusual arrangements*. Bolton: Anker.

Trower, C. A. (2009). Toward a greater understanding of the tenure track for minorities. *Change, 41*(5), 38–45.

UNESCO. (2004). La Fuite des Cerveaux et le Marché du Travail Universitaire et Intellectuel en Europe du Sud-Est. *L'Enseignement Supérieur en Europe, XXIX*(3).

Waterman, R. H., Waterman, J. A., & Collard, B. A. (1994). Toward a career-resilient workforce. *Harvard Business Review, 72*(4), 87–95.

Weiler, H. N. (2004). Hochschulen in den USA—Modell für Deutschland? *Aus Politik und Zeitgeschichte, B 25*, 26–33.

Wheeler, D. (2008). Colleges explore new ways to manage retirements. *The Chronicle of Higher Education*. June 13, 2008. http://chronicle.com/free/v54/i40/40a00101.htm.

Williams, G., Blackstone, T., & Metcalf, D. (1974). *The academic labour market: Economic and social aspects of a profession*. Amsterdam: Elsevier.

Wilson, L. (1943). *The academic man: A study in the sociology of a profession*. New York: Oxford.

Wolfinger, N. H., Mason, M. A., & Goulden, M. (2009). Stay in the game: Gender, family formation and alternative trajectories in the academic life course. *Social Forces, 87*(3), 1591–1621.

Youn, T. I. K., & Price, T. M. (2009). Learning from the experience of others: The evolution of faculty tenure and promotion rules in comprehensive institutions. *The Journal of Higher Education, 80*(2), 204–237.

Zetlaoui, J. (1999). *L'Universitaire et ses Métiers. Contribution à l'Analyse des Espaces de Travail*. Paris: L'Harmattan.