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European academic labor markets in transition

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Abstract. Even if convergences are to be observed among the orientations adopted by higher education policies in European countries, they still are characterized by strong national features. One of the most striking national patterns of each system is its academic labor market, salaries, status, recruitment procedures, workloads, career patterns, promotion rules, being very different from one country to another. Nevertheless, specific national academic labor markets are experiencing a common evolution that can be summed up by the emergence of more regulated internal labor markets. At the same time, the qualification of the academic production (knowledge) as a public good is questioned and academic activities rely less on individual autonomy than before. Two main transformations can be mentioned: the development of individual assessment and incentive devices in universities and the increasing role of higher education institutions in the issues previously in the domain of the academic profession. The paper relies on a limited number of cases and on empirical studies recently carried out in France and Germany. The evolution engaged in the two countries will be reviewed in order to show that they lead, in different ways, to more regulated “internal labor markets”. It will also be argued that this is a general trend. In the last section, the implications linked to this evolution and the questions raised, the role of the academic profession, and the transformation of the status of scientific and pedagogical activities will be discussed.

Keywords: academic labor markets, professional models, France, Germany.

Even if convergences are to be observed among the orientations adopted by higher education policies in European countries within the last twenty years, many researchers (for instance Kogan et al. 20001; Musselin 2000a) show that these converging orientations always cope with national particularities: they hardly reduce the discrepancies among the different European national systems of higher education. They still are characterized by strong national features, one of the most striking national patterns of each system being its academic labor market. Salaries, status, recruitment procedures, workloads, career patterns, promotion rules, are very different from one country to another (Enders 2000, 2001; Musselin 2004).

Nevertheless, these specific national academic labor markets are experiencing a common evolution that can be summed up as the growing emergence of more regulated internal labor markets,¹ while

simultaneously the qualification of the academic production (knowledge) as a public good is questioned and while academic activities rely less on individual autonomy than before. Two main transformations can be mentioned: the development of individual assessment and incentive devices in universities; and the increasing role of higher education institutions in the issues previously in the domains of the academic profession.

Instead of trying to draw an extensive panorama of the recent measures undertaken in all (or at least many) European academic labor markets, this paper relies on a limited number of cases and on empirical studies recently collected on France and Germany.² The evolution engaged in the two countries will be reviewed in order to show that they lead, by different roads, to more regulated “internal labor markets”. It will also be argued that this is a general trend.

In the Section “Concluding discussion”, the implications linked to this evolution and the questions they raise, the role of the academic profession, and the transformation of the status of scientific and pedagogical activities will be discussed.

France and Germany: two different academic labor markets, two different professional models for academics

A traditional way of assessing change is first to describe the previously existing situation and second to present the transformations under way. I shall thus start by opposing the German and the French academic labor markets and by describing how they were characterized and the implicit professional models they are built on. But in order to describe these two situations, agreement must first be reached on the features to be taken into account, in order to compare academic labor markets.

A. How to characterize academic labor markets and analyze them

One common way of describing academic labor markets is to start with a rather formal description (procedures to access, status, different grades structuring the career development, salaries determination...) and to develop the consequences or implications, either in quantitative terms (average salaries, average age of access, etc.) or in qualitative ones (aging population vs. young one, blocked careers vs. attractive ones...).

This is common in comparative studies on academic careers (Altbach 2000; Clark 1983; Enders 2000, 2001), but often leads to neglecting the analysis of the mechanisms producing such results and the specific dynamics of these labor markets.

Some economists adopt a rather different perspective and qualify academic labor markets as “a-typical” (see for instance Siow 1995), trying to explain/discredit market anomalies (see for instance Alchian (1977); Carmichael (1988) on tenure). These studies are often normative and are also strictly adapted to the North American situation and difficult to apply to other countries.

Drawing on the comparison led on hiring decisions at some American, French and German universities and on the analysis of these respective labor markets, I shall suggest characterizing them by the specific interplay between four factors.

The first one deals with selection devices. Many variations can be observed between two opposed mechanisms. The first refers to “concourse” or “tournament”³ (Lazear and Rosen 1981): many candidates apply for a position open to recruitment or to promotion and their comparative assessment will lead to the choice of one of them. The second mechanism refers to situations in which selection depends on the satisfaction of required criteria by a candidate who is not competing with others. These criteria can be purely bureaucratic and very explicit (as for promotion by seniority: getting older is enough to get a better salary) or multi modal and less explicit; furthermore when the criteria are not satisfied, the candidate can either remain in his/her previous situation⁴ or be excluded according to the so called “up or out” device.⁵ These are of course ideal-typical devices and many academic labor markets mix different ones and develop hybrid forms. Moreover, much existing devices are not “pure”.⁶ But each system can nevertheless be characterized by a dominant style.

The second factor refers to the length and to the role of the pre-tenure period. First, while before tenure the exposure to competitive situations is inescapable if one wants to stay in the running for an academic position, it becomes more avoidable (mostly depending on the incentive structure at work) after it. Second, the “function” assigned to the pre-tenure period varies between two extreme roles: a way to reveal competencies on the one hand, or a time for apprenticeship on the other. The division of work and the relationships between tenured/non-tenured staff are affected by the function played: they are less marked when the revelation of competence is the main objective than when apprenticeship is.

The third factor concerns the balance between internal and external labor markets. For Doeringer and Piore (1971), internal labor markets are defined as “an administrative unit, such as a manufacturing plant, within which the pricing and allocation of labor is governed by a set of administrative rules and procedures” (1971: 1–2): I thus suggest speaking of internal academic labor markets when career development occurs within a university and when rules and incentives “organize” such a development.⁷ It is more difficult to closely follow the notion of external labor markets defined by the two economists as a situation in which “pricing, allocating, and training decision are controlled directly by economic variables” (Doeringer and Piore: 2). As I argued (Musselin 1996) it is not price but quality which is the operating mechanism in the adjustment between supply and demand in academic labor markets.⁸ Thus, in academia, I suggest speaking of external academic labor markets when career developments rely on the success of being hired for positions open in other institutions than one’s own.

For the above mentioned reason, a fourth and last factor deals with the determination of the price of the academics. If it does not result from the adjustment between supply and demand, how is it set and by whom? A point common to the countries studied is that the recruiters (the peers) are never the price negotiators. But given this factor, various situations may occur. In France there is no negotiation and salaries are fixed by bureaucratic rules applied by the ministry administration; while in the American case the dean negotiates the salaries, the start-up funds, the housing, the medical insurance etc. with the candidate.⁹

The four factors presented above constitute the analytic framework used now to point up the specific dynamics and “rules of the game” on which each of the French and the German academic labor markets relied until recently.

B. German and French academic labor markets and the underlying professional models

Using this analytic framework, France and Germany appear to be largely different, except for the predominance of “tournaments” for recruitment and promotions in both countries and the high level of uncertainties attached to such events: the number of open positions as well as the number and “quality” of the candidates who apply may vary

each year, the opacity about the criteria used by each hiring committee, etc.

French academic labor markets

In the French system,¹⁰ time limited contracts first of all concern doctoral students¹¹ and some specific positions that cannot be renewed more than once,¹² whereas the access to permanent positions happens, rather early – on average 33 years of age for a first position as “tenured assistant professor” (*maître de conférences*). Access to these tenured positions does not mean access to professional autonomy because there often is a perceptible division¹³ of work and responsibilities among *maîtres de conférences* and professors, even if one cannot speak of a “disciple to master” relationship. Interviewed *maîtres de conférences* for instance feel that their judgments weigh less than those of the professor on the hiring committees.¹⁴ Furthermore, this early tenure implies that institutions have to make a committed decision (for the next 30 years) at a moment when information on the candidates’ competencies are still rather limited. As a consequence, there are almost no possibilities for reversibility and some French academics are still *maîtres de conférences* when they retire.¹⁵

This situation combines with the coexistence in France of external labor markets which allocate symbolic resources rather than monetary or material ones, and poorly regulated internal labor markets.

Let me start with external labor markets. Even if theoretically equal on paper, French universities (or departments) do not all have the same reputation. Most of the time, well known institutions recruit professors among candidates who are not local ones. Conversely, ambitious academics try to get a position in a prestigious department they would like to join. Going back on the “market”, i.e., sending applications for recruitment to other institutions than your own, or trying to succeed to the *agrégation du supérieur*,¹⁶ is thus the best way to “make a career”. But only prestige is at stake, because the salaries depend on bureaucratic rules and are the same for all professors whatever the university or the discipline they belong to. Furthermore the hiring process (almost¹⁷) never is an opportunity for negotiating about working conditions or staff. The only way to improve one’s research potential is to find contracts with firms or local authorities (*département* level or region), and/or to be funded by one of the French national research institutions¹⁸ (CNRS, INSERM etc); but such processes are completely disconnected

from recruitment decisions and the university management are not associated with them.

If one now looks at internal labor markets, they are “poorly regulated”. There exist few incentives and most of them are not compelling. The main possibility consists in making a career within one’s institution, i.e. being recruited as *maître de conférences* by a university where one prepared his/her thesis, and being hired as a professor there too. Cytermann et al. (2002) assessed that 55% of French professors got their professorship at the university where they were *maîtres de conférences*.¹⁹ Even if not rare, these practices are not legitimate: “local recruitment” is often presented as one indicator of the “low morality” (Lazar 2001) of the French academic profession. I would argue (Musselin forthcoming) that it is also a rational answer to the constraints faced by the recruiters (hiring committees have only one and a half months to assess the dossiers), a good way to control uncertainties about the candidates’ quality, and a way to reward institutional commitment (in teaching or services for instance). Moreover it shows that recruitment plays a double role in France: it is a way to hire or be hired on the external labor market (as described in the previous paragraph) but it can simultaneously be used as a way of providing internal promotion.

These characteristics of the French academic labor market reveal a very protective professional model, as stressed by the early occurrence of tenure and the scarcity of career incentives. But it is also based on individual auto-regulation as shown by the facultative character of these incentives. This reveals the weakness of the link between the French universities and the faculty members: peers of the discipline are decisive in the recruitment decision-making but the institutions are excluded from the management of the faculty staff and certainly cannot be described as employers. French academics are sheltered by their university, not employed by it. It is furthermore a weakly differentiated profession: the division of work is not very pronounced among faculty members and simultaneously the vertical differentiation between the more and the less highly reputed academics is rather narrow.

German academic labor markets

The German situation before the 2000 reforms was radically different from the French one in many aspects.²⁰ First of all, there is a lasting

very demanding pre-tenure period for the assistants (*Mittelbau*). They are expected to go from one contract to another (with strict and constraining rules for renewal) and to finally write a *Habilitation* (the average age for *Habilitation* being 42 years of age, cf. Mayer 2000) which is the minimal prerequisite for applying for a tenured professor position. This long, selective and risky process is also characterized by the dependence of the assistants on the tenured professors to find the next contracts²¹ and to develop scientific thematics: they are not considered as “autonomous” researchers but as a work force simultaneously learning an occupation and engaged in a “disciple to master” kind of relationship. The *Habilitation* is thus a decisive event symbolizing the end of the apprenticeship process and the beginning of scientific independence.

Those who survive this long pre-tenure period and become tenured professors are then launched on a career which is exclusively based on external labor market mechanisms. The only way to be promoted from “C3” (associate professor) to “C4” (full professor), or to negotiate better salaries or better working conditions (equipment, budget for books, number of assistants) is to apply for a position in another institution and to be offered a *Ruf* there. Recruitment thus plays a crucial role in the German career development process and universities intervene on such issues: they can modify the choices made on the department level and they lead the negotiations with the selected candidate on the salary s/he will be offered if s/he comes. But, once this agreement is reached, the university loses any kind of influence on the newcomer, as there exists (existed) no internal labor markets at all: it was impossible to achieve career development within one’s institution. The German universities can thus be described as “human capital riskers”. They invest resources on a person with the hope that they will recover their investment thanks to the reputation, research contracts, pedagogical assets etc. s/he will bring.

The professional model behind this is also based on individual self-regulation (C3 professors are not compelled to apply for a C4 position), but it is less protective than the French. As a result, the division of labor is much stronger between tenured and non-tenured (Enders 1956: 54–55). This is also one of the motors of this professional model: the risky and long pre-tenure situation is balanced by the fact you benefit from it (thanks to the *Mittelbau* positions you will be allocated) once you become a professor. Furthermore German universities have a more important role than French ones: they participate in the differentiation process among academics through their action on price setting and

“investment”. As a consequence, the vertical differentiation is greater than in France. The main characteristics of the academic labor market in the two countries can be summed up in the following Table 1.

French and German academic labor markets clearly obey very different mechanisms, rules and principles. Such divergences are not only formal: they simultaneously impact on and reflect different professional models, i.e., different conceptions, structures and levels of differentiation within the academic profession. But these traditional models are experiencing some change.

The emergence of more regulated internal labor markets in France and Germany and in most European countries as well

The on-going evolution of the French and German labor markets reveals the emergence of converging trends which can also be observed in many other countries in Europe.

Table 1. Main characteristics of the academic labor market in France and Germany

	France	Germany
Selection devices		
Tournaments	Recruitment and promotions	Recruitment and promotions
Satisfaction of criteria	Promotion by seniority	
Length and role of pre-tenure		
Length	Short and limited to PhD preparation	Long (finish around 42 years old)
Role	Apprenticeship	Apprenticeship
Balance between external and internal labor markets	External labor market is the usual way to have a successful career. There exist weakly regulated internal labor markets	External labor market is the only way to make a career. There are no internal labor markets
Price determination	Salaries are fixed according to strict administrative scales. Barely no negotiation on work conditions	Salaries are fixed according to an administrative scale. Negotiations on work conditions especially for full professors (C4) positions
Professional model	Protective professional model and a weakly differentiated profession	Strong differentiation and division of work between tenured and non-tenured staff
Relationships between universities and their academic staff	Academics are sheltered by their universities	Universities invest in the professors they recruit

The emergence of more regulated internal labor markets in France and Germany

In recent year, some new measures have been introduced in France and in Germany. The recent German reforms²² introduced two major innovations. The first deals with the creation of “Juniorprofessor”²³ positions. It consists in three-year contracts which can be renewed once. At the end of the six year-period, the candidate can apply for a professor position. A *Habilitation* is no longer needed for promotion and the *Juniorprofessoren* are recognized as “autonomous” academics: they are expected to develop their own research projects and to reveal their competencies rather than to be apprentices. At least for the access to professorships, it breaks the traditional rules which associated promotions and access to tenured position with institutional mobility and introduces new principles of selection: the renewal of the three-year contract and the provision that access to a professorship should rely on the satisfaction of criteria rather than on pure “tournaments”.

The second innovation consists in the introduction of merit-salaries for tenured professors. Part of their salary is fixed, but the other part is variable. It gives the university the chance to differently manage its faculty staff after the recruitment decision. Professors who would not “bring return on investments” could see their income affected.

As a result, internal labor markets – which did not exist before – are promoted in Germany through the possibility of internal career development and by the creation of some incentive mechanisms.

In France the evolution is more diffuse and more staggered over time. Some first steps were passed in the 1990s. A first measure concerned the weakening²⁴ of the central body (*Conseil National des Universités, CNU*) which intervenes on recruitment and promotion decision-making: it gave more leeway to the department level (but not so much to the university level). A second one dealt with some distance taken vis-à-vis the egalitarian model through the introduction in 1990 of “bonuses”²⁵ rewarding some distinguished performance in research,²⁶ or in teaching,²⁷ or in administrative activities. The conditions to be fulfilled are rather clearly defined and do not leave much leeway to the institutions,²⁸ but it suggests that academic staff may be differently committed to various activities and that selective reward may be granted for them.

A less achieved evolution can also be seen in the recent promotion of teaching assessment.²⁹ Few institutions really invest in it (Dejean 2002) and it is poorly related to any kind of reward, but one should not

underestimate this experiment: if teaching assessment is to develop it would introduce some regular and compelling evaluation.

This trend toward the acceptance of more differentiated careers and the allocation of more management tools to higher education institutions is reflected in the content of the recent report of the University president Eric Esperet (2001): it suggests giving the universities the opportunity to negotiate different contracts with their academic staff, instead of acting as if academics were all spending 50% of their time for teaching and 50% for research. Some faculty members should be allowed to have lighter teaching duties, while others would have more pedagogical activities. Reflection is currently concerned with how to transform this report into action.

The on-going process is less spectacular in France than in Germany, but one can see the seeds of change and a move towards a stronger role of universities in staff management, as well as towards the introduction of new incentive mechanisms and more diversified internal career developments.

A general trend within European academic labor markets

This evolution can be observed in many other European countries. Higher education institutions are more and more involved in the management of their faculty staff, developing new tools and making decisions about position creations, suppressions or transformations: their intervention in faculty careers is more and more frequent. Some reforms (such as the suppression of tenure in the UK, or in Austria) also seek to give more flexibility to universities in staff management, either by avoiding “forever” employment contracts or by increasing the ratio between non-permanent staff and tenured teachers.

The influence of “new managerialism” on higher education institutions also introduced some new practices: from weekly reporting in some British universities, to regular assessment of research activities, teaching records based on student evaluation and the imposed (Austria) or proposed (Switzerland) assistance services which have been developed in case of bad results.

Since going into detail, country by country, would be tedious, I shall keep to this rather impressionistic presentation and try to show that this general trend raises common questions because it aims at a converging orientation and has comparable implications.

The deeper transformations resulting from the new regulations

As stressed above, the characteristics of academic labor markets and the mechanisms and principles through which they operate, go beyond an analytic presentation of rules, periods, modalities and regulations. They also reveal different societal (Maurice, et al. 1982; Maurice and Sorge 2000) conceptions and structures within the academic profession. Therefore the resulting transformations should not be considered as “simple” changes in the rules. On the contrary, we have to discuss the deeper implications they have.

Changing professional models

The modifications strongly affect national professional models. The formerly egalitarian French model which allowed symbolic and reputational differentiation but low status and income dispersion is not yet strongly threatened by the rather peripheral new measures which were introduced. But if the current projects were implemented they would deeply modify it. More differentiation among French academics, more accountability and assessment devices and the developing role of university leadership in such mechanisms would impact on the relationships among academics and in creating a stronger link between each academic and his/her institution.

What is at stake is even more acute in the German case. Because of the regressive budget of German universities, each creation of a junior professorship involves the suppression of an assistant position. It means less manpower to hand for tenured professors and modifies the “implicit contract” on which the previous professional model was based, i.e., the acceptance of the long, risky and dependent pre-tenure period in exchange for financial and human resources to develop one’s own research thereafter. What will be the reaction of recently recruited professors towards the *Juniorprofessoren*? Will the latter experience a less mandarin like situation? If so, i.e., if *Juniorprofessoren* are not considered as apprentices, a further consequence will probably be a blurring of the division of work between them and tenured professors, but also increasing competition between the latter and this “new” *Mittelbau* who will no more work for the professors but for themselves. At the same time professors will have to compete vigorously to “obtain” some of the remaining assistant positions. These reforms can thus impact on the division of work, the tenured/non tenured relationships, the socialization

process in pursuit of an to academic career, i.e., the whole German professional model.

As for merit salary, the crucial points are whether important differences will be made among faculty members and who will make such decisions. If universities happen to be able to develop institutional wage policies, it is not very difficult to imagine the impact it can have on the university/professor relationships!

As a consequence, the new rules which have been introduced to the academic labor markets are reshaping the national professional models.

Weakening academic regulation vs transformed relationships between universities and academics

A further general conclusion implicitly presented in this paper is the already frequently developed (Dearlove 1997; Fulton 1994; Kogan and Hanney 2000; Reed 2001) argument about the threat of the diminishing power of academia. The UK is here particularly representative of the deployed forces “against” academic self-regulation. The changes I described lead to this conclusion as well.

This should not be overstated: academics often remain the main deciders. When recruitment formally requires an approval from the university leadership, it is more formal than really intrusive.³⁰ Nevertheless, the autonomy left to the faculty members on these issues is now reduced and they must cope with “external” constraints. Departments make decisions “by themselves” but in fact “freely” introduce considerations they feel they must take into account. For instance, French departments ask for the creation of positions in sub-disciplines which are understaffed, not always because it is important for the future of the discipline, but because they know that being understaffed is a decisive argument for getting new posts. And in Germany, departments threatened by the suppression of posts “decide” to modify their scientific and pedagogical aspirations and, consequently, the profile of the candidate they are looking for. The academic profession has more and more to cope with institutional constraints and their integration into “its” criteria, which is an insidious way of lessening academic independence.

More frontal and direct attacks also emerge from the growing influence of institutions on career development and activity assessment. This concerns the increasing possibilities and legitimacy of intervention with academics of higher institutions through instruments and devices

aiming at better controlling, monitoring, evaluating. And this competes with traditional academic preferences and criteria.

The main consequence of this evolution is the transformation of the nature of the university/academics relationship. In the Humboldtian tradition, universities were expected to promote the unity of knowledge under the same roof (among many others, see Nybom forthcoming or Renaut 1995). They thus had a kind of metaphysical role and the “idea of University” was more important than the physical structures or the material links between the faculties. It is nowadays the opposite: universities establish overarching functions by looking more and more like organizations (Musselin 2002), by introducing similar constraints on the university staff, by defining criteria and norms to be applied to academic activities, by ensuring that these criteria and norms are respected, and by developing an employer/wage earner relationship. While European higher education systems (by comparison with the American one³¹) were characterized by weak institutional regulation and a dominant professional regulation, they recently experienced the emergence of the former and its increasing development and the related weakening of the latter. Both forms are now to be found and combine in a more or less antagonistic way within universities, so that even if academics still define themselves in relation to their respective discipline(s), they cannot escape or ignore the more wage-earner type relationship linking them to their institution.

The transformation of academic activities into academic work

This finally questions the evolution of the nature of academic activities. The development of employer/wage earner relationships is possible if and only if research and teaching are considered as “work”.

In the Mertonian conception of the scientist (for instance Merton 1962), the idea prevails that research and teaching, as well as artistic activities, were chosen by a “calling” (*Ruf* being a literal translation for that in German), and as such were characterized by disinterestedness and the search for “Truth”. A well structured socialization and strong professional control were enough to maintain the respect for scientific norms; and the principal measurement of performance was scientific progress, defined by discoveries, new laws, new theories, new concepts.

In this conception, research clearly dominated teaching, the latter being a kind of natural by-product of the former and both activities were considered as different from (industrial) “work” in many ways. First they do not refer to any core technology: research processes and

teaching practices cannot be prescribed, they depend much more on individual talent than on transferable instruments or prescriptions: they can hardly be replicated. Second, they are difficult to evaluate: their assessment relies more on judgement than on indicators; and the causal links between the way these activities are developed and their result is said to be loosely coupled.

It is questioned nowadays. Or at least, the arguments protecting academic activities from instruments and practices usual for non-academic work do not work anymore. Recent evolution tends to foster productivity indicators (see for instance RAE procedure in the UK), to promote weekly reporting, to develop teaching methods, to extend quality assessment.

I thus come to a conclusion which is quite convergent with the one developed by Menger (2002) about artistic activities: the difference between artistic/academic activities and “work” is narrowing. But in the case of academics, I disagree with his interpretation. He argues that “creative artistic activities are no longer the reverse side of work, but are more and more claimed to be the more advanced expression of new modes of production and of new work relation” (Menger 2002: 8, my translation). In the case of academic activities we increasingly see a diffusion of techniques, measures and procedures which previously were specific to non-academic work.

Concluding discussion

European academic labor markets are experiencing many changes aiming at similar objectives: the establishment of better regulated internal labor markets and the affirmed role of the university level in the management of the newly introduced incentive mechanisms. This general trend carries with it comparable implications: it modifies the professional models on which each national academic labor market was built; it leads to the weakening of professional regulations and to the emergence of institutional regulations which have to combine with the former, and it implies the transformation of academic activities into academic work, while academics become wage-earner professionals.

Among the many issues raised by this on-going evolution two seem particularly promising for future investigations, and I would like to finish with them.

The first one concerns the compatibility of this transformation with other changes affecting higher education. For instance, one can

see the emergence of more regulated academic labor markets in European universities as consistent with the shift in the status of knowledge: because the latter is supposed/expected to be more closely linked to society's needs and demands, one can expect more control and incentives to be introduced in academic work. But at the same time there clearly exists a contradiction between more organized universities, stimulating institutional commitment and the fact that, simultaneously research activities are expected to increasingly develop through networks, inter-disciplinarity, flexibility. At the individual level (lay academic) the tension between stronger links to the institution and the adaptability required by scientific activities increases. Moreover we can expect research to be more resistant than teaching to a transformation into "work" and to organizational control³² as it relies on individual expertise and skills: as stressed by Reed (2001), new managerialism can produce counter effects and affect creativity and innovation if too narrowly implemented on professionals. A balance has thus to be found between professional regulations and the emerging institutional ones.

The second perspective concerns the influence of the development of more regulated internal labor markets within universities on the content of academic activities as well as on their production process. Most of the time the teaching and research agendas are described as more and more constrained by external factors (pressures from the job-market, from stakeholders); and the type of knowledge produced is understood as a reflection of the autonomy academics can mobilize *vis-à-vis* those external demands. But this individual autonomy is also more and more restricted by internal institutional devices: the impact of the latter should not be neglected and should be further explored. More precisely, their influence on the management of the research/teaching/services mix as well as on the kind of knowledge produced and taught should be observed. Their (collusive or contradictory) interplay with the external constraints should also be studied.

Notes

1. The diminishing percent of tenure-track and tenured positions in universities (Chait 2002) and in firms (see for instance Menger 2002; Osterman 2002) will not be discussed here.
2. More than 200 interviews were held with lay academics, chairs and deans displayed in two disciplines (history and mathematics) and three countries (France, Germany and the US): 22 departments within 18 universities were under study (Blangy and

Musselin 1996; Fresse 1998, 1999; Hanin 1994; Musselin 2000b; de Oliveira 1998). I am finishing a book drawing on these studies (Musselin forthcoming). I chose to explore traditional disciplines such as history and mathematics because the main research issue was on decision-making in hiring committees and I wanted to study cases where the non-academic labor markets play little role. For this paper this choice also happens to be relevant because the hypothesis can be made that if the change I discuss here is to be observed in traditional disciplines, it is even more important in the others.

3. Tournaments describe situations where the performance of each candidate cannot be clearly and efficiently measured. In such a case, the best solution is to compare the respective quality of the candidate rather than trying to measure it.
4. This is the case in American universities with the passage from associate to full professorship.
5. According to economists (see for instance O'Flaherty and Siow 1992, 1995), this mechanism deals with cases where the competence of junior staff can only be assessed *in situ*.
6. For instance, in a large majority of American universities tenure is close to the satisfaction of criteria mechanism, but the letters of recommendation or the evaluation of the dossiers by external experts introduce some kind of comparative assessment. Furthermore in the very top research universities the tenure process is closer to a tournament and relies on competition among many candidates.
7. This definition is rather literal and primary by lack of space to discuss it further. For an exploration of the specificities of universities as internal labor markets see Sørensen (1993).
8. Academic labor markets thus belong to what L. Karpik defined as an "economics of quality" (Karpik 1989).
9. In the three private American universities I studied, the negotiation occurred between the dean and the department chair who represented the candidate.
10. The French academic profession is regulated by the decree 84-431 published in 1984, but many incremental changes have been introduced in this text over time.
11. Not all of them. In France many doctoral students (more in humanities than in science) prepare their thesis with no fellowship (*allocation de recherche*) from the university.
12. They are mostly dedicated to doctoral students on the verge of finishing their PhD or to new doctors.
13. Varying from one discipline to another, and from one department to another.
14. This feeling was also very strongly expressed by German non-tenured assistants. On the contrary, the American assistant professors I interviewed did not have this feeling.
15. There are no public data on how many academics are concerned, but in the ministry statistics (Note d'information, 2002), 15.4% of this category is 55 years old or more.
16. In some disciplines (mostly law, economics, political science, business administration) the access to professorship depends on success in a national examination called *agrégation du supérieur*. A limited number of positions are open for this concourse. The first ranked successful candidate chooses the position s/he prefers among the open ones, then the second on the list does the same etc. It is thus rare for a candidate to be a professor in the university where he was *maître de confer-*

ences and institutional mobility is (almost) systematically associated with promotion to professorship.

17. There exist limited exceptions. A reputed scientific university decided to allocate some start-up funds for new recruited persons. Another one received financial support from local authorities to propose interesting housing facilities.
18. The CNRS (Centre National de la Recherche Scientifique) and the INSERM (Institut National de la Santé et de la Recherche Scientifique) are public institutions created respectively in 1939 and 1964. They are mostly dedicated to fundamental research in all disciplines for the CNRS and in life sciences for the INSERM. They partly or completely finance many research centers which are often located within universities (but not always) and have their own tenured research staff (about 11,800 for the CNRS, 2200 for the INSERM). Other research institutions of this kind exist such as the INRA for agronomical research, the CNES for space activities, etc.
19. With important variations from one university to another (large scientific universities practice less local recruitment than humanities predominant universities) and of course from one discipline to another (disciplines with *agrégation du supérieur* have less local recruitment than humanities and science).
20. In Germany the academic profession is regulated by the Hochschulrahmengesetz (which was modified in 2001 by the *Fünftes Gesetz zur Änderung des Hochschulrahmengesetzes*) and the Hochschuldienstrecht.
21. All the more so as such hiring decisions very much depend on each professor: there is no collective decision making.
22. Cf. the *Fünftes Gesetz zur Änderung des Hochschulrahmengesetzes und anderer Vorschriften* 5. HRGÄndG, February the 16th 2002.
23. This is the German term.
24. Instead of ranking the candidates, the CNU now evaluates the dossier of the doctors who intend to apply for a *maître de conférences* position and of the *maîtres de conférences* who intend to apply for a professor position. It decides whether they are enough qualified or not to apply for such positions. Furthermore, half of the positions open for promotion are left to the universities which can decide whom they want to promote. The rest of the positions open for promotion is allocated by the CNU.
25. Decrees 90-49, 90-50, 90-51 of January the 12th 1990, published in the *Journal Officiel* of January 12–14 1990.
26. Mostly measured by the number of doctors “produced” each year by the concerned academic. It reaches € 3336 a year for *maîtres de conférences*, € 4819 for second class professors and € 6302 for first class professors.
27. This was first measured according to a number of teaching hours given above the standard duty. Now it is reserved for academics developing specific pedagogical activities which are not presential teaching. It can reach between €456 and €3530 each year.
28. Nevertheless, the decision to grant a doctoral bonus to someone is made by experts at the ministry level.
29. French academics distinguish “teaching assessment” (*évaluation de l’enseignement*) from “teacher assessment” (*évaluation de l’enseignant*). In a survey made for the *Agence de Mutualisation des Universités et des Etablissements*, AMUE in 1999 (Mignot-Gérard and Musselin 2000), 88.4% of about 1000 academics who an-

- swered declared they were in favor of teaching assessment. But they expressed strong reluctance towards “teacher assessment”.
30. In Germany for instance the members of the hiring committees often mentioned the possibility for the university/ministry to modify their choice but very few were able to quote a concrete case (or they all quoted the same case). The same holds true for the American cases I studied. In the four departments, very few cases were mentioned where the university did not follow the department decisions about recruitment, tenure or promotions (Musselin 2000b).
 31. For instance organizational sagas as defined by B. Clark (1983) are rarer in Europe.
 32. Organizational studies of American universities (for instance Blau 1973; Brisset-Sillion 1997; Chait 2002) all conclude that stronger administrative control develops better in teaching institutions than in research universities

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