

Raising the employment profile of doctoral students: A short presentation of PhD *valorisation* in France

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valorize | 'vælə, rɪz |

verb [trans.]

give or ascribe value or validity to (something)

• raise or fix the price or value of (a commodity or currency) by artificial means, esp. by government action.

ORIGIN 1920s: back-formation from **valorization** (from French **valorisation**, from **valeur** ‘value’).

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1 Introduction

1.1 Definition

In academic research, *valorisation* aims at making the most out of postgraduate research training, and specifically out of a PhD.¹ Most European programmes, such as the Lifelong Learning Programme 2007-2013, equate ‘valorisation’ to disseminating and exporting the results of academic research to other venues which could benefit from productivity gains. In that sense, ‘valorisation’ aims at facilitating the transfer of university research results into economic settings in order to enhance industrial and social innovation.² This definition does not deviate very much from the definition held by private sector consulting firms such as PricewaterhouseCoopers, for whom valorisation translates into “capturing value of knowledge and exploiting it,” usually through company creation and technology licensing.

Yet ‘valorisation’ also refers to *improving the job prospects of doctoral students on both academic and non-academic markets*, which constitutes an equally challenging task for European stakeholders as well as Member States such as France, where much remains to be done in that area. Under that less common acceptance, ‘valorisation’ aims at increasing the number of doctorate holders in the public, private and third sectors, which necessarily entails improving knowledge transfer and the recognition of professional qualifications acquired through doctoral training in order to raise the employment profile of doctoral students.

1.2 Policy context

Originally a French term, ‘valorisation’ is now gradually spreading to European Member States under the influence of the European Commission, which started featuring it in its policy jargon in the past decade. The Bologna Process (initiated by French Minister Claude Allègre in 1998) was instrumental in elevating the problem of ‘valorisation’ onto the agenda, with the intention of turning Eu-

¹In what follows, we concentrate on doctoral studies. ‘PhD’ and ‘doctorate’ are used interchangeably in that context.

²See http://ec.europa.eu/dgs/education_culture/valorisation/index_en.html for a glossary and further information on the Programme.

rope into a competitive and attractive venue to work in higher education and research. The need for a 'valorisation' strategy has been driven by brain drain, with young doctors in Europe leaving to work in the United States, often against their initial will to do so in terms of personal motivations.³ The European Commission has since produced documents and recommendations that aim at improving European research policies, principally by making academic careers more attractive and by facilitating researcher mobility within Europe, both between sectors (public/private, academic/non-academic) and between countries.

To these ends, the European Commission has been keen on Member States to improve the work conditions of young researchers, which relate both to hiring processes and career opportunities. The Commission does *not* discriminate between academic and non-academic settings in its research policy, and has rejected the idea of having a two-tier system for doctoral studies based on that distinction. The Bologna Process actually encourages Member States to recognise doctoral studies as a form of professional training, and the European Commission took an important step in that direction by stating the following in its 2005 European Charter for Researchers:

All researchers engaged in a research career should be recognised as professionals and be treated accordingly. This should commence at the beginning of their careers, namely at postgraduate level, and should include all levels, regardless of their classification at national level (e.g. employee, postgraduate student, doctoral candidate, post-doctoral fellow, civil servants).

France enforced a similar idea in a recent decision that recognises doctoral

³See 'Drawn to the USA', *RTDinfo*, August 2003: http://ec.europa.eu/research/rtdinfo/special_rh/print_article_138_en.html. Several reports by the *Bureau du CNRS* in Washington (*Mission Scientifique et Technologique de l'Ambassade de France*) have underlined the temporary and passive nature of brain drain among French young researchers; see, e.g., Erwan Seznec and Dominique Martin-Rovet, "État des lieux 2000 sur la présence des Français en science et ingénierie aux États-Unis – Les cerveaux, fous d'Amérique ? Pas vraiment...", May 2001. Both ANCMSP and CJC hold copies of the relevant documentation, which is still accessible at <http://web.archive.org/web/20010522062108/http://www.cnrs.fr/DRI/Washington/Actualite/FTP/index.html>; in a nutshell, Damien Terrouanne has nicely summarised current trends in brain drain from France to the United States in higher education and research as 'brain travel' (*cerveaux en voyage*) instead of 'brain escape' (*cerveaux en fuite*).

training as “a professional research experience”⁴ not just for academic prospects, but also for public, private or third-sector employment.

The gap between academic and non-academic professional careers is unfortunately still very alive in the French curriculum, as universities feature ‘professional’ and ‘academic’ diplomas at the undergraduate and graduate levels. At the moment, this split might well reduce inter-sectoral mobility for doctors instead of enhancing it. The sheer notion of making professional use of doctoral studies is actually problematic in France, insofar as private and public sector employers assign only residual value to doctoral training and hence end up downgrading the overall PhD experience. Obtaining a PhD is merely a research qualification to several stakeholders, most of whom have only very limited information on what kind of training it takes to achieve a PhD. Both private sector recruiters and civil service institutions are used to hire their managerial elite from the pool of graduates provided by French *grandes écoles*, which do not put research training forward in their curricula.⁵

1.3 Outline

Institutional as well as informational constraints stand out as the two most obvious obstacles of the French debate over the recognition of doctoral studies, which remain a marginal qualification on the job market, if not a counterproductive one insofar as it delays market entry for young researchers and hence leaves them with a comparative disadvantage against graduates who can offer three years of internships and other professional activity to potential employers at an equivalent age.

Both informational and institutional aspects are reflected in the following briefing, which starts by surveying the unfortunately diverse ways in which the *doctorat* is underrated on the French job market (Section 2). The paper then turns to the various policy arrangements that attempt to resolve the issue of turning the PhD into a professional experience for French employers (Section 3). It ends

⁴Art. 1, ‘Arrêté relatif à la formation doctorale du 7 août 2006’, *J.O.R.F.* n°195, 24 August 2006, page 12468, text n°22).

⁵For a presentation of the French dual educational system, see *The extent and impact of higher education curricular reform across Europe. Final report to the Directorate-General for Education and Culture of the European Commission*, Part 2, pp. 67–74 (partly reproduced as Appendix A).

with proposals from the French Confederation of Young Researchers⁶ and the National Science Doctors Association⁷ on how to promote the PhD as a professional asset both inside and outside of academia (Section 4).

2 Issues at stake

The most obvious afflictions of the French doctorate when it comes to determining its value as a professional asset are low job prospects in academia, heterogeneity among research opportunities for doctoral candidates, and difficulties with non-academic employment. The recognition of doctoral candidates as “Early Stage Researchers” as well as their involvement in advisory and decision-making bodies are largely undermined by these three factors, briefly reviewed *infra* as the main factors that contribute most to playing down the value of doctoral training in France.

2.1 Job prospects

Young researchers in France face great difficulties in finding jobs, either in academic or non-academic settings. France is currently cutting in its research workforce and budget, and it is not rare in the French academic job market to find hundreds of candidates in competition over half a dozen research positions.⁸

Moreover, universities are free to recruit their research personnel in ways that do not necessarily come out as transparent, with equal treatment and opportunities tending to be the exception rather than the norm. Clientelism and localism are widespread in most academic disciplines and act as an incentive for many young researchers to leave France and seek employment opportunities in foreign countries, where ‘hidden tenure tracks’ seem less common or at least easier to defeat. Several young researchers’ organisations have started monitoring academic recruitment in order to foster transparency and equal treatment among

⁶Confédération des Jeunes Chercheurs, CJC.

⁷Association Nationale des Docteurs es Sciences, ANDES: <http://www.andes.asso.fr/>.

⁸For a recent survey of scientific research funding and employment in France, see the SNCS ‘Audier-Douillard’ report, which draws largely on OECD data as well as on other sources such as the French Observatory of Scientific Employment (*Observatoire de l’emploi scientifique*): http://www.sncs.fr/IMG/pdf/sous-financement_recherche.pdf; see esp. chapter .

candidates, yet their action alone will not suffice to that matter; a lot remains to be done and stronger incentives are clearly needed in that respect.⁹

2.2 Research opportunities

The number of academic jobs available to young researchers is not the sole issue to take into consideration while assessing the French case; academic jobs themselves give access to strikingly different work conditions, depending on disciplines and funding bodies—when there is one: between 50% and 80% of French doctoral students in the social sciences are currently self-funded.

Doctoral grants are far from uniform in France, starting with social benefits. Some funding comes with insurance premiums paid for, while others simply do not; some PhD candidates hence find themselves automatically covered by pension and unemployment schemes, while others cannot even claim occupation health coverage if so needed. An interesting example is the case of French doctoral students funded by the Ministry of Foreign Affairs (MAE), who cannot claim the *basic modicum* of social benefits offered to virtually any other MAE employee.

Material work conditions also differ greatly between research units, as does the quality of doctoral training. Inequalities in social security provisions are hence accentuated by local variations in research endowments, resulting in a triple state of inequality between insiders and outsiders on the academic job market, between young researchers and statutory research personnel, and between research institutions.

2.3 Non-academic employment

Doctoral studies have undergone several reforms since the late 1960s, but none has succeeded in making the PhD a valuable professional qualification in non-academic settings; one might venture some reforms actually *obscured* the training and skills acquired through a doctorate, making it even less likely for the PhD

⁹See EURODOC, “Five Principles and Recommendations towards a More Open European Labour Market for Researchers”, Recommendation 4 (“Application procedures should be transparent and fair.”); European Commission, “Code of Conduct for the Recruitment of Researchers:” <http://ec.europa.eu/euraxess/rights>.

to become recognised as a professional asset by employers.

Only around 30% of the PhD-trained workforce was able to find a job in an academic setting in 1996, and the European Commission is now concerned by the shortage of young researchers that plague several academic disciplines in France and other European countries. The Commission is also concerned that scientific research has become less and less attractive due to decreasing career opportunities, even though doctoral studies are highly praised in neighbour countries such as Germany, where a PhD is a valuable asset for private sector employment since some companies create positions for doctoral students exclusively.

In France, as shown in the following table and by the fact that unemployment among French PhD holders stagnates around 25% three years after obtaining their doctorate, holding a PhD does not guarantee similar job prospects. These trends are well summarised in reports like the Audier-Douillard report, which clearly demonstrates that French PhD holders enjoy mediocre career opportunities.¹⁰

	Research exp. as % of GDP (2004)	PhD dissertations (2004)	Evolution 2004/1999 (%)	PhD holders among 25-34 y/o (2004)	Evolution 2004/1999 (%)
Germany	2.52	23,138	- 6	2.23	+ 16
France	2.18	9,309	- 8	1.15	- 4
United Kingdom	1.88	15,257	+ 35	1.90	+ 49
Italy	1.16	6,351	+ 79	1.74	+ 89
Spain	1.05	8,168	+ 30	1.13	+ 17

Source: Audier-Douillard report, p. 47; Data: OST 2006 report.

*

These factors amount to a general disincentive for young students in France to select research careers over other types of professional training. A symbolic indication of the low status of doctoral training in France is the absence of a "Dr." title for individuals who hold a PhD, even though some young researchers' associations have taken initiatives to alter that state of affairs.

¹⁰See footnote on page 6.

3 Current policies

Current policies are tailored to have private and public sector employers hire the PhD students that universities create without being able to hire them afterwards. Two arrangements created in the past two years aim in that direction: 'company sponsorship' (*mécénat d'entreprises*¹¹) and 'PhD consultants' (*doctorant-conseil*).

3.1 'Company sponsorship'

Company sponsorship is a shared project within the wider ministerial initiative referred to as "Chantier Jeunes Chercheurs" that aims at bringing private sector and academic stakeholders into a closer relationship. Its main rationale is to have companies pay for research projects framed, and sometimes funded, within doctoral schools (current decrees are less informative on the exact sources of funding than recent meetings between concerned parties in February 2008; the current state of negotiations seems to indicate that private sector participants will have to pay a minimal fee in all circumstances). Sponsorship is set up under a specific legal status, and one of its objectives is to lead to quicker doctoral research achievements, as the funding curtails the research period to three years.

Comments from the CJC emphasise that research topics should originate in academic settings, instead of drifting to fit private sector interests by default. Similarly, doctoral students should remain as independent as possible from their funding body (a requirement that does not precisely address the delivery of interim or intermediary reports during the PhD). Finally, it is not yet clear how doctoral students under company sponsorship agreements will fund their research expenditures, and CJC has offered that PhD students who already benefit from academic stipends should benefit from complementary private sector funding to cover these. What these comments underline best is the general vagueness of the arrangement as it stands today.

¹¹*Mécénat* is also the term used to designate the (rich) people who support artists.

3.2 'PhD consultants'

Based on a local experiment run in 1996 by two universities in Bordeaux, 'PhD consulting' consists in having PhD holders work for private sector companies or public sector administrations on a specific consultant task, which they complete in parallel to research activities. Over 500 'PhD consultant' positions were created in 66 universities for academic year 2007. The hybrid status of PhD consultants allows them to gain from their private-sector or public-sector positions; in return, companies and especially SMEs are given the opportunity to invest into a cheap form of R & D and increase their links with academic personnel.

Only 85 PhD consultants were effectively created by universities in 2007. The older form of company-university partnership over doctoral training, the CIFRE scholarship, is still being used more often, with over 12,000 scholarships having led to doctorates since the creation of CIFRE arrangements in 1981 and a 48% increase in CIFRE scholarships since 2001.

*

These arrangements aim at making the doctorate a professional asset in non-academic settings, but eventually fail to do so on a large scale. The idea that administrations and private bodies are building their innovation capacity by having their staff participate in higher education mobility activities is still far-fetched in practical terms. Moreover, these initiatives cannot work as substitutes to research funding for universities, which should reach 3% of GDP according to the European Council of Barcelona.

Several French institutions are currently involved in making the PhD experience a professional asset: the National Association for Technical Research¹², which supervises CIFRE partnerships, as well as the *Association Bernard Grégory*¹³, have a two-way strategy of informing private sector actors on doctoral qualifications while informing PhD students of private sector requirements. Making use of PhD training in the private sector, however, is still perceived as a counter-natural 'migration' that requires several adaptational steps.¹⁴

¹²Association Nationale de la Recherche Technique (ANRT): <http://www.anrt.asso.fr/>.

¹³See <http://www.abg.asso.fr/>.

¹⁴See 'Migrating to the private sphere', *RTDinfo*, August 2003: <http://ec.europa.eu/>

There is a lack, however, of institutional as well as financial support to stimulate geographical (international) mobility among young researchers.

4 Recommendations

Both CJC and ANDES have developed proposals to make PhD 'valorisation' work in academic and non-academic settings. Their efforts in that domain can be summarised along three main requests for young researchers: better work conditions, better recruitment procedures, and better job prospects overall.

'Professionalisation' is at the heart of all three issues, and remains, by that virtue, the main issue as well as the main bone of contention in debates on PhD 'valorisation' in France. On the one hand, the term refers to the specific skills of doctoral students and how to develop them effectively in academia, in public administration, or in a private sector work environment. On the other hand, however, the term is sometimes used to minimise and eventually depreciate the value of PhD training on the job market, as if doctoral training had to be complemented by 'proper' professional training on the side. The misrepresentation that professionalisation is a two-track process, with doctoral research advancement being distinct from acquiring job-relevant skills, is a major obstacle to PhD 'valorisation' and a controversial topic in discussions between stakeholders.

Professionalisation as young researchers' organisations in France currently promote it is no such hybrid compound, but *the effective acknowledgement of doctoral training as a professional set of skills with effective value on the job market*. Raising the employment of PhD holders implies raising awareness of the actual conditions of doctoral work, which starts with winning a competitive and selective race for funding as well as securing a position in a research unit. PhD students then spend several years developing a capacity to interact with their peers along strict scientific criteria, eventually becoming highly trained professionals with an ability to perform successfully in higher education and research but also in other sectors, which include consulting, management, knowledge management and scientific intelligence monitoring. The value-added of a PhD holder starts with his ability to work autonomously, in a creative and organised

[research/rtdinfo/special_rh/print_article_142_en.html](https://www.research/rtdinfo/special_rh/print_article_142_en.html).

fashion. PhD students learn to face uncertainty on a daily basis in several environments, and should be praised for developing carefully selected solutions to the challenges they face, either alone or through self-managed teamwork. These tasks are performed on tight budgets, which lead them to become highly cost-effective managers with invaluable time management skills.

All these characteristics of doctoral work will gain in saliency as soon as recruitment procedures will start gaining in transparency and fairness, which explains why this particular aspect of doctoral employment is persistently registered on the agenda of young researchers' organisations. Better standards in academic employment are clearly an entry point for higher consideration of PhD holders on other markets, whether public or private. This evolution is essential to the development of 'knowledge economies', as currently advertised by European and national decision-makers. Equally important is the development of geographical mobility between European countries, which should act as a necessary complement to effective intersectoral mobility strategies within Member States. Needless to say, a basic step in the direction of developing a knowledge economy with such characteristics will be to remove the factors that lead many young researchers to work in a qua-destitute environment that leads them to impoverishment, distrust and eventually to the pursuit of lower job prospects.

Better work conditions and collective arrangements to improve job prospects for PhD holders form the backbone of a strategy to reach these aims, in France and in Europe more generally.

4.1 'Valorisation' through better work conditions

Organisations such as CJC, ANDES and ANCMSP are constantly mobilising support over the work conditions of PhD students. This issue is present throughout the present briefing and needs little further elaboration here. In the French context, doctoral schools are the bodies responsible for the training and overall work conditions of doctoral students,¹⁵ and improvements to the 'PhD condition' will necessarily involve their budgets and management.

¹⁵Art. 2, 'Arrêté relatif à la formation doctorale du 7 août 2006', *J.O.R.F.* n°195, 24 August 2006, page 12468, text n°22).

4.2 'Valorisation' through collective arrangements

Collective agreements between employers' and employees' representatives (or *conventions collectives* in the French context) can become another means of enhancing the incorporation of PhD holders in specific sectors of the economy. To that end, CJC has become involved with professional trade unions in order to further the recruitment of PhD holders in specific branches of the chemical and metallurgic industries.

Another initiative of the CJC (known as the *chantier "Haute Fonction Publique"*) aims at securing higher civil service positions for PhD holders. These partnerships do not exhaust (far from it) the range of possible agreements that could be undertaken between young researchers' organisations and potential employers such as local administrations and other branches of civil service, where job prospects are particularly valuable for PhD holders from the social sciences.

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To end with what should be done at the European level, 'valorisation' for doctoral training and PhD holders requires harmonisation efforts in three complementary aspects of higher education and employment markets:

1. Better work conditions during the doctorate, including better and more visible programmes of doctoral training.
2. Better job prospects in academia, both for young researchers and others.
3. More job prospects in a larger range of employment sectors, with adequate recognition of doctorate-acquired professional skills.

Research expenditure will dictate part of the success of any policy that adopts the following goals. Equal access to resources and equal treatment should also ensure that all geographical areas and all scientific disciplines benefit fairly from policy initiatives. Goal-setting is expected from organisations with public mandates to intervene in setting levels of endowments, employment and mobility.

A Higher education in France, pre-LMD (3-5-8) reform

Source: *The extent and impact of higher education curricular reform across Europe. Final report to the Directorate-General for Education and Culture of the European Commission, Part 2, p. 67.*

A specificity of the French HE system is the dualism of universities and *grandes écoles*. While the universities offer education for large student numbers and have an obligation of open access, *grandes écoles* are highly selective and offer training for the future elites in the state and in industry. At the same time, most research takes place in the university sector (often in cooperation with national research centres, like the CNRS), not at *grandes écoles*. Governance structures differ greatly between the two systems: universities come under the authority of the national ministry of education's directorate of higher education (DES), *grandes écoles* fall under the authority of different other public authorities, with an important presence of industrial stakeholders. Traditionally, *grandes écoles* focus more on subjects like engineering and management, but the lines have blurred.

Degree structures, too, have traditionally differed strongly between the two sectors. At universities, there was always a three-cycle system, but the three cycles were defined differently than today (2+2+1 (+ up to 4 for doctorate)). After two years training, the DEUG (diplôme d'études universitaires générales) was granted. At the IUTs (*instituts universitaires technologiques*), technological institutes with some independence within universities, an applied technological diploma was granted at this level, the DUT (*diplôme universitaire technologique*). Similarly, the BTS (*brevet de technicien supérieur*) was offered by the STS which are however not formally part of HE. The second cycle led to the licence (after three years) and the *maîtrise* (after four years). The third cycle ended after five years of HE with an professionally-oriented degree like the DESS (*diplôme d'études supérieures spécialisées*) and research degree like the DEA (*diplôme d'études approfondies*), which in turn laid the basis for a doctorate after another three years. At all levels, additional, often professionally-oriented and more selective degrees were offered. At *grandes écoles*, the degree structure was fundamentally different with a system of preparatory classes at post-secondary but non-HE level, an entry exam, and a training duration of mostly three years (2+3).