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Introduction

Is thesis a worthwhile investment for students ?

Why choose an academic career ?

The lessons of the empirical study on the professional paths.

The high segmentation of the professional paths.

Conclusion

Professionnal paths of french young Phd earners : "taste for science" faces labor market's reality

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- 4 The lessons of the empirical study on the professional paths.
- 5 The high segmentation of the professional paths.
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The paradox of the transition from school to work of Phd earners.

In a knowledge-based economy, young Phd earners should occupy a central role in the dissemination of scientific production within the public and private research (Gaughan and Robin, 2004), but

- International data show increasing difficulties to find job and to secure their positions (Enders, 2002 ; Ma et Stephan, 2005 ; Bonnal et Giret, 2009[2]).
- These problems question the professional value of Phd.
- Cereq survey repeatedly show the difficulties of young Phd earners to secure their position in the labor market compared to engineers and even the masters.

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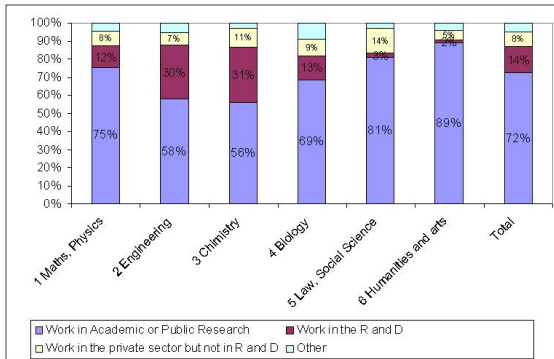
Conclusion

The paradox of the transition from school to work of Phd earners

The career plan at the time of the thesis

Issues

Over 70 % of doctors want to work in academic research at the time of graduation.



Issues.

Persistence of this desire for integration into academic research does not seem self-evident.

- How doctors build their career prospects in the various sectors of the economy ?
- Why do young Phd earners prefer academic or public research ?
- Why do we observe stability of these choices in the Generation surveys ?
- Analyze the career paths of Phd earners who declared they wanted to work in academic research.
- Analyze the breakpoints in the career paths.

Transition from school to work of Phd earners in France, results from Génération surveys.

	Unemployment			Non Permanent			Earnings		
	2001	2004	2007	2001	2004	2007	2001	2004	2007
Total	7%	11%	10%	19%	24%	27%	1960	1980	2000
CIFRE ¹		6%	6%		17%	14%		2300	2300
Allocataires		9%	6%		23%	22%		1980	2100
Ingeenering	2%	6%	4%	6%	8%	8%	2110	2100	2150
Masters	5%	11%	7%	18%	23%	21%	1740	1730	1820

Sources : Génération 1998, Génération 2001, Génération 2004.

In a knowledge economy, the Phd can benefit all of society. Yet in France poor integration in the private sector.

- The mobility of researchers from academic research to the private sector allows the transfer of knowledge (Dasgupta et David, 1994[4]).
- Competition and preferences of employers for engineers (Perrin, 2001 ;Beltramo, Paul et Mason, 1994).
- Prejudices of employers towards doctoral training (Duhautois, 2005).
- The Phd earners (excluding health) represent only 9.4 % of researchers in the private sector (as against 52.5 % of engineers) and young Phd earners are only 11.7 % of the researchers recruited in the year.

41 % of PhDs are in academic research are three years after graduation.

	Pub. Res. acad.	Pub. out. res. acad.	R and D	Out. R and D
Share	41%	13%	21%	25%
Level of compétence ²	13%	58%	19%	37%
Earnings(€)	2000	1900	2400	2000

Sources : Génération 2004.

2. Share of the Phd earners believed to be employed below their skill level

- Taste for research pushes scientists to "pay" to work in research (Stern, 2004[8]).
- Doctors have a taste for science (Merton, 1973[7]).
- Nature, the prestige of the profession of researcher explains that Phd earners accept more uncertain professional paths in terms of insertion, compared to being an artist (Menger, 1989[6]).
- Access to the research community is on the same principle that governs the reproduction of social classes (Bourdieu, 1984[3]).
- Irreversibility of choice because the criteria for recruitment between academic and private spheres are not the same (Mangematin, 2000[5]).

An analysis of the professional paths from the data of Generation 2004.

- We study the decision to a continuation of study after Bac +5 or stopping.
- We study among all doctoral candidates who are graduated those who are looking to work in public research sector.
- Analyzing the integration of young Phd earners from a typology of trajectories for entry into the workforce.
- We study the determinants of these trajectories.

The factors behind the pursuit of doctoral studies.

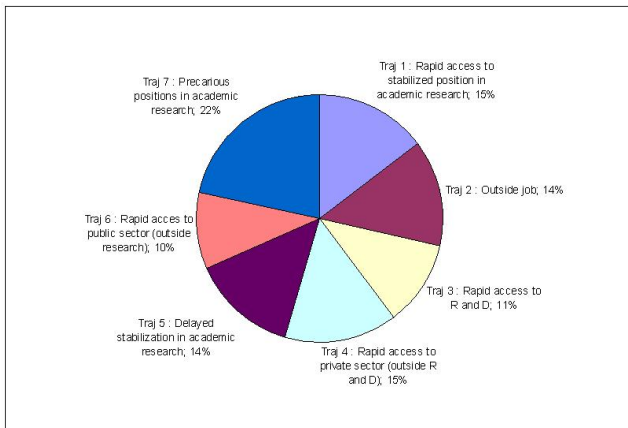
- The social origin, educational background and preference for research as explanatory variables in the Logit model.
- Of the 80 000 outgoing at Bac + 5, 18 % are left school with a PhD.
- Importance of social origin : two parents from managerial position and foreign father.
- Importance of school career.
- Importance of professional project at time of the Baccalaureat.

The factors explaining the preference for research.

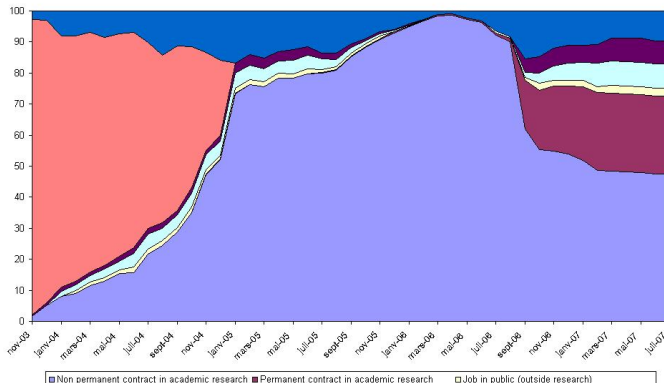
- Logit Model on the probability of reporting to want to work in academic research at time of graduation.
- Importance of school career(Grade, Baccalaureat, Schools).
- Importance of conditions of realization of the thesis (Fundings, Labotory, Publications).
- No effect of the preference for research.
- No significant effect of economic conditions, but expected signs in the effects.

Assumption of irreversibility of the choice and universality of science seems true, need to better specify the model of economic conditions and a taste for research.

7 Profiles types of integration of young Phd earners who wanted to work in academic research.



22 % of the Phd earners who declared they wanted to work in public research are in a path marked by uncertainty in academic research.



Determinants of access to different trajectories

- Explanatory variables : social background, educational background, conditions of thesis and preference for research.
- The importance of conditions of realization of the thesis (Fundings, Publications, Fields of study)
- Effect of social background and school career.
- No significant differences between individuals of the reference trajectory and individuals who have a delayed access to academic research.

Conclusion

- The insertion of the Phd earners questions about the rationality of the choice to doctoral education and preference for academic research.
- Choice-oriented research and irreversibility of these choices.
- Importance of the number of staff in higher education for the insertion of doctors : the expected number will decline in 10 years (DEPP[1]), decrease of 32.2 % in 10 years in the number of registered students in doctoral studies .
- Risk of a shortage of Phd earners due to the labor market in certain disciplines.



L' état des lieux de l'emploi scientifique en france.

Technical report, Observatoire de l'emploi scientifique, 2009.



Liliane Bonnal and Jean-François Giret.

La stabilisation des jeunes docteurs sur le marché de l'emploi académique.

Revue d'Economie Politique, 119 :373–400, 2009.



P. Bourdieu.

Homo Academicus.

London : Polity Press., 1984.



Partha Dasgupta and Paul David.

Toward a new economics of science.

Research Policy, (23) :487–521, 1994.



V. Mangematin.

Phd job market : professional trajectories and incentives during the phd.

Research Policy, 29 :741–756, 2000.



Pierre Michel Menger.

Rationalité et incertitude de la vie d'artiste.

L'année sociologique, 1989.



Robert K. Merton.

The sociology of science : Theoretical and empirical investigations.

University of Chicago Press, 1973.



Scott Stern.

Do scientists pay to be scientists ?

Management Science, 50(6) :835–853, 2004.