The employment of PhDs in firms: trajectories, salaries and gender inequality

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Doctorate holders employed by sector. Spain. 2001
Some features of the doctorate holders employed. Spain 2001

- Total 145,308 doctorate holders
- 0,89 % of total employed population
- 6,7% not born in Spain
- Below 34 years old more females within their cohort
- 60% of all PhD are in Education (80) and Health care (85)
- Business Services (74) and Public Administration (75) with 11,3% and 9% respectively
- Manufacturing Industries (7,300) represent 5%, being the chemical industry the main one
Some research and policy questions on PhD holders in the private sector

- What are the motivations for PhDs to enter the private sector?
- Does it pay to choose the private sector of employment?
- Are there mismatches between PhD skills and R&D jobs’ content in private companies?
- Are there significant gender differences in the employment of PhDs in firms?
The value of the PhD in a traditionally segmented labour market

- Slow transformation in the traditional segmentation model of the research labour market where the doctorate was only valuable in the academic sector.

- This change is more visible in some industries in which new knowledge demands of companies have allowed for the transfer of highly qualified S&T human capital, for instance biomedical and biotech firms.
Place of postdoctoral employment or fellowships for those who had previous experience (73.5%) before moving into a firm

- Universities: 55.4%
- Firms: 29.2%
- Public research centres: 24.9%
- Technological centres: 4.3%
- Non for profit fundations: 3.9%
Motivations to move to a firm

- Motivations to work in the private sector are not primarily related to economic factors. Low relevance of the wage level as a motivation (Mentioned first by 3.6% and second by 14%).

- Motivations to work in firms related to “get experience in the private sector” and to “have a stable employment”.

- 3 out of 4 PhDs with preference for PRS mentioned lack of stable employment as the first motivation to work on firms.
Segmented labour markets?

- Entry jobs within the firms are R&D jobs for almost all surveyed PhDs (85%).
- No evidence of mismatches between PhD skills and job content independently of previous employment experience or firm size, highlighting the transversal and transferable nature of doctoral qualifications.
- Our findings for natural and life sciences PhD graduates do not support the hypothesis of segmentation.
PhDs flexible trajectories

- In the context of stagnation of stable employment opportunities in the academic sector, trajectories are not inflexible even after the completion of a doctorate degree.
- Doctorate holders make value of their PhD degrees in the private sector.
- Entry salaries are similar to those of the public sector but salary progression is higher and faster.
- However, as in the public sector, mobility does not seem to positively affect salary.
PhD holders current wages by professional trajectories (2004)
Mobility and salaries (in K euros) 4 years period

Salary progression of PhD by continuation / non-continuation in the firm

- Continues in the firm
- Left the firm
Gender inequality

There are no gender differences in the access of individuals to private sector research jobs. Male and female PhDs have similar previous trajectories.

However, once contracted by the firms, female PhDs have lower entry salaries, and their salary progression is also lower, even for those who stay in the firm after two years.

- **Below 24.000 €**: males (8%), females (32%)
- **More than 36.000 €**: males (34%), females (15%)

Gender Differences in entry salaries in the private sector research are also evident in recent calls of a similar programme, for PhDs and for technologists.
Entry salaries for PhDs (D) and S&T graduates (T). 2005
Entry salaries for PhDs (D) and S&T graduates (T) by gender. 2005