

**Survey on Human Resources in Science and Technology  
Year 2009**

**Main Results**

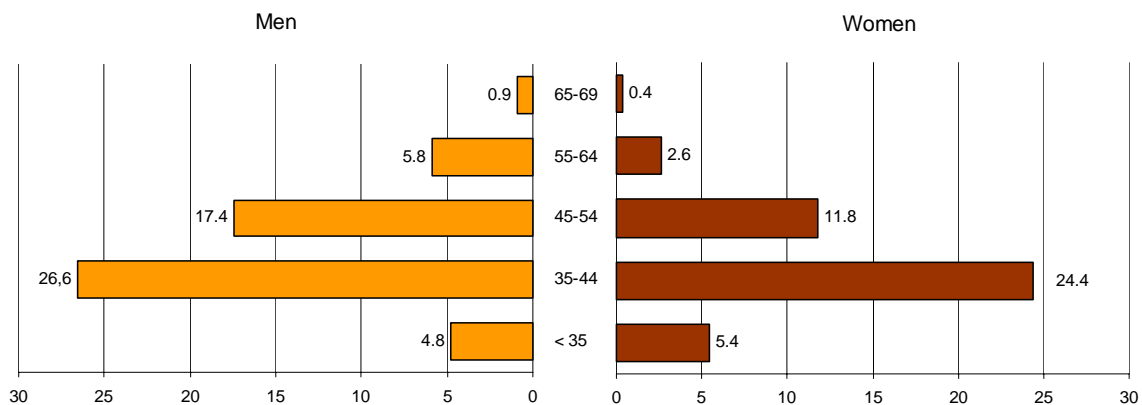
- 55.5% of doctorate-holders are men and 44.5% are women. The average age at completion of the doctorate is 35 years old for men and 33 for women.
- One in three individuals attaining doctorates do so in the field of studies of *Natural Sciences*.
- 34.1% of the doctorate-holders have mainly financed their doctoral studies through grants. Four out of 10 work to finance their doctorate.
- 96.1% of the doctorate-holders are employed at 31 December 2009. Six out of 10 work in research activities.

**Doctorate-holders by sex and age**

55.5% of individuals who qualified as doctorate-holders at a Spanish university between 1990 and 2009 were men and 44.5% were women.

The number of male doctorate-holders was greater than that of female doctorate-holders for all age brackets, except for those aged less than 35 years old.

**Doctorate-holders by sex and age bracket at 31 December 2009 (as a % of the total )**



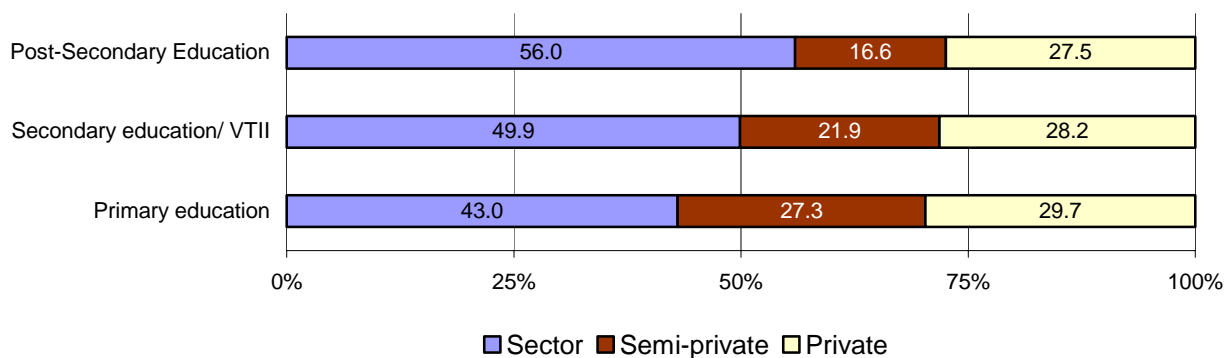
### Socio-economic background of doctorate-holders

The level of studies of the parents of doctorate-holders was primarily Elementary Post-secondary education or the equivalent, standing at 20.7% in the case of the father and 29.7% in the case of the mother.

Regarding their professional level, *Scientific and intellectual professionals* was the most relevant category (34.6% for fathers and 19.0% for mothers). More than half of doctorate-holders' mothers (51.2%) had never worked.

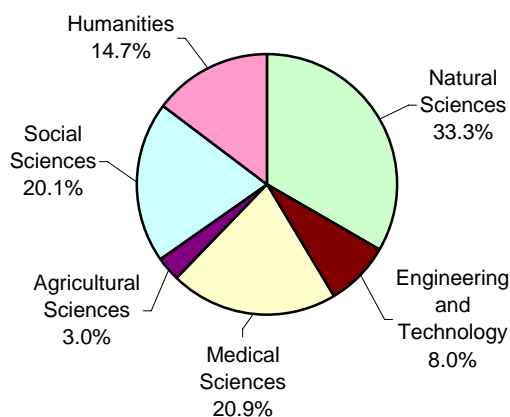
The type of centre at which doctorate-holders studied prior to going to university was mainly public for the different levels of education.

### Type of centre at which doctorate-holders studied prior to going to university



### Doctorate-holders by field of study

#### Doctorate-holders by field of study at 31 December 2009



*Natural Sciences* was the field of study in which the largest number of individuals completed a doctorate between 1990 and 2009, with 33.3% of the total.

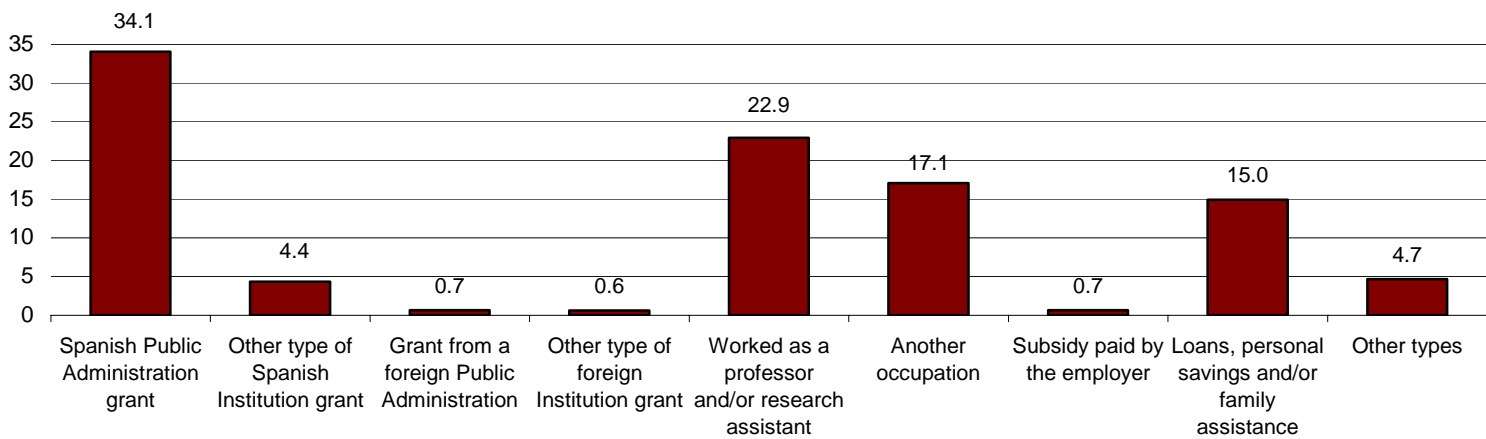
It was followed by *Medical Sciences* and *Social Sciences*, with percentages of 20.9% and 20.1%, respectively.

Conversely, *Agricultural Sciences* was the fields with the fewest doctorate-holders, standing at 3.0% of the total.

### Main source of financing for doctoral studies

34.1% of the doctorate-holders have mainly financed their doctoral studies through grants from some Spanish Public Administration. In turn, 22.9% worked as teachers and/or research assistant, whereas 17.1% had to undertake another occupation in order to finance their studies.

### Main source of financing used by doctorate-holders between 1990 and 2009 (as a %)

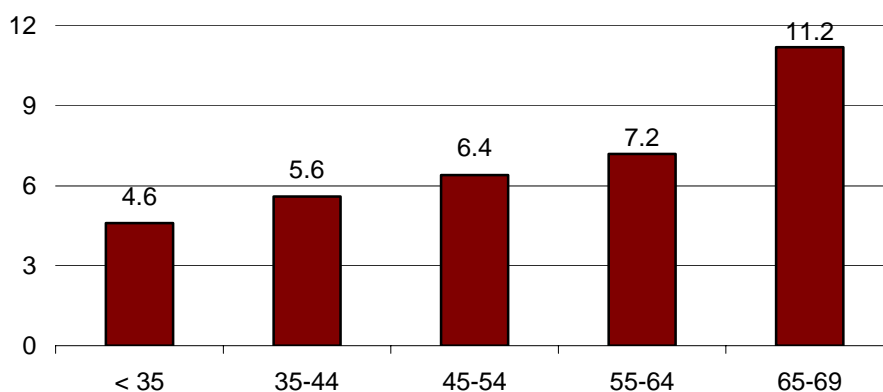


### Average time taken to attain the doctoral qualification

The average duration from the beginning of the doctoral classes until the doctoral degree was earned was 5.9 years.

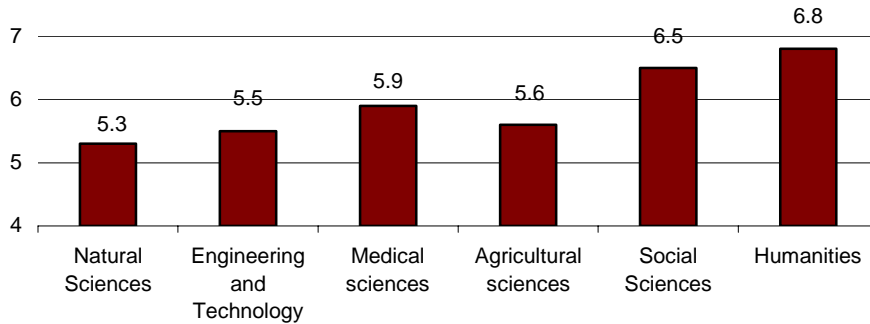
Of the total number of doctorate-holders between 1990 and 2009, those younger than 35 years of age were those who had spent the least amount of time, with an average of 4.6 years. Conversely, persons in the 65-69 years old age bracket took an average of 11.2 years.

### Duration of the doctoral studies, by age bracket (in years)



With regard to distribution by doctoral area, the disciplines of *Social Sciences* and *Humanities* were the only ones presenting higher than average values, with 6.5 and 6.8 years, respectively.

**Duration of doctoral studies, by doctoral area (in years)**



The average age of completion of the doctorate for persons who obtained the doctoral degree between 1990 and 2009 stood at 34 years old (35 years old for men and 33 years old for women).

**Employment situation of doctorate-holders**

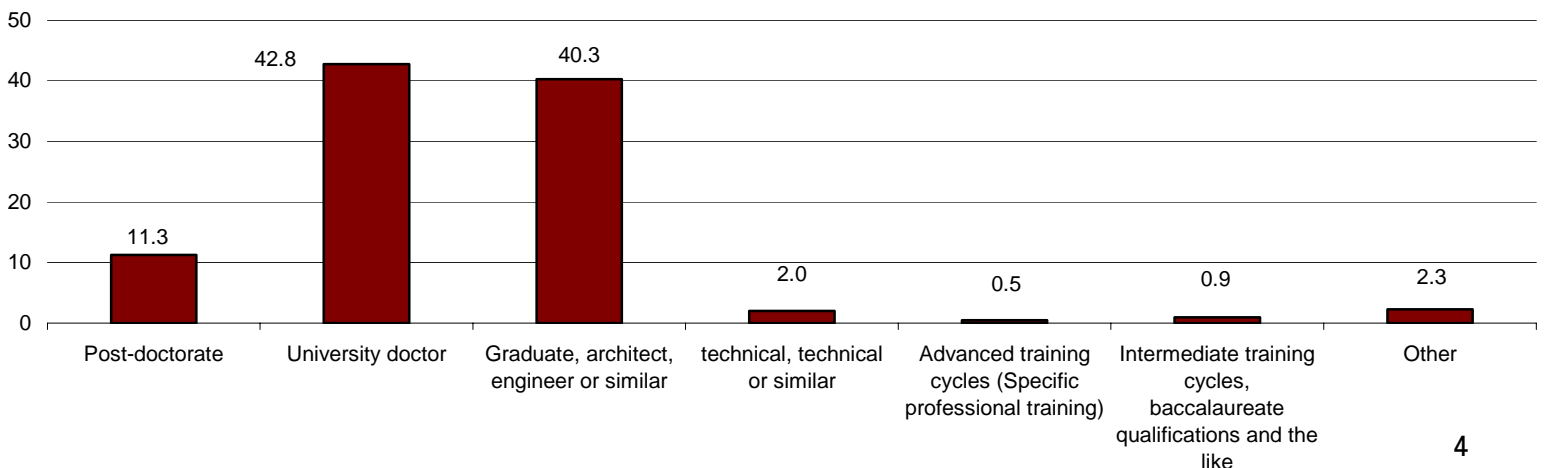
**96.1% of doctorate-holders were employed at 31 December 2009.** By sector, 42.7% worked in *Higher Education*, 38.4% in *Public Administration*, 15.1% in the *Business* sector and 3.8% in *Private Non-Profit Institutions*.

58.6% of doctorate-holders carried out research activities and 63.6% were of the opinion that they had a job closely-related to their doctoral studies.

As regards the minimum level of studies required for the post occupied by doctorate-holders, in 42.8% of cases, it was a doctorate and in 40.3% a university degree.

**Minimum level required for the post held at 31 December 2009 (as a %)**

For the doctorate-holders working in a post related to their doctorate once they had finished that



doctorate and before January 2010, the average time that it took to find that job was six months. Doctorate-holders in *Engineering and Technology* were those who took the least amount of time (five months) and those in *Humanities* those who took the greatest amount of time (nine months).

**Professional situation, type of contract and type of working day**

5.9% of doctorate-holders were self-employed as their main labour activity at 31 December 2009, whereas **90.2% worked for others**.

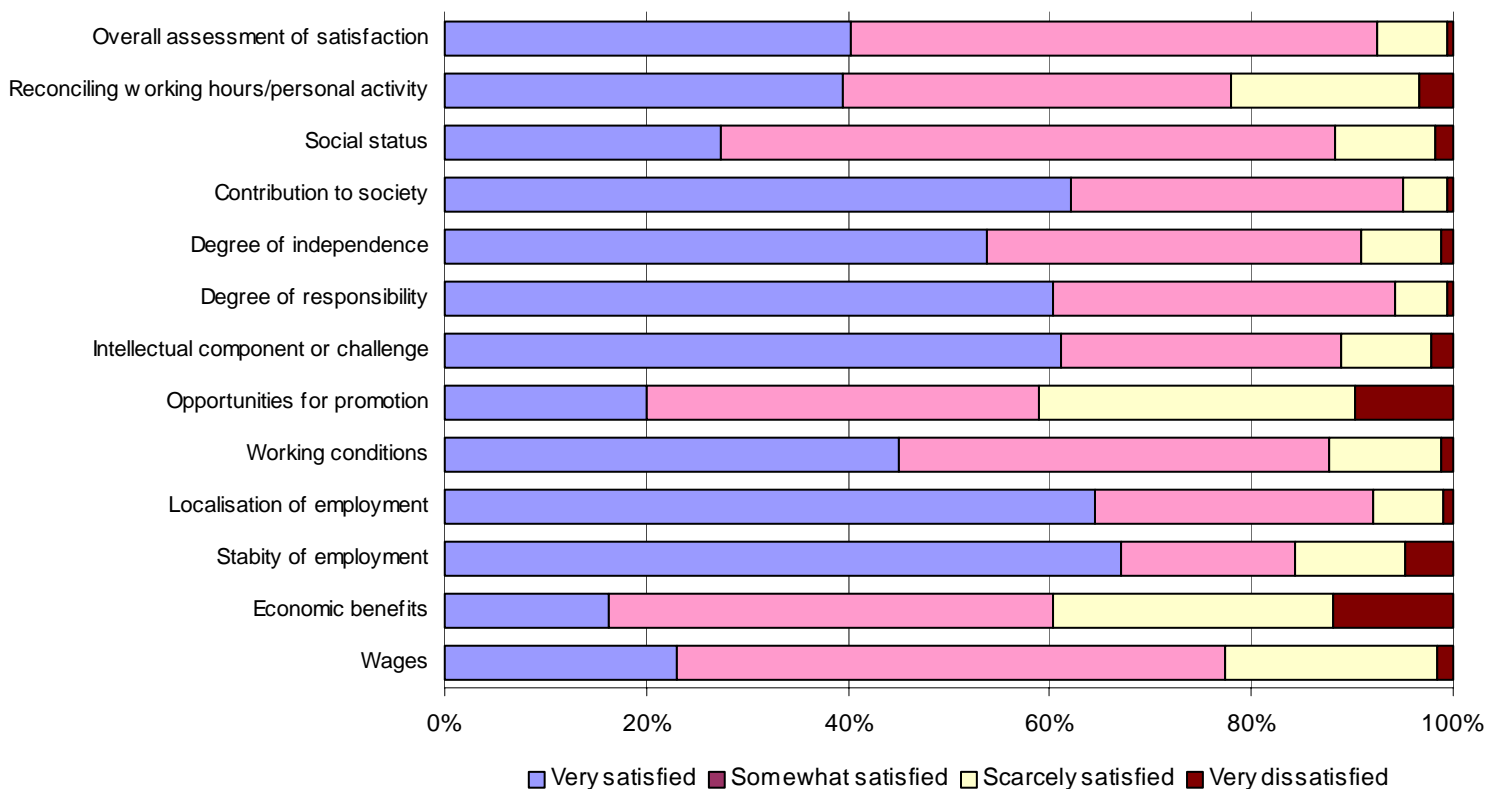
Of the total number of doctorate-holders working for others, eight out of 10 had permanent contracts and the remaining two had temporary contracts. In turn, 94.9% were employed full time and 5.1% part time.

**Most valued features of the employment situation**

Localisation and stability were the features most valued by doctorate-holders in relation to their employment situation. 67.1% and 64.5% of them, respectively, indicated these two factors as *very satisfactory*.

In turn, 11.9% stated that they were *not at all satisfied* with the economic benefits and 9.8% with the opportunities for promotion.

**Degree of satisfaction with the factors related to their main job at 31 December 2009**



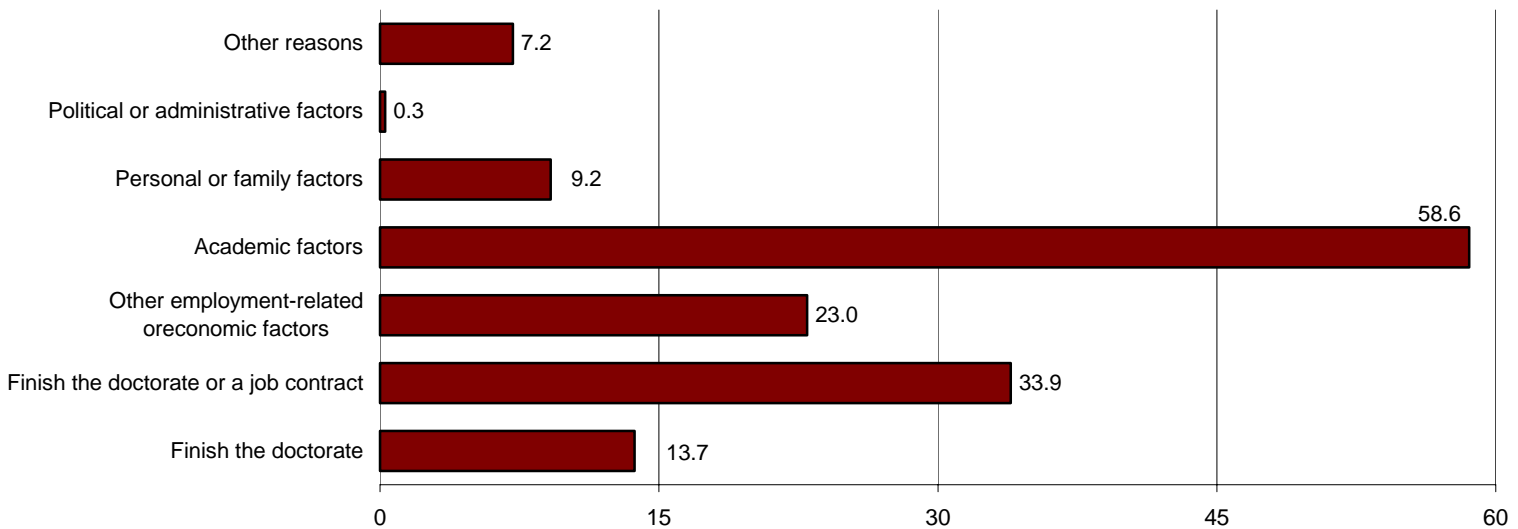
**International mobility**

**21.2% of doctorate-holders went to live outside Spain** between the years 2000 and 2009. 58.6% of them indicated that the main reason for having moved abroad was *academic factors*, such as the greater opportunities for publishing papers, development or continuity of the doctoral dissertation...

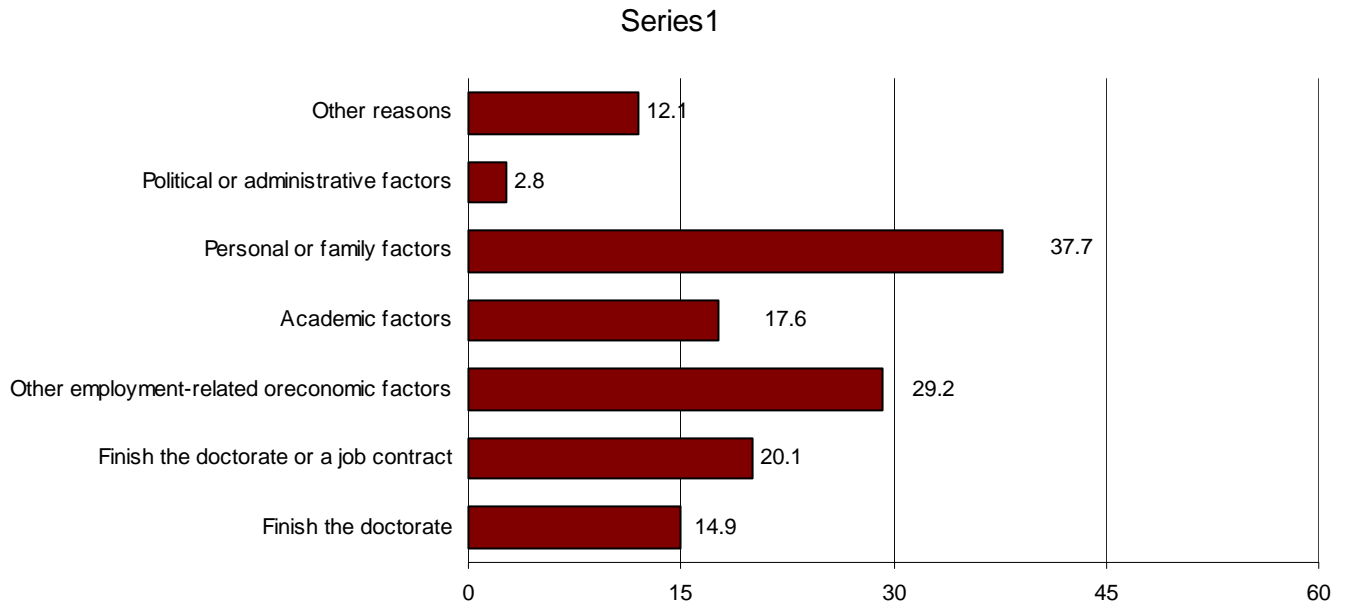
In turn, 12.9% of doctorate-holders, who were in Spain at 31 December 2009, were planning to leave the country. The main reason cited for making that decision was due to *academic factors* (for 71.5% of them).

In turn, the main reasons leading doctorate-holders to return to Spain during the 2000-2009 period were *personal or family factors* (for 37.7% of doctorate-holders) and other employment-related or economic factors (29.2%)

**Reasons why the doctorate-holders left Spain for at least three months between 2000 and 2009 (as a % of the total number of doctorate-holders who went to live outside Spain for at least three months between 2000 and 2009)**



**Reasons why the doctorate-holders came to Spain for at least three months between 2000 and 2009 (as a % of the total number of doctorate-holders who went to live outside Spain for at least three months between 2000 and 2009)**



**Relationship of doctorate-holders and research**

**59.0% of doctorate-holders carried out research activities** at 31 December 2009, largely in employment (58.6%, as compared with 0.4% in a situation of unemployment or inactive at said date).

Of the remainder of doctorate-holders who did not carry out research activities at 31 December 2009, 17.8% had previously carried out research activities.

In relation to the doctorate-holders' intention to dedicate themselves to research in the 2010-2011 period, 59.0% were carrying out research at 31 December 2009, 57.3% of them planned to continue with their research.

Regarding those not carrying out research at said date (40.9%), 30.3% did not intend to carry out research in the 2010-2011 period, whereas 10.7% did intend to.

## Methodological note

The Survey on Human Resources in Science and Technology is included in the General plan for statistics on science and technology promoted by the Statistical Office of the European Union (Eurostat).

The objective of the survey is to quantify the research level of doctorate-holders in Spain, the professional activity that they carry out and their national and international mobility.

A doctorate is a third-cycle university programme in which an advanced research project is carried out on a subject that has not been developed previously. These programmes usually require the presentation of a dissertation with sufficient quality to allow for its publication, and which represents a new contribution to knowledge.

**The results of the Survey on Human Resources in Science and Technology refer to doctorate-holders aged less than 70 years old, resident in Spain, and doctorate-holders from any Spanish university from 1990 inclusive.**

Regarding data for previous years, the new European classification (NACE Rev.2) and the national version of this (CNAE 2009) have been used for classifying economic activities.

In the case of classification of occupations, the new standard international occupation classification of the International Labour Organisation (ISCO-08) has been used.