

15 July 2008

Survey on Human Resources in Science and Technology. Year 2006
Provisional results

Main results

The results of the Survey on Human Resources in Science and Technology refer to doctors (PhD) who obtained their degree at a Spanish university during the period between 1990 and 2006, and who were resident in Spain in 2007.

– 54.2% of doctors are men and 45.8% are women. The average age on completion of the doctorate is 35 years old for men and 33 years old for women.

–Natural Sciences are the field of study in which the largest number of individuals has completed a doctorate, with more than 29% of the total.

–41.2% of the doctors have mainly financed their doctoral studies through grants from a Spanish institution. One in four doctors has had to undertake another occupation in order to finance his/her studies.

–96.4% of the doctors were employed at 31 December 2006. From this percentage, more than 70% were carrying out research activities and more than 60% believe that, at that date, they had work that was highly-related to their doctoral studies.

–During the period between 1996 and 2006, one in four doctors left Spain to live abroad for some period of time. 61.7% of them indicate that the main reason for moving abroad was academic factors, such as the development or continuity of the doctoral dissertation, or the creation of a research team.

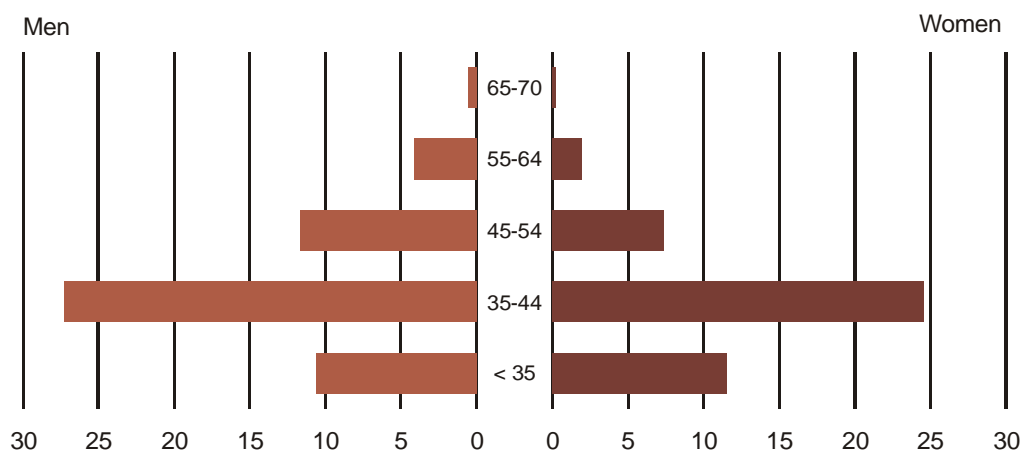
More male than female doctors, except among persons younger than 35 years of age

54.2% of the individuals who gained their doctoral degree at a Spanish university between 1990 and 2006 were men, whereas the percentage of women reached 45.8% of the total.

The percentage of male doctors was greater than that of female doctors for all age brackets except for those younger than 35 years of age, in which female participation was one point higher (11.6% as compared with 10.6%).

Doctors by sex and age bracket at 31 December 2006

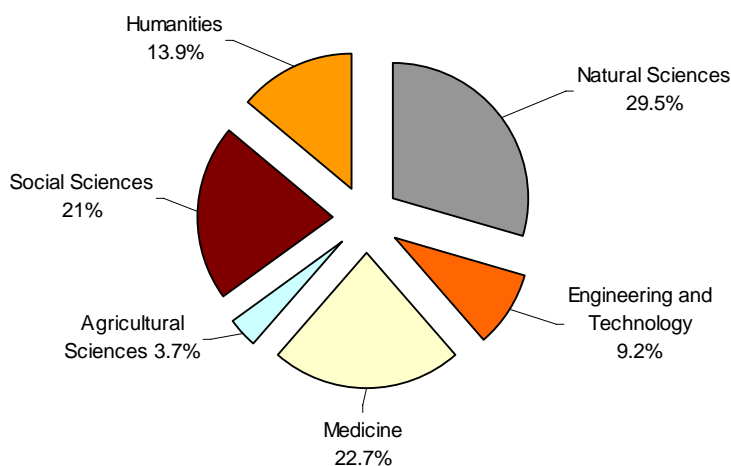
Units: percentage of the total



Natural Sciences and Medicine account for more than half of doctors

Natural Sciences were the field of study in which the largest number of individuals completed a doctorate between 1990 and 2006, with 29.5% of the total. They were followed by Medicine and Social Sciences, with percentages of 22.7% and 21.0%, respectively. In contrast, Agricultural Sciences were the fields with the fewest doctors (3.7% of the total).

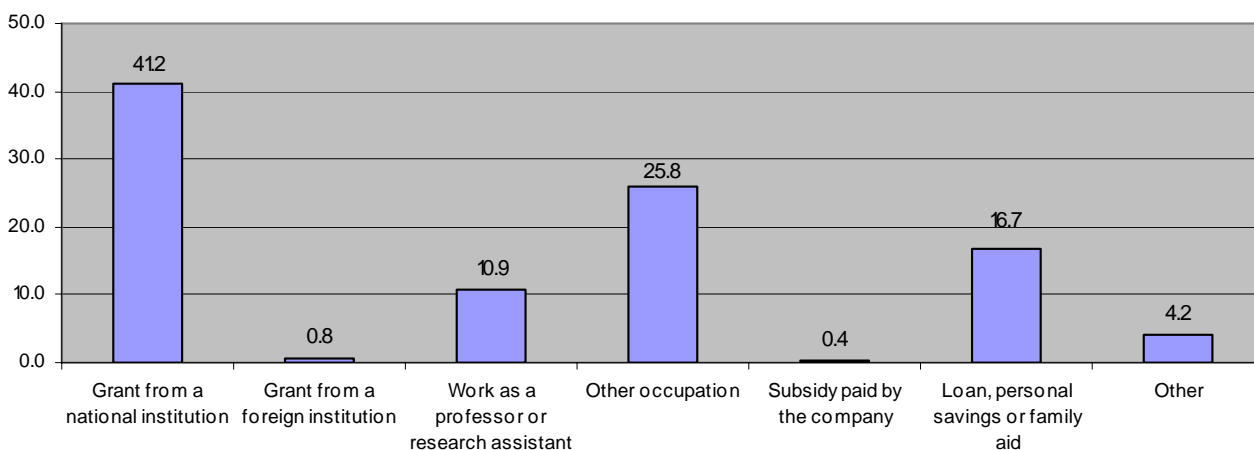
Doctors by field of study at 31 December 2006



Grants, the main source of financing for doctoral studies

By financing origin, 41.2% of the doctors paid for their doctoral studies through grants from a Spanish institution. In turn, 25.8% had to undertake another occupation in order to finance their studies.

Source of financing used by doctors between 1990 and 2006 (%)

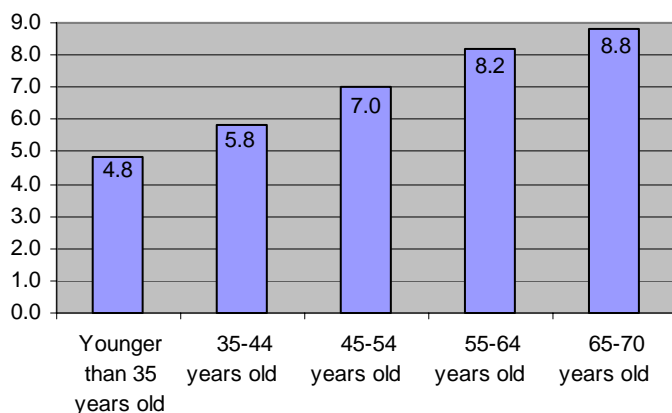


The average time taken to gain a doctoral degree is six years

The average duration from the beginning of the doctoral classes until the doctoral degree was gained was six years. Of persons completing their doctorate between 1990 and 2006, those younger than 35 years of age were those who had spent the least amount of time, with an average of 4.8 years. In contrast, those who were in the age bracket from 65 to 70 years old needed an average of 8.8 years.

Duration of the doctoral studies, by age bracket

Duration in years

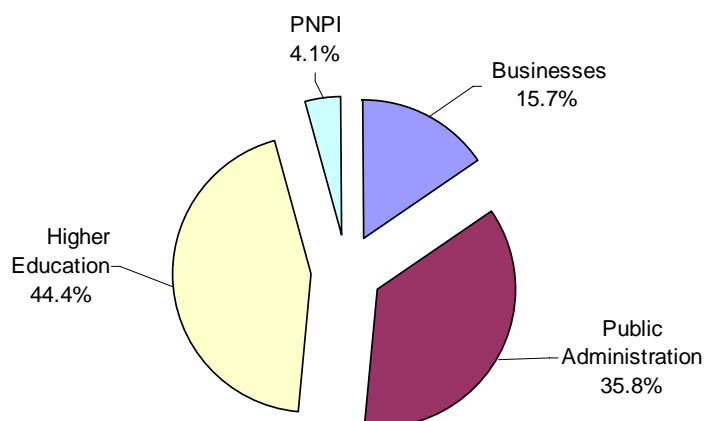


The average age of completion of the doctorate for persons who gained the doctoral degree between 1990 and 2006 stood at 34 years old (35 years old for men and 33 years old for women).

The employment situation of doctors is nearly full employment

96.4% of the persons who completed their doctorate between 1990 and 2006 were employed at 31 December 2006. 44.4% had employment in the Higher Education sector, and 35.8% in Public Administration. The Business and Private Non-Profit Institutions (PNPI) sector employed the remaining 19.8%.

Employed doctors by sector of the economy



More than 70% of employed doctors carried out research activities, and more than 60% believed that, at that date, they had work that was highly-related to their doctoral studies.

The minimum level of studies required for the post occupied by the doctors who were employed at 31 December 2006 was a university degree (in 50.0% of the cases), a doctorate (in 35.7% of the cases) and a university diploma or other degrees in the rest of the cases.

For the doctors working in a post related to their doctorate once they had finished that doctorate and before January 2007, **the average time that it took to find that job was five months**. Doctors in the field of Engineering and Technology were those who took the least amount of time (three months, on average), and those doctors in the field of Humanities were those who took the most time (eight months).

91.9% of doctors work for others

4.4% of the doctors who earned their degree between 1990 and 2006 chose to work freelance, whereas **91.9% worked for others** at 31 December 2006. 3.7% of the employed doctors combined the two types of employment.

71.1% of the doctors working for others at the end of 2006 had a permanent contract, while 28.9% of them were subject to temporary contracts.

93.7% of the total employed doctors were working full time, whereas 6.3% were working part time.

Localisation and stability are the most valued characteristics in the employment situation

Localisation and stability were the characteristics most highly-valued by doctors regarding their employment situation, and were indicated as very satisfactory by 59.0% and 57.0% of the individuals, respectively.

Amongst the least valued characteristics were economic benefits and the possibility of promotion within the job, and with which 15.7% and 12.7% of the doctors, respectively, felt very dissatisfied.

52.1% of the doctors reside in Comunidad de Madrid, Cataluña and Andalucía

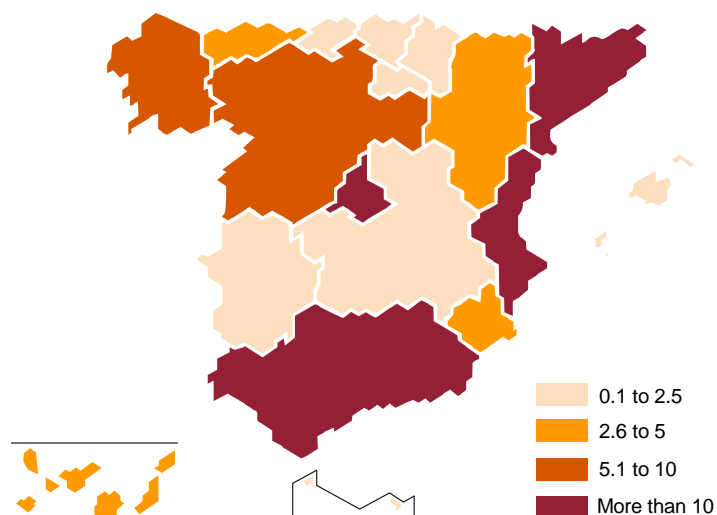
The Autonomous Communities in which the most individuals completed their doctorate between 1990 and 2006 were Comunidad de Madrid, with a percentage of 25.2% of the total doctors, and Cataluña, with 15.0%.

The Communities in which the most doctors resided were Comunidad de Madrid, Cataluña and Andalucía, with 22.6%, 14.8% and 14.7%, respectively.

Distribution of doctors who gained their degree between 1990 and 2006 by Autonomous Community (%)

Autonomous Community	Residence	Gaining of the Doctorate
Andalucía	14.7	14.9
Aragón	3.4	3.7
Asturias (Principado de)	2.8	3.1
Balears (Illes)	1.3	0.8
Canarias	3.8	3.6
Cantabria	1.1	1.0
Castilla y León	5.4	5.2
Castilla-La Mancha	2.1	0.4
Cataluña	14.8	15.0
Comunidad Valenciana	11.3	11.1
Extremadura	1.5	1.2
Galicia	6.0	5.8
Madrid (Comunidad de)	22.6	25.2
Murcia (Región de)	3.6	3.7
Navarra (Comun. Foral de)	2.4	3.3
País Vasco	2.4	1.8
Rioja (La)	0.6	0.2
Ceuta y Melilla	0.2	0.0

Distribution of doctors by Autonomous Community of residence (%)



Analysing the movements of doctors within our country, 5.3% changed province of residence in Spain during the year 2006.

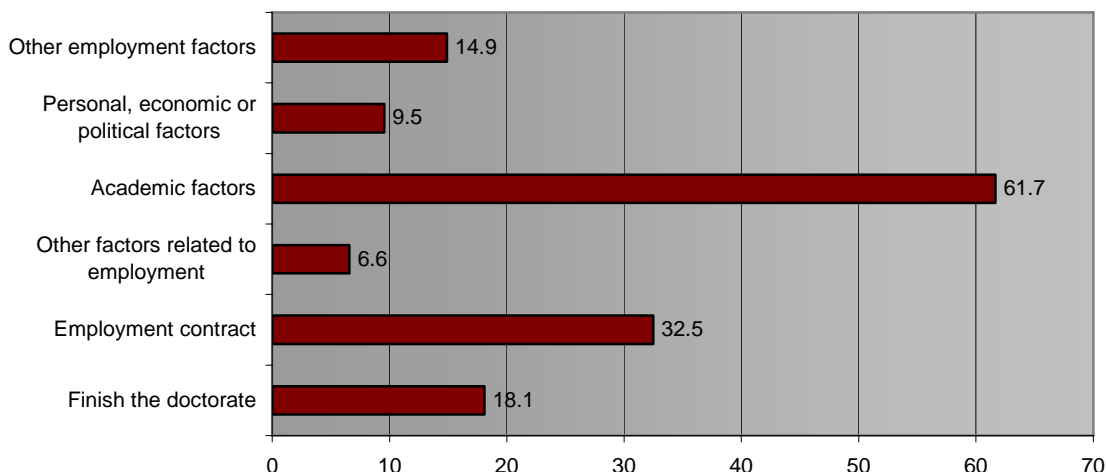
In turn, **27.1% of the doctors left Spain to live abroad for some period of time between 1996 and 2006**. 61.7% of them indicated that the main reason for having moved abroad was academic factors, such as the development or continuity of the doctoral dissertation, or the creation of a research team.

Likewise, 54.3% of the doctors who were planning to leave this country in December 2006, also indicated academic factors as the main reason.

Reasons justifying the international mobility of the doctors for some period of time between 1996 and 2006

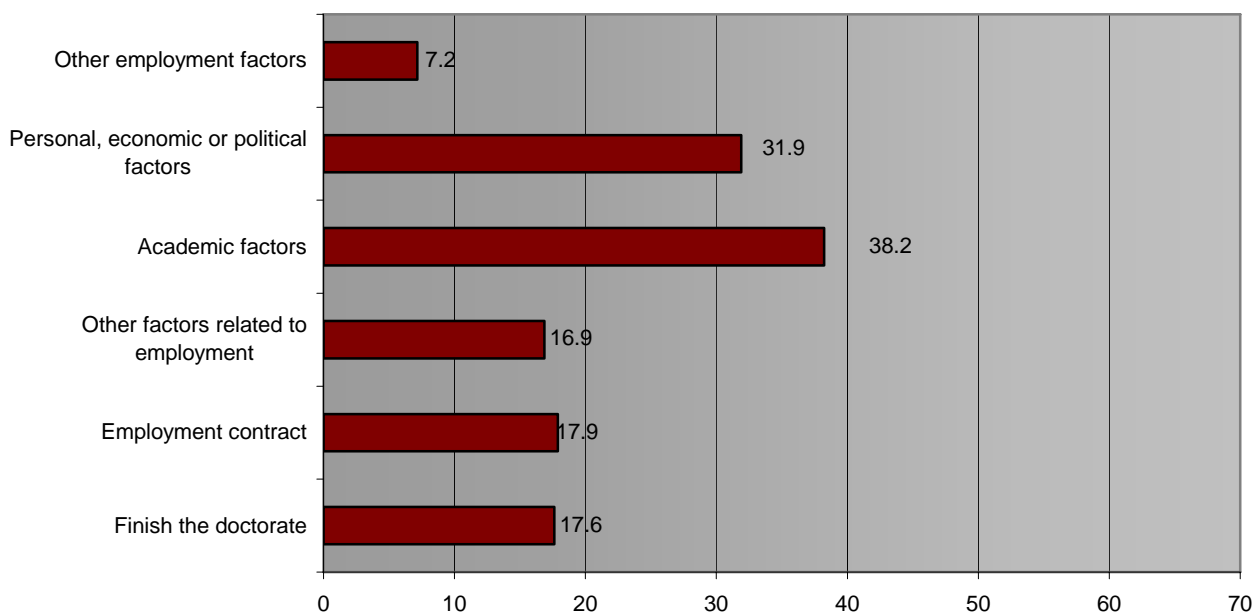
Reasons why the doctors left Spain for a period of time between 1996 and 2006

(Units: percentage of the total doctors who left Spain to live abroad for a period of time between 1996 and 2006)



Reasons why the doctors returned to Spain for a period of time between 1996 and 2006

(Units: percentage of the total doctors who returned to live in Spain for a period of time between 1996 and 2006)



Methodological note

The Survey is included in the General plan for statistics on science and technology, promoted by the Statistical Office of the European Communities (Eurostat).

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

The Survey on Human Resources in Science and Technology, year 2006, on a national level, was conducted during the first four months of 2008. For this purpose, a sample of 17,000 units was selected, obtained from a directory provided by the University Coordination Board, which listed the persons who had earned their doctorates at a Spanish university from 1990 onwards.

The basic analysis unit of this survey is the individual, residing in Spain, who obtained a doctoral degree between 1990 and 2006, and who is younger than 70 years of age.

A doctorate is a third cycle 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.

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