UNIVERSITIES AND EMPLOYMENT IN CATALONIA 2014

Survey of the employment outcomes of the graduate population from Catalan universities

AQU Agència per a la Qualitat del Sistema Universitari de Catalunya

Agència
per a la Qualitat
del Sistema Universitari
de Catalunya

UNIVERSITIES AND EMPLOYMENT IN CATALONIA 2014

Survey of the employment outcomes of the graduate population from Catalan universities

Universitat de Barcelona · UAB Universitat Autònoma de Barcelona · Universitat Politècnica de Catalunya BarcelonaTech · upf. Universitat Pompeu Fabra Barcelona · Universitat de Girona · Universitat de Lleida · Universitat Rovira i Virgili

UOC Universitat Oberta de Catalunya · Universitat Ramon Llull · UVic Universitat de Vic Universitat Central de Catalunya · uic Universitat Internacional de Catalunya · Universitat Abat Oliba CEU

C. dels Vergós, 36-42
08017 Barcelona

First Edition: April 2015

Legal deposit: B-13434-2015

TABLE OF CONTENTS

Index of tables and figures

0. INTRODUCTION

A survey and analysis of the employment outcomes of university graduates in Catalonia who completed their studies three years prior to each survey have been carried out once every three years since 2001. The 2014 study is the fifth in the series.

The entire university system in Catalonia, including both public and private institutions, was covered in the survey. Public institutions accounted for 68% of the population, and private institutions (including partner and affiliated institutues and schools) the remaining 32%.

The study analyses the employment outcomes of 17,337 graduates, which represents 55% of the total of 31,279 who graduated at the end of the 2009-2010 academic year, with a sampling error of 0.51%. This year's study is one of the most representative of its type on the quality of the employment outcomes of the graduate population in Europe.

0.1. Background

Studies on the employment outcomes of graduates from Catalan universities are a consequence of the universities' interest, expressed by their boards of trustees (*consells socials*), to obtain data on and benchmarks for the quality of graduate employment. Surveys of the graduate population that completed their studies three years prior to each survey have been coordinated by AQU Catalunya and carried out once every three years since 2001.

All of the public and private universities in Catalonia participated in this fifth survey, together with a total of twenty-four (24) partner and affiliated institutues and schools (two more than in the previous survey). The survey sample was 17,337 graduates, compared to 9,765 in 2001, which

means an increase in the study sample of 44%.[1] This increase is due to a higher number of institutues and schools covered by the survey, as to an increase in the graduate population.[2]

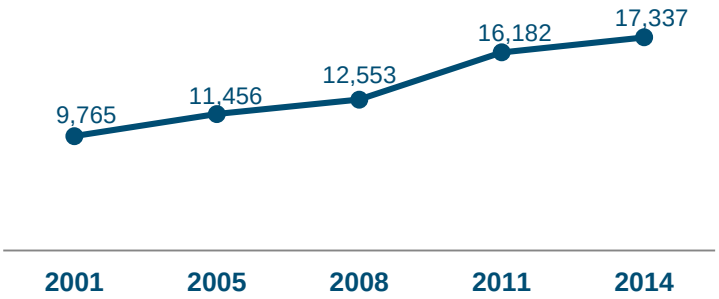
Bearing in mind that the funding for these employment outcomes studies is provided almost entirely by the universities, the increase in participation reflects both the usefulness of the data obtained and the added value of using a common methodology to carry out studies of this type.

The study has four main objectives:

1. To provide relevant indicators for use in the design of existing study programmes and their alignment with the professional needs of graduates of these courses.
2. To provide the universities with indicators that serve as guidance for the provision of new study programmes.
3. To provide information to university careers' guidance services.
4. To inform society of the level at which people with a higher education find employment and their work conditions.

In accordance with these objectives, the sample had to be representative of both study programmes and universities. One result of this is that the 2014 study is the most representative of its type to be carried out on the quality of the employment outcomes of the graduate population in Catalonia.

Figure 0.1.1 Changes in sample size in the five studies on graduate employment outcomes



[1] The increase was calculated using the formula $\Delta\% = \frac{\%_{2014} - \%_{2001}}{\%_{2014}}$

[2] In 2001 all of the public universities participated; in 2005, the survey included graduates in Medicine; in 2008, it included the Universitat Oberta de Catalunya (the Open University of Catalonia/UOC) and the Universitat de Vic (UVic); and in 2011, the Universitat Ramon Llull (URL), Universitat Abat Oliba CEU (UAO-CEU), Universitat Internacional de Catalunya (UIC) and 22 partner and affiliated institutues and schools.

0.2. The model for employment outcomes in the university system in Catalonia

Studies on the employment outcomes of graduates from Catalan universities are different to other studies due to the following:

- All participating universities collaborated in the design of the study.
- The highly representative reference population (three years after graduates completed their studies).
- The transparency of the results, which can be accessed on the AQU Catalunya website and the WINDDAT portal (http://winddat.aqu.cat). It is one of the most transparent studies at international level.[3]
- The emphasis on learning and graduate employability, as well as the employment indicators. The intention is for the survey to serve as a useful instrument for improvement; although the universities can do little about the job situation, it is possible for them to enhance student employability.
- Incorporation of the indicators in external quality assurance procedures (validation, monitoring and accreditation). This provides incentive for the use of the indicators in system diagnosis and in the design of subsequent enhancement plans.
- The regularity of the surveys. Of particular note are the efforts made within the university system in this fifth study, bearing in mind the budget constraints that the system has faced in recent years. It is this regularity that enables changes due to either circumstantial or structural situations to be pinpointed, and also the factor of change to be identified (changes in university education, the situation in the labour market, etc.).
- The ownership of the data, which belong to the universities and are available, in their entirety, to the academic community.

As a result of the regularity and scope of these studies, the model is now referred to at international level, together with the French and British systems, as can be seen from the Eurydice report, *Modernising Higher Education in Europe* (2014)[4].

[3] Ellen Hazelkorn, head of the Higher Education Policy Research Unit at the Dublin Institute of Technology, refers to WINDDAT as an example of data on university statistics and performance that is open to public scrutiny, together with Australia (http://myuniversity.gov.au/) and Britain (http://unistats.direct.gov.uk/). Hazelkorn, Ellen (2013). *Has Higher Education Lost Control Over Quality? The Chronicle of Higher Education*. Available at: http://chronicle.com/blogs/worldwise/has-higher-education-lost-control-over-quality/32321.

In addition, the analysis of graduate employment in the recent Eurydice report (2014) shows that many QA agency websites do not provide access to data. This is the case, for example, with the KOAB (Germany) website (http://koab.uni-kassel.de/en/koab/state-of-the-project.html). On the other hand, considerably more indicators are given on the Almalaurea website (Italy) (http://www.almalaurea.it/en). An intermediary case is that of the French portal, with indicators on education and research, which gives six indicators (http://www.enseignementsup-recherche.gouv.fr/pid24624/taux-insertion-professionnelle-des-diplomes-universite.html).

[4] Commission/EACEA/Eurydice, E. (2014). *Modernisation of Higher Education in Europe: Access, Retention and Employability*. Luxembourg: Eurydice. doi:10.2797/72146.

0.3. Other sources of information on graduate employment outcomes

The main source of information on the transition into work of the university population in general comes from official statistics based on the labour force survey (EPA), the results of which, at European level, are set out on the *Labour Force Survey* website and, at international level, in the data published periodically by the Organisation for Cooperation and Economic Development (OECD) in *Education at a Glance*.

As regards the recent graduates group, aside from Catalonia, there are two other regions (Autonomous Communities) in Spain where studies have been carried out on the employment outcomes of the graduate population: Galicia[5], through the Galician QA agency, ACSUG, and the Basque Country, through LANBIDE[6]. The data on the Basque Country are of particular interest because the survey is also carried out three years after graduation and a large amount of information is published on the service's website. A comparison is made in annex A3 between some of the findings of the most recent study (2013) in the Basque Country and those presented here for Catalonia. An analysis of recent graduates is also carried out in Andalusia by the *Observatorio Argos*, using administrative data (cross-referenced with Social Security data)[7].

At the national level in Spain, there are two initiatives being carried out in 2014 that deal with the overall body of university graduates. The first, organised by the Spanish Institute of Statistics (INE), consists of a survey of recent university graduates (2010 cohort). The study is national in scope with a sample for Catalonia of between 3,000-4,000 people, i.e. much narrower than the scope of this survey on the employment outcomes of graduates of Catalan universities (17,337 interviewees). Although the results will not be representative in terms of study programme and university, they will be useful for comparing the results of the study being presented here with national benchmarks. The objective of the second initiative at national level, the OEEU (*Observatorio de Empleabilidad y Empleo Universitarios*), is to centralise data collection on employment outcomes from all the Autonomous Communities and universities in Spain, for which a centralised survey is being produced for universities that are lacking a survey on graduate employment outcomes. This means that the observatory will use data collected using different methodologies and separate points in time.

In terms of Europe as a whole, the last survey dates from 2006 within the framework of the international REFLEX project, "Research into employment and professional flexibility". For some countries, however, more up-to-date data are available.[8]

There is a chapter in the report titled *The Modernisation of Higher Education* (European Commission/EACEA/Eurydice, 2014) that sets out and analyses the series of national initiatives.

---

[5] http://www.acsug.es/es/insercion

[6] http://www.lanbide.net/plsql/es_MostrarEstadistica?idioma=C&titulo=Inserci%F3n%20Laboral%20Universitaria.&scriptfile=insuniver-2.js&nombresnodos=NODO1;NODO2

[7] http://www.juntadeandalucia.es/servicioandaluzdeempleo/web/argos/web/es/ARGOS/Publicaciones/pdf/20140423_egresados_universitarios_2013.pdf

[8] United Kingdom: http://unistats.direct.gov.uk/; France: http://www.enseignementsup-recherche.gouv.fr/pid24624/taux-insertion-professionnelle-des-diplomes-universite.html; and Italy: http://www.almalaurea.it/en

There is a section in all of the reports produced by the Fundación CYD (2012) on initiatives by the regional Autonomous Communities and universities in Spain to study and analyse graduate destinations.

0.4. Summary of the 2014 survey results

Data from official statistics have shown that the higher the level of education, the higher the activity rate, the employment rate and salaries, and the lower the rate of unemployment. In addition, the differential between these indicators, i.e. the added value of having a higher level of education, has increased in countries where there has been an economic crisis. *Education at a Glance* points out that even before the crisis, rapid technological advances had been transforming the needs of the global labour market, reducing even more the need for low-skilled workers (OECD, 2013:74).

The economic context is clearly a determining factor as far as entry to the labour market is concerned. In addition to the economic and financial crisis and that of the building and construction sector, there has also been the squeeze on spending in the public sector that began in 2010 as a consequence of the swollen public debt crisis and the euro crisis (Fundación CYD, 2012).

Whereas the effects of the crisis on the rate of employment and education-job skills match were very moderate in the 2011 study (2007-2008 graduating cohort) except for study programmes connected with the building and construction sector, in the 2014 survey (on the 2010-2011 graduating cohort) they are to be seen in almost all of the indicators associated with employment and job quality. This difference between the two most recent studies can be explained by the fact that a large number of graduates in the 2007-2008 graduating cohort already had a job prior to the start of the crisis, whereas the context for those who graduated in 2010-2011 and were looking for work was that of economic crisis.

NB: Given that 2011 was the first time that the private universities participated in the study on graduate employment outcomes and there were only two points of reference in time, the time series analysis in this entire document only uses data on the system of public universities. The subject areas (disciplines) are also different in private and public universities (the Social Sciences and Health Sciences are better represented in the public universities).

Table 0.4.1 Trends in the key indicators of graduate employment outcomes (public universities)

	2008	2011	2014	Diff. 2014-2011	Diff. 2014-2008
Employed	93.51%	88.80%	83.72%	-5.08%	-9.79%
Unemployed*	3.10%	7.64%	11.89%	4.25%	8.79%
Public sector	35.58%	35.13%	24.51%	-10.62%	-11.07%
Full-time	83.90%	84.96%	75.08%	-9.88%	-8.82%
Permanent	58.60%	55.38%	48.73%	-6.65%	-9.87%
Temporary	30.09%	32.41%	35.80%	3.39%	5.71%
Graduate-level job duties and responsibilities	85.20%	83.87%	76.34%	-7.53%	-8.86%
Minimal match**	11.10%	11.95%	19.57%	7.62%	8.47%

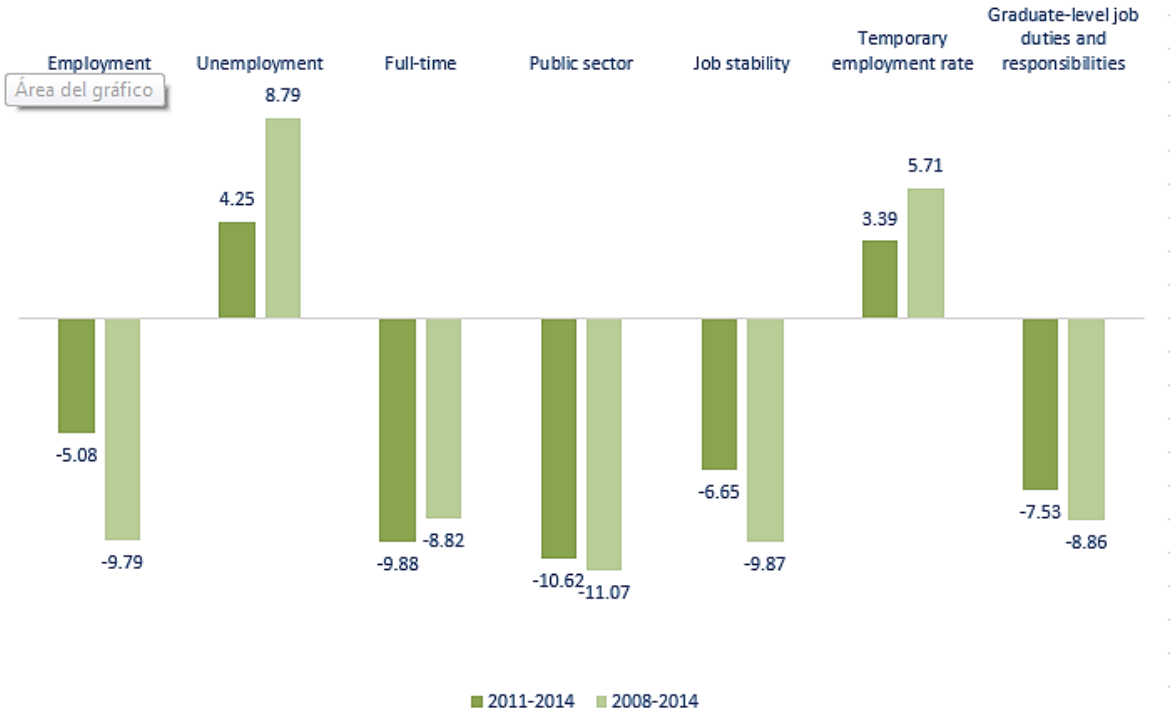
* The sum total of the percentages for the employed and unemployed does not come to 100 due to the absence of an indicator for inactivity. These three are analysed in Chapter 2 of this report.

** Minimal match: no university degree was required to be hired and no graduate-level job duties and responsibilities in the job.

There was a decrease in both the rate of employment and the education-job skills match, as shown in the decrease in the proportion of those with graduate-level job duties and responsibilities, the decrease in the number of graduates working full-time and the increase in job instability, in spite of the labour market reform in February 2012.

Over the various surveys, in particular the last three, there has been a significant variation in the education-job skills match (match between degree qualifications of graduates and the requirements of the labour market). In 2008, for example, degrees in Architecture had some of the best indicator values for the quality of employment outcomes, Teaching was one of the top subjects in 2011, and Health Care professions in 2014. The conclusion is therefore that there is a context of uncertainty that prevents long-term predictions from being made regarding the professional prospects for the holders of university degrees. The main assets of university graduates in the future will be how well prepared they are and their ability to manage their professional careers in a context of change.

Figure 0.4.1. Impact of the economic crisis on the key indicators of the labour market (public universities)



NB: Temporary variations as a percentage

0.5. Conclusions and prospects for the future

Described below are the main conclusions of the analysis of the indicator values set out in the table and figure above, together with a series of ideas on the future prospects for individual, institutional and/or political strategies for dealing with the challenges that are apparent from the data and figures in this study.

With regard to the conclusions:

- The contextual data from official statistics have repeatedly shown that the higher the level of education, the higher the activity rate and the employment rate, and the lower the rate of unemployment. In 2014 the rate of employment of people with higher studies was practically twice that of those with just a primary education (25-44 age group).
- In addition to the level of education, the type of studies is an influential factor that affects both the rate of employment and job quality. Outcomes are better for degrees that are more professionally oriented (Health Sciences, Engineering and Architecture), as compared to others that are more broad based (Humanities).
- The impact of the economic crisis is evident from the following indicator values:
  - There has been a 10 percentage-point decrease in the rate of employment since 2008. Job losses in the public sector amounted to 11 percentage points.

  - There was a drop of 10 percentage points in permanent contracts.
  - There was a drop of 11 percentage points in job quality (the proportion of those with graduate-level job duties and responsibilities).
  - There was a drop of 9 percentage points in full-time work.
- The five studies on the employment outcomes of graduates in Catalonia since 2001 confirm that the current situation, according to sociologists, can be described as one of uncertainty (CEDEFOP, 2009)[9], in which it is impossible to make long-term predictions as regards the professional prospects of holders of different degree qualifications. Each survey has highlighted variations as regards degrees that are best matched to the labour market. This uncertainty has been accentuated in the last two years of economic crisis with certain radical changes such as the downward trend in employment in the building and construction sector in 2011 and in the public sector in 2014.

With regard to the prospects for the future, the following suggestions are put forward:

- Professional guidance for university students needs to be heightened to ensure that graduates, on completing their studies, have the necessary skills to manage their professional careers within a context of uncertainty, meaning that they are flexible and can adapt to a changing socio-economic environment, identify strategic investment in education and training, and network, amongst other things.
- Graduates need to have a realistic understanding of their employability skills. Education and training is not just a person's potential in a given job, but also the awareness of the skills that one has and those that one still needs to develop and/or improve in order to be successful in the labour market. Tools like the portfolio, a widespread practice, for example, in higher education institutions (HEIs) in the UK, enable graduates to better position and put themselves across, and demonstrate their skills when applying for jobs.
- Policies need to be designed in address job insecurity among youth.
- The equity of access to higher education needs to be guaranteed, more especially as it has a proven added value.

[9] CEDEFOC (2009). *Modernising vocational education and training.* Luxembourg: Office for Official Publications of the European Communities.

1. POPULATION AND SAMPLE

The reference population was 31,279 graduates, with an achieved sample of 17,337, which accounts for 55% of the total, with a sampling error[10] of 0.51%. The sampling error is very low due to the fact that the sample was determined by degree course and university, as explained above.

Table 1.1 Population, sample, response rate and sampling error

	Population	Sample	Response	Sampling error
PUBLIC UNIVERSITIES				
Universitat de Barcelona	7,759	3,425	44.14%	1.28%
Universitat Autònoma de Barcelona	4,256	2,490	58.51%	1.29%
Universitat Politècnica de Catalunya	3,293	1,726	52.41%	1.66%
Universitat Pompeu Fabra	1,694	906	53.48%	2.27%
Universitat de Girona	1,466	1,093	74.56%	1.53%
Universitat de Lleida	1,017	788	77.48%	1.69%
Universitat Rovira i Virgili	1,957	1,379	70.46%	1.46%
Total public universities	**21,442**	**11,807**	**55.06%**	**0.62%**
PRIVATE UNIVERSITIES				
Universitat Ramon Llull	2,326	1,520	65.35%	1.51%
Universitat de Vic-Universitat Central de Catalunya	1,011	730	72.21%	1.95%
Universitat Internacional de Catalunya	843	503	59.67%	2.83%
Universitat Abat Oliba-CEU	298	208	69.80%	3.82%
Total private universities	**4,478**	**2,961**	**66.12%**	**1.07%**
Partner and affiliated institutues and schools*	2,085	1,276	61.20%	1.74%
Total classroom-based universities	**28,005**	**16,044**	**57.29%**	**0.50%**
Universitat Oberta de Catalunya (Open University)	3,274	1293	39.49%	2.16%
TOTAL STUDY	**31,279**	**17,337**	**55.43%**	**0.51%**

* For details of the population and sample of partner and affiliated institutues and schools, see annex A1.

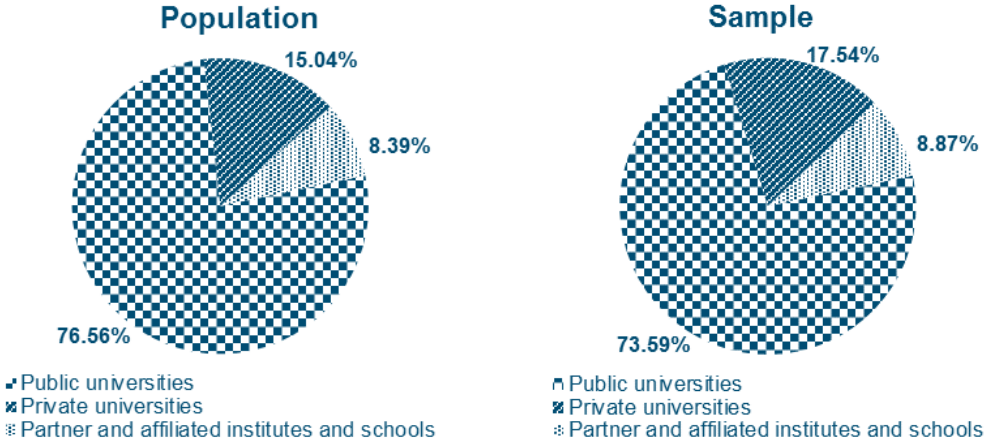
[10] Sampling error (%) = $\sqrt{\frac{(N-n)}{(N*n)-n}} * 100$, where *N* is the population size and *n* the sample size for the survey.

The Universitat Oberta de Catalunya (Open University of Catalonia/UOC), which accounted for 10% of the study population and 7% of the sample population, is analysed in a separate chapter because the profile of the majority of UOC students, unlike classroom-based universities, is that of a student with previous university studies.

NB: From here on, all population and sample data refer to the total population of classroom-based universities and faculties (28,005) and their sample (16,044).

77% of the graduate population of classroom-based universities in Catalonia studied at one of the public universities. 15% and 8% of the rest graduated, respectively, from either one of the private universities or a partner or affiliated school or institute. Figure 1.1 shows the distribution of the overall group of graduates and the overall group of survey respondents between public and private universities and partner or affiliated institutues and schools.

Figure 1.1 Population and sample distribution according to type of HEI



The majority of survey respondents were graduates in Social Sciences (50%), followed by Engineering and Architecture (22%), the Health Sciences (11%), Humanities (9%) and lastly Experimental Sciences (7%) (see figure 1.2).

Figure 1.2 Population distribution according to subject area

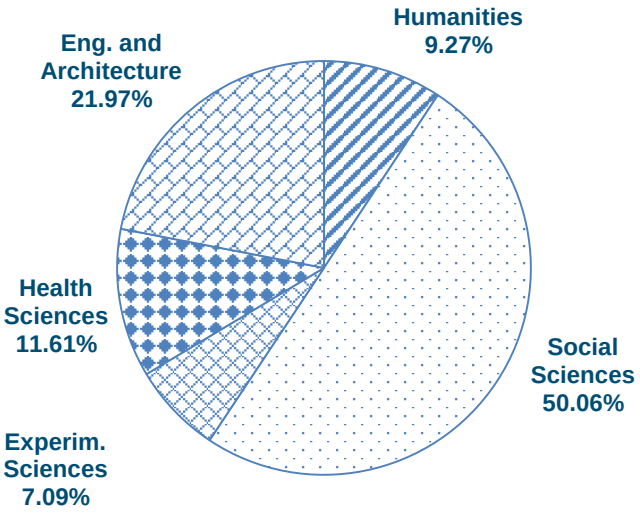
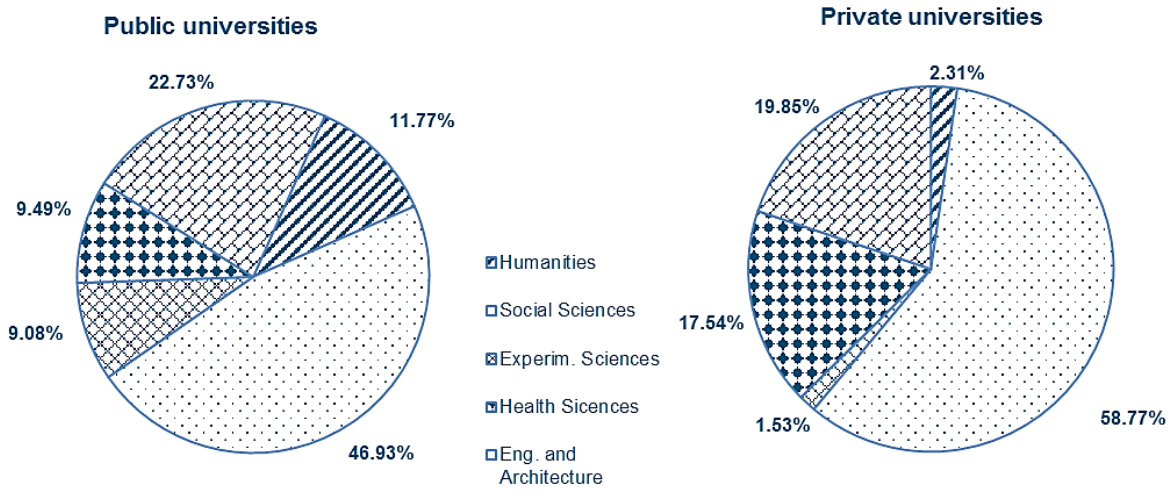


Figure 1.3 Population distribution according to subject area and type of university (public or private)



As can be seen from figure 1.3, there is a difference in the composition of degree programmes at public and private universities: the Social Sciences and Health Sciences account for a large number of the study programmes at private universities, and there are very few in the Humanities and Experimental Sciences.

2. EMPLOYMENT

2.1. Contextual data: official statistics

The higher the level of education, the higher the employment rate and the lower the rate of unemployment. The employment rate of people with a higher education is practically double that of people with just a primary education. In other words, higher education reduces the unemployment rate by half compared to the population with just a primary education.

The crisis has increased the added value of education in terms of the rates of employment and unemployment. Compared to 2008, when the unemployment rate of people with a higher education was 7 percentage points less than that of people with just a primary education, in the 2014 survey the difference was 18 percentage points less (25-44 age group).

The employment rate of university graduates is 8 percentage points higher than that of the working population as a whole with some form of higher education (higher vocational education programmes, university degrees and doctoral degrees) in the 25-54 age group (EPA, first quarter 2014).

The unemployment rate of recent graduates is 5 percentage points lower than that of the working population as a whole with some form of higher education in the 25-54 age group (Spanish Labour Force Survey (*Encuesta de Población Activa*, hereafter EPA), first quarter 2014).

In this section data from the EPA are analysed so as to contextualise the results of the employment outcomes survey.

NB: The data from these two sources **are not directly comparable** due to the fact that the reference populations are different. The reference population for the survey of the employment outcomes of graduates from Catalan universities is graduates who completed their studies three years prior to the survey, with an average age of 30 in the 2014 survey. The Spanish Labour Force Survey focuses on the working population aged over 16 and is designed to produce results

at the national level, meaning that statistically representative, disaggregated data according to region (Autonomous Community), level of education or age group, is not available.[11]

In order to enhance comparability between the different groups, the survey population in this analysis consists of people aged between 25-44. Taking this as the target population, the figures show the trend in 3 indicators: the employment rate, the unemployment rate and the inactivity rate.[12] The first quarter in each year (1stQ) is taken as the base reference to enable a comparison to be made with AQU Catalunya's graduate employment outcomes survey, which is carried out from January to March.

Beginning more or less in 2007, the economic crisis, which fundamentally affected the building and construction and financial sectors with a knock-on effect on other sectors of the economy, has affected all levels of education but to varying degrees. In 2010 there was the additional impact of the risk premium and eurozone crisis, which increased the squeeze on the public sector. Different reports distinguish between two periods of crisis, 2007-2009 and 2009-2012; for university graduates, the latter of these two periods was the worst, whereas for people without a university degree the deterioration in the situation was more severe in the first period (Fundación CYD, 2012).

Even though there was a decline for all levels of education, it can be seen that the higher the employment rate the higher the level of education and, conversely, the lower the unemployment rate the higher the level of education. This trend is evident in all OECD countries and is consistent over time (OECD, 2013). Furthermore, the added value of having a higher education has increased as a result of the economic crisis, as can be seen from the figures.

[11] Different studies have analysed the EPA data in greater depth. The following two are of note in that a comparison is made according to level of education: Fundación CYD (2012), Pérez & Serrano (2012).

[12] Economically inactive people are not in work and do not actively seek paid work.

Figure 2.1.1 Changes in the employment rate. Population 25-44 age group (EPA)

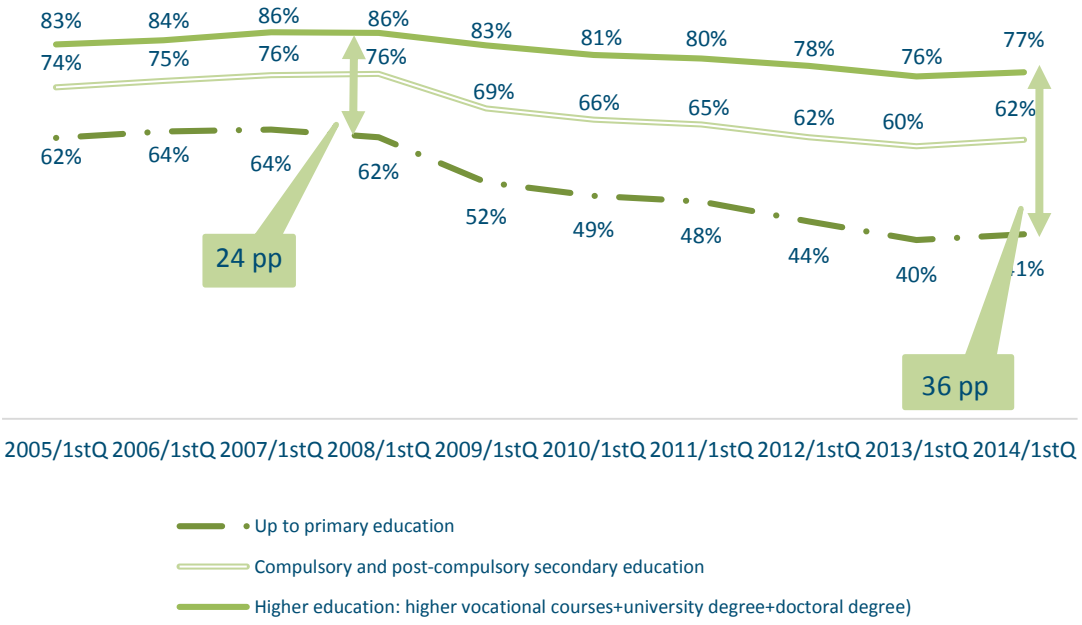


Figure 2.1.2 Changes in the unemployment rate. Population 25-44 age group (EPA)

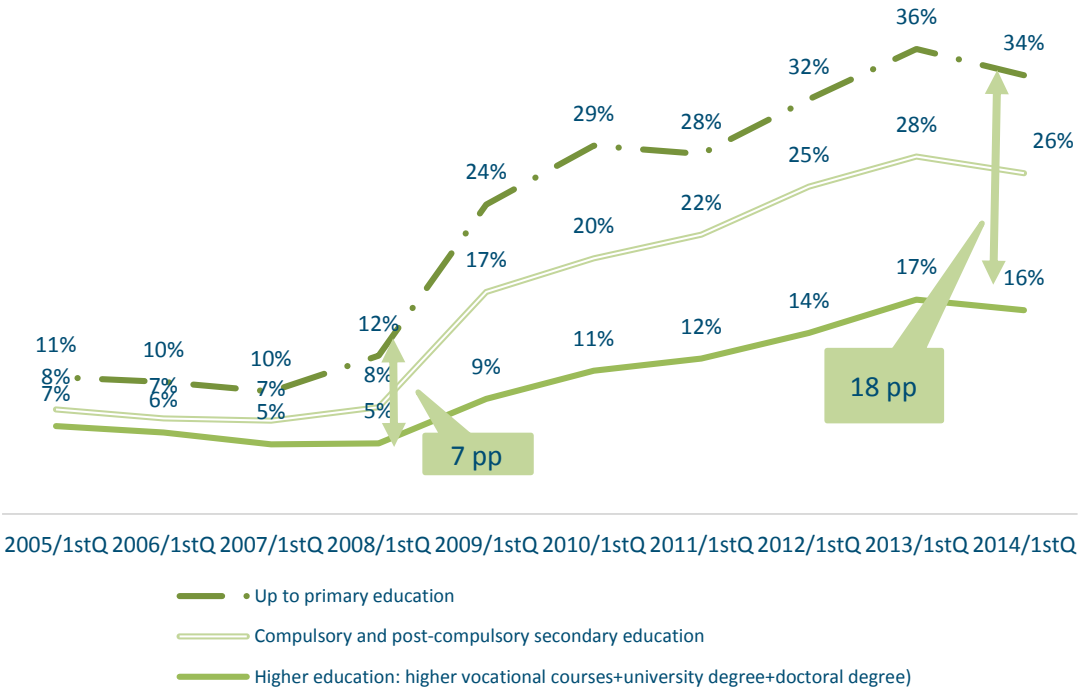
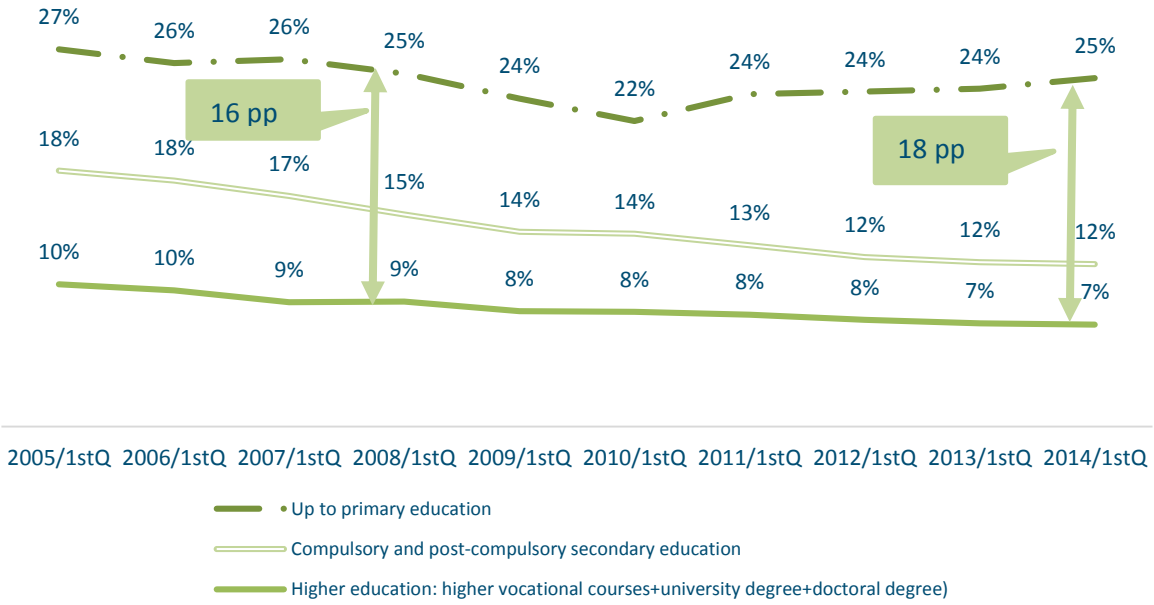


Figure 2.1.3 Changes in the inactivity rate. Population aged 25-44 (EPA)



The data on employment outcomes given in the following section show that the job situation of graduates from Catalan universities is more positive that the data given in the EPA for the active working population in the 25-44 age group (see figure 2.2.1 below). The employment rate in the graduate survey is 8 percentage points higher (85% compared to 77%), the unemployment rate is 5 percentage points lower (11% compared to 16%) and the inactivity rate 3 percentage points lower than that of the active working population (4% compared to 7%).

2.2. Job situation three years after completing studies

85% of graduates were in work three years after completing their university studies. The variation between subject areas is no more than 12 percentage points (88% in Health Sciences and 76% in the Humanities).

Unemployment affected 11% of graduates (16% in the Humanities and 8% in Health Sciences).

75% of graduates actively working were working full-time.

With regard to the 2011 study, the employment rate dropped by 4 percentage points, and the unemployment rate (3) and inactivity rate (1) rose. The level of full-time employment however dropped by 10 percentage points.

As in the previous studies, the overall results show that there are differences according to subject. The results were most negative for Humanities and positive for the Health Sciences.

85% of graduates were in work three years after completing their university studies:

- The employment rate was highest in the Health Sciences (88%), and lowest in Humanities (76%).
- Conversely, the unemployment rate was highest in the Humanities (16%), and lowest in the Health Sciences (8%).
- The inactivity rate was highest in the Humanities (7%) and lowest in the Social Sciences, Health Sciences and Engineering and Architecture (3%).

Table 2.2.1 Employment, unemployment and inactivity rates according to subject area

	n	Employment		Unemployment		Inactivity	
		(*f*)	%	(*f*)	%	(*f*)	%
Humanities	1,488	1,130	75.94	244	16.40	114	7.66
Social Sciences	8,031	6,874	85.59	861	10.72	296	3.69
Experimental Sciences	1,137	907	79.77	168	14.78	62	5.45
Health Sciences	1,863	1,640	88.03	149	8.00	74	3.97
Engineering & Architecture	3,525	3,051	86.55	336	9.53	138	3.91
Total	**16,044**	**13,602**	**84.78**	**1,758**	**10.96**	**684**	**4.26**

It is worth noting that continuing studies was given as the reason for inactivity by 52% of graduates who were inactive, 18% was due to maternity and 30% for other reasons.[13]

75% of employed graduates were in full-time work. This figure ranges from 92% in Engineering and Architecture to 61% in the Humanities and 63% in Health Sciences. The case of Health Sciences is significant because it had the highest employment rate: i.e. there is a higher rate of employment in Health Sciences, but which was accounted for by part-time work (in many cases, probably due to short-term substitutions, shift work, etc.).

[13] In the "Other reasons" for not looking for work category (30%, 205 people), a wide variety of situations were given: already have a job lined up, but have not actually started (39); a temporary job (17); setting up their own business (41); looking for work abroad (12); illness, disability or early retirement (36); do not need to, taking a year off, etc. In relation to the previous study, there was a notable increase in the number of inactive people who said they were in the process of setting up their own business.

Table 2.2.2 Full-time employment according to subject area

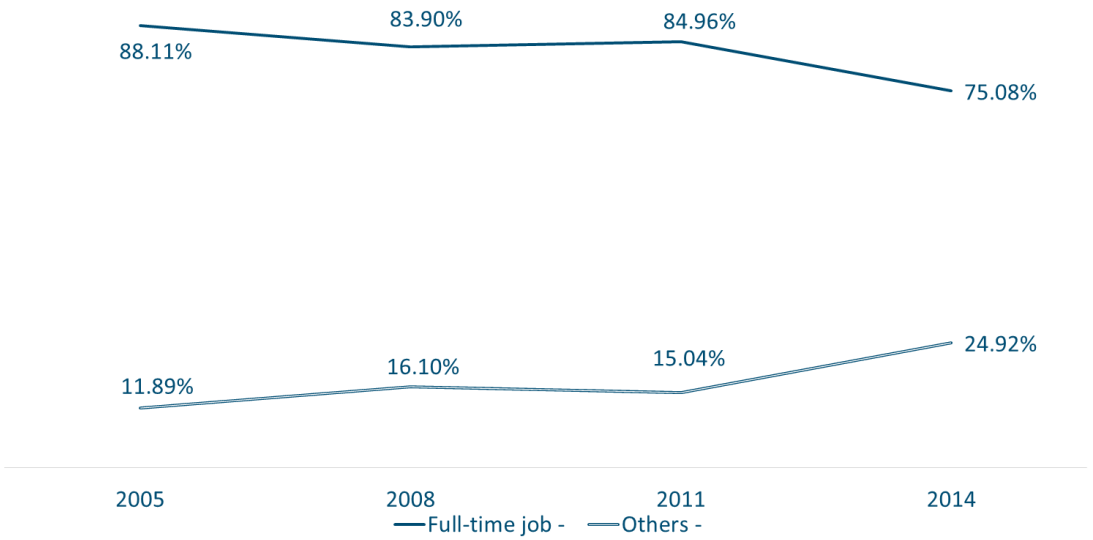
	n	Full-time job	Others
Humanities	1,074	61.36%	38.64%
Social Sciences	6,765	72.55%	27.45%
Experimental Sciences	704	78.41%	21.59%
Health Sciences	1,603	62.69%	37.31%
Engineering & Architecture	2,918	91.50%	8.50%
Total	**13,064**	**74.97%**	**25.03%**

There are significant variations in the full-time employment rate in the 2014 survey, compared to the 2011 survey, when there was practically no variation compared to 2008. The proportion of people in full-time work was 10 percentage points lower in the 2014 survey compared to 2011.

Table 2.2.3 Changes in full-time employment according to subject area (only public universities, 2005-2014)

	2001	2005	2008	2011	2014
Full-time job	-	88.11%	83.90%	84.96%	75.08%
Others	-	11.89%	16.10%	15.04%	24.92%

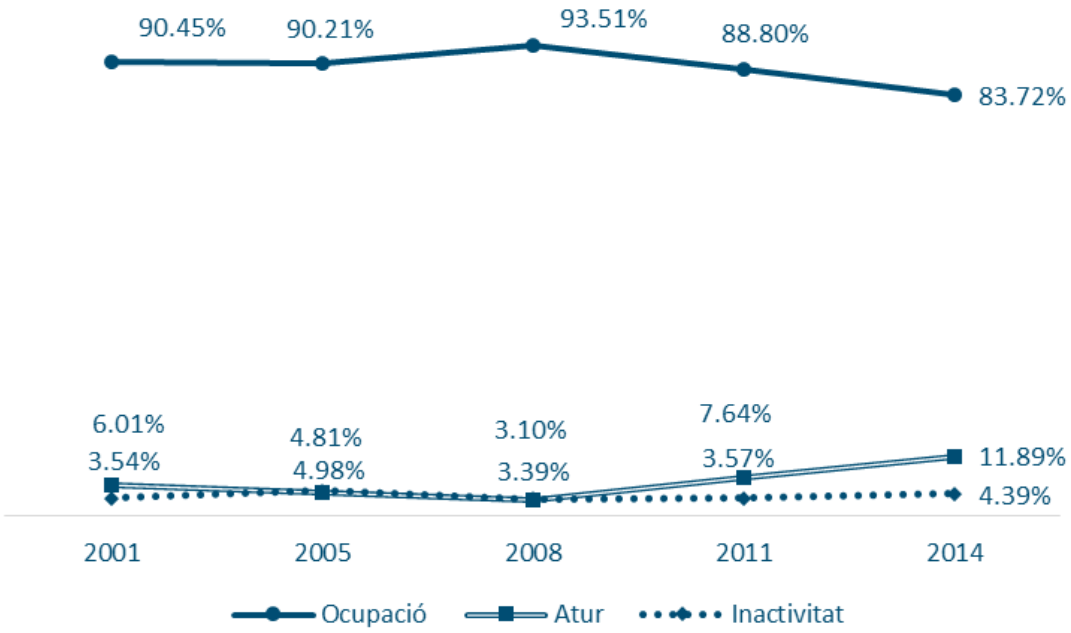
Figure 2.2.1 Changes in full-time employment according to subject area (only public universities, 2001-2014)



Changes in employment situation (public universities only)[14]

The employment rate has gone down practically 5 percentage points compared to the 2011 study (when it had also gone down 5 percentage points). The unemployment rate has therefore risen by the same proportion.

Figure 2.2.2 Changes in the rates of employment, unemployment and inactivity (only public universities, 2001-2014)



The impact of the economic crisis has been felt in all subject areas (see table 2.2.4), although in the 2014 survey the effect was more profound on the Humanities and Experimental Sciences (6 and 7 percentage-point drop in the employment rate, respectively), whereas the drop in employment in Engineering and Architecture, which in the previous survey (2011) went down 6 percentage points, was the lowest. This would appear to indicate, as pointed out by various authors (Fundación CYD, 2012), that the economic crisis in the building and construction sector (2007-10 period) has stabilised, whereas the public debt crisis and consequent cutbacks in public spending have led to a reduction of 11 percentage points in public sector recruitment since 2008 (see the Introduction to this document), which has had a particular impact on the education and research sectors, which are common areas of employment for graduates in both the Humanities and Experimental Sciences.

[14] Due to the fact that the private universities began to participate in the labour market outcomes survey in 2011, there are only two available points in time for time series that include both public and private universities, which is the reason why only graduates from the public universities were selected for the purposes of trend analysis.

Table 2.2.4 Changes in the employment rate according to subject area (2001-2014)

	% 2001	% 2005	% 2008	% 2011	% 2014	Differential		
						2014-2005	2014-2008	2014-2011
Humanities	85.50	85.86	89.4	81.51	75.25	-10.61	-14.15	-6.26
Social Sciences	90.96	90.96	94.15	90.09	84.57	-6.39	-9.58	-5.52
Experimental Sciences	80.79	83.74	90.44	86.26	79.48	-4.26	-10.96	-6.78
Health Sciences	92.39	93.83	95.28	93.2	87.86	-5.97	-7.42	-5.34
Engineering and Architecture	95.24	92.38	95.02	88.81	86.33	-6.05	-8.69	-2.48
Total	**90.45**	**90.2**	**93.51**	**88.6**	**83.72**	**-6.48**	**-9.79**	**-4.88**

2.3. Public or private sector recruitment

The majority of the survey respondents work in the private sector (78%).

Recruitment in the public sector dropped by 11 percentage points compared to 2008, 10 of which have been in the last three-year period.

22% of the survey respondents work in the public sector. According to subject area, recruitment ranged from 34% in Experimental Sciences to 10% in Engineering and Architecture.

Table 2.3.1 Public and private sector recruitment according to subject area

	n	Public sector	Private sector
Humanities	1,385	24.77%	75.23%
Social Sciences	7,830	23.03%	76.97%
Experimental Sciences	1,084	34.32%	65.68%
Health Sciences	1,827	32.57%	67.43%
Engineering & Architecture	3,409	10.18%	89.82%
Total	**15,535**	**22.27%**	**77.73%**

As in the previous surveys, recruitment in both the public and private sector was closely associated with the type of degree. Recruitment in the public sector accounted for 52% in Medicine and Dentistry, but only 6% in Architecture. This is due to the nature of the areas of economic activity where graduates are employed.

There has been a radical change in the scenario of public and private sector recruitment in some degree subjects, especially for those where the majority of graduates used to be hired in the public sector, such as Teaching, Geography and History, Languages, etc. In the case of Agricultural Science, for example, recruitment in public administration (civil service) dropped from 15% to 6%, and Education from 26% to 14%, as many of the employment niches of these subjects have

disappeared. On the other hand, it remained stable in subjects where recruitment is mainly in the private sector, such as Fine Arts, Economics and Business Administration and Management. It can be seen that, in the case of degrees in the Health Sciences such as Medicine and Health Care and Assistance, there was less of a drop than in the Education sector due to the fact that Health Care covers takes in both the public and private sectors.

Table 2.3.2. Public and private sector recruitment according to degree subject (proportions), 2014 and 2011.

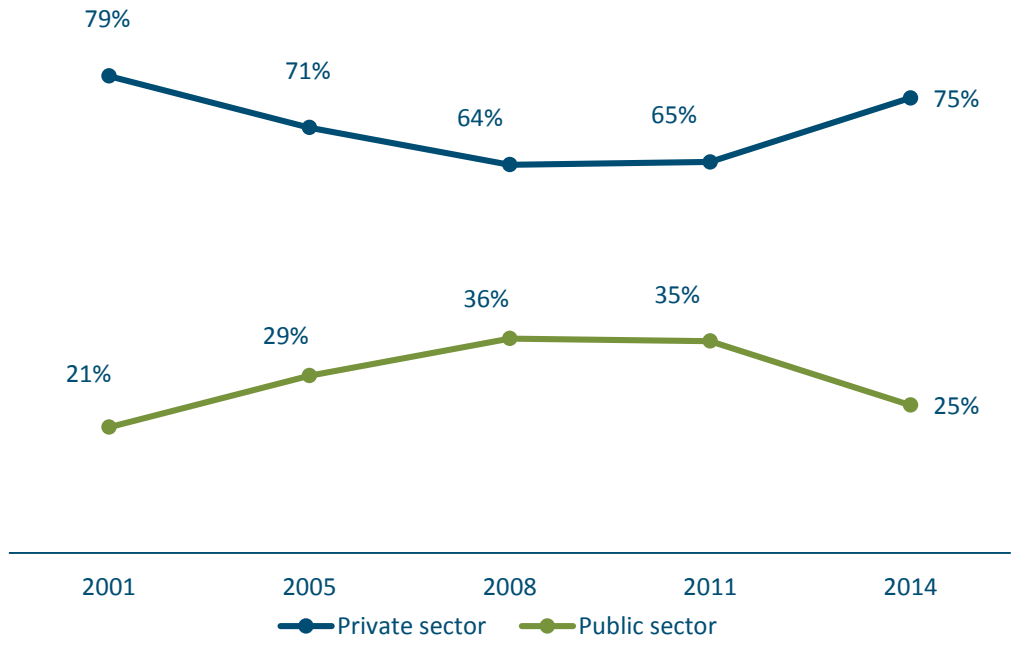
	2014		2011		
	Public	Private	Public	Private	Public 2014 - Public 2011
Teaching	37.30	62.70	72.11	27.89	-34.81
Sport	20.58	79.42	42.17	57.83	-21.60
Psychology and Pedagogy	24.69	75.31	40.70	59.30	-16.00
Philology and Comparative Studies	22.68	77.32	38.53	61.47	-15.85
Agricultural Science	20.30	79.70	33.10	66.90	-12.80
Law, Labour Relations and Politics	27.20	72.80	39.01	60.99	-11.81
Geography and History	33.01	66.99	44.64	55.36	-11.63
Philosophy and Humanities	20.14	79.86	30.81	69.19	-10.67
Biology and Natural Science	35.23	64.77	45.27	54.73	-10.04
Communication and Documentation	16.92	83.08	26.41	73.59	-9.49
Tourism	8.01	91.99	16.67	83.33	-8.65
Pharmacy, Food Science and Technology	11.29	88.71	19.50	80.50	-8.21
Information and Communication	11.13	88.87	15.79	84.21	-4.66
Health Care and Assistance	30.65	69.35	35.31	64.69	-4.66
Medicine and Dentistry	52.01	47.99	56.46	43.54	-4.44
Veterinary Science	18.92	81.08	22.73	77.27	-3.81
Architecture	5.99	94.01	9.43	90.57	-3.45
502 Civil Engineering	9.60	90.40	13.00	87.00	-3.40
Advanced Manufacturing Technologies	8.25	91.75	10.33	89.67	-2.08
Chemistry	24.32	75.68	25.83	74.17	-1.51
Economics; Business Administration and Management; Business Sciences	8.18	91.82	9.68	90.32	-1.50
Physics and Mathematics	43.26	56.74	44.44	55.56	-1.19
Visual Arts	9.82	90.18	10.75	89.25	-0.93
Nautical Science	13.46	86.54	12.50	87.50	0.96
Aviation	21.43	78.57	13.46	86.54	7.97

If an employment niche for the holders of certain kinds of degree in a particular sector no longer exists, it means that another one has to be found in different or other sectors where they are not recognised, using non-typical ways to find work. As discussed below in the chapter titled The process of finding a job, the influence of institutional employment services (for example, the *Servei Català d'Ocupació*), which provide access to fill-in posts and short-term substitutions in the public sector and is of high impact for degree programmes in Teaching, Social Work and Health Care and Assistance, amongst others, has waned considerably.

Changes in public and private sector recruitment (public universities only)

In figure 3.1 it can be seen that in periods of growth and economic expansion there was a relative decrease in recruitment in the private sector and an increase in recruitment in the public sector. There are different reasons to explain this: for example, more favourable job conditions in the public sector, the type of economic activity in expansion did not need high-level qualifications, an increase in the volume of the graduate population, and that there was in fact an increase in employment in both the public and private sectors. The debt crisis has led to a sharp decline in public sector recruitment of recent graduates. In 2014 the proportion of public sector employment for graduates as a whole was lower than that in the 2005 survey.

Figure 2.3.1 Changes in public and private sector recruitment (only public universities, 2001-2014)



NB: The figure for 2001 does not include Medicine, which may affect the percentage of public sector recruitment.

2.4. Unemployment

11% of graduates were unemployed.

30% of those unemployed had been looking for work for more than one year.

Out of 16,044 graduates from classroom-based universities, 1,757 were unemployed, i.e. not in work, and looking for a job. As seen in the section on "Job situation", unemployment was highest in the Humanities (16%) and lowest Health Sciences (8%).

As can be seen from table 13.1, 49% of all unemployed graduates had been looking for work for at least six months. 30% had been looking for a job for more than one year.

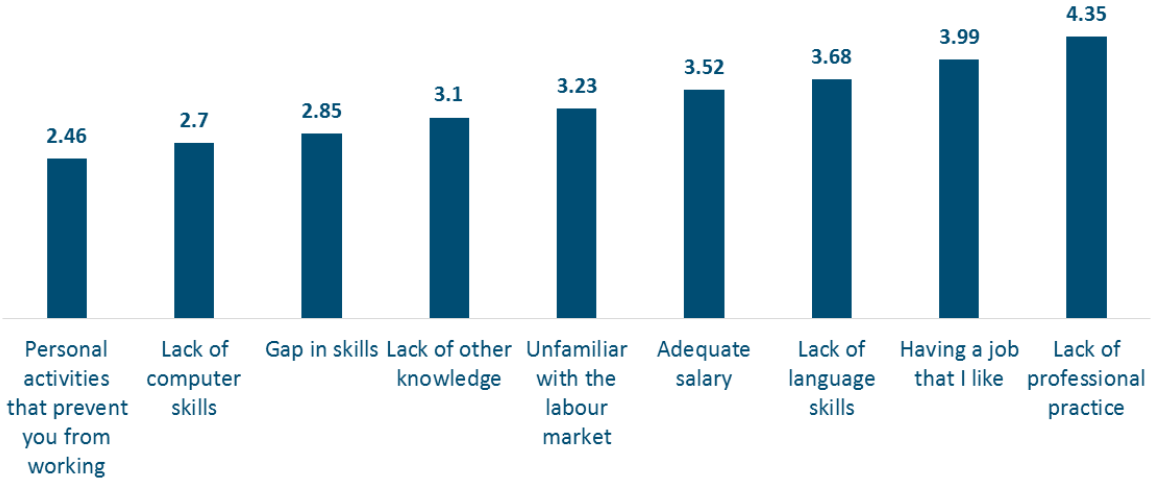
Table 2.4.1 Time spent looking for a job

	n	Less than 6 months	Between 6 months and 1 year	Between 1 to 2 years	More than 2 years
Humanities	244	42.62%	20.90%	16.80%	19.67%
Social Sciences	860	51.40%	18.84%	12.67%	17.09%
Experimental Sciences	168	46.43%	21.43%	17.26%	14.88%
Health Sciences	149	59.06%	20.13%	10.74%	10.07%
Engineering and Architecture	336	45.83%	25.60%	15.48%	13.10%
Total	**1,757**	**49.29%**	**20.77%**	**14.06%**	**15.88%**

According to people looking for work, the main reasons for not finding work were lack of practical experience, looking for a job that they like and a good grounding in languages. Out of these, only the first was of considerable importance (the others were rated below 4, which is the mid-value on a scale of 1 to 7).

In comparison with 2011, "Finding a job with a satisfactory salary" lost some ground as a reason for being unemployed (down from 4.75 to 3.99). Likewise, "Having a job that I like" also lost ground (down from 4.69 to 3.99), although both continue to be important. These changes would appear to indicate a lowering of graduates' expectations for the labour market.

Figure 2.4.1 Reasons for not finding a job (scale from 1-7 unimportant to very important)

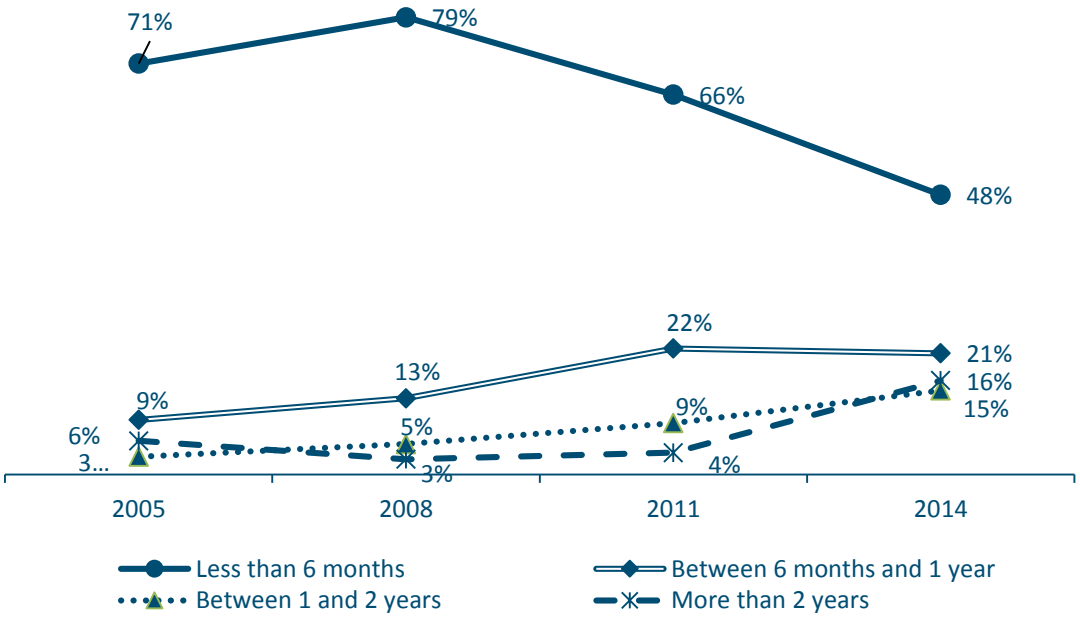


The main ways used to look for a job were the Internet (24%), personal contacts (17%), personal initiative (17%), and the government employment service office (*Servei Català d'Ocupació*, 11%). The percentage of people choosing to set up their own business was very small (1.7%).

Changes in the amount of time spent looking for a job (public universities only)

As mentioned in the section above on "Employment", unemployment among graduates was higher in the 2014 survey than in 2011 (11% compared to 8%). From the following figure it can also be seen that the time taken to find a job increased. In 2011, 65% had been looking for work for less than six months, compared to 49% in 2014. Conversely, the proportion of people who had been looking for a job for more than two years increased by 12 percentage points (up from 4% to 16%).

Figure 2.4.2 The amount of time spent looking for a job



3. THE QUALITY OF EMPLOYMENT

3.1. Job stability

Almost half (48%) of graduates had a permanent contract and 35% had a temporary contract.

Since the start of the crisis, there has been a drop in the permanent contract rate of 10 percentage points, distributed between an increase in temporary work (6%), an increase in the number of self-employed (2%), internships (1%) and graduates working without a contract (1%).

According to subject area, job stability was highest in Engineering and Architecture (57% with permanent contracts), followed by the Social Sciences (50%). Conversely, the percentage of temporary contracts was higher than that of permanent contracts in Health Sciences, Humanities and Experimental Sciences (42%, 40% and 39%, respectively).

Contractual status was more stable for graduates working full-time, with 58% having permanent contracts and 29% temporary contracts.

Part-time work was more associated with job instability, with 30% having permanent contracts and 57% temporary contracts.

Compared to the 2011 survey, there was an increase in job instability (a 4 percentage-point rise in temporary contracts and a 6 percentage-point drop in permanent contracts).

Table 3.1.1 Job stability: contract type according to subject area

	n	Permanent	Self-employed	Temporary	Internship	Without a contract
Humanities	1,385	39.06%	12.35%	39.71%	5.42%	3.47%
Social Sciences	7,843	50.33%	10.34%	36.25%	1.85%	1.24%
Experimental Sciences	1,083	35.27%	3.88%	38.97%	20.87%	1.02%
Health Sciences	1,832	38.92%	16.48%	41.76%	2.18%	0.66%
Engineering & Architecture	3,407	56.77%	12.33%	25.21%	4.99%	0.70%
Total	**5,550**	**48.34%**	**11.23%**	**34.98%**	**4.22%**	**1.23%**

The subject area with the highest proportion of self-employment was Health Sciences (with 16%), followed by Humanities and Engineering and Architecture (both with 12%). Those who were self-employed mainly graduated from degree courses associated with professional practice in a freelance capacity, and their proportion therefore varies between degree courses. For example, 83% of graduates in Podiatry and 71% in Dentistry were self-employed, as were 54% in Architecture, 39% of graduates in Design and 35% of Law graduates. Conversely, there were hardly any with degrees in Nautical Science, Statistics, Classics and Nursing.

The subject area with the highest proportion of internships was, as usual, Experimental Sciences (21%), which is the most scientific and academically oriented subject area, with a higher proportion of students continuing on into doctoral studies.

The analysis of contract type according to full or part-time work (see table 3.1.2) shows that temporary contracts were much more frequent in part-time work than in full-time work, and that there were more people working without a contract.

Table 3.1.2 Contract type according to full-time and part-time jobs

		n	Permanent	Self-employed	Temporary	Without a contract
Part-time	**Humanities**	527	30.74%	9.11%	52.75%	7.40%
	Social Sciences	2,170	28.85%	7.88%	60.23%	3.04%
	Experimental Sciences	206	29.13%	4.37%	63.59%	2.91%
	Health Sciences	656	31.25%	15.70%	51.52%	1.52%
	Engineering and Architecture	302	30.13%	19.87%	45.36%	4.64%
	Total	**3,861**	**29.63%**	**10.13%**	**56.75%**	**3.50%**
Full-time	**Humanities**	781	48.53%	15.49%	34.83%	1.15%
	Social Sciences	5,524	60.10%	11.59%	27.75%	0.56%
	Experimental Sciences	651	49.46%	5.07%	44.70%	0.77%
	Health Sciences	1,135	44.76%	17.44%	37.62%	0.18%
	Engineering and Architecture	2,935	62.79%	12.27%	24.60%	0.34%
	Total	**11,026**	**57.79%**	**12.26%**	**29.43%**	**0.52%**

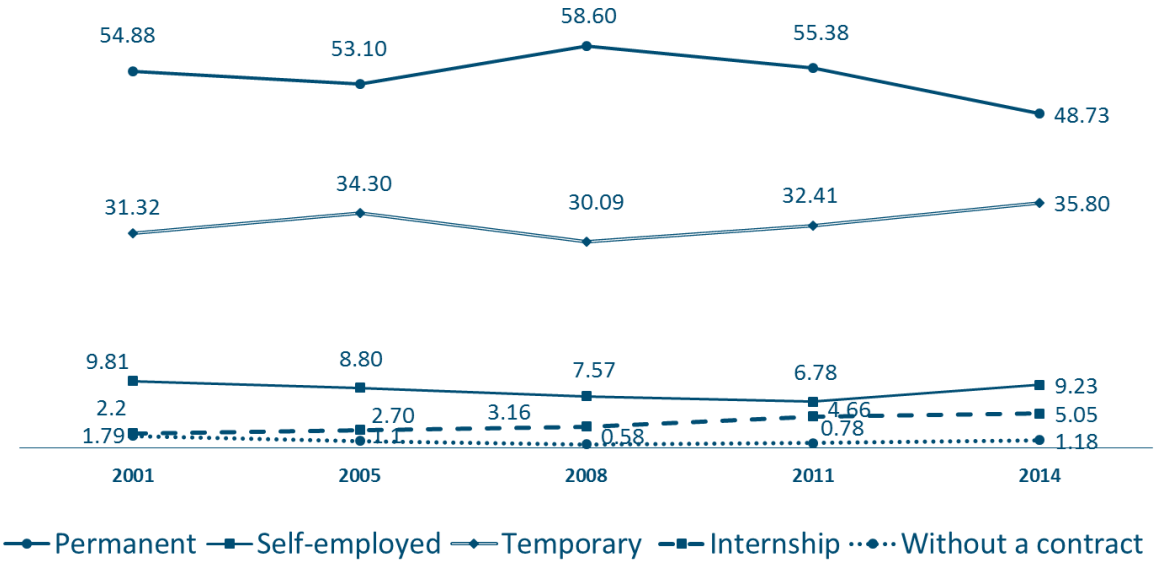
Changes in the type of recruitment (only public universities)

Compared to the previous study, there was an increase in job instability (a 4 percentage-point increase in temporary contracts and a 6 percentage-point drop in permanent contracts). The data for 2014 are similar to those obtained in 2005.

In 2011 there was a slight negative trend in the percentage of self-employed graduates (6.8% compared to 8.8% in 2005), whereas in 2014 this trend was not only halted, but was the highest percentage in the last four surveys (9.2%). It is worth noting, however, that there are wide variations in the increase among degrees and for reasons that are unclear; for example, an increase of 14 percentage points for First Cycle degrees in Architecture since 2011 (with a drop in the permanent contract rate), whereas Second Cycle degrees in Architecture dropped 10 percentage points compared to 2011 (with an increase in the permanent contract rate). Law, Economics, and Advertising and Public Relations are the three subjects that underwent an increase in this type of contract (14, 12 and 11 percentage points respectively).

There also continued to be a certain increase in the number of internships three years after graduation, although the percentage, as shown, continued to be very low.

Figure 3.1.1 Changes in contract type (only public universities, 2001-2014)



Entrepreneurship

The number of people who decide to go into business is connected with economic dynamism, although a positive performance of the economy is dependent not only on the number of companies or businesses, but other factors. The fact that there is a high level of self-employment is not the equivalent of there being a higher level of development or productivity, and for this to happen companies and businesses have to deliver value, which more often than not means they need to be technology-based and have management capability. A recent study (Pérez and Serrano, 2012)[15] shows that higher education does not increase the probability of a person becoming a business person (with or without employees), and that it is actually lower among university graduates; conversely, the probability of becoming an executive or manager is higher among university graduates. The authors claim that a university education is not a requirement for setting up a business or starting a company, whereas it is to be hired for a senior management post (a person's education is a sign of greater capability). Both groups (business people and senior management) need entrepreneurial skills, but of a different kind and the risks they will face are different.

In this section an analysis is made of two indicators associated with the entrepreneurial skills of graduates, taken to mean carrying out senior management duties and responsibilities, either because they set up their own business or company (freelance self-employed) or for having these duties and responsibilities in another organisation.

[15] Pérez García, Francisco; Serrano Martínez, Lorenzo (Dir) (2012). *Universidad, universitarios y productividad en España*. Madrid: Fundación BBVA.

Freelance self-employed

As can be seen from the following table, 82% of self-employed graduates were freelance self-employed. Health Sciences had the highest proportion of freelance self-employed (13%), and Experimental Sciences the lowest (3%).

Table 3.1.3 Freelance self-employed graduates according to subject area

	Economically dependent self- employed	Freelance self-employed	*n*	Freelance self-employed
Humanities	34	136	1,385	9.82%
Social Sciences	145	666	7,843	8.49%
Experimental Sciences	10	32	1,083	2.95%
Health Sciences	57	245	1,832	13.37%
Engineering and Architecture	60	360	3,407	10.57%
Total	**306**	**1.439**	**15,550**	**9.25%**

More revealing however is the information on who is more likely to be freelance self-employed according to degree programme. 62% of those with degrees in Podiatry and graduates in Dentistry were freelance self-employed, compared to 2% in Medicine. It is therefore concluded that certain degrees that more conducive to starting a business, but comparatively speaking these are very few.

Table 3.1.4 Freelance self-employed. Degree courses with a 15% proportion or higher

	(f)	*n*	Freelance
Podiatry (Dipl.[16])	15	24	62.50%
Dentistry (Llic.[17])	83	135	61.48%
Architecture[18]	92	182	50.55%
Agricultural Engineering (Horticulture and Gardening) Eng.Tècn.[19]	13	38	34.21%
Law (Llic)	136	435	31.26%
Design	19	62	30.65%
Architecture (Arq.Tècn)[20]	66	219	30.14%
Physiotherapy (Dipl.)	84	297	28.28%
Translation and Interpreting (Llic.)	5	27	18.52%
Audio-visual Communication (Llic.)	44	260	16.92%
Human Nutrition and Dietetics (Dipl.)	24	147	16.33%
Economics (Llic.)	51	319	15.99%
Theoretical and Comparative Literature (Llic.)	5	32	15.63%
Forest Engineering	3	20	15.00%

Managerial positions

26% of graduates held managerial positions (their own business, management, production, financial, etc.) three years after completing their university studies. Engineering and Architecture and Social Sciences were the subject areas with the highest proportion of graduates with managerial positions (33% and 29% respectively), compared to just 14% in Experimental Sciences and 11% in Health Sciences. It is interesting to note that, in spite of a more negative performance of the employment indicators for Humanities in general, 22% held managerial positions.

In the case of Health Sciences, the duties and responsibilities most predominant were health care and patient assistance (72% of graduates), as to be expected; on the other hand, in Experimental Sciences the proportion involved in research and innovation was higher (39%).

[16] *Diplomatura*, 3-year programme (pre-Bologna)
[17] *Llicenciatura*, 4-year programme (pre-Bologna)
[18] Degree programmes with the name of the programme only (i.e. WITHOUT Llic., Dipl., Eng. Tècn. or Arq. Tècn.) are all post-Bologna programmes.
[19] 3-year Engineering programme (pre-Bologna)
[20] 3-year Architecture programme (pre-Bologna)

Table 3.1.5 Percentage of graduates with managerial duties and responsibilities according to subject area

	n	Managerial duties and responsibilities
Humanities	1,390	22.37%
Social Sciences	7,849	29.14%
Experimental Sciences	1,084	14.30%
Health Sciences	1,833	11.35%
Engineering and Architecture	3,412	33.32%
Total	**15,568**	**26.32%**

As can be seen from the table in Annex A4, certain subjects are more advantageous as regards obtaining jobs with managerial duties and responsibilities. This is the case with graduates in Economics and Business Administration and Management, where half of all interviewees stated they held managerial positions, and Advanced Manufacturing Technologies (Industrial Engineering), Civil Engineering, Architecture, Nautical Science, and Politics, all of which had a proportion of more than 40%.

3.2. Annual earnings

45% of all full-time employed graduates earned more than 24,000 euros a year. 22% earned less than 15,000 euros a year.

An annual income of under 15,000 euros is associated with part-time employment. 80% of those who work part-time earn less than 15,000 euros a year, whereas this is true for only 22% of those working full-time.

The average gross monthly income of graduates was 1,863 euros.

A certain increase in earnings is to be expected as a result of the increase in the consumer price index (CPI); in 2014 however there was actually a drop in earnings for graduates as a whole.

Average annual earnings were calculated according to the group of full-time employed graduates (9,794), of which 588 declined to answer. The sample size for this was therefore 9,206 people.

Just over one third of all full-time employed graduates earned more than 24,000 euros gross a year (37%), and 22% had gross annual earnings of less than 15,000 euros a year.

Table 3.2.1 Gross annual earnings of full-time employed graduates

		n	%	%
Under 15,000	Under 9,000 euros	250	2.72	22.20
	Between 9,001 and 12,000 euros	618	6.71	
	Between 12,001 and 15,000 euros	1,176	12.77	
15,000 – 24,000	Between 15,001 and 18,000 euros	1,255	13.63	40.50
	Between 18,001 and 24,000 euros	2,473	26.86	
Over 24,000	Between 24,001 and 30,000 euros	1,799	19.54	37.30
	Between 30,001 and 40,000 euros	1,075	11.68	
	Over 40,001 euros	560	6.08	
Total		**9,206**	**100.00**	**100.00**
Don't know/No reply		588		

Table 3.2.2 shows gross annual earnings according to subject area. Engineering and Architecture was the highest paid subject area for graduates. Graduates in Social Sciences, Experimental Sciences and Health Sciences had similar earnings. Humanities was the lowest paid subject area.

Table 3.2.2 Gross annual earnings according to subject area. Full-time employed

	n	Under 15,000	15,000 - 24,000	Over 24,000
Humanities	612	36.93%	42.65%	20.42%
Social Sciences	4,618	25.03%	43.87%	31.10%
Exp. Sciences	531	27.68%	41.24%	31.07%
Health Sciences	929	25.40%	41.44%	33.15%
Engineering and Architecture	2,516	11.09%	33.27%	55.64%
Total	**9,206**	**22.20%**	**40.50%**	**37.30%**

The following table shows the gross annual earnings of graduates working part-time, who accounted for 25% of employed graduates.

Table 3.2.3 Gross annual earnings according to subject area. Part-time employed

	n	Under 15,000	15,000 - 24,000	Over 24,000
Humanities	382	87.96%	10.47%	1.57%
Social Sciences	1,748	85.01%	12.99%	2.00%
Experimental Sciences	147	89.12%	10.20%	0.68%
Health Sciences	556	64.39%	28.24%	7.37%
Engineering & Architecture	234	66.24%	24.79%	8.97%
Total	**3,067**	**80.40%**	**16.20%**	**3.39%**

Part-time employment covers both those who choose this type of work and those obliged to do so because they lack an alternative. As expected, gross annual earnings from part-time work are significantly lower than full-time earnings. Nevertheless, the data conceal different types of situation, ranging from people who only work at the weekend to those who work 20 hours throughout the working week. Some part-time situations can therefore be well paid, whereas others are poorly paid.

The two following tables give information on average monthly earnings. As can be seen, the average earnings of those working full-time was, for all subject areas, over 1,500 euros gross a month[21].

Table 3.2.4 Average monthly earnings according to subject area. Full-time employed

	n	Mean	Standard deviation
Humanities	612	1,544.25	618.83
Social Sciences	4,618	1,769.27	745.19
Experimental Sciences	531	1,760.51	707.49
Health Sciences	929	1,806.69	759.47
Engineering & Architecture	2,516	2,154.86	786.08
Total	**9,206**	**1,862.97**	**771.44**

Table 3.2.5 Average monthly earnings according to subject area. Part-time employed

	n	Mean	Standard deviation
Humanities	382	874.02	374.93
Social Sciences	1,748	925.03	397.91
Experimental Sciences	147	850.06	304.73
Health Sciences	556	1,203.84	564.51
Engineering & Architecture	234	1,156.16	582.68
Total	**3,067**	**983.26**	**459.31**

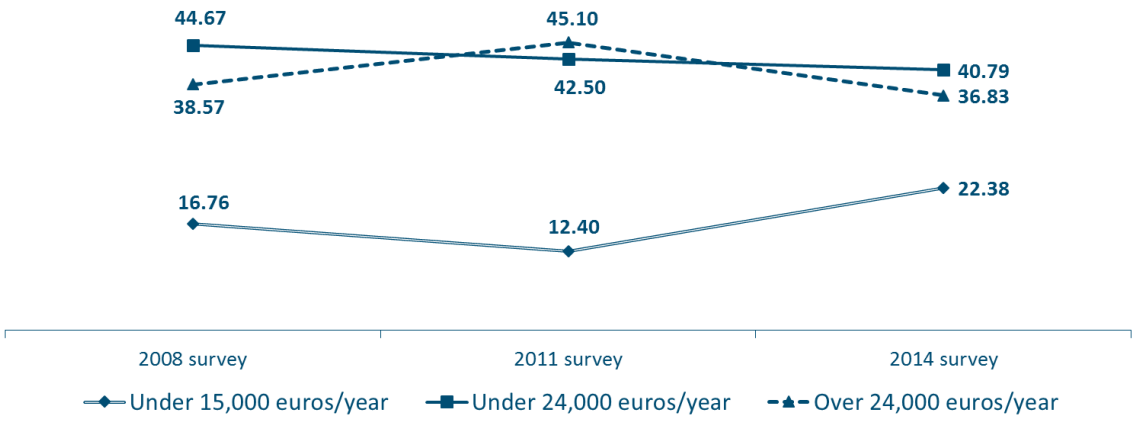
Trends in earnings (public universities only)

Compared to the 2011 study, there was a drop of 8 percentage points for those earning over 24,000 euros a year, which is the lowest percentage in the three most recent studies, and 2 percentage points for those earning up to 24,000 euros a year. For those earning less than 15,000 euros a year, there was an increase of 10 percentage points, which is the highest percentage in the three most recent studies.

[21] Average earnings were calculated on the basis of the mid-point of the intervals obtained in the survey, with 7,500 euros assigned to the lower interval (less than 9,000 euros) and 45,000 to the highest interval (more than 40,000 euros).

It is worth noting that despite the fact that the data given here are not adjusted for changes in the consumer price index , i.e. a certain rise in earnings is to be expected given the increase in the CPI, the graph actually shows a drop in earnings.

Figure 3.2.1 Trends in earnings for the full-time employed (only public universities, 2008-2014)



3.3. Education-job skills match

75% of employed graduates were required to have a university degree for their job.

78% had graduate-level job duties and responsibilities in their job (regardless of whether or not a degree was a job requirement).

83% of graduates have high skill-level occupations (in accordance with the Spanish Classification of Occupations).

Degree relevance

With regard to the job duties and responsibilities of graduates, two aspects are analysed:

- Whether graduates were required to have either their specific degree, any degree or no degree at all to get their current job.
- Whether the job duties and responsibilities of graduates in their current job, regardless of the actual requirements to get the job, are connected with either their specific degree or graduate-level job duties and responsibilities.

Table 3.3.1 Education-job skills match

	Job requirement	Job duties and responsibilities	*n*	%	Full match
Graduate-level job duties and responsibilities	Specific degree	Specific to the degree	8,652	55.58	
		Not specific to the degree	328	2.11	
	Any university degree	Specific to the degree	2,145	13.78	
	No degree required	Specific to the degree	1,022	6.57	
No graduate-level job duties and responsibilities	Any university degree	Not specific to the degree	573	3.68	
	No degree required	Not specific to the degree	2,846	18.28	Minimal match
Total			**15,566**	**100**	
A degree was a requirement for the job. Total			**11,698**	**75,15**	
Graduate-level job duties and responsibilities. Total			**12,147**	**78,04**	

Overall, 78% of the respondents had graduate-level job duties and responsibilities (12,147), regardless of whether being in possession of a university degree was a requirement or not.

The was a full match for 56% of the respondents who were working (their specific degree was a requirement to get their job, and their job duties and responsibilities were specific to their degree). According to subject areas, a full match ranged from 82% in Health Sciences to 32% in the Humanities (see the following table). Conversely, minimal match (no university degree was required and an absence of any graduate-level job duties and responsibilities) ranged from 33% in the Humanities to 6% in Health Sciences. The high level of match in Health Sciences is explained mainly by the regulatory job requirements in related sectors (such as Nursing and Medicine).

Table 3.3.2 Education-job skills match according to subject area

	Full match[22]		Minimal match		Graduate-level job duties and responsibilities	
	n	%	*n*	%	*n*	%
Humanities	438	31.51	455	32.73	853	61.37
Social Sciences	4,169	53.13	1,628	20.75	5,931	75.58
Experimental Sciences	623	57.47	205	18.91	846	78.04
Health Sciences	1,511	82.43	114	6.22	1,698	92.64
Engineering and Architecture	1,911	56.01	444	13.01	2,819	82.62
Total	**8,652**	**55.58**	**2,846**	**18.28**	**12,147**	**78.04**

In Health Sciences more than 9 out of 10 graduates had graduate-level job duties and responsibilities. In the Humanities, the subject area where the transition to the labour market is customarily more complicated, 6 out of 10 graduates had graduate-level job duties and responsibilities.

Trends in the education-job skills match (public universities only)

The results of the 2011 survey confirmed that the crisis had still not drastically affected the education-job skills match of the survey cohort (2008), in that the match only decreased 1 percentage point. In 2014, on the other hand, the effects of the crisis are more clearly apparent: in just 3 years, the match dropped by 8 percentage points, from 84% in 2011 to 78% in 2014.

This supports the hypothesis that the two-stage economic crisis consecutively affected those with a university education differently according to the subject area and level of study (for example, for graduates of doctoral studies the impact has been much more evident in the second stage of the crisis[23]). In 2011, the crisis in the building and construction sector did not lower the match for the 2007 cohort. It did however lead to a drop in employment, particularly in Architecture (which dropped 21 percentage points). In 2014, the debt crisis, the eurozone crisis and subsequent policies of budgetary constraints in the public sector have had an impact not just on the employment rate, but also, and very clearly, on the education-job skills match.

[22] Full match is defined as being where, for graduates to get their current job, a specific degree was required and their degree is necessary in their job duties and responsibilities. Minimal match is defined as being where, for graduates to get their current job, it was not a requirement to have a university degree and their job duties and responsibilities are not graduate level (i.e. a degree is not required). The percentages for the variables do not total 100 because the table only provides for two possible situations (full and minimal match).

[23] AQU (2014). *Employment and doctoral degree holders from Catalan universities*.

Table 3.3.3 Trend in the number of those with graduate-level job duties and responsibilities (2001-2014)

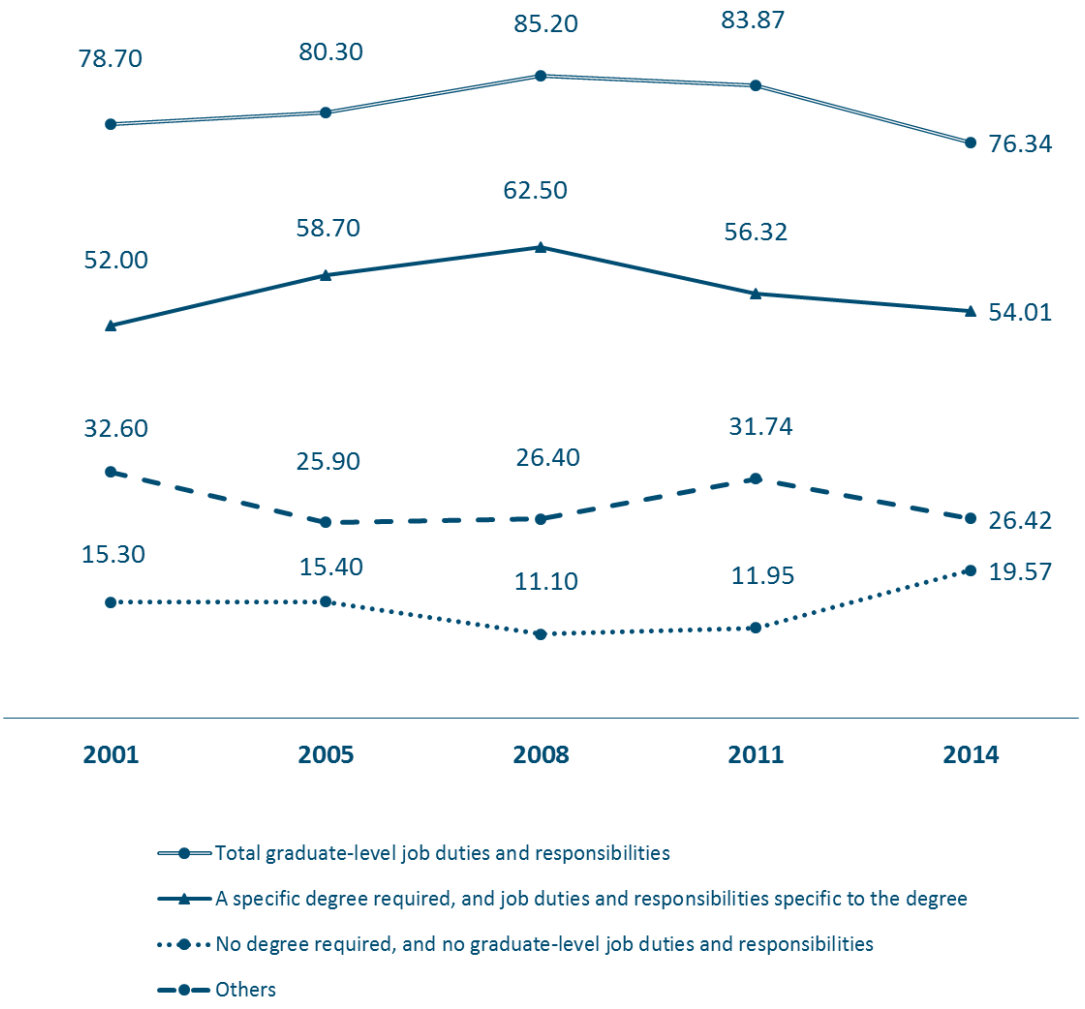
	% 2001	% 2005	% 2008	% 2011	% 2014	2008 - 2005	2014 - 2005	2014 -2008	2014 -2011
Humanities	59.10	64.90	70.2	70.08	60.08	5.30	-4.82	-10.12	-10.00
Social Sciences	76.30	78.60	84.4	82.91	73.72	5.80	-4.88	-10.68	-9.19
Experimental Sciences	74.00	78.90	85.7	85.27	77.42	6.80	-1.48	-8.28	-7.85
Health Sciences	94.40	96.20	95.7	97.42	93.01	-0.50	-3.19	-2.69	-4.41
Engineering & Architecture	90.60	86.90	90.8	87.26	82.41	3.90	-4.49	-8.39	-4.85
Total	**78.70**	**80.30**	**85.2**	**83.87**	**76.34**	**4.90**	**-3.96**	**-8.86**	**-7.53**

Compared to 2011, when Engineering and Architecture was the most affected subject area (a drop of 4 percentage points in the education-job skills match), the biggest drop in the education-job skills match in 2014 was in the Humanities, Social Sciences and Experimental Sciences (10, 9 and 8 percentage points, respectively).

The variations in the distribution of the sector of activity offer a better understanding of this change. For example, in 2011 46% of graduates of Humanities were working in Education, which was a good match; in 2014 this percentage had dropped by 7 percentage points, which were redistributed among the hotel, restaurant and catering sector, and retail trade and repair.

The following figure shows the trends in overall match. In addition to the drop in the proportion of people with graduate-level job duties and responsibilities (the lowest in all five of the surveys), there was an increase in mismatch (the highest in all five of the surveys).

Figure 3.3.1 Changes in the education-job skills match (only public universities, 2001-2014)



The quality of employment: analysis according to the Spanish Classification of Occupations (Clasificación Nacional de Ocupaciones, CNO)

In this fifth study, and for the first time, the open question regarding the description of job quality was coded according to the 2011 Spanish Classification of Occupations-11 (Clasificación Nacional de Ocupaciones, CNO-11). This classification aggregates occupations on the basis of two concepts: the type of work (or employment) and the type of skills[24].

[24] More information: http://www.ine.es/daco/daco42/clasificaciones/Introduccion_CNO11.V02.pdf

This classification offers the advantage of information that can be compared at international level. As can be seen from the following table, the occupations in group 1-3 require higher level skills.

Table 3.3.4 Spanish classification of occupations

	Occupation groups	Level of skills
1	Directors and managers	High level-skill jobs
2	Scientific and intellectual technicians and professionals	
3	Technical activities; professional support activities	
4	Accounting, administrative and other office employees	Middle skill-level jobs
5	Workers in catering, personal, and protection services and trade salespersons	
6	Skilled agricultural, livestock, forestry and fishery workers	
7	Skilled manufacturing industry and construction craftspersons and workers (except installation and machinery operators)	
8	Plant and machine operators, and assemblers	
9	Elementary occupations	Low skill-level jobs

Table 3.3.5. shows a comparison of this indicator with the graduates' subjective assessment of whether or not they have job duties and responsibilities that require a university degree. As can be seen, the results are fairly consistent in general:

- 87% of those classified according to high skill-level jobs stated they had graduate-level job duties and responsibilities. 13%, however, affirmed that, even though they had high skill-level jobs, a university education was not necessary for their job.
- Likewise 79% of those in low skill-level jobs (78 people), stated that a degree was not relevant to their job duties and responsibilities. 21% affirmed however that a university education was necessary in their job. It is worth noting that the inconsistency in the responses may be due to either coding errors, skewed perceptions, or because, in spite of the apparent unskilled nature of a job, a university education was actually necessary.

Table 3.3.5 Reliability of classification

	n	Graduate-level job duties and responsibilities	No graduate-level job duties and responsibilities
Low skill-level occupations	78	20.51%	79.49%
Middle skill-level occupations	2,545	36.58%	63.42%
High skill-level occupations	12,743	86.70%	13.30%
Total	**15,366**	**78.06%**	**21.94%**

Overall, however, the two indicators can be said to be fairly equivalent for describing the quality of occupations. The trend in the CNO indicator (Spanish Classification Of Occupations) is more

positive than that for the subjective assessment by graduates (83% match compared to 78% who stated their job involved graduate-level duties and responsibilities).

According to the Spanish Classification Of Occupations, 83% of graduates had occupations requiring a high level of skills. This proportion ranged from 91% in Engineering and Architecture to 71% in the Humanities.

Table 3.3.6 Classification of occupations in Spain according to subject area

	n	Low skill-level occupations	Middle skill-level occupations	High skill-level occupations
Humanities	1,365	0.73%	28.28%	70.99%
Social Sciences	7,764	0.43%	19.86%	79.71%
Experimental Sciences	1,076	0.56%	15.06%	84.39%
Health Sciences	1,802	0.17%	10.32%	89.51%
Engineering & Architecture	3,361	0.77%	8.06%	91.16%
Total	**15,368**	**0.51%**	**16.57%**	**82.92%**

A breakdown of the three group of occupations described as high skill-level occupations is given in the following table. As can be seen, 76.3% had jobs in technical, professional, scientific and intellectual activities, followed by 20.3% in support activities and 3.3% in directorship and management.

Table 3.3.7 Classification of high skill-level occupations according to subject area

	n	Directors and managers	Scientific and intellectual technicians and professionals	Technical activities; professional support activities
Humanities	969	3.10%	76.99%	19.92%
Social Sciences	6,189	3.36%	81.39%	15.25%
Experimental Sciences	908	2.20%	42.73%	55.07%
Health Sciences	1,613	0.31%	91.07%	8.62%
Engineering & Architecture	3,064	5.32%	68.15%	26.53%
Total	**12,743**	**3.34%**	**76.34%**	**20.32%**

3.4. Current job satisfaction

Graduates rated their overall satisfaction with their current job as 7.6 on a scale from 0 to 10.[25]

[25] Although a scale from 1 to 7 was used for technical reasons, for comprehension purposes the results have been converted into a scale from 0 to 10, using the formula $\left(\frac{x-1}{6}\right) * 10$

There were few changes as regards current job satisfaction compared to the last study.

On a scale from 0 to 10, graduates rated their overall satisfaction with their current job as 7.6. Out of the different aspects of their job, job content was listed as the most satisfactory and earnings as the least satisfactory.

Graduates in Health Sciences were the most satisfied, whereas graduates in the Humanities were the least satisfied.

Table 3.4.1 Mean job satisfaction on a scale from 0 to 10

	Satisfaction with job content	Satisfaction with prospects for advancement	Satisfaction with level of pay	Satisfaction with the usefulness of skills and knowledge	Overall satisfaction with the job that you do
Humanities	7.50	5.27	5.52	5.33	7.23
Social Sciences	7.87	6.10	5.95	5.75	7.68
Experimental Sciences	7.62	5.85	5.83	5.62	7.55
Health Sciences	8.08	6.32	5.93	7.12	7.85
Engineering & Architecture	7.67	6.28	5.93	5.98	7.42
Total	7.80	6.08	5.90	5.93	7.60

As can be seen from table 3.4.2, and as expected, job satisfaction was closely linked to whether one has graduate-level job duties and responsibilities or not.

Table 3.4.2 Mean satisfaction of people with graduate-level job duties and responsibilities compared to people with non-university-level job duties and responsibilities

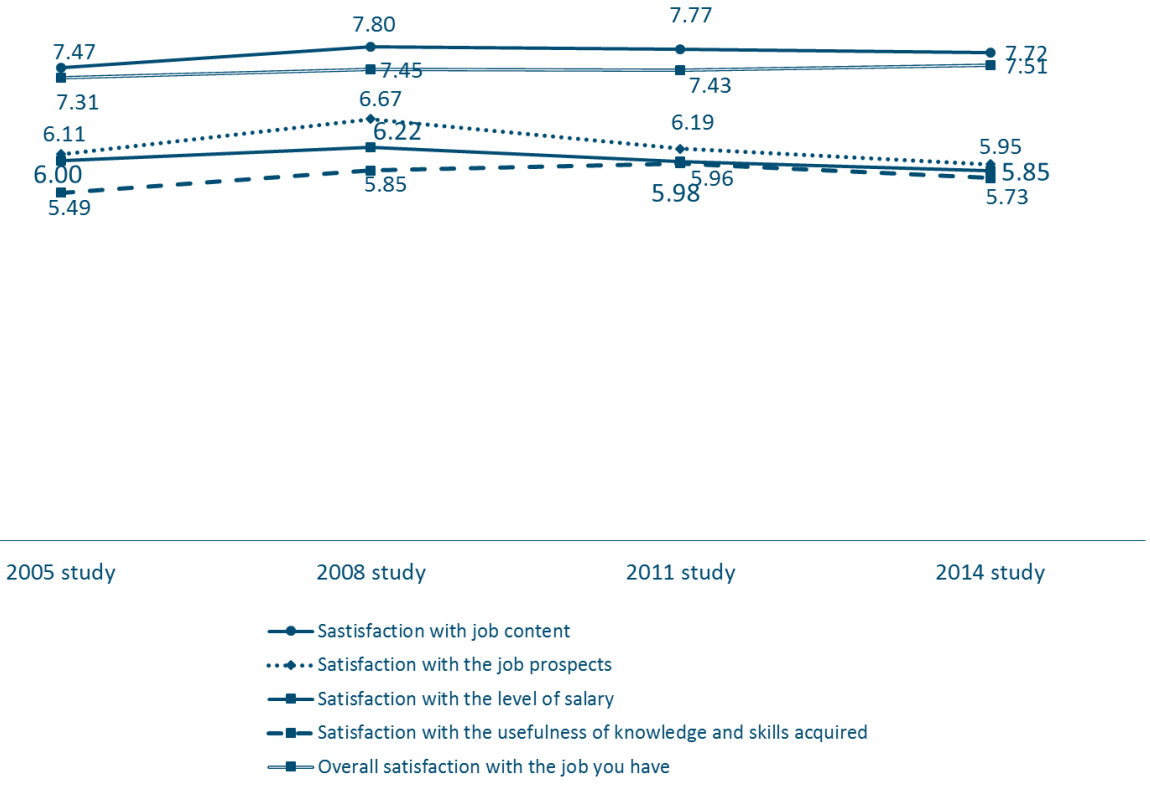
		Job content	Advancement prospects	Level of pay	Usefulness of knowledge and skills	Overall satisfaction
Humanities	**Non-university-level job duties and responsibilities**	6.62	4.44	5.01	2.95	6.41
	Graduate-level job duties and responsibilities	**8.01**	**5.73**	**5.81**	**6.70**	**7.70**
Social Sciences	**Non-university-level job duties and responsibilities**	6.69	4.96	5.32	3.55	6.68
	Graduate-level job duties and responsibilities	**8.21**	**6.44**	**6.14**	**6.40**	**7.97**
Experimental Sciences	**Non-university-level job duties and responsibilities**	5.79	4.19	5.31	2.11	5.86
	Graduate-level job duties and responsibilities	**8.17**	**6.35**	**5.99**	**6.68**	**7.93**
Health Sciences	**Non-university-level job duties and responsibilities**	7.16	5.24	5.82	3.48	7.07
	Graduate-level job duties and responsibilities	**8.16**	**6.39**	**5.95**	**7.38**	**7.90**
Engineering and Architecture	**Non-university-level job duties and responsibilities**	6.67	5.31	5.46	3.85	6.65
	Graduate-level job duties and responsibilities	**7.85**	**6.47**	**6.03**	**6.40**	**7.56**
Total	**Non-university-level job duties and responsibilities**	6.64	4.92	5.32	3.42	6.60
	Graduate-level job duties and responsibilities	**8.11**	**6.39**	**6.06**	**6.58**	**7.84**

Trends in job satisfaction (public universities only)

For the four surveys for which comparable data exist, satisfaction with job content and overall job satisfaction have continued to be the mostly highly rated aspects. The other three aspects were rated lower, with satisfaction with level of pay repeatedly being the lowest.

The trend remained steady for general job satisfaction, satisfaction with job content and satisfaction with earnings (the latter with just a 0.5 decline compared to the previous survey). Satisfaction with advancement prospects dropped slightly, together with satisfaction with the usefulness of knowledge.

Figure 3.4.1 Trends in job satisfaction (only public universities, 2005-2014)



4. THE PROCESS OF FINDING A JOB

4.1. The time taken for graduates to find their first job

54% of the respondents already had either a full or part-time job prior to completing their degree.

76% had found a job within three months of completing their studies, 3 percentage points less than in the previous survey (2011).

10% had taken more than a year to find their first job.

Just over half (54%) of the respondents found their first job prior to graduation. Entering the job market therefore takes place relatively quickly for graduates as three quarters of them had found their first job within three months of completing their studies. Conversely, there was an increase in the time taken by those who did not have a job prior to graduation to find a job.[26]

Table 4.1.1 Time taken to find the first job

	n	%	accumulated %
Had a job prior to completing studies	8,395	54.43	54.43
Less than one month after completing studies	1,639	10.63	65.06
Between 1 and 3 months after completing studies	1,771	11.48	76.54
Between 4 and 6 months after completing studies	1,334	8.65	85.19
Between 7 months and one year after completing studies	743	4.82	90.01
More than one year after completing studies	1,541	9.99	100.00
Total	**15,423**	**100.0**	

According to subject areas, it can be seen that graduates in Experimental Sciences and Humanities take more time to find work than other subject areas. Conversely, Engineering and Architecture and Health Sciences are the subject areas in which they found jobs more quickly.

[26] In 2011 (the 2007 cohort), 43% had found their first job prior to completing their studies, and a total of 79% had found a job within three months of graduating.

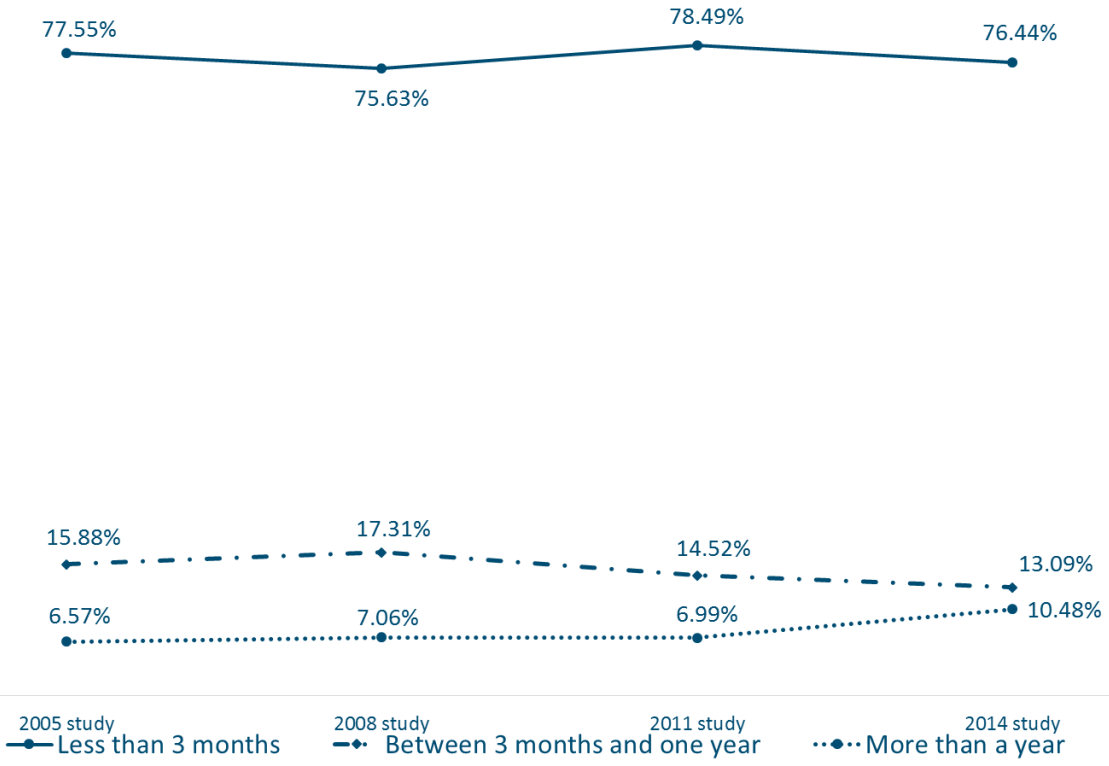
Table 4.1.2 Time taken for graduates to find their first job according to subject area

	n	Within three months	Between three month and one year	More than a year
Humanities	1,374	75.25%	11.50%	13.25%
Social Sciences	7,775	77.04%	13.65%	9.31%
Experimental Sciences	1,071	59.85%	18.02%	22.13%
Health Sciences	1,805	78.73%	14.35%	6.93%
Engineering & Architecture	3,398	80.02%	11.95%	8.03%
Total	**15,423**	**76.54%**	**13.47%**	**9.99%**

Trends in the time taken for graduates to find their first job (public universities only)

As can be seen from the figure, the time taken for graduates to find their first job increased slightly. 7% of the cohort took more than a year to find work in 2011, compared to 10% in 2014.

Figure 4.2.1 Trends in the time taken for graduates to find their first job (only public universities, 2005-2014)



4.2. Ways of finding a job

The main way that graduates found jobs was personal contacts (39%). This way of finding a job, which was on a downward trend in the previous surveys, has again become the most effective way of getting a job.

Use of the Internet, which dropped for the first time to 16%, was in second place.

The effectiveness of institutional employment services (Servei Català d'Ocupació) has declined, which is consistent with the changes in the public sector.

The main way that graduates found jobs continued to be personal contacts, followed by the Internet. Conversely, institutional employment services (Servei Català d'Ocupació) and staff selection agencies accounted for less than 1% in the case of university graduates.

Table 4.2.1 The ways that graduates found their current, or last, job

	2011		2014	
	n	%	*n*	%
Contacts (personal, family)	4,503	29.97	6,013	38.66
Internet	408	18.93	2,449	15.74
Work experience, placement	1,583	10.54	1,920	12.34
Others	1,456	9.69	1,435	9.23
University services (careers service, careers observatory)	1,463	9.74	1,312	8.43
Institutional employment service (Ministry of Education, Health Sciences), professional associations (job listings)	1,583	10.54	877	5.64
Public service examinations and competitions	477	3.17	393	2.53
Employment agencies	337	2.24	390	2.51
Advertisements in the press	408	2.72	290	1.86
Set up own business/office	203	1.35	277	1.78
Institutional employment services (*Servei Català de Col·locació* / INEM)	107	0.71	130	0.84
Staff selection services	60	0.40	69	0.44
Total	**15,024**	**100.00**	**15,555**	**100.00**

Trends in the ways graduates find jobs (public universities only)

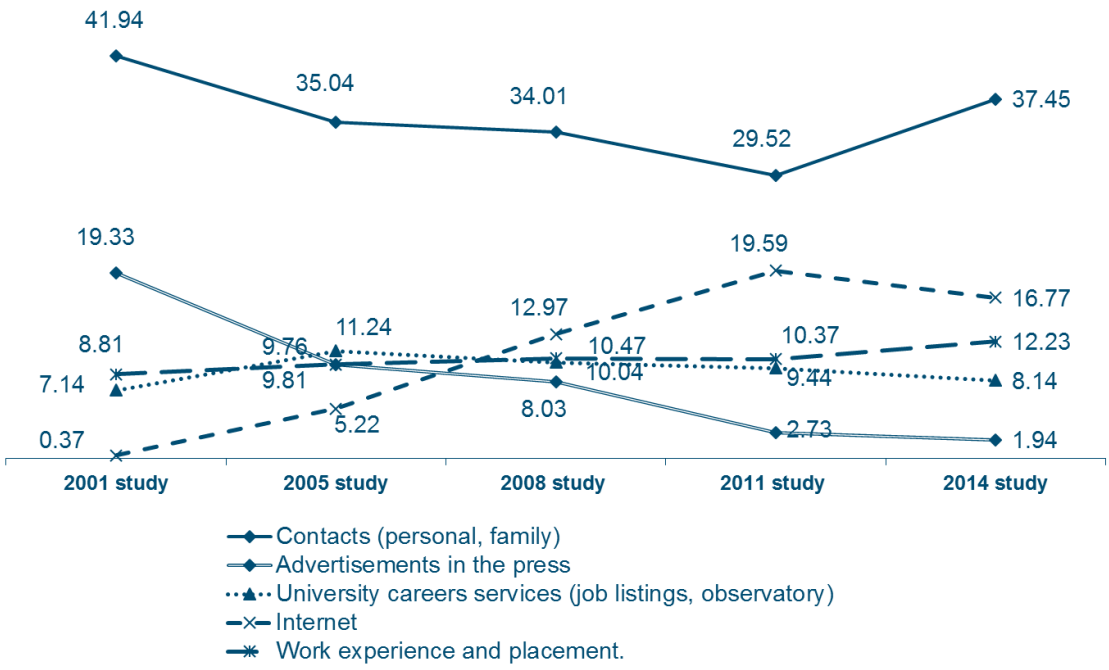
The downward trend in the effectiveness of personal contacts was reversed in 2014, and less use was made of the Internet to gain access to the labour market.

As regards the services made available by universities to graduates, on the one hand there was a slight increase in the effectiveness of work experience and placement, but on the other there

was a slight drop in the proportion of graduates finding their first job through a university careers and employment service.

There was also a downward trend in the effectiveness of institutional employment services, which include, for example, job listings of the Catalan government's Ministry of Education and Ministry of Health, from 11% in 2011 to 6% in 2014. This drop is consistent with changes in recruitment in the public sector.

Figure 4.2.2 Trends in the five main ways that graduates find a job (only public universities, 2001-2014)



4.3. Combining study and work

67% of graduates combined study and work while they were at university. Among those combining study and work, there was an increase in the proportion of those working part-time and a drop in those working full-time.

The percentage of students who studied while also working has increased over time since 2001.

Study and working at the same time in jobs not connected with a student's degree does not lead to a better job. The same can also be said for full-time study and non-related jobs.

Humanities is the subject area where the impact of combined study and work is greatest. Conversely, for Health Sciences and Experimental Sciences it is not so important if one works in jobs that are connected or not with one's studies, or if one only studies.

Study and work combined continues to predominate (67% of graduates). In the 2008 study, the proportion was 59% (7 percentage points lower than in 2014), in 2005 it was very similar (58.8%), and in the first study (2001) the percentage of students combining study and work was considerably lower (40.5%). There would thus appear to be an increasing trend in students combining study and work.

Table 4.3.1 Combining study and work during the last two years of study at university

	n	Full-time students	Part-time students: course-related work	Part-time students: non-course-related work	Full-time students: course-related work	Full-time students: non-course-related work
Humanities	1,390	29.06%	23.81%	28.06%	6.98%	12.09%
Social Sciences	7,845	29.80%	29.50%	17.91%	17.31%	5.48%
Experimental Sciences	1,083	47.55%	20.22%	21.70%	7.20%	3.32%
Health Sciences	1,833	43.48%	24.82%	17.18%	10.97%	3.55%
Engineering and Architecture	3,410	29.47%	37.80%	9.74%	19.35%	3.64%
Total	**15,561**	**32.51%**	**29.61%**	**17.20%**	**15.38%**	**5.29%**

67% of graduates who worked during the last two years of their studies at university (10,502) had degree course-related jobs.

Experimental Sciences had the lowest proportion of students combining study and work (48% were full-time study), followed by Health Sciences (43%), meaning that during their studies they had little contact with the world of work and that the transition to work only began on completing their studies.

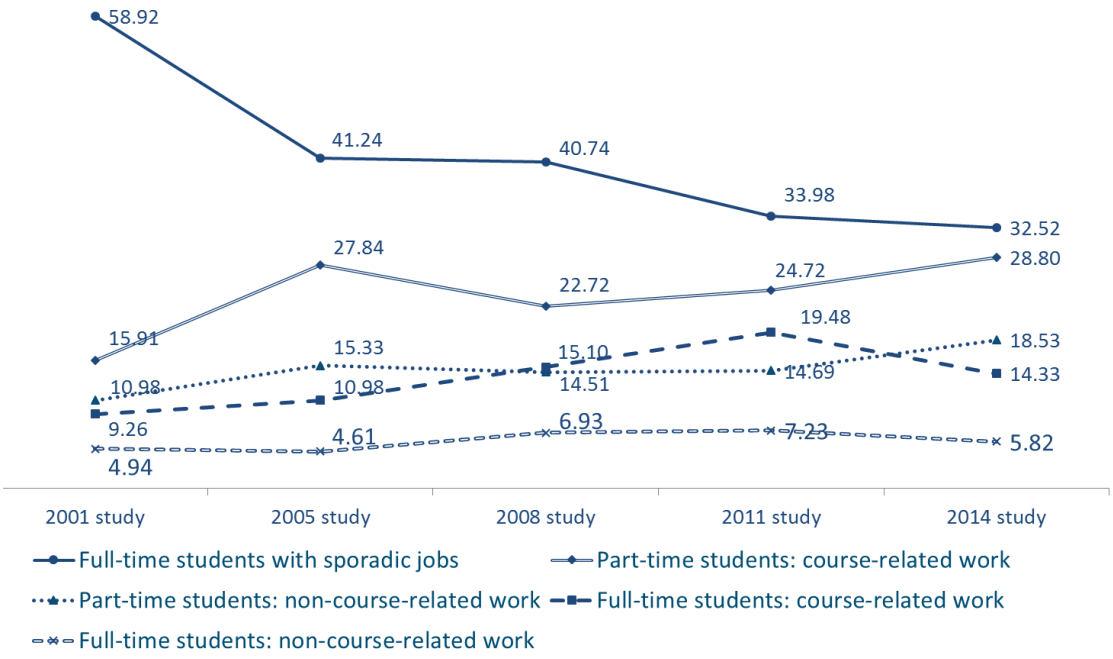
15% of graduates already had a satisfactory full-time job during the last two years of study at university, prior to completing their studies (a percentage ranging from 19% in Engineering and Architecture to 7% in Experimental Sciences and Humanities). This percentage dropped 5 percentage points compared to the 2011 survey (when 20% already had a satisfactory full-time job prior to completing their studies).

5% had a full-time, non-course-related job (a percentage that ranged from 12% in the Humanities to 3% in Experimental Sciences and Health Sciences).

Trends in full and part-time students (public universities only)

Figure 8.1 shows the decline in full-time students, a trend which appears to be stabilising. Compared to the previous study, there was an increase in the proportion of students working part-time (course-related and non-course-related), and a drop in the proportion working full-time.

Figure 4.3.1 Trends in full and part-time students (only public universities, 2001-2014)



Only study, or study and work?

Overall, the least effective strategy for students to acquire a skilled job would appear to be working in non-course related jobs while studying at university (see table 4.4.1). 83% of graduates who worked in course-related jobs while studying at university had jobs that required a university education; on the other hand, for those who worked in non-course-related jobs, the percentage was 65% (18 percentage points difference). Full-time study was not an advantage for those working in course-related jobs, although it was a better option than working in non-course related jobs (80% had graduate-level job duties and responsibilities).

Table 4.4.1 Work record during study at university and job quality after three years

		n	Graduate-level job duties and responsibilities	Non-university-level job duties and responsibilities
Humanities	Full-time students	404	64.36%	35.64%
	Course-related work	428	75.70%	24.30%
	Non-course-related work	558	48.21%	51.79%
	Total	**1,390**	**61.37%**	**38.63%**
Social Sciences	Full-time students	2,338	76.82%	23.18%
	Course-related work	3,672	80.77%	19.23%
	Non-course-related work	1,834	63.58%	36.42%
	Total	**7,844**	**75.57%**	**24.43%**
Experimental Sciences	Full-time students	515	80.97%	19.03%
	Course-related work	297	82.49%	17.51%
	Non-course-related work	271	67.53%	32.47%
	Total	**1,083**	**78.02%**	**21.98%**
Health Sciences	Full-time students	797	93.85%	6.15%
	Course-related work	656	94.66%	5.34%
	Non-course-related work	380	86.58%	13.42%
	Total	**1,833**	**92.64%**	**7.36%**
Engineering and Architecture	Full-time students	1,005	81.69%	18.31%
	Course-related work	1,949	86.10%	13.90%
	Non-course-related work	456	69.74%	30.26%
	Total	**3,410**	**82.61%**	**17.39%**
Total	**Full-time students**	**5,059**	**79.90%**	**20.10%**
	Course-related work	**7,002**	**83.32%**	**16.68%**
	Non-course-related work	**3,499**	**64.73%**	**35.27%**
	Total	**15,560**	**78.03%**	**21.97%**

According to subject area, the impact of the strategy used by graduates during their time studying at university is most evident in the Humanities, where the difference in match between those with course-related jobs and non-course-related jobs was 27 percentage points. This difference in the Health Sciences, on the other hand, was only 8 percentage points.

5. MOBILITY

5.1. Job location

The great majority of the respondents worked in Catalonia (89%).

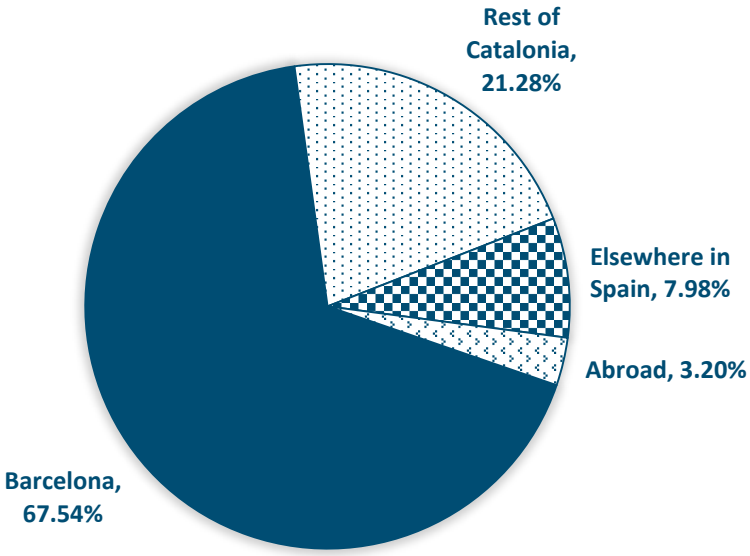
The percentage of those working abroad was 3%. This proportion has increased in the course of time over the five surveys.

Out of the 15,556 people who responded to the question on where they work, 97% worked in Spain (89% in Catalonia), and 3% abroad.

Prior to analysing this indicator, it should be pointed out that the sample was underestimated, and one indicator that can be used to assess the degree to which the proportion of people working abroad is underestimated is by analysing "no answer". The analysis shows that, out of the 11,961 survey interviews **not** carried out, the reason given by 4.2% was that the respondee was working abroad (503 people). If one adds these 503 people, for which we have no information regarding their job situation, to the 498 who we know were working abroad, in total there were 1,001 people out of a population of 28,005 people who we know were abroad (3.57%).

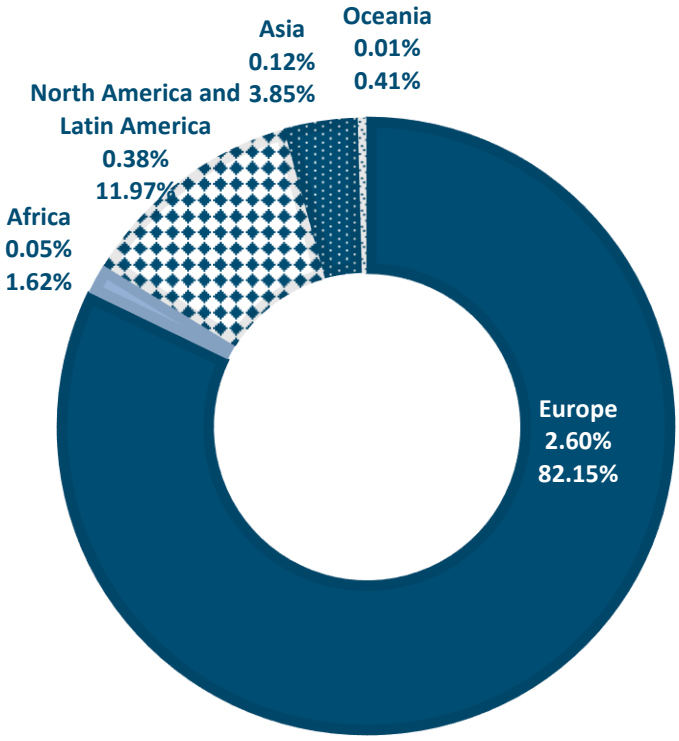
Even though the sample of people working abroad was underestimated, as pointed out above, the majority of those who graduated in 2010 were still in Spain.

Figure 5.1.1 Job location



Of those working abroad (498), the majority work in Europe (82%), followed by 12% who work in the United States, Canada and Latin America.

Figure 5.1.2 Location of those working abroad



In Europe there were three countries with practically half of the graduates: UK (115), France (63) and Germany (50).

According to subject areas, as can be seen from the following table, graduates in Health Sciences had the highest level of dispersion in Spain. The highest level of international mobility was in the Humanities and Engineering and Architecture (5% work abroad), and the lowest in Social Sciences (only 2% work abroad).

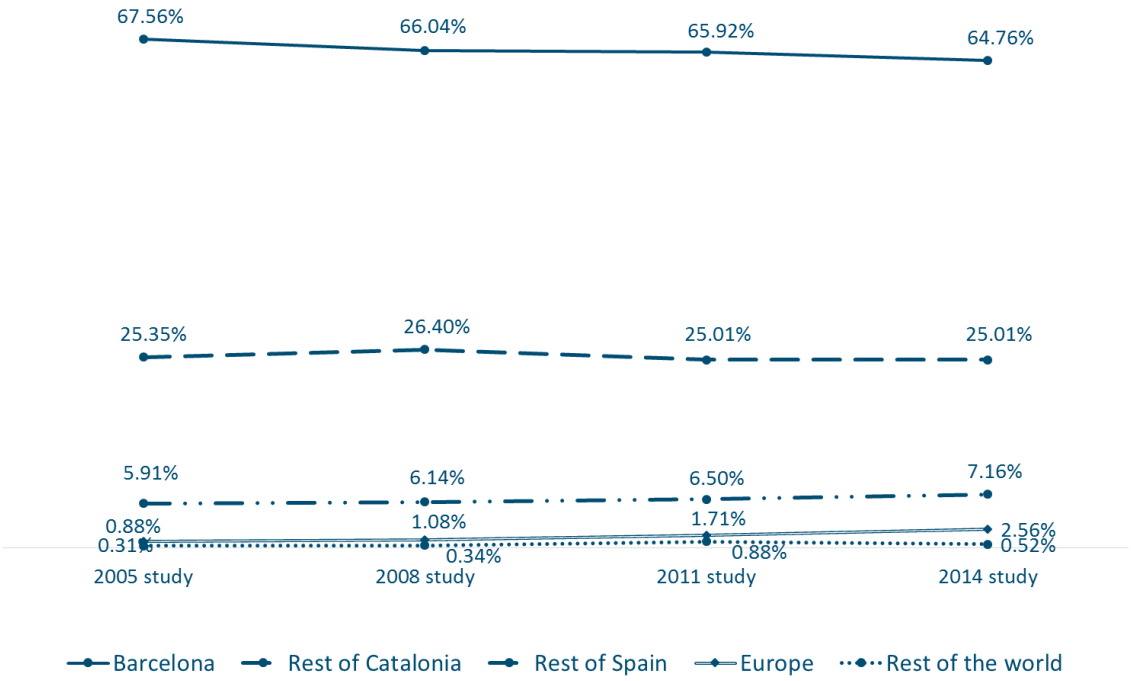
Table 5.1.1 Job location

	n	Barcelona	Tarragona	Girona	Lleida	Rest of Spain	Europe	Rest of the world
Humanities	1,390	68.92%	6.40%	6.47%	3.88%	9.50%	4.03%	0.79%
Social Sciences	7,841	68.98%	9.23%	8.61%	4.82%	6.30%	1.62%	0.43%
Experimental Sciences	1,084	69.65%	8.30%	7.84%	2.77%	7.38%	3.14%	0.92%
Health Sciences	1,832	59.33%	7.91%	9.17%	6.33%	13.92%	3.11%	0.22%
Engineering & Architecture	3,409	67.38%	7.95%	6.51%	5.10%	8.21%	3.93%	0.91%
Total	**15,556**	**67.54%**	**8.48%**	**7.97%**	**4.83%**	**7.98%**	**2.62%**	**0.58%**

Changes in job location (public universities only)

As can be seen from the figure below, there was a very slight downward trend in the proportion of graduates working in Barcelona and the rest of Catalonia, and an upward trend for those working in Europe.

Figure 5.1.3 Changes in job location (only public universities, 2005-2014)



Working in either Spain or abroad

The following data gives a comparison of three indicators according to whether the respondents were working abroad or not. It is important to consider, however, the difference between the volume of respondees who were working in Spain (15,057) and the number working abroad (498) in the interpretation of the results.

From the tables, the following can be said:

- The employment rate was higher among graduates who stayed in Spain (88% compared to 83%). One must also consider however that leaving and going abroad implies a process of transition and adaptation (learning the language, etc.).
- There were no overall differences as regards job quality in terms of the proportion of those with graduate-level duties and responsibilities in their job, although there were differences according to subject area. Except for Social Sciences, job quality was better for those working abroad. In the Social Sciences, the situation varied according to degree. For example, job quality abroad was better for graduates in Economics and Business Administration and Management, Advertising and Public Relations, and Audio-visual

Communication, but worse for graduates in Law, Journalism, Political Science, Sociology, Tourism and Sport Sciences.

- The earning of full-time employed graduates were clearly higher for those working abroad, although one should also bear in mind the probability of a higher standard of living abroad.

Table 5.1.2 Comparison of the job situation and education job-skills match between those working abroad and those working in Spain

			Job situation			Match	
		n	Employed	Unemployed	Inactive	Non-university-level job duties	Graduate-level job duties
Working in Spain	Humanities	1,323	81.3%	13.9%	4.8%	39.3%	60.7%
	Social Sciences	7,680	87.8%	9.4%	2.9%	24.1%	75.9%
	Experimental Sciences	1,040	83.8%	12.6%	3.7%	22.1%	77.9%
	Health Sciences	1,771	89.7%	7.3%	3.0%	7.5%	92.5%
	Engineering and Architecture	3,244	89.5%	7.7%	2.8%	17.7%	82.3%
	Total	**15,058**	**87.5%**	**9.4%**	**3.1%**	**22.0%**	**78.0%**
Working abroad	Humanities	67	82.1%	11.9%	6.0%	25.4%	74.6%
	Social Sciences	161	79.5%	15.5%	5.0%	37.3%	62.7%
	Experimental Sciences	44	81.8%	11.4%	6.8%	18.2%	81.8%
	Health Sciences	61	83.6%	6.6%	9.8%	3.3%	96.7%
	Engineering and Architecture	165	87.9%	9.1%	3.0%	10.9%	89.1%
	Total	**498**	**83.3%**	**11.4%**	**5.2%**	**21.1%**	**78.9%**

Table 5.1.3 Comparison of the earnings of graduates working abroad and those working in Spain. Full-time employed

		n	Under 15,000	15,000 - 24,000	Over 24,000
Working in Spain	Humanities	582	37.8%	42.6%	19.6%
	Social Sciences	4,520	25.1%	44.0%	30.8%
	Experimental Sciences	509	27.9%	42.2%	29.9%
	Health Sciences	885	26.3%	42.5%	31.2%
	Engineering and Architecture	2,389	11.5%	34.3%	54.2%
	Total	**8,885**	**22.6%**	**41.1%**	**36.4%**
Working abroad	Humanities	30	20.0%	43.3%	36.7%
	Social Sciences	97	20.6%	36.1%	43.3%
	Experimental Sciences	22	22.7%	18.2%	59.1%
	Health Sciences	44	6.8%	20.5%	72.7%
	Engineering and Architecture	126	4.0%	13.5%	82.5%
	Total	**319**	**12.2%**	**24.5%**	**63.3%**

5.2. Study mobility and job mobility

39% of graduates had some experience of mobility.

Over the last six years, job mobility hardly increased at all, whereas there was an increase in study mobility (student mobility during study at university).

39% of graduates had some experience of mobility. This is the same percentage as in the previous survey. It can therefore be contended that the majority of respondents had no experience of mobility (61%), either during their studies or in relation to their work.

According to subject areas, the mobility percentage was highest in the Humanities and Experimental Sciences (50% and 47%, respectively) and lowest in Social Sciences (34%).

Table 5.2.1 Mobility

	n	No	Yes, during my studies at university	Yes, job mobility	Both study and job mobility
Humanities	1,485	50.37%	27.95%	8.69%	13.00%
Social Sciences	8,023	66.12%	17.09%	10.22%	6.57%
Experimental Sciences	1,135	53.39%	21.59%	14.01%	11.01%
Health Sciences	1,863	60.44%	19.38%	11.54%	8.64%
Engineering & Architecture	3,517	56.67%	16.72%	16.86%	9.75%
Total	**16,023**	**61.02%**	**18.60%**	**11.96%**	**8.42%**

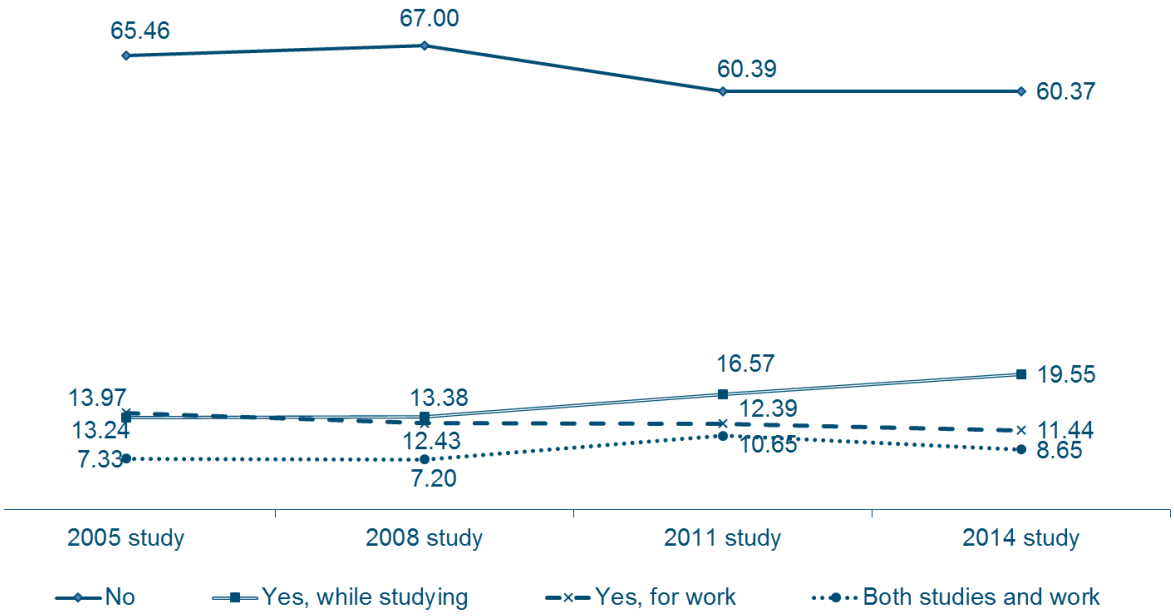
Trends in mobility (public universities only)

Mobility has remained fairly stable, with only an increase of 5 percentage points in the proportion of graduates with some experience of mobility (from 35% in 2005 to 40% in 2014) in almost ten years.

According to the types of mobility, mobility during study at university (which includes both mobility just for study purposes, and for study and work), went up from 21% to 28%. Efforts by both the European Union and in Catalan universities to encourage academic mobility would therefore appear to have been relatively successful. Although it is unknown whether periods spent abroad correspond to at least 15 ECTS credit points or three months abroad, the indications are that this is either close to or complies with the European Commission's set objective of 20% for academic mobility in the 2020 strategy (Ministerial Conference Bucharest, 2012, *Mobility strategy 2020 for the European Higher Education Area*).

On the other hand, there was a slight drop in the proportion of graduates who temporarily changed their residence due to work reasons (from 14% in 2008 to 11% in 2014).

Figure 5.2.1 Trends in academic and job mobility (only public universities, 2005-2014)



6. GRADUATE SATISFACTION WITH THEIR DEGREE STUDIES AND THE SKILLS ACQUIRED

6.1. Skills acquired and their usefulness in the workplace[27]

The five skills (competences) that graduates considered to be of most importance in their current job are: problem solving, decision-making, team-work, managerial ability and oral expression.

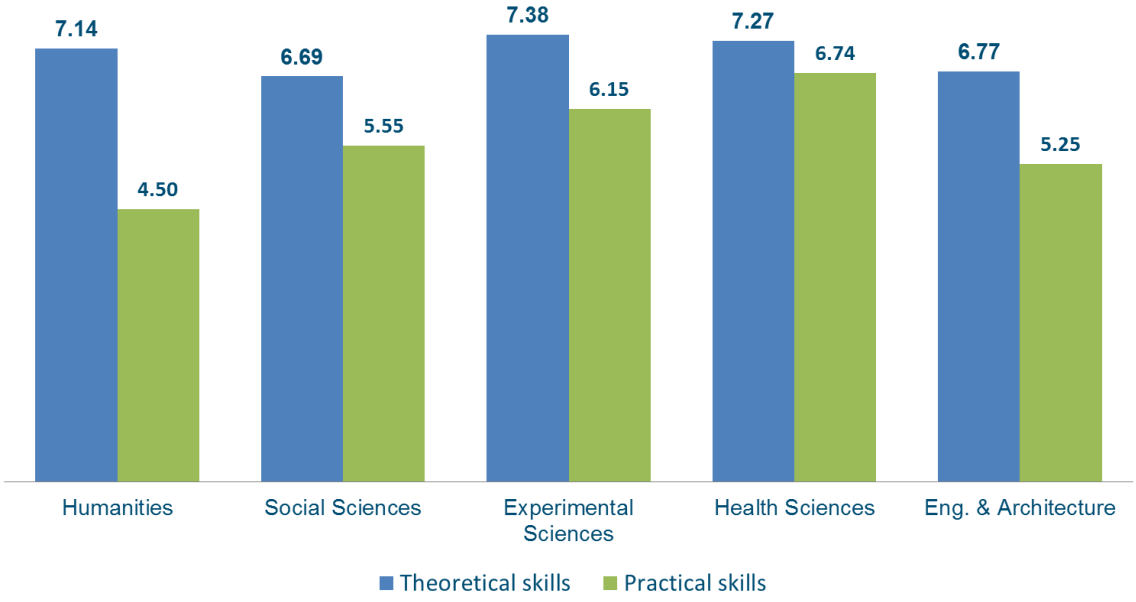
Graduates rated their level of theoretical skills acquired from their study programme as 6.86 and practical skills as 5.56.

The five skills that graduates were most lacking in their work are: languages, decision-making, computer skills, leadership and problem solving.

Graduates rated the theoretical skills acquired from their study programme as 6.86 and their practical skills as 5.56. According to subject areas (see figure 10.1), graduates in Experimental Sciences were the most satisfied with their level of theoretical skills, and graduates in Health Sciences with their practical skills. Social Sciences was the most critical subject area as regards theoretical skills and Humanities with practical skills (it is worth noting that the practical dimension in the Humanities is much more limited as a result of the generalist approach that is typical in Humanities subjects).

[27] A scale from 1 to 7 was originally used to rate the skills acquired and their usefulness; for comprehension purposes the results have been converted into a scale from 0 to 10 .

Figure 6.1.1 Graduates' rating of the theoretical and practical skills acquired from their degree studies according to subject area (0-10)

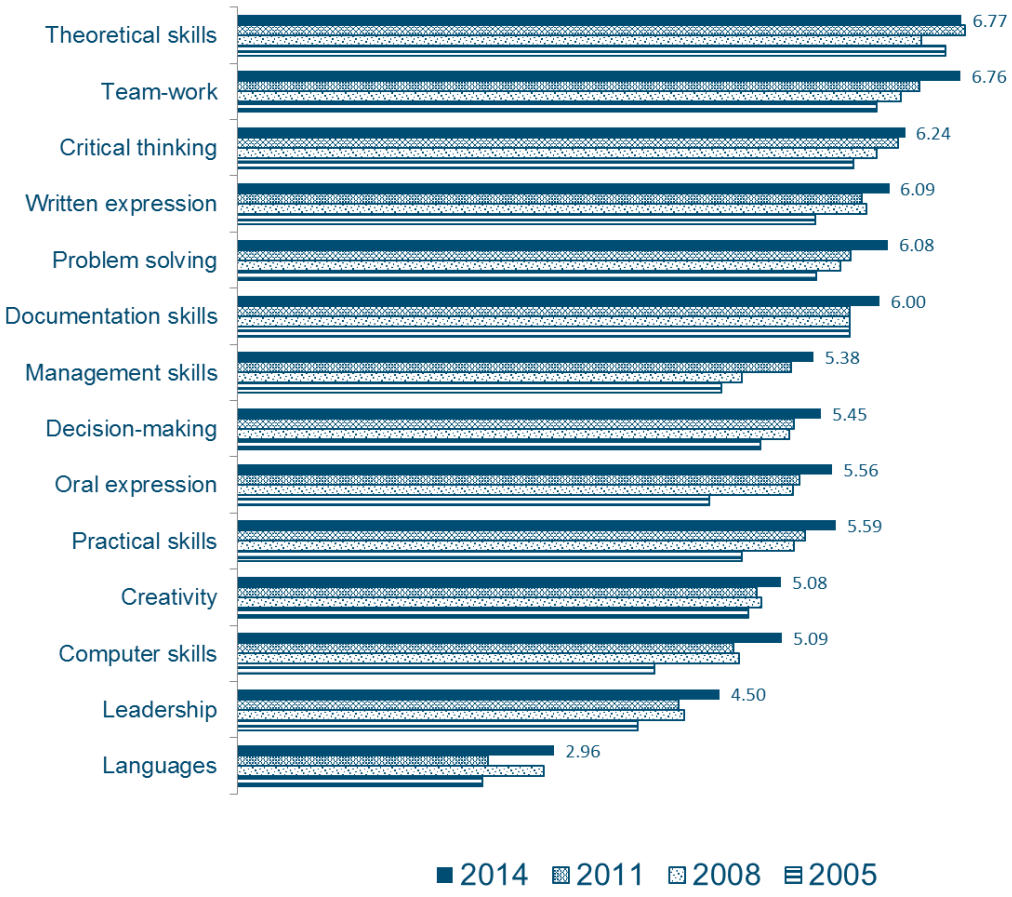


The trends (2001-2014) in graduates' perceptions of the level and usefulness of skills acquired (only public universities, and with graduate-level duties and responsibilities in their job).

In overall terms, the level of learning and skills acquired for almost all core competences was rated at or above a pass grade, aside from leadership and languages, which were rated as 'fail'. It is worth pointing out that, compared to the previous survey, there was an improvement in the rating for computer skills, which was now graded as 'pass'.

Nevertheless, there was an overall increase in all four surveys in the level of skills acquired in all core competences, so efforts by the universities to adapt learning methods and to develop skills other than cognitive ones are apparently beginning to be relatively successful.

Figure 6.1.2 Assessment of the level of skills acquired (core competences, from 0-10)



The skills rated by graduates as being the most necessary in their current job, according to the group with graduate-level job duties and responsibilities, were problem solving, decision-making, team-work, management skills and oral expression. Those needed the least were, in decreasing order, creativity, leadership, languages, theoretical skills and practical skills.

One salient point is that the perception of the need for all of these skills has increased over the last four surveys, except for practical skills and theoretical skills. The increase in the usefulness of learning languages is of particular note and would appear to indicate that organisations work increasingly at international level, which means there is a greater need for languages as a result of globalisation. The increase in the usefulness of all the other core competences would seem to reflect a transformation in the methods of work organisation in organisations, with a concomitant increase in the need for skills connected with communication, the ability to function as a team member and to be able to work independently (management skills, make decisions, problem solving, etc.).

Figure 6.1.3 Assessment of the usefulness of core competences in work (0-10)

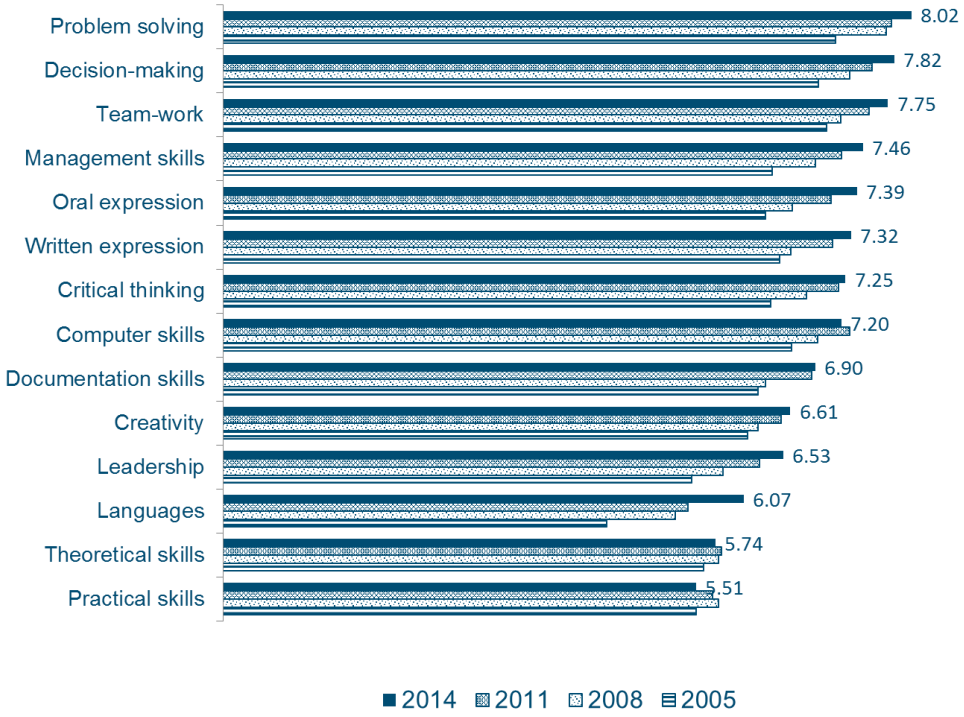
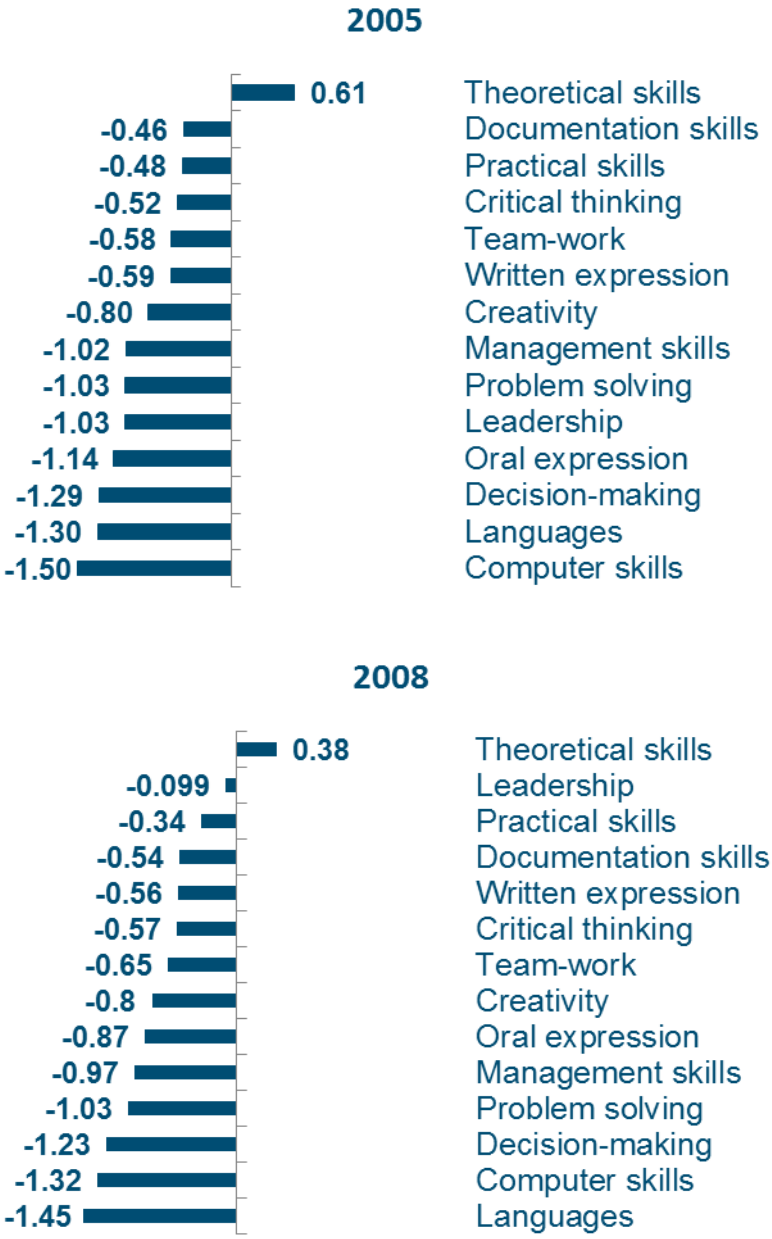
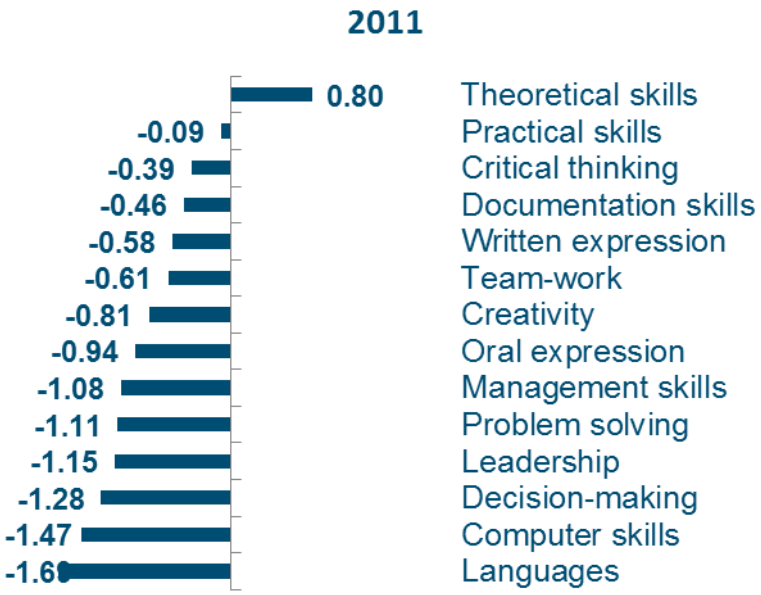
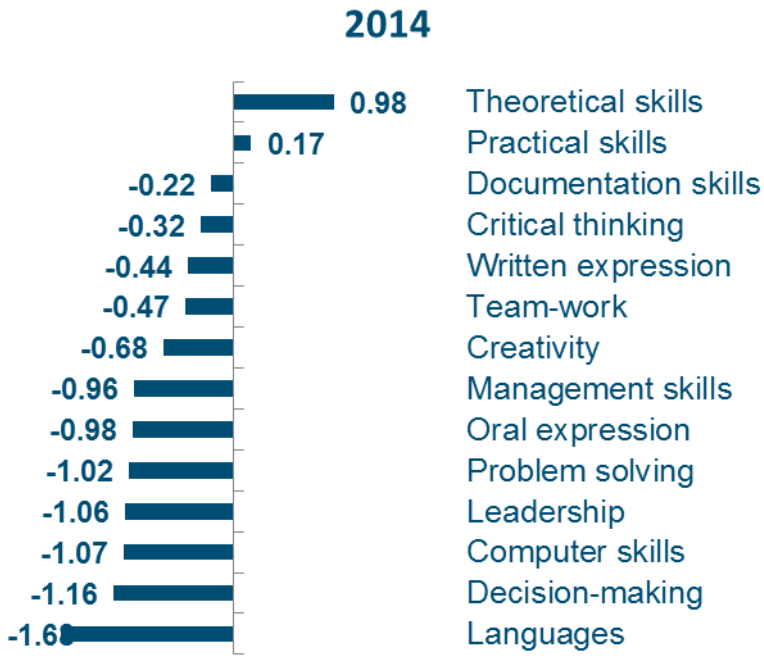


Figure 6.1.4 gives the data on skill deficits, i.e. the difference between the mean for each skill necessary in a graduate's current job and the mean for the level of skill actually acquired at university. The skills with the highest deficit are, in order, languages, decision-making, computer skills, leadership and problem solving. The three leading skill deficits appear in the four surveys, although the deficit in computer skills has dropped. There is no noteworthy trend as far as the four previous surveys are concerned, although generally speaking there was a reduction in the deficit in core competences in the 2014 survey.

Figure 6.1.4 Skill deficits




2011
0.80
-0.09
-0.39
-0.46
-0.58
-0.61
-0.81
-0.94
-1.08
-1.11
-1.15
-1.28
-1.47
-1.6
Theoretical skills
Practical skills
Critical thinking
Documentation skills
Written expression
Team-work
Creativity
Oral expression
Management skills
Problem solving
Leadership
Decision-making
Computer skills
Languages


2014
0.98
0.17
-0.22
-0.32
-0.44
-0.47
-0.68
-0.96
-0.98
-1.02
-1.06
-1.07
-1.16
-1.6
Theoretical skills
Practical skills
Documentation skills
Critical thinking
Written expression
Team-work
Creativity
Management skills
Oral expression
Problem solving
Leadership
Computer skills
Decision-making
Languages

6.2. Satisfaction with their studies

72% of graduates would take the same degree if they had to study again.

Despite being the least favourable subject area in terms of the quality of graduate employment outcomes, in the Humanities the percentage of graduates who would take the same degree if they had to study again was 73%.

72% of graduates would take the same degree programme if they had to study again. This percentage is practically identical to that of 2011, when 73% indicated would take the same degree programme again. This percentage ranges from 69% in Experimental Sciences and Engineering and Architecture, to 84% in Health Sciences. It should be noted that the intention to take the same degree programme again was higher in the Humanities than in Social Sciences, Experimental Sciences and Engineering and Architecture, in spite of the data for employment outcomes, which objectively speaking are more negative in the Humanities.

Compared to the 2011 study, the percentage of people who would take the same degree programme again went down by one percentage point.

Table 6.2.1 Intention to take the same degree programme again

	Would you take the same degree programme again?		
	n	Yes	No
Humanities	1,458	72.63%	27.37%
Social Sciences	7,959	70.13%	29.87%
Experimental Sciences	1,116	69.44%	30.56%
Health Sciences	1,841	83.81%	16.19%
Engineering and Architecture	3,501	68.69%	31.31%
Total	**15,875**	**71.58%**	**28.42%**

Nevertheless, there is a high level of variability for this indicator in each subject area. For example, as can be seen from Annex A5, 78% of graduates in Advanced Manufacturing Technologies would take the same degree again (Industrial Engineering), 70% in Computer Engineering and 65% in Architecture, compared to only 52% of graduates in Civil Engineering. It is worth noting certain features of Civil Engineering as a subject, including the high level admission grade, demanding standards and employment prospects that have recently worsened due to the decline in public works.

7. CONTINUING EDUCATION

Around 75% of all graduates continued to upgrade their skills after completing their studies.

The majority of graduates who continue studying either took a Master's degree (40%) or a specialized course (15%); 11% took another undergraduate degree, 4% a doctoral degree and 5% some other type of continuing education or training.

According to subject areas:

- Graduates in Engineering and Architecture are less likely to continuing studying.
- Experimental Sciences was the subject area in which more graduates continued to study. It was also the subject area with the highest proportion of graduates who went on to take a doctoral degree (23% compared to 1% in Social Sciences).

Table 7.1 Continuing education

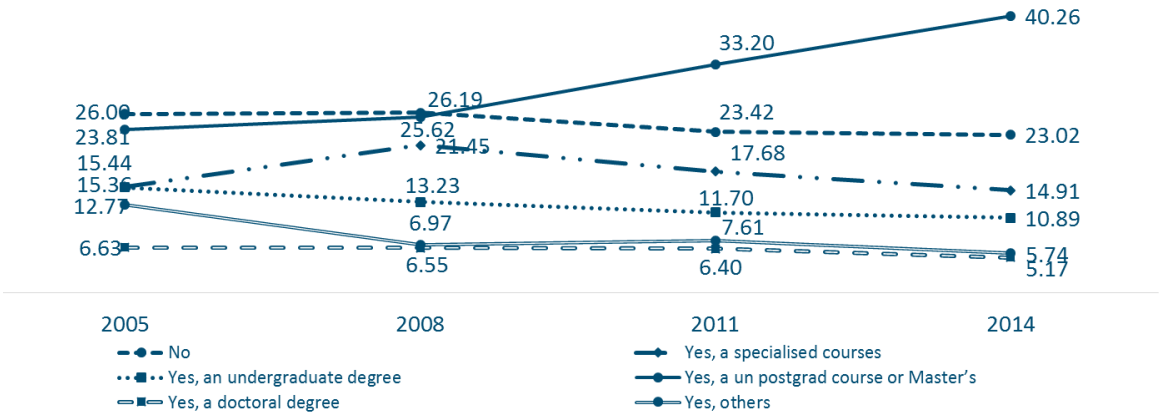
	n	No	Yes, a specialised courses	Yes, an undergraduate degree	Yes, a postgrad. course or Master's	Yes, a doctoral degree	Yes, others
Humanities	1,484	18.60%	13.34%	6.74%	49.33%	6.81%	5.19%
Social Sciences	8,024	25.24%	16.85%	13.33%	37.00%	1.17%	6.41%
Experimental Sciences	1,136	13.38%	8.01%	4.84%	48.15%	22.62%	2.99%
Health Sciences	1,863	16.37%	20.29%	6.33%	49.33%	4.78%	2.90%
Engineering & Architecture	3,518	30.90%	13.19%	11.60%	34.82%	3.67%	5.83%
Total	**16,025**	**23.99%**	**15.49%**	**10.93%**	**39.89%**	**4.18%**	**5.52%**

Trends in continuing education (public universities only)

There has been an increasing trend since 2008 in the proportion of graduates taking a Master's degree after completing their undergraduate studies. This is undoubtedly due to the appearance of government-regulated fees for Master's programmes, a consequence of the adaptation of higher education to the European Higher Education Area, which began to be introduced in the 2006-07 academic year, and became more widespread from the 2008-09 academic year

onwards. On the other hand, there has been a decline, although not so pronounced, in the number of graduates going on to take another undergraduate degree.

Figure 7.1 Changes in continuing education (only public universities, 2005-2014)



8. GRADUATE EMPLOYMENT OUTCOMES AND THE DEGREE SUBJECT STUDIED

Successful entry into the labour market for graduates is closely linked to the type of degree they have studied. This section looks at graduate employment outcomes according to the degree subject studied at university.[28]

For the analysis, the following indicators on the quality of graduate employment outcomes was chosen:[29]

1. **Employment rate**: the percentage of graduates employed out of the total number of graduates.
2. **Unemployment rate**: the percentage of graduates looking for work out of the total number of graduates.
3. **Job stability rate**: the percentage of graduates with a permanent contract out of the total number of employed graduates.
4. **Temporary employment rate**: the percentage of graduates with temporary or short-term contracts out of the total number of employed graduates.
5. **Education-job skills match**: the percentage of graduates with graduate-level job duties and responsibilities out of the total number of employed graduates.
6. **Job quality:** the percentage of graduates working in jobs classified under groups 1 to 3 of the Spanish Classification of Occupations (CNO).
7. **Managerial duties and responsibilities**: the percentage of graduates in managerial positions (management) out of the total number of employed graduates.

[28] "Subjects" are an intermediate-level aggregation between study programmes (degree) and the five main subject areas or disciplines. They were established in 2001 by a panel of experts from all the public universities in Catalonia, according to a twofold criterion: the specific influence of the number of students (Law, Business Studies, etc.) and affinity with other programmes in the same discipline (for example, Hebrew Studies comes under the same subject as Arab Studies). Annex A2 gives a list of the study programmes in each subject.

[29] To analyse these indicators, all of which are categorical variables, proportions as used in descriptive statistics and the chi-square test were used to compare the differences between the different groups of data with interpretation of the standardised and adjusted residuals.

8. **Annual salary of over 24,000 euros**: the percentage of graduates working full-time, with graduate-level job duties and responsibilities, and earning over 24,000 euros gross a year.

The following table illustrates the trends (performance) of the eight indicators for each subject compared to all the others and gives an at-a-glance idea of the influence of degree subjects in the quality of graduate employment outcomes.

Annex A7 contains all of the tables with the descriptive results (*n*, percentage and adjusted residuals).

Table 8.1 Comparison of graduate employment outcomes according to subject[30]

	Employment	Unemployment	Permanent contract	Temporary contract	Univ.-level job duties and responsibiliti	Managerial duties and	Over €24,000	Skilled job
Geography and History	▼	▼	▼	▼	▼	▼	▼	▼
Philosophy and Humanities	▼	▼	▼	►	▼	►	▼	▼
Philology and Comparative Studies	►	►	▼	▼	▼	▼	▼	▼
Fine Arts	▼	▼	▼	►	▼	►	▼	►
Economics, Business Management and Administration, and Business Studies	▲	▲	▲	▲	►	▲	▲	▼
Law, Labour Studies and Politics	►	▼	▲	▲	▼	▲	▲	▼
Communication and Documentation	►	►	►	▲	▼	▲	▼	►
Psychology and Pedagogy	▼	►	▼	▼	▼	►	▼	►
Teaching	►	►	▼	▼	▲	▼	▼	▲
Tourism	►	▲	►	►	▼	►	▼	▼
Sport	▲	►	►	▼	▼	►	▼	▲
Chemistry	►	►	►	►	▲	▼	►	▲
Biology and Natural Sciences	▼	►	▼	▼	▼	▼	▼	►
Physics and Mathematics	►	▼	►	►	▲	▼	►	▲
Health Care and Assistance	►	►	▼	▼	▲	▼	▼	▲
Medicine and Dentistry	▲	►	▼	▼	▲	▼	▲	▲
Pharmacy and Food Science and Technology	▲	►	▲	▲	▲	►	►	▲
Veterinary Science	►	►	►	▲	▲	►	►	▲
Architecture	►	►	▼	▲	►	▲	►	▲
Civil Engineering	▼	▼	►	►	►	▲	▲	▲
Nautical Science	►	►	▲	►	►	▲	▲	▼

[30] The symbol ▼ represents a drop; the symbol ▲ indicates an improvement in the quality of employment outcomes compared to other subjects; and the symbol ► indicates that the observed trend is similar to what was expected, barring any effect due to the type of studies.

Advanced Manufacturing Techniques	▲	►	▲	▲	▲	▲	▲	▲
Information and Communication	▲	▲	▲	▲	▲	►	▲	▲
Agricultural Science	▼	►	►	►	►	►	▼	►
Aviation	►	►	►	►	▲	►	▲	▲

Subjects in the Humanities performed worse than all other subjects, with none of the indicators showing a favourable performance. In the case of Geography and History all of the indicators were below average (which was more negative than expected). It should be pointed out that this situation was not exclusive to the Humanities and that it also occurred in the case of degree courses in other subjects, such as Psychology, Pedagogy, Biology and Natural Sciences.

The performance of subjects in **Social Sciences** is more heterogeneous. Degrees in Economics and Business Administration and Management performed more favourably, with graduate employment outcomes for these indicators close to those for Industrial Engineering and Computer Engineering. Conversely, the situation for Psychology and Pedagogy was similar to that of subjects in the Humanities.

There were no outstanding differences in the performance of Chemistry, Physics and Mathematics in **Experimental Sciences** in relation to other subject areas (neither positive nor negative), although the panorama in Biology and Natural Science was more unfavourable as regards both access to the labour market and job stability.

All subjects in **Health Sciences** had a higher than expected proportion of graduates in matched jobs. Conversely, employment in managerial positions for all Health Science subjects was lower than expected, as were the indicators of job stability for Health Care and Assistance and Medicine, as well as jobs in managerial positions. Any drop in the performance of the indicators for Veterinary Science and Pharmacy and Food Science & Technology was no greater than that expected.

In **Engineering and Architecture** the earnings indicator stands out as positive (with the exception of Agricultural Science, the performance of which was more negative than expected), together with jobs in managerial positions. The subjects that performed the best were Information and Communication and Advanced Manufacturing Technologies. No subject in Engineering and Architecture had more than two indicators for which the performance was more negative than expected.

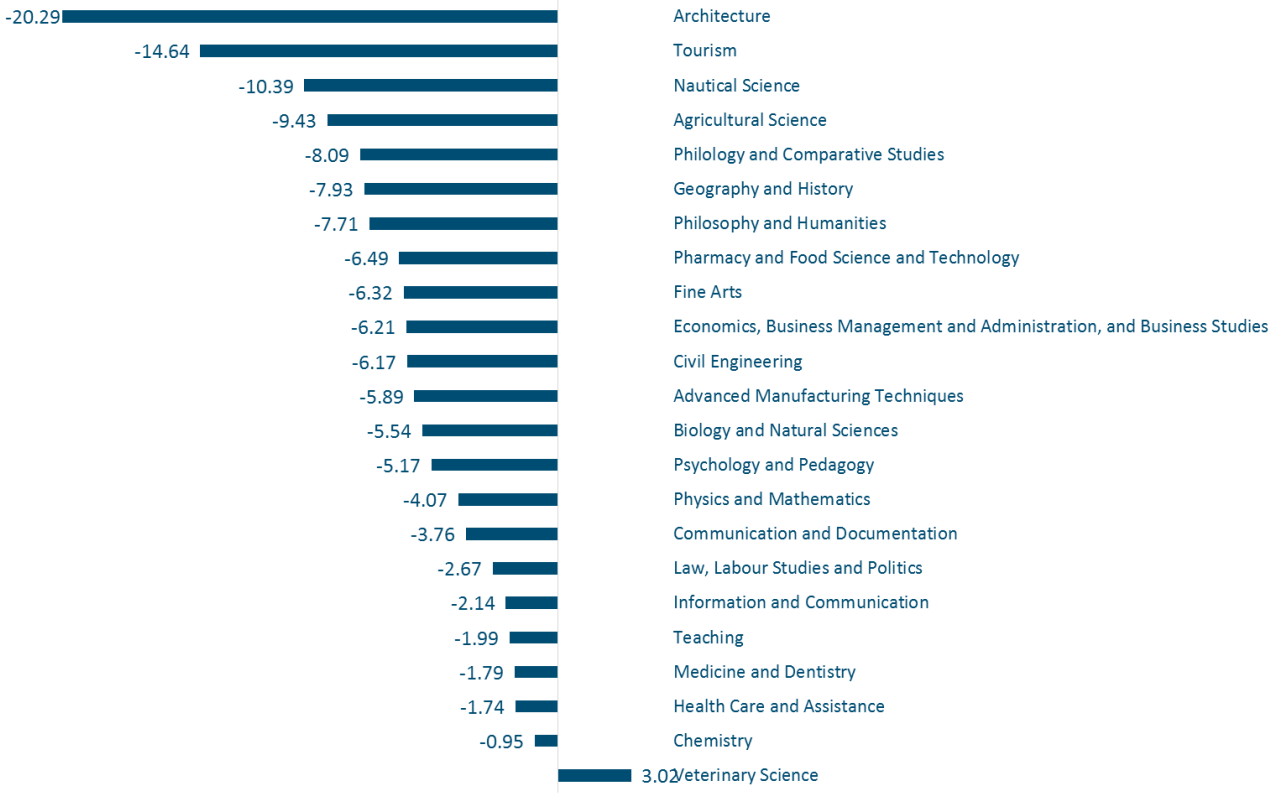
The impact of the crisis according to degree subjects (public universities only)

The variation in the employment rate between 2008 and 2011 is shown in the graphs in figure 8.1. The fact that there was a bigger drop in the employment rate does not imply a higher unemployment rate than another subject where there was no decrease. Table A7.1 in annex A7 on degree subjects gives the employment rate according to subject in 2008 and 2011.

The graph in figure 8.2 shows the employment differential for 2011 and 2014 (public universities). As can be seen from the figure, in this period there was a positive differential in only one subject (Veterinary Science), whereas for all the others there was a drop in the employment rate, although this was less than 2 percentage points in Teaching, Medicine and Dentistry, and Chemistry.

Architecture was the subject most affected by the employment rate, although as can be seen from table A4.1, the job conditions of employed graduates continued to be more favourable than in other subjects.

Figure. 8.1 Variation in the employment rate from 2008 to 2011 (public universities)



In 2014, however, different subjects were affected as can be seen from the following figure. There was no drop in the employment rate in Architecture, whereas there was in Civil Engineering where degree courses are more closely linked to public works.[31] Employment in Visual Arts dropped considerably while unemployment only rose 2 percentage points, the difference being absorbed by the inactivity rate which increased by 10 percentage points.[32] A drop in the employment rate does therefore not automatically imply an increase in the unemployment rate.

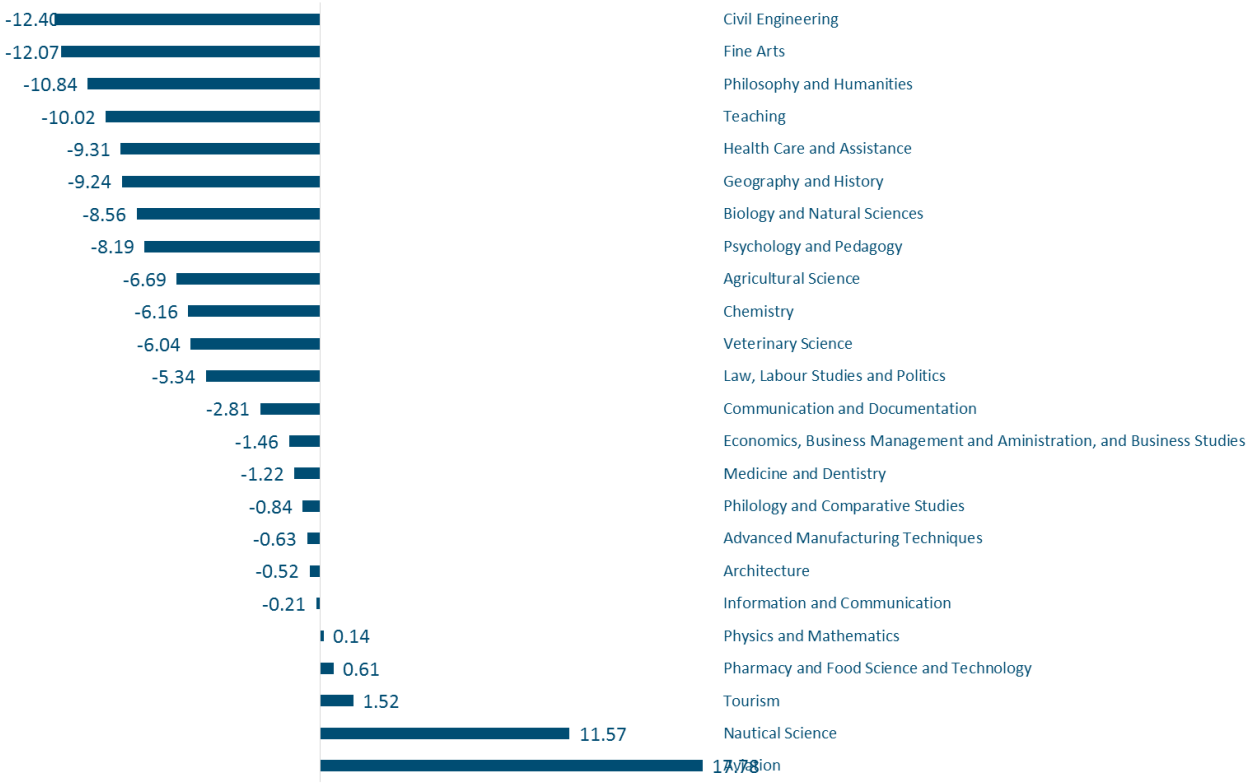
[31] In Civil Engineering there were substantial variations according to degree course. For example, the employment rate in Transportation Engineering (*Enginyeria de Camins, Canals i Ports*) dropped by 4 percentage points, with a concomitant rise in the unemployment rate. On the other hand, in Municipal Engineering (*Enginyeria Tècnica d'Obres Públiques*) there was a drop in the employment rate of 15 percentage points, which led to an increase of 8 percentage points in the unemployment rate and 7 in the inactivity rate. In Geotechnical Engineering (*Enginyeria Geològica*) there was a drop of 26 percentage points in the employment rate, which led to a 10 percentage-point increase in unemployment and 16 more in inactivity.

[32] In order to correctly analyse these results, much more attention would need to be spent than is really possible in this document. For example, in the case of Fine Arts, it can be seen that the employment rate in Education and Research decreased from 56% for the 2005 cohort to 41% in 2008, and from 34% in 2011 to 27% now. A more in-depth look at how changes in the sector have influenced both employment and the skills match would be necessary.

Degree courses in the Humanities, Teaching, Biology and Natural Science, as well as Psychology and Pedagogy, all saw a drop in the employment rate of graduates over the last three years. All are closely connected to Education, which underwent an important reduction in the number of jobs and openings in the public sector.

The group of degree courses for which the employment rate did not go down includes Economics and Business Administration and Management, Informatics and Communication, Architecture, Physics and Mathematics). The group where there was an increase in the employment rate includes Nautical Science, Aviation, Pharmacy and Food Science & Technology.

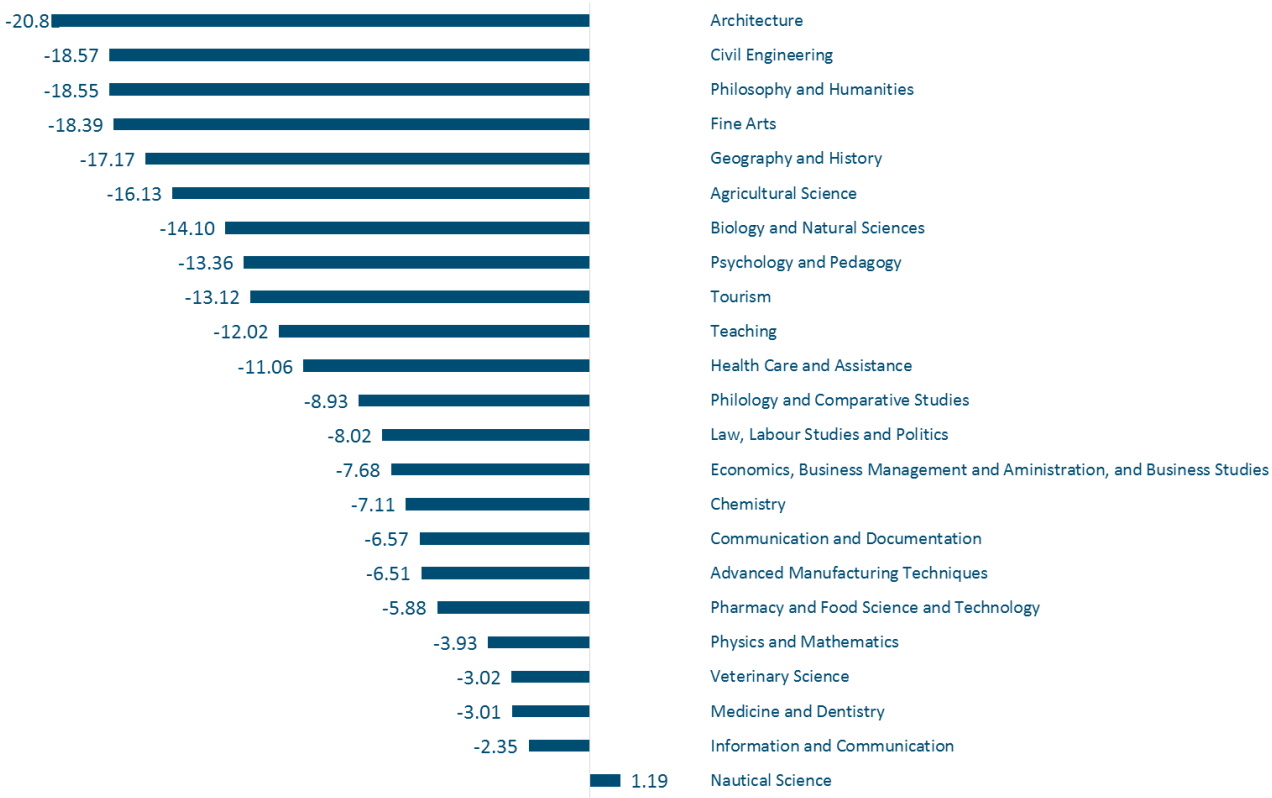
Figure 8.2 Variation in the employment rate from 2011 to 2014 (public universities)



The following graph shows the decrease in the last 6 years in the employment rate for all subjects, except for Nautical Science. As mentioned above, this decrease occurred in two stages, the crisis in the building and construction sector and the crisis in the public sector. The latter had more of an effect on graduates in degree courses that feed into the education sector than in the health sector, although here there was an increase in the already high level of job instability and a decrease in working hours.

In Engineering and Architecture there was a wide range of situations according to each particular sector that degree courses feed in to, ranging from a poor performance for degree courses associated with building and construction and public works, to a more positive performance in Engineering and Computer Science.

Figure 8.3 Variation in the employment rate 2008-2014 (public universities)



9. EMPLOYMENT OUTCOMES AND GENDER

9.1. Description of the sample according to gender

60% of graduates in the 2009-2010 academic year were female. Male and female students take different types of degree course. As can be seen from table 15.1, 60% of females graduates in Social Sciences, compared to just 40% of all male graduates. On the other hand, 40% of all male students graduated in Engineering and Architecture, compared to 8% of female graduates.

The gender skew, in particular the low number of females in science and technology-based degree courses, reflects negatively on study programmes of this type and impacts on their potential ("smaller admission pool", and "loss of talent"). However, the same thing occurs, but the other way round, for degrees in the fields of education (teaching) and health care.

Table 9.1.1 Distribution of the graduate population according to subject area

		n	%
Female	Humanities	1,604	9.50
	Social Sciences	10,180	60.29
	Experimental Sciences	1,098	6.50
	Health Sciences	2,582	15.29
	Engineering & Architecture	1,420	8.41
	Total	**16**,884	**100.00**
Male	Humanities	777	6.99
	Social Sciences	4,566	41.06
	Experimental Sciences	665	5.98
	Health Sciences	719	6.47
	Engineering & Architecture	4,394	39.51
	Total	**11**,121	**100.00**

Differences again occur within the same subject area, however, (see table 15.2). For example, in Social Sciences, the subject with the highest proportion of female graduates was Teaching, whereas for male graduates it was Economics and Business Administration and Management.

Table 9.1.2 Distribution of the graduate population according to subjects and gender

	Female		Male	
	n	%	*n*	%
Geography and History	516	3.06	361	3.25
Philosophy and Humanities	143	0.85	114	1.03
Philology and Comparative Studies	645	3.82	176	1.58
Visual Arts	300	1.78	126	1.13
Economics; Business Administration and Management; Business Sciences	2,254	13.35	1,807	16.25
Law and Politics	2,018	11.95	1,051	9.45
Communication and Documentation	1,032	6.11	521	4.68
Psychology and Pedagogy	1,281	7.59	209	1.88
Teaching	3,070	18.18	555	4.99
Tourism	390	2.31	104	0.94
Sport	135	0.80	319	2.87
Chemistry	227	1.34	137	1.23
Biology and Natural Science	779	4.61	362	3.26
Physics and Mathematics	92	0.54	166	1.49
Health Care and Assistance	1,637	9.70	412	3.70
Medicine and Dentistry	534	3.16	201	1.81
Pharmacy and Food Science & Technology	326	1.93	79	0.71
Veterinary Science	85	0.50	27	0.24
Architecture	360	2.13	507	4.56
Civil Engineering	124	0.73	280	2.52
Nautical Science	17	0.10	50	0.45
Advanced Manufacturing Techniques	471	2.79	1,837	16.52
Information and Communication	292	1.73	1,428	12.84
Agricultural Science	134	0.79	228	2.05
Aviation	22	0.13	64	0.58
Total	**16,884**	**100.00**	**11,121**	**100.00**

The fact that the sample was not homogeneous according to gender and degree course means that any overall comparison between male and female graduates would lead to erroneous

conclusions regarding differences that are due not to gender differences, but to the grouping of degrees according to subject.

9.2. Job situation according to gender

Data from official statistics repeatedly show that the higher the level of education, the smaller the differences between gender as regards the labour participation (activity) rate and employment rate (OECD, 2013). As can be seen, for the population in Spain aged between 25-44, the higher the differential between the employment rate and inactivity rate between male and female graduates, the lower the level of education[33]. Prior to the fifth study of the employment outcomes of graduates from Catalan universities, there were no differences in the labour participation (activity) rate and employment rate between male and female graduates.

Table 9.2.1 Changes in job situation according to gender (only public universities, 2008-2014)

		2008		2011		2014		Diff. 2011-2008	Diff. 2014-2008	Diff. 2014-2011
		n	%	*n*	%	*n*	%			
Female	Employment	6,998	93.29%	6,510	89.02%	5,854	82.74%	-4.27	-10.55	-6.28
	Unemployment	232	3.09%	537	7.34%	918	12.98%	4.25	9.89	5.63
	Inactivity	271	3.61%	266	3.64%	303	4.28%	0.03	0.67	0.65
	Total	**7,501**		**7,313**		**7,075**				
Male	Employment	4,464	93.84%	4,316	87.97%	4,031	85.19%	-5.87	-8.65	-2.79
	Unemployment	148	3.11%	420	8.56%	486	10.27%	5.45	7.16	1.71
	Inactivity	145	3.05%	170	3.47%	215	4.54%	0.42	1.49	1.08
	Total	**4,757**		**4,906**		**4,732**				

For the first time, the employment rate for male graduates was slightly higher than for female graduates[34] and the unemployment rate for female graduates was accordingly 2.71 percentage points higher than the unemployment rate for males, although this difference is not statistically significant. The inactivity rate was the same for both male and female graduates. An explanation for the different result between male and female graduates is the fact that the distribution of males and females according to subjects is different, as mentioned above; in addition to the impact of

[33] Table: Job situation of the population aged between 25-54 (EPA, 1st quarter 2014):

	Male 25-44			Female 25-44			Differential		
	Employ-ment	Unemploy-ment	Inact-ivity	Employ-ment	Unemploy-ment	Inact-ivity	Employ-ment	Unemploy-ment	Inact-ivity
Primary education	46%	38%	17%	35%	30%	35%	11	8	-19
Secondary education	67%	26%	7%	56%	27%	17%	11	-1	-9
Higher education	81%	15%	4%	74%	17%	10%	7	-2	-5

[34] Test statistic P = 0.837 with a value $Z \sim N(0.1) = -3.244$

the crisis from 2010-14 on degree courses linked to the public sector. In 2011 the economic crisis affected specific degree programmes in Engineering and Architecture (subjects that are more markedly male), whereas in 2014, the impact was on subjects that are more markedly female, such as Teaching and Health Care and Assistance.

9.3. Summary of the gender differences according to degree subject

A test of proportions was carried out according to gender and degree subject for seven indicators. Annex A7 gives the tables with the corresponding proportions for these indicators, and also the test of proportions. A summary of significant tests according to subject is given in table 9.3.1.

Table 9.3.1 Comparison of graduate employment outcomes according to gender

	Employment rate	Unemployment rate	Permanent contract rate	Temporary job rate	Graduate-level duties and responsibilities	Managerial duties and responsibilities	Part-time	Over €24,000	Skilled job rate
Geography and History									
Philosophy and Humanities									
Philology and Comparative Studies									
Visual Arts									
Economics; Business Administration and Management; Business Sciences			F			M		M	M
Law and Politics	M			M		M		M	
Communication and Documentation			F		F				
Psychology and Pedagogy									
Teaching				M	F				
Tourism									
Sport									
Chemistry									
Biology and Natural Science									
Physics and Mathematics									M
Health Care and Assistance				M					M
Medicine and Dentistry									
Pharmacy and Food Science & Technology									
Veterinary Science									
Architecture									

Civil Engineering									
Nautical Science					**M**				**M**
Advanced Manufacturing Technologies									
Information and Communication									**M**
Agricultural Science									
Aviation									

After three years of being employed, there are few differences between male and female graduates. When there is a difference, however, it tends to be in favour of male graduates, with two exceptions: the indicators connected with the permanent contract rate (due partially to the lower proportion of female graduates who choose to be self-employed), and the indicator on graduates' perception of whether they have graduate-level duties and responsibilities in their job.

Out of all the subjects, the following two stand out for the number of tests where there were significant differences: Economics, Business Administration and Management, and Business Sciences; and Law, Labour Relations and Politics.

10. DISTANCE LEARNING

The employment outcomes of 1,293 graduates were analysed out of a total number of 3,274 who graduated in distance learning courses in the 2009-2010 academic year, a figure that represents a response rate of 39%, with an overall sampling error of 2%.

Students who take distance learning courses are different to those who take programmes at classroom-based universities: around two-thirds had completed prior degrees (70%) on admission to distance learning programmes and almost 90% were working full-time while they studied. A student profile of this type makes it more difficult to estimate the added value of a second degree in graduate employment outcomes.

The rates of employment (92%), full-time work (92%) and job stability (76% have a permanent contract) and the high number of graduates with earnings over 24,000 euros gross a year (57%) shows that this is a mature group of graduates who, more than being in a situation of transition to the labour market, are in the process of either consolidation or advancement in their professional career.

76% of the population surveyed at the Open University of Catalonia (UOC) had graduate-level job duties and responsibilities (the percentage ranged between 85% of those with a university degree prior to admission and 63% of those who took their first degree at the Open University). Few, however, had job duties and responsibilities matched with those of a degree they had obtained at the Open University (14%).

Compared to the 2008 survey, there was a decrease in the employment rate of 6 percentage points. There was also a deterioration in the education-job skills match: the proportion of those with graduate-level job duties and responsibilities dropped by 9 percentage points, and job stability dropped by 5 percentage points.

8 out of 10 respondents said they would take the same degree if they had to study again.

10.1. Population and sample

The reference population was 3,274 graduates in the 2009-10 academic year, with an achieved sample of 1,293, which accounted for 39.49% of the population, with a sampling error of 2%.

On the basis of overall population data from the Open University, there was an increase of 64.2% in the graduate population in the 2009/2010 academic year compared to the graduate population in 2006/2007 (reference population for the 2011 study).

Table 10.1.1 Population and sample according to subject area

Subject area	Population	Achieved sample	Response rate	Sampling error
Humanities	227	140	61.67%	5.24%
Social Sciences	2891	1,046	36.18%	2.47%
Engineering and Architecture	156	107	68.59%	5.44%
Total 2014	**3,274**	**1,293**	**39.49%**	**2.16%**
Total 2011	**1,996**	**954**	**47.80%**	**2.34%**
Total 2008	**1,146**	**295**	**25.74%**	**5.02%**

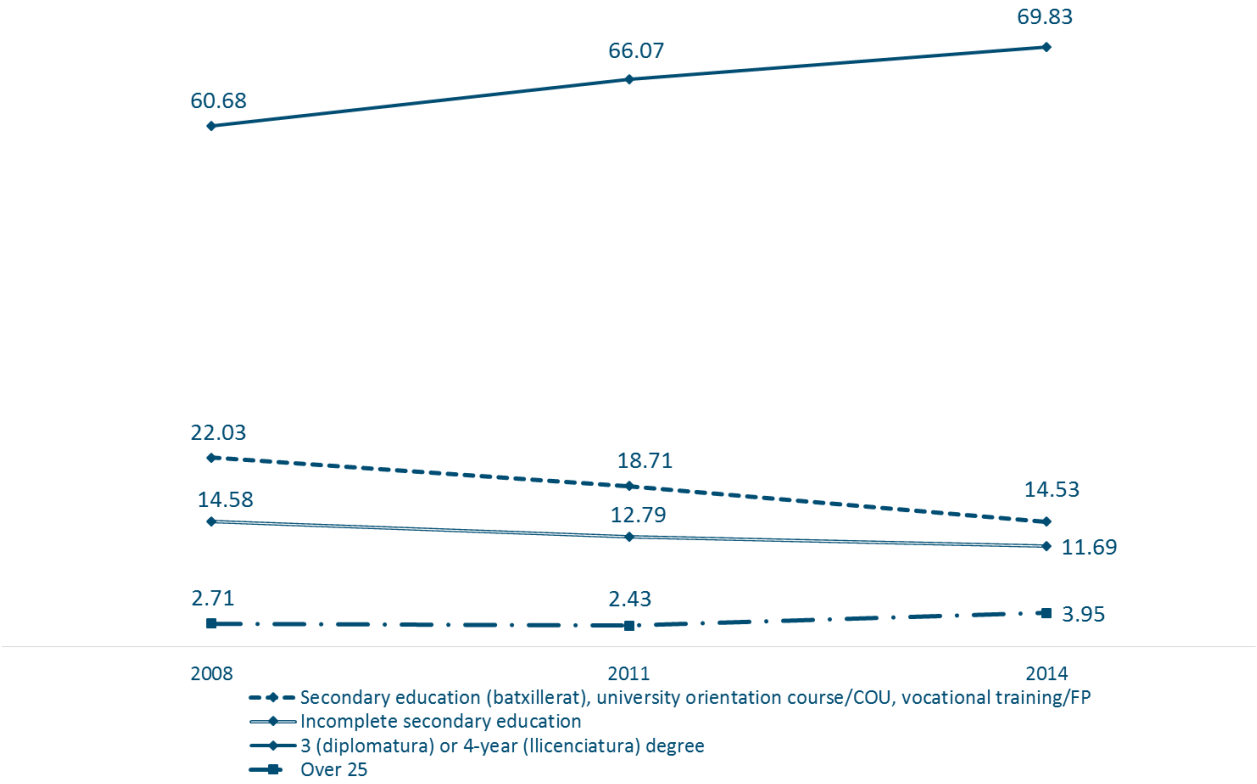
Out of the three subject areas at the Open University of Catalonia/UOC, the majority of graduates were in Social Sciences (88%), followed by Humanities (7%) and Engineering (5%).

Open University students compared to classroom-based university students

The way that most students are admitted to courses at the Open University/UOC is by being in possession of a previous degree qualification: 70% of UOC graduates either had a 3 (*diplomatura*) or 4-year (*llicenciatura*) degree prior to studying at the UOC. Only 14% had conventional qualifications (upper secondary education *batxillerat*, or baccalaureate; vocational training), and 12% did not complete their further education.

There have all together been Open University three surveys and during this time there has been an increase in the proportion of students that already have a previous degree qualification and a decrease in the proportion of those being admitted directly from secondary education (*batxillerat*). It is worth noting, however, that due to the increase in the survey population, there has been an increase in the number of students in all paths of admission.

Figure 10.1.1 Trends in the level of academic qualifications on admission (Open University of Catalonia/UOC, 2008-2014)



As regards study and work combined, only 2% of the graduate population at the Open University were full-time students. This proportion declined over the period of the three surveys, although it was already very low to start with (5%).

Table 10.1.2 Study and work combined

	2008		2011		2014	
	n	%	*n*	%	*n*	%
Either full-time study or just sporadic jobs	14	4.76	34	3.59	32	2.53
Part-time study and work connected with studies at the Open University/UOC	13	4.42	26	2.75	45	3.55
Part-time study and work not connected with studies at the Open University/UOC	6	2.04	36	3.81	48	3.79
Full-time study and work connected with studies at the Open University/UOC	203	69.05	551	58.25	724	57.19
Full-time study and work not connected with studies at the Open University/UOC	58	19.73	299	31.61	417	32.94
Total	**294**	**100**	**946**	**100**	**1,266**	**100**

61% were already working in the last two years of their degree course in a job connected with their studies (either part or full-time). It is therefore likely that for this group (61%) the purpose of studying at the Open University was to either specialise or acquire advanced knowledge in a professional field where they were already working.

The profile of graduates is therefore clearly distinct from that of undergraduate students, given that 98% were already working during their studies at university and 70% had a previous university degree. This makes it impossible to compare the employment outcomes of graduates of classroom-based universities and the Open University/UOC, not because of the mode of delivery, but because of the markedly different profile of graduates. For Open University/UOC graduates, a degree does not imply entry to the labour market in the majority of cases.

It is for this reason that this part of the survey, unlike the rest of the survey on the graduate population as a whole, incorporates a section on the graduates' perceptions of the added value of their degree studies.

10.2. Employment

The job situation of graduates three years after completing their degree studies

92% of the respondents were in work, ranging from 96% in Engineering and Architecture to 86% in Humanities. Differences as regards the unemployment rate were less marked, with just one percentage point between the 5% unemployment rate in Social Sciences and 4% in Engineering and Architecture.

Humanities stood out because of a 10% inactivity rate, which was due to the fact that, out of 14 inactive people, 9 were retired.

Table 10.2.1 Rates of employment, unemployment and inactivity according to subject area

	n	Employment	Unemployment	Inactivity
Humanities	140	85.71%	4.29%	10.00%
Social Sciences	1,046	92.16%	4.59%	3.25%
Engineering & Architecture	107	96.26%	3.74%	0.00%
Total	**1,293**	**91.80%**	**4.49%**	**3.71%**

Compared to the 2008 study (see table 10.2.2), the employment rate for 2014 was 6 percentage points lower, distributed between an increase of 4 percentage points in the unemployment rate and 2 percentage points in the inactivity rate.

Table 10.2.2 Changes in the employment rate, the unemployment rate and the inactivity rate

	2008	2011	2014
Employed	98.00%	94.00%	91.80%
Unemployed	0.70%	3.50%	4.49%
Inactive	1.30%	2.50%	3.71%

Table 10.2.3 Full and part-time work

	2008		2011		2014	
	n	%	*n*	%	*n*	%
Full-time work	272	92.83	874	92.58	1,164	92.38
Part-time work	21	7.17	70	7.42	96	7.62
Total	**293**	**100**	**944**	**100**	**1,260**	**100**

Public sector or private sector

63% of the Open University's graduate population worked in the private sector. The corresponding percentage for those who did not have a prior degree on admission to the Open University was higher (74%) than for those who did (58%). This differential growth between students being admitted with a previous degree (students who are "professionals") and those who did not have a previous degree may be attributed to either the fact that it is possible to better combine study and work in public sector jobs, or that the acquisition of other qualifications is more clearly compensated (it has a higher return value) in the public sector than in the private sector, although this value has remained static since 2010 due to the budgetary constraints in the public sector, which would explain the drop in the outcome indicators mentioned above.

Table 10.2.4 Recruitment in the public or private sector according to the level of studies on admission to the Open University

	2008			2011			2014		
	n	Public	Private	*n*	Public	Private	*n*	Public	Private
Pre-Bologna degree programmes (Dipl./Llic./Eng. Tècn. and sup. /Arq.Tècn.)	179	51.40%	48.60%	625	43.68%	56.32%	884	41.74%	58.26%
Others	115	15.70%	84.30%	321	28.66%	71.34%	382	26.18%	73.82%
Total	**294**	**37.40%**	**62.60%**	**946**	**38.58%**	**61.42%**	**1,266**	**37.05%**	**62.95%**

Compared to the 2008 and 2011 studies, it can be seen that the proportion of those who already had a previous degree and who worked in the private sector increased (10 percentage points since 2008). This means that there is a trend towards a similar profile across the different level of studies on admission, and that the connection between having a previous degree and working in the public sector is not so clear.

10.3. The quality of employment

Job stability

75% of respondents had a permanent contract, and only 10% a temporary contract. Job stability dropped 8 percentage points compared to the 2011 study.

Table 10.3.1 Distribution according to contract type

	2008		2011		2014	
	n	%	*n*	%	*n*	%
Permanent	236	80.30	786	83.09	955	75.49
Self-employed	31	10.50	69	7.29	171	13.52
Temporary	26	8.80	88	9.30	129	10.20
Internship	1	0.40	2	0.21	5	0.40
Without a contract	-	-	1	0.11	5	0.40
Total	**294**	**100**	**946**	**100**	**1,265**	**100**

92% of graduates worked full-time. This proportion has stayed stable over the period of the last three studies.

Annual earnings

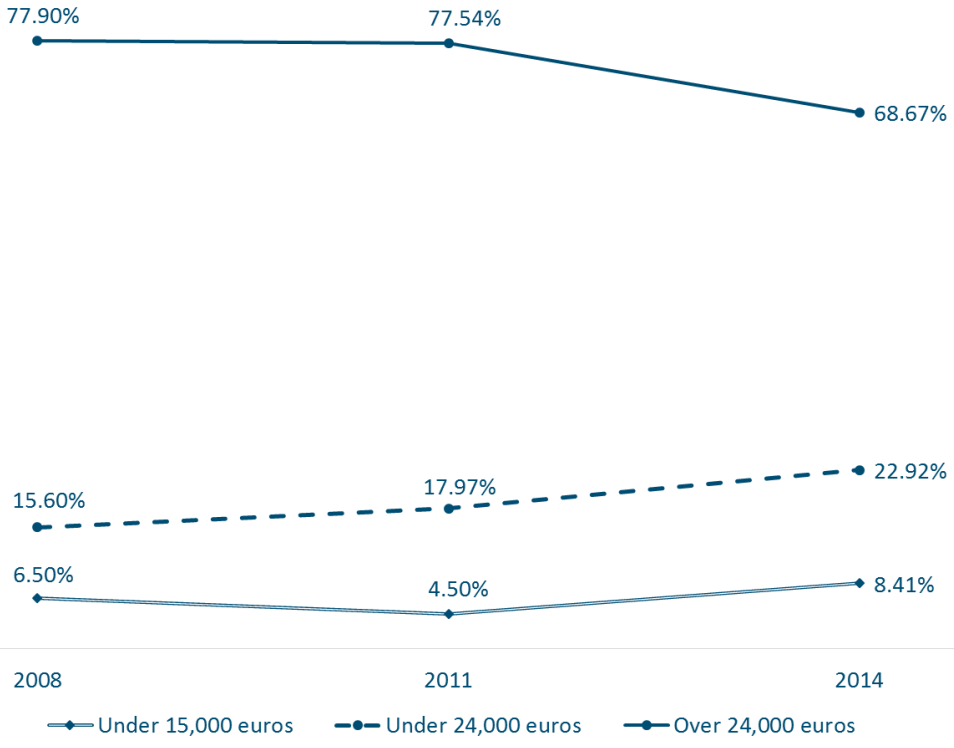
Out of all of those working full-time, 69% were earning over 24,000 euros gross a year, 23% between 15,000-24.000 euros, and 8% were earning less than 15,000 euros gross a year.

Table 10.3.2 Gross annual earnings of those working full-time

		n	%	%
Under 15,000	Under 9,000 euros	19	1.90	8.41
	Between 9,001 and 12,000 euros	19	1.90	
	Between 12,001 and 15,000 euros	46	4.60	
Under 24,000	Between 15,001 and 18,000 euros	66	6.61	22.92
	Between 18,001 and 24,000 euros	163	16.32	
Over 24,000	Between 24,001 and 30,000 euros	241	24.12	68.67
	Between 30,001 and 40,000 euros	203	20.32	
	Over 40,001 euros	242	24.22	
Total		**999**	**100.00**	**100.00**

As in the earnings section for classroom-based universities, in spite of the increase in the consumer price index (CPI), which has not been adjusted in the data, there was a decrease in earnings in the 2014 survey.

Figure 10.3.1 Changes in gross annual earnings of those working full-time (Open University/UOC, 2008-2014)



Education job-skills match

79% of graduates had graduate-level job duties and responsibilities,[35] a percentage that ranged from 85% for those with a previous university degree to 64% for those obtaining their first degree at the Open University/UOC.

14% of the graduate population had job duties and responsibilities specific to their Open University/UOC degree. This percentage ranged from 22% for those obtaining their first degree at the Open University/UOC and 10% for those with a previous university degree.

[35] This percentatge covers the first four columns in table 16.10.

Table 10.3.3 Education-job skills match according to the level of studies at the time of admission to the Open University/UOC

	n	Specific UOC degree and job duties specific to the degree	Specific UOC degree and job duties not specific to the degree	University degree and job duties specific to the degree	No university degree and job duties specific to the degree	University degree and job duties not specific to the degree	No university degree and job duties not specific to the degree
3 and 4-year degrees, pre-Bologna [36]	884	9.73%	0.23%	59.84%	15.05%	4.86%	10.29%
Others	382	22.25%	1.05%	14.92%	25.65%	2.62%	33.51%
2014 study	**1,266**	**13.51%**	**0.47%**	**46.29%**	**18.25%**	**4.19%**	**17.30%**
2011 study	**946**	**14.38%**	**0.85%**	**47.78%**	**22.41%**	**1.90%**	**12.68%**
2008 study	**294**	**18.71%**	**-**	**50.68%**	**17.69%**	**1.70%**	**11.22%**

Compared to the 2008 survey, there was a drop of 9 percentage points (from 87% to 78%) in the proportion of those with graduate-level job duties and responsibilities.

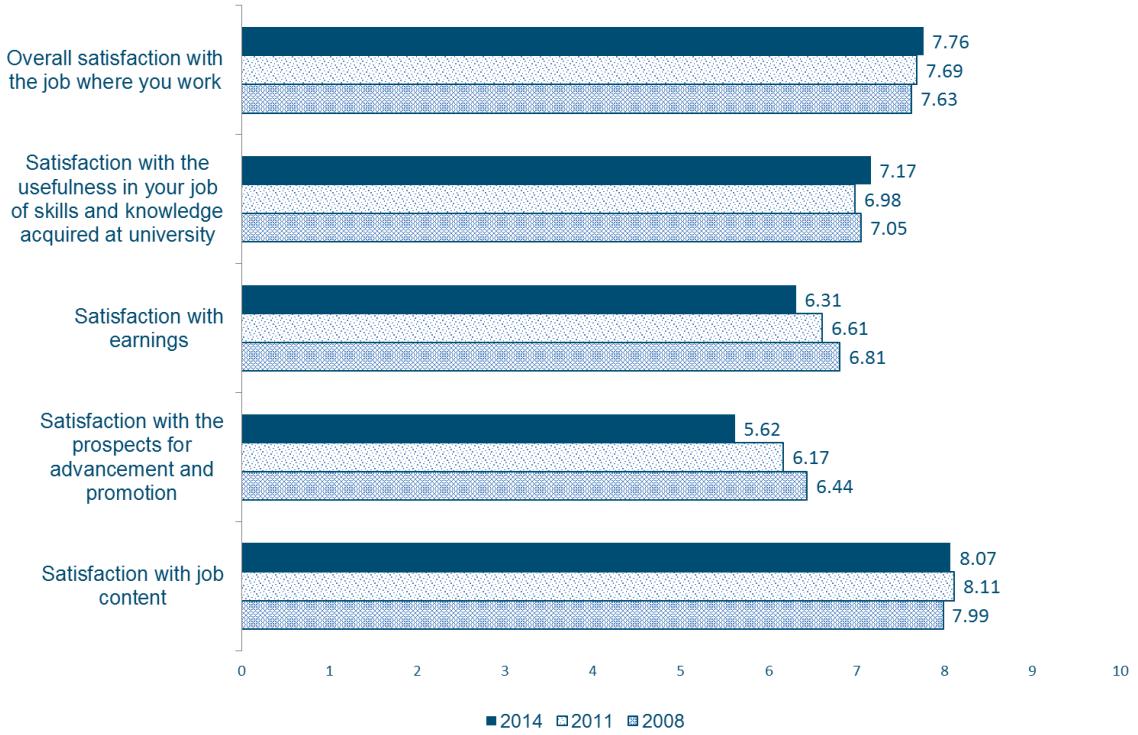
Job satisfaction

Regarding job satisfaction, graduates rated both their satisfaction with job content and overall job satisfaction as above 7. The lowest rated aspect was their satisfaction with the prospects for advancement and promotion.

As far as trends in graduate satisfaction is concerned, a decrease is evident with regard to both satisfaction with earnings and, in particular, their satisfaction with the prospects for advancement and promotion.

[36] This includes the following pre-Bologna 3 and 4-year degree qualifications: *Diplomatura*, *Llicenciatura*, *Enginyeria Tècnica* and *Enginyeria Superior*.

Figure 10.3.2 Changes in job satisfaction (Open University/UOC, 2008-2014)

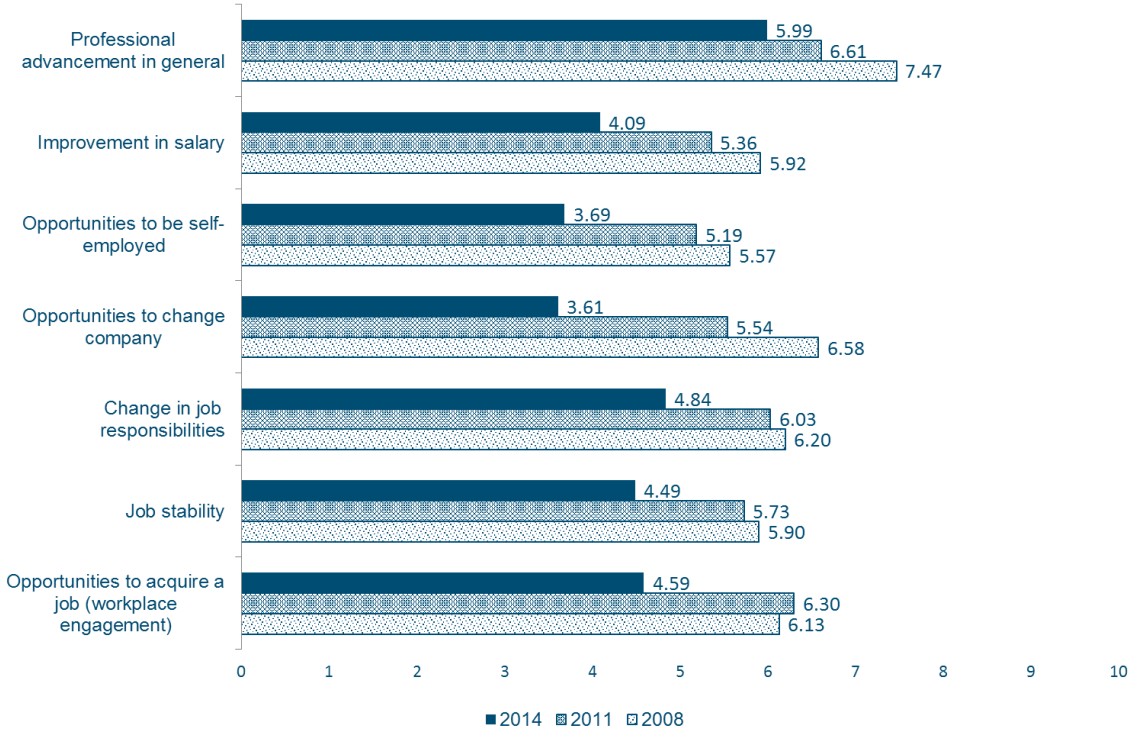


10.4. Graduates' satisfaction with their degree studies

The perception of added value

Graduates rated their degree studies as 6 on a scale from 0 to 10 for the level to which it helped them in general to improve professionally speaking. For those who graduated in 2010, however, this has meant very little in terms of specific opportunities (for example, to change company, or to be self-employed). In this regard, graduates of the Open University/UOC also experienced the impact of the economic crisis in the form of fewer opportunities, compared to previous cohorts, for professional career advancement through job stability, a change in job responsibilities, etc.

Figure 10.4.1 The assessment by graduates of the degree to which their degree studies have contributed to their professional advancement (Open University/UOC, 2008-2014)



Satisfaction with their degree course

82% would take the same degree course again, a similar percentage to that of the previous study (2011). The percentage ranged from 86% in Humanities to 81.5% in Social Sciences.

Table 10.4.2 The intention of graduates to repeat the same degree course, according to subject area

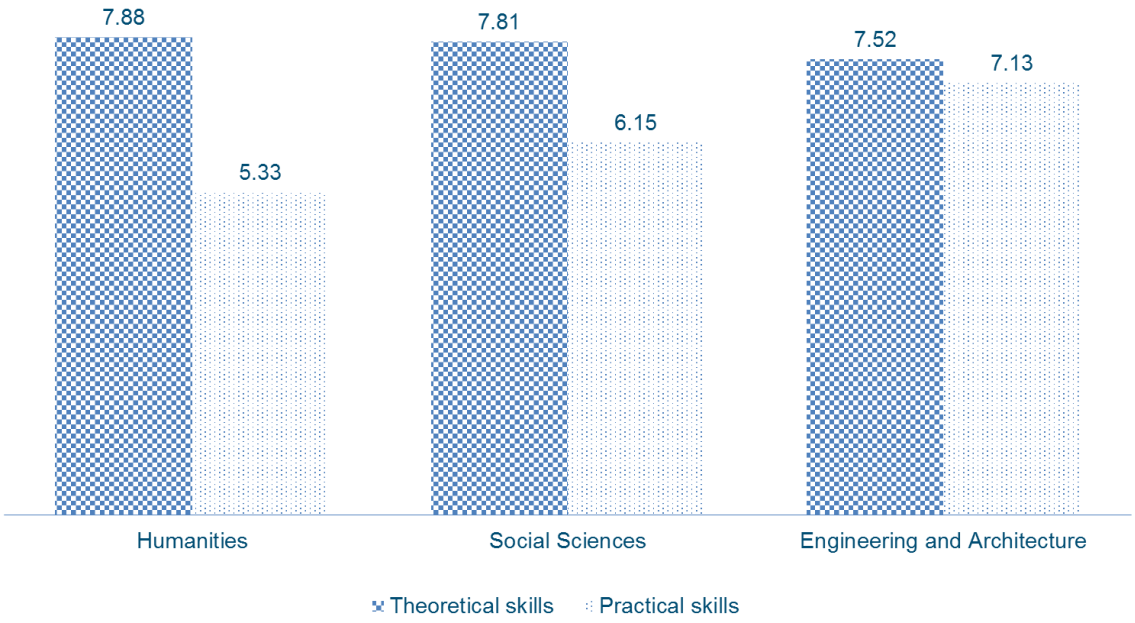
	2008			2011			2014		
	n	No	Yes	*n*	No	Yes	*n*	No	Yes
Humanities	14	7.10%	92.90%	86	17.44%	82.56%	140	13.57%	86.43%
Social Sciences	225	12.90%	87.10%	661	17.55%	82.45%	1,041	18.44%	81.56%
Engineering and Architecture	53	13.20%	86.80%	198	20.71%	79.29%	105	17.14%	82.86%
Total	**292**	**12.70%**	**87.30%**	**945**	**18.20%**	**81.80%**	1,286	**17.81%**	**82.19%**

Assessment of the skills (competences) acquired and their usefulness in your job

Graduates were more positive in their assessment of their level of theoretical skills (rated as 7.79 on a scale from 0 to 10) than that of their practical skills (6.14).

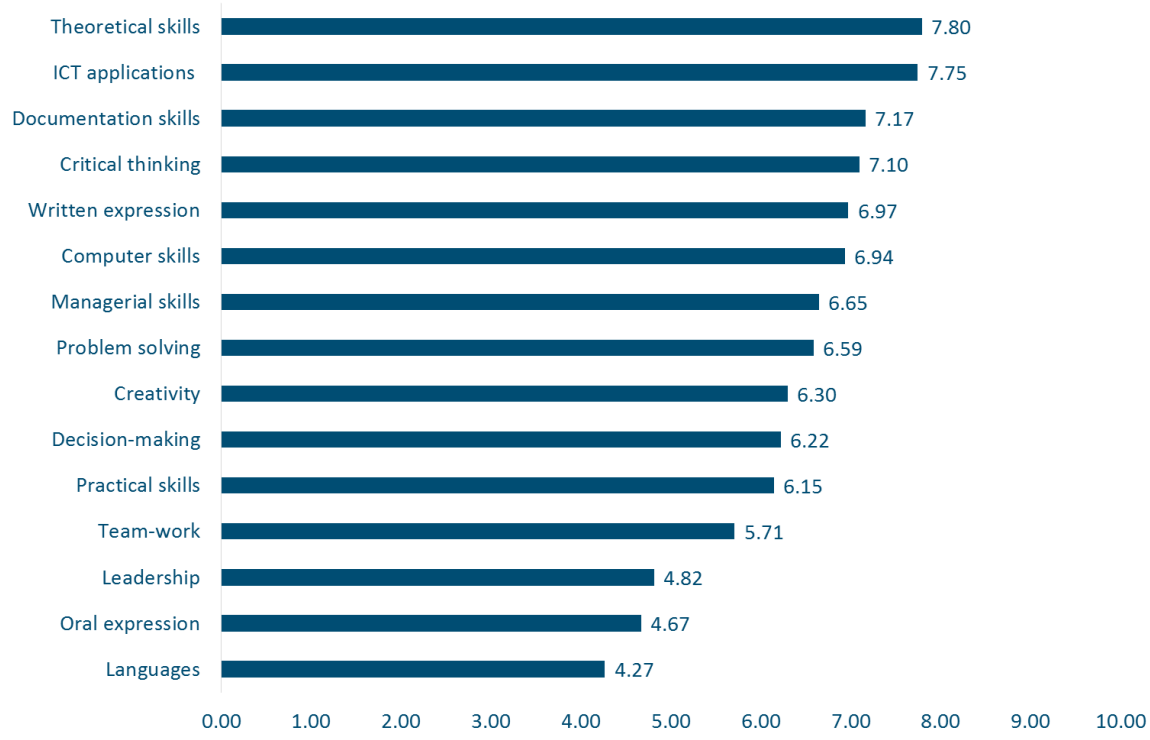
According to subject areas, this trend continues to be the same, except in Engineering and Architecture, where the rating given for practical skills was almost the same as for theoretical skills acquired.

Figure 10.4.2 The rating by graduates of their theoretical and practical skills according to subject area



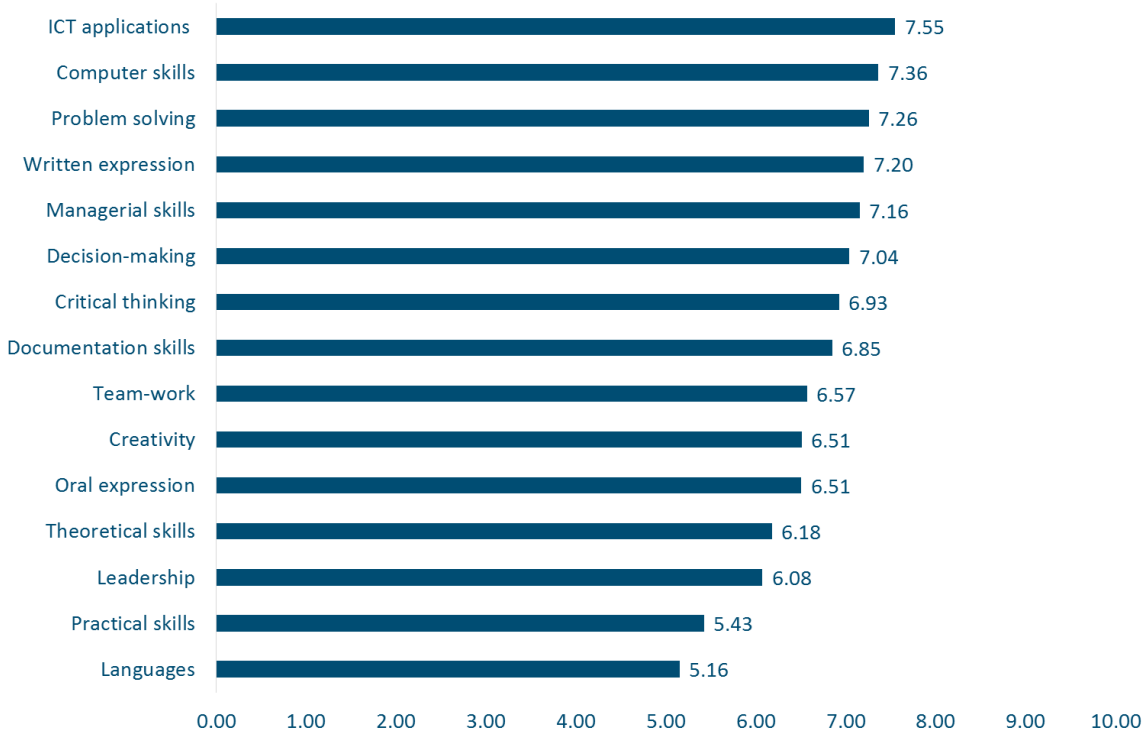
The skills (competences) acquired to a higher level by graduates were theoretical skills, the level and use of ICT applications, documentation and critical thinking (all four rated higher than 7 out of 10). Conversely, languages, oral expression and leadership were all below par.

Figure 10.4.3 Graduates' rating of their skills acquired in core competences (0-10)



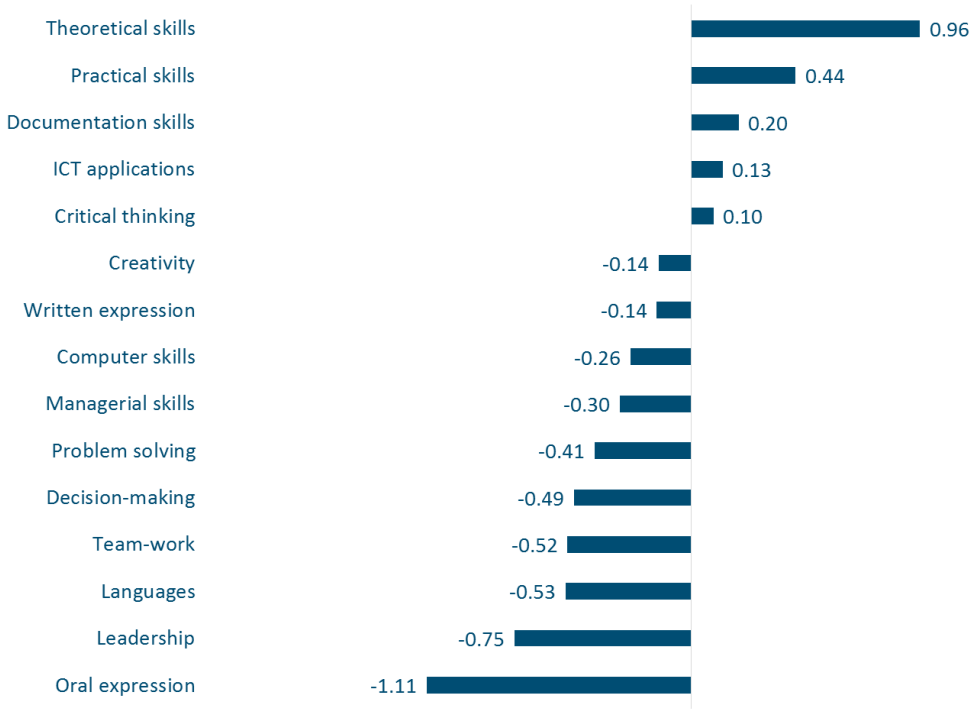
In terms of the usefulness of skills (competences), those considered to be most useful were ICT applications, problem solving and written expression. On the other hand, languages and practical skills were the skills considered to be the least useful.

Figure 10.4.4 Assessment of the usefulness of core competences in your job (0-10)



The graph in the following figure shows the skills deficit, in other words, the difference between the mean value for each skill required in their current job and that of the level of skill acquired at university. The skills with the highest deficit were, in numerical order, oral expression and leadership. Conversely, there was a slight surplus in theoretical skills.

Figure 10.4.5 Skills deficit (mean value, Open University/UOC)



A tots els valors amb un punt decimal, s'ha de canviar la comma a un punt

ANNEX A1. AFFILIATED AND PARTNER SCHOOLS AND INSTITUTES

Table A1.1 Population, sample, response rate and sampling error according to affiliated and partner schools and institutes

	Population	Sample	Response rate	Sampling error
INEFC Barcelona	185	84	45.41%	8.08%
Escola Universitària Salesiana de Sarrià	76	53	69.74%	7.61%
Escola Universitària de Turisme i Direcció Hotelera	81	45	55.56%	10.00%
Escola Superior d'Arxivística i Gestió de Documents	37	26	70.27%	10.84%
Escola d'Infermeria i Teràpia Ocupacional	187	110	58.82%	6.13%
Centre Universitari EAE	41	24	58.54%	13.31%
Centre de la Imatge i la Tecnologia Multimèdia	37	24	64.86%	12.27%
Escola Universitària Caixa Terrassa	82	59	71.95%	6.94%
Escola Universitària Politècnica de Mataró	65	46	70.77%	8.03%
Escola Universitària d'Enginyeria Tècnica Industrial d'Igualada	11	8	72.73%	19.36%
Escola Universitària Tècnica Industrial de Barcelona	403	230	57.07%	4.33%
Escola Superior de Disseny i Enginyeria de Barcelona Elisava	232	151	65.09%	4.82%
Escola Universitària d'Infermeria del Mar	57	39	68.42%	9.08%
Escola Superior de Comerç Internacional	45	29	64.44%	11.20%
Escola Universitària d'Estudis Empresarials del Maresme	110	71	64.55%	7.10%
Escola Universitària de Turisme Mediterrani	79	44	55.70%	10.10%
Escola Universitària de Turisme CETA	39	25	64.10%	12.14%
Escola Universitària de Turisme Euroaula	43	20	46.51%	16.55%
Escola Universitària d'Hoteleria i Turisme Sant Pol de Mar	24	17	70.83%	13.38%
Escola Universitària de Turisme Formatic Barna	17	7	41.18%	29.88%
Escola de Realització Audiovisual i Multimèdia	13	10	76.92%	15.81%
Escola Universitària de la Salut i l'Esport (EUSES)	87	56	64.37%	8.02%
Institut Nacional d'Educació Física de Catalunya (Lleida)	108	77	71.30%	6.13%
Escola Universitària de Relacions Laborals de Lleida	26	21	80.77%	9.76%
Total	**2,085**	**1,276**	**61.19%**	**1.74%**

ANNEX A2. DEGREE PROGRAMMES AND SUBJECT GROUPINGS

Table A2.1. Humanities

Degree programme	Subject grouping
Social and Cultural Anthropology (Llic.)[37]	Geography and History
Geography (Llic.)	
History (Llic.)	
History of Art (Llic.)	
History and Science of Music (Llic.)	
Far East Asian Studies (Llic.)	
Philosophy (Llic.)	Philosophy and Humanities
Humanities (Llic.)	
Linguistics (Llic.)	Philology and Comparative Studies
Theory of Literature and Comparative Literature (Llic.)	
Catalan Studies (Llic.)	
Hispanic Studies (Llic.)	
German Studies	
English Studies (Llic.)	
French Studies (Llic.)	
Galician Studies (Llic.)	
Italian Studies (Llic.)	
Translating and Interpreting (Llic.)	
Translating and Interpreting (German) (Llic.)	
Translating and Interpreting (English) (Llic.)	
Translating and Interpreting (French) (Llic.)	
Arabic Studies	
Classics (Llic.)	
Slavonic Studies	
Hebrew Studies	
Romance Studies (Llic.)	

[37] 4-year programme (*llicenciatura*, pre-Bologna)

Visual Arts	Visual Arts and Design
Design	

Table A2.2. Social Sciences

Degree programme	Subject grouping
Business Administration and Management (Llic.)	Economics; Business Administration and Management; Business Sciences
Economics (Llic.)	
Actuarial Science and Finance (Llic.)	
Market Research and Techniques	
Degree in International Commerce	
Business Economics (Dipl.)[38]	
Law (Llic.)	Law and Politics
Criminology	
Labour Relations (Dipl.)	
Social Work (Dipl.)	
Labour Studies (Llic.)	
Public Management and Administration (Dipl.)	
Political and Administrative Science (Llic.)	
Sociology (Llic.)	
Audio-visual Communication (Llic.)	Communication and Documentation
Journalism (Llic.)	
Advertising and Public Relations (Llic.)	
Audio-visual Production and Multimedia	
Library Science and Documentation	
Documentation (Llic.)	
Psychology (Llic.)	Psychology and Pedagogy
Pedagogy (Llic.)	
Psychopedagogy (Llic.)	
Teaching (Special Education)	Teaching
Teaching (Physical Education)	
Teaching (Early Childhood Education)	
Teaching (Music Education)	
Teaching (Foreign Language)	
Teaching (Primary Education)	
Social Education (Dipl.)	
Tourism (Dipl.)	Tourism
Physical Activity and Sports Sciences	Sport

[38] 3-year programme (*diplomatura*, pre-Bologna)

Table A2.3. Experimental Sciences

Degree programme	Subject grouping
(Llic.) Chemistry (Llic.)	Chemistry
Oenology	
Biology (Llic.)	Biology and Natural Science
Biochemistry (Llic.)	
Environmental Science (Llic.)	
Geology (Llic.)	
Biotechnology (Llic.)	
Physics (Llic.)	Physics and Mathematics
Mathematics (Llic.)	
Statistics (Dipl.)	
Statistical Science and Techniques (Llic.)	

Table A2.4. Health Sciences

Degree programme	Subject grouping
Physiotherapy	Health Care and Assistance
Nursing (Dipl.)	
Speech-Language Pathology (Dipl.)	
Human Nutrition and Dietetics	
Optics and Optometry (Dipl.)	
Podiatry	
Occupational Therapy	
Medicine	Medicine and Dentistry
Dentistry	
Pharmacy	Pharmacy and Food Science & Technology
Food Science and Technology (Llic.)	
Veterinary Science (Llic.)	Veterinary Science

Table A2.5. Engineering and Architecture

Degree programme	Subject grouping
Architecture	Architecture
Architecture (Arq.Tècn.)[39]	
Mining Engineering (Eng.Tècn.)[40]	Civil Engineering
Municipal Engineering (Eng.Tècn.)	
Topographical Engineering (Eng.Tècn.)	
Geological Engineering	
Transportation Engineering	
Mining Engineering	
Marine Technology (Dipl.)	Nautical Science
Maritime Navigation (Dipl.)	
Marine Engineering (Marine Propulsion and Services) (Eng.Tècn.)	
Marine Technology (Llic.)	
Nautical Science and Shipping (Llic.)	
Industrial Engineering (Electricity) (Eng.Tècn.)	Advanced Manufacturing Technologies
Industrial Engineering (Industrial Electronics) (Eng.Tècn.)	
Industrial Engineering (Mechanics) (Eng.Tècn.)	
Industrial Engineering (Industrial Chemistry) (Eng.Tècn.)	
Industrial Engineering (Textiles) (Eng.Tècn.)	
Engineering (Industrial Design) (Eng.Tècn.)	
Industrial Engineering	
Chemical Engineering	
Engineering in Industrial Organisation	
Materials Science and Engineering	
Engineering en Automatism and Industrial Electronics	
Telecommunications Engineering (Telecommunications Systems) (Eng.Tècn.)	Information and Communication
Telecommunications Engineering (Electronic Systems) (Eng.Tècn.)	
Telecommunications Engineering (Sound and Image) (Eng.Tècn.)	
Telecommunications Engineering (Telematics) (Eng.Tècn.)	
Engineering (Management IT) (Eng.Tècn.)	
Engineering (Computer Information Systems) (Eng.Tècn.)	
Telecommunications Engineering	

[39] 3-year Architecture programme (pre-Bologna)
[40] 3-year Engineering programme (pre-Bologna)

Computer engineering	
Electronic Engineering	
Multimedia Engineering	
Photography and Digital Creation	
Agricultural Engineering (Agribusiness) (Eng.Tècn.)	Agricultural Science
Agricultural Engineering (Horticulture and Gardening) (Eng.Tècn.)	
Agricultural Engineering and Food Industries) (Eng.Tècn.)	
Agricultural Engineering (Mechanisation and Rural Building and Construction) (Eng.Tècn.)	
Forest Engineering (Forestry) (Eng.Tècn.)	
Forest Engineering (Forest Industries) (Eng.Tècn.)	
Agricultural engineering	
Forest Engineering	
Aeronautical Engineering (Air Navigation) (Eng.Tècn.)	Aviation
Aviation Studies	

ANNEX A3. COMPARATIVE ANALYSIS OF THE EMPLOYMENT OUTCOMES OF GRADUATES IN THE BASQUE COUNTRY 2013

Study

"Estudio de Incorporación a la Vida Laboral. Promoción universitaria de grado de 2009. Comunidad Autónoma del País Vasco" (Study on the entry into the labour market of the 2009 cohort of graduates. Regional Autonomous Community of the Basque Country)

Population and sample

The reference population was 9,132 people who graduated in 2009 from three universities in the Basque Country: *Universidad de Deusto (UD)*, *Mondragon Unibersitatea (MU)* and *Universidad del País Vasco* (UPV/EHU).

The achieved sample was 7,174, which accounted for 78.6% of the population.

Description and period

A personal telephone survey (CATI) was carried out in March and April 2013 to obtain the data for the study.

Source

http://www.lanbide.net/descargas/egailancas/estadisticas/inseruniver/actual/D09_TOTAL_UNIVERSIDADES.pdf

Technical note

Regarding the indicators dealing with the description of working conditions, both graduates who were in work at the time of the survey and those who had worked after completing their studies, but did not have a job at the time of the survey, were taken into account: % permanent contract, % graduate-level job duties and responsibilities, % skilled job and % public/private sector.

With regard to the rating by Basque graduates of the level of skills (competences) they had acquired and their usefulness, for the purposes of consistency with the information given in this report on graduates from universities in Catalonia, the data referring to Catalonia are for those with graduate-level job duties and responsibilities who graduated from public universities.

Table A3.1 Employment rate, unemployment rate and inactivity rate according to subject area

Basque Country	Employment	Unemployment	Inactive	Catalonia	*n*	Employment	Unemployment	Inactive
Humanities	61.00%	30.00%	9.00%	**Humanities**	1,488	75.94%	16.40%	7.66%
Economics & Law	75.00%	20.00%	5.00%	**Social Sciences**	8,031	85.59%	10.72%	3.69%
Social Sciences	72.00%	23.00%	5.00%					
Experimental Sciences	62.00%	27.00%	11.00%	**Experimental Sciences**	1,137	79.77%	14.78%	5.45%
Health Sciences	75.00%	21.00%	4.00%	**Health Sciences**	1,863	88.03%	8.00%	3.97%
Technical subjects	77.00%	16.00%	7.00%	**Engineering & Architecture**	3,525	86.55%	9.53%	3.91%
Total	**73.10%**	**20.90%**	**6.00%**	**Total**	**16,044**	**84.78%**	**10.96%**	**4.26%**

Table A3.2 Full-time and part-time employment rates according to subject area

Basque Country	Full-time job	Part-time job	Catalonia	*n*	Full-time job	Part-time job
Humanities	65.20%	34.80%	**Humanities**	1,074	61.36%	38.64%
Economics and Law	88.70%	11.30%	**Social Sciences**	6,765	72.55%	27.45%
Social Sciences	65.50%	34.50%				
Experimental Sciences	80.80%	19.20%	**Experimental Sciences**	704	78.41%	21.59%
Health Sciences	83.40%	16.60%	**Health Sciences**	1,603	62.69%	37.31%
Technical subjects	93.80%	6.20%	**Engineering and Architecture**	2,918	91.50%	8.50%
Total	**81.00%**	**19.00%**	**Total**	**13,064**	**74.97%**	**25.03%**

Table A3.3 Permanent contract rate according to subject area

Basque Country	Permanent	Others	Catalonia	*n*	Permanent	Others
Humanities	36.90%	63.10%	**Humanities**	1,385	39.06%	60.94%
Economics and Law	62.80%	37.20%	**Social Sciences**	7,843	50.33%	49.67%
Social Sciences	34.10%	65.90%				
Experimental Sciences	32.20%	67.80%	**Experimental Sciences**	1,083	35.27%	64.73%
Health Sciences	23.00%	77.00%	**Health Sciences**	1,832	38.92%	61.08%
Technical subjects	55.90%	44.10%	**Engineering & Architecture**	3,407	56.77%	43.23%
Total	**46.00%**	**54.00%**	**Total**	**15,550**	**48.34%**	**51.66%**

Table A3.4 Percentage of those with graduate-level job duties and responsibilities, together with the skilled job rate according to subject area

Basque Country	Graduate-level job duties and responsibilities	Skilled job	Catalonia	*n*	Graduate-level job duties and responsibilities	*n*	Skilled job
Humanities	58.00%	79.00%	Humanities	853	61.37%	1,365	70.99%
Economics and Law	69.00%	70.00%	Social Sciences	5,931	75.58%	7,764	79.71%
Social Sciences	68.00%	84.00%					
Experimental Sciences	69.00%	86.00%	Experimental Sciences	846	78.04%	1,076	84.39%
Health Sciences	96.00%	100.00 %	Health Sciences	1,698	92.64%	1,802	89.51%
Technical subjects	79.00%	94.00%	Engineering and Architecture	2,819	82.62%	3,361	91.16%
Total	**73.00%**	**85.00%**	**Total**	**12,147**	**78.04%**	**15,368**	**82.92%**

Table A3.5 Recruitment rate in the public and private sectors according to subject area

Basque Country	Public sector	Private sector	Catalonia	*n*	Public sector	Private sector
Humanities	18.00%	82.00%	Humanities	1,385	24.77%	75.23%
Economics and Law	6.00%	94.00%	Social Sciences	7,830	23.03%	76.97%
Social Sciences	25.00%	75.00%				
Experimental Sciences	30.00%	70.00%	Experimental Sciences	1,084	34.32%	65.68%
Health Sciences	67.00%	33.00%	Health Sciences	1,827	32.57%	67.43%
Technical subjects	6.00%	94.00%	Engineering and Architecture	3,409	10.18%	89.82%
Total	**18.00%**	**82.00%**	**Total**	**15,535**	**22.27%**	**77.73%**

Table A3.6 Skills acquisition (competences) and their usefulness in work (education-job skills match)

Average rating	Basque Country		Catalonia	
	Level	Usefulness	Level	Usefulness
Theoretical skills	7.0	6.3	6.77	5.74
Practical skills	5.7	6.1	5.59	5.51
Written expression	6.2	6.7	6.09	7.32
Oral expression	6.2	7.0	5.56	7.39
Team-work	6.8	7.3	6.76	7.75
Leadership	5.7	6.5	4.50	6.53
Decision-making	6.2	7.1	5.45	7.82

Critical thinking	6.3	7.0	6.24	7.25
Creativity	5.9	6.6	5.08	6.61
Time management, Resource management	6.2	7.0	5.38	7.46
Documentation	6.3	7.0	6.00	6.90
Languages	4.1	5.7	2.96	6.07
Computer skills	5.4	6.6	5.09	7.20

ANNEX A4. GRADUATES WORKING IN MANAGEMENT AND THEIR DEGREE SUBJECT AT UNIVERSITY

Table A4.1 Subjects according to the percentage of graduates with positions in management

	(f)	*n*	Managerial duties and responsibilities: own company, management and directorship, production, financial, etc.
Economics, Business Administration and Management	595	1,171	50.81%
Advanced Manufacturing Technologies	208	451	46.12%
Civil Engineering	47	107	43.93%
Architecture	173	401	43.14%
Nautical Science	22	52	42.31%
Politics	133	327	40.67%
Communication	333	844	39.45%
Aviation	15	42	35.71%
Civil Engineering (Eng.Tècn.)	50	143	34.97%
Business Economics	252	736	34.24%
Comparative Studies	15	45	33.33%
Information and Communication	157	482	32.57%
Agricultural Science	28	87	32.18%
Sport	87	278	31.29%
Law	179	573	31.24%
Pharmacy, Food Science and Technology	57	186	30.65%
Labour Studies	189	622	30.39%
Tourism	85	287	29.62%
Documentation	38	129	29.46%
Agricultural Engineering (Eng.Tècn.)	49	179	27.37%
Advanced Manufacturing Technologies (Eng.Tècn.)	219	812	26.97%
Visual Arts	43	163	26.38%

Information and Communication (Eng.Tècn.)	169	656	25.76%
Modern Language Studies	91	357	25.49%
Pedagogy	67	274	24.45%
Philosophy and Humanities	35	145	24.14%
Psychology	86	379	22.69%
Geography and History	109	518	21.04%
Veterinary Science	13	74	17.57%
Biology and Natural Science	112	684	16.37%
Chemistry	28	222	12.61%
Catalan and Hispanic Studies	15	128	11.72%
Teaching	243	2,229	10.90%
Health Care and Assistance	130	1,200	10.83%
Classics	3	34	8.82%
Physics and Mathematics	15	178	8.43%
Medicine and Dentistry	8	373	2.14%
Total	**4,098**	**15,568**	**26.32%**

ANNEX A5. WOULD GRADUATES TAKE THE SAME DEGREE AGAIN? ACCORDING TO SUBJECTS

Table A5.1 The percentage of graduates who would take the same degree again, according to subjects

	Would you take the same degree again?		
	n	Yes	No
Medicine and Dentistry	370	90.54%	9.46%
Physics and Mathematics	185	83.78%	16.22%
Teaching	2,261	82.57%	17.43%
Health Care and Assistance	1,218	82.35%	17.65%
Comparative Studies	45	82.22%	17.78%
Pharmacy, Food Science and Technology	181	81.22%	18.78%
Sport	279	81.00%	19.00%
Veterinary Science	72	80.56%	19.44%
Philosophy and Humanities	165	79.39%	20.61%
Advanced Manufacturing Technologies	455	78.02%	21.98%
Psychology	396	75.25%	24.75%
Law	608	74.51%	25.49%
Geography and History	556	74.46%	25.54%
Documentation	129	73.64%	26.36%
Nautical Science	53	73.58%	26.42%
Economics and Business Administration and Management	1,169	73.48%	26.52%
Chemistry	226	73.45%	26.55%
Visual Arts	168	72.62%	27.38%
Agricultural Science (3-year degree)	192	72.40%	27.60%
Philology 3	38	71.05%	28.95%
Philology 1	135	70.37%	29.63%
Information and Communication	479	70.35%	29.65%
Information and Communications Technologies (ICT, 3-year degree)	666	70.27%	29.73%

Advanced Manufacturing Technologies (3-year degree)	841	69.08%	30.92%
Aviation	45	68.89%	31.11%
Philology 2	351	66.38%	33.62%
Agricultural Science	88	64.77%	35.23%
Architecture	411	64.48%	35.52%
Biology and Natural Science	705	64.40%	35.60%
Pedagogy	277	62.09%	37.91%
Politics	334	59.28%	40.72%
Communication	851	58.75%	41.25%
Business Economics	740	57.97%	42.03%
Labour Studies	622	55.63%	44.37%
Civil Engineering	107	52.34%	47.66%
Tourism	293	47.44%	52.56%
Civil Engineering (3-year degree)	164	46.95%	53.05%

ANNEX A6. JOB QUALITY INDEX

The Job Quality Index was produced by a research group led by Dr. E. Corominas (2007)[41] and takes four of the most relevant aspects to define the quality of employment outcomes: the type of contract, salary/earnings, the education-job skills match and job satisfaction.

The index is defined as follows:

Job Quality Index = *f* [(*C* + *R* + *A*) * *S*] * 100

where *C* is the type of contract, *R* is the salary/earnings, *A* is the education-skills job match and *S* job satisfaction

Table A6.1 Ranking of degree courses according to the Job Quality Index[42]

	n	Mean	Standard deviation	% Sampling error
Industrial Organisation and Engineering (Eng. Tècn)	82	74.94	17.24	6.12
Electronic Engineering (Eng. Tècn)	33	74.02	15.34	9.09
Chemical Engineering (Eng. Tècn)	99	72.63	15.80	5.14
Telecommunications Engineering (Eng. Tècn)	150	71.89	15.78	4.89
Market Research and Techniques	41	71.59	16.37	9.47
Dentistry (Llic.)	107	71.30	15.81	5.20
Computer Engineering (Eng. Tècn)	198	70.83	16.13	4.04
Business Administration and Management (Llic.)	649	70.70	18.73	2.59
Industrial Engineering (Eng. Tècn)	159	68.60	17.75	5.84
Pharmacy (Llic.)	84	68.24	15.21	7.23
Law (Llic.)	353	67.97	18.08	3.49
Medicine	214	67.70	14.97	4.66
Optics and Optometry (Dipl.)	52	66.99	14.50	7.68
Industrial Engineering - Mechanics) (Eng. Tècn)	229	66.82	16.64	3.65

[41] E. Corominas et al. "El mercat laboral qualificat i la qualitat de l'ocupació". In: A. Serra Ramoneda (ed.). Educació superior i treball a Catalunya: Anàlisi dels factors d'inserció laboral. Barcelona: AQU Catalunya, 2007 (pp. 95-153).

[42] Thirty-two (39) degree programmes with a sampling error of more than 10% were eliminated from the list of programmes (data on classroom-based universities).

Telecommunications Engineering (Telecommunications Systems) (Eng. Tècn)	71	66.77	17.63	5.87
Computer Systems Engineering (Eng. Tècn)	166	66.43	18.44	3.43
Enology* (Llic.)	18	66.26	17.07	8.01
Management IT (Eng.Tècn.)	144	66.24	17.86	3.65
Mathematics (Llic.)	56	66.07	17.52	5.69
Transportation Engineering	58	66.03	17.21	7.23
Veterinary Science (Llic.)	51	65.85	14.60	6.66
Industrial Engineering (Industrial Electronics) (Eng.Tècn.)	166	65.81	19.22	3.89
Industrial Engineering (Electricity) (Eng.Tècn.)	109	65.44	18.92	4.62
Documentation (Llic.)	30	65.06	17.60	9.19
Agricultural Engineering	48	64.78	19.38	5.47
Telecommunications Engineering (Sound and Image) (Eng.Tècn.)	48	64.70	16.66	6.24
Economics (Llic.)	269	64.69	21.95	3.63
Telecommunications Engineering (Telematics) (Eng.Tècn.)	72	64.26	17.32	5.82
Food Science and Technology (Llic.)	59	63.83	16.49	6.15
Psychopedagogy	89	63.68	17.75	5.01
Statistics* (Dipl.)	23	63.16	21.24	9.26
Chemistry (Llic.)	117	62.60	17.05	4.24
Advertising and Public Relations (Llic.)	229	62.17	19.88	3.42
Labour Sciences (Llic.)	96	62.09	21.38	4.94
Architecture	138	61.85	18.69	5.73
Agricultural Science (Agricultural and Food Industries) (Eng.Tècn.)	55	61.50	22.55	5.05
Telecommunications Engineering (Electronic) (Eng.Tècn.)	50	61.15	18.51	6.10
Biotechnology (Llic.)	64	61.11	19.02	4.79
Translation and Interpreting* (Llic.)	22	60.69	22.55	6.06
Design	47	60.42	16.08	7.90
Biochemistry (Llic.)	40	60.37	21.72	4.89
History and Science of Music* (Llic.)	22	60.14	15.76	7.70
Physiotherapy (Dipl.)	236	59.87	16.80	3.24
Criminology (Llic.)	119	59.69	22.74	5.02
Speech-Language Pathology (Dipl.)	40	59.65	17.86	8.37
Business Economics (Dipl.)	569	59.43	21.08	2.67
Nursing (Dipl.)	450	59.11	15.68	2.75
Architecture (Arq.Tècn.)	163	58.66	21.87	3.93

Foreign Language Teaching (Dipl.)	181	58.37	13.04	3.63
Physics (Llic.)	46	58.11	17.81	6.44
Industrial Engineering (Industrial Chemistry) (Eng.Tècn.)	104	57.77	23.28	4.66
Agricultural Science (Horticulture and Gardening) (Eng.Tècn.)	32	57.61	20.89	7.82
Public Management and Administration (3-year degree) (Dipl.)	72	57.43	20.51	6.08
Municipal Engineering (Civil Works) (Eng.Tècn.)	50	57.28	18.96	6.85
Journalism (Llic.)	241	57.22	20.09	3.73
Social Education (Dipl.)	286	57.03	19.38	3.17
Industrial Design (Eng.Tècn.)	39	56.62	17.12	8.02
Social and Cultural Anthropology (Llic.)	84	55.25	19.99	5.80
Teaching: Early Childhood Education (Dipl.)	508	55.21	20.12	2.54
Agricultural Science (Agribusiness)* (Eng.Tècn.)	25	54.89	21.41	6.50
Topography* (Eng.Tècn.)	18	54.89	21.54	8.32
Tourism (Dipl.)	198	54.83	21.01	3.77
Social Work (Dipl.)	168	54.57	20.12	4.72
Library Science and Documentation (Dipl.)	48	54.53	18.81	6.42
Labour Relations (Dipl.)	226	54.23	21.52	3.89
Psychology (4-year degree)	274	53.94	21.84	3.84
Occupational Therapy (Dipl.)	43	53.62	17.06	8.13
Catalan Studies (Llic.)	32	53.59	20.15	6.21
Translation and Interpreting. English (Llic.)	111	52.90	19.59	4.58
Teaching: Music Education (Dipl.)	109	52.79	18.73	4.63
Teaching: Special Education (Dipl.)	200	52.75	17.33	3.74
Political and Administrative Science (Llic.)	112	52.24	23.13	4.60
Biology (Llic.)	152	52.09	22.94	3.97
English Studies (Llic.)	93	51.67	18.50	4.86
Geology (Llic.)	30	51.60	26.06	7.21
Physical Activity and Sports Sciences (Llic.)	223	50.95	21.19	3.65
Pedagogy (Llic.)	133	50.52	22.16	5.05
Hispanic Studies (Llic.)	56	50.07	20.28	5.20
Audio-visual Communication (Llic.)	201	49.87	20.85	3.23
Primary Education Teaching (Dipl.)	297	49.82	20.69	3.03
Human Nutrition and Dietetics (Dipl.)	115	49.70	22.06	4.46
Humanities (Llic.)	49	49.24	25.21	6.31
Theory of Literature and Comparative Literature* (Llic.)	23	47.06	24.13	7.99

Sociology (Llic.)	61	46.42	21.90	5.59
Teaching – Physical Education (Dipl.)	223	46.33	22.17	3.24
Classics* (Llic.)	11	42.93	16.89	8.50
Environmental Science (Llic.)	114	42.38	23.09	3.99
Art History (Llic.)	77	42.11	19.13	5.00
Visual Arts (Llic.)	64	41.74	24.35	7.69
Philosophy (Llic.)	46	38.37	20.31	6.59
Geography (Llic.)	52	38.11	20.13	4.86
History (Llic.)	104	37.64	22.21	4.52

NB *: These data should be interpreted within the context of the low frequency (n<30) of people on these degree courses.

ANNEX A7. INDICATORS BY SUBJECT[43]

Table A7.1 Employment rate

	2008		2011		2014				
	n	%	*n*	%	*n*	%	Diff.2011-2008	Diff.2014-2008	Diff.2014-2011
Geography and History	659	87.86	598	79.93	563	70.69	-7.93	-17.17	-9.24
Philosophy and Humanities	199	85.43	195	77.95	165	66.06	-7.48	-19.37	-11.89
Philology and Comparative Studies	731	92.20	662	84.14	589	83.70	-8.06	-8.50	-0.44
Visual Arts	115	87.83	216	81.02	171	76.02	-6.81	-11.81	-5.00
Economics; Business Administration and Management; Business Sciences	1,561	95.00	1,646	88.64	1,930	88.39	-6.36	-6.61	-0.25
Law and Politics	1,393	91.53	1,543	88.79	1,584	84.03	-2.74	-7.50	-4.76
Communication and Documentation	420	91.19	764	85.47	1,000	86.10	-5.72	-5.09	0.63
Psychology and Pedagogy	612	94.28	696	88.51	678	80.68	-5.78	-13.60	-7.83
Teaching	1,432	96.58	1,922	94.80	2,281	85.62	-1.78	-10.96	-9.18
Tourism	56	94.64	240	82.50	293	81.57	-12.14	-13.07	-0.93
Sport	-	-	231	90.48	279	89.25	-	-	-1.23
Chemistry	248	88.71	249	87.55	230	82.17	-1.16	-6.54	-5.38
Biology and Natural Science	546	90.29	615	85.20	719	76.63	-5.09	-13.66	-8.57
Physics and Mathematics	221	92.76	221	88.69	188	88.83	-4.07	-3.93	0.14
Health Care and Assistance	663	94.27	1,000	91.30	1,226	85.73	-2.97	-8.54	-5.57
Medicine and Dentistry	332	98.80	395	97.22	374	95.19	-1.58	-3.61	-2.03
Pharmacy and Food Science & Technology	222	95.50	201	89.55	189	89.95	-5.94	-5.55	0.40
Veterinary Science	76	88.16	68	91.18	74	85.14	3.02	-3.02	-6.04
Architecture	301	98.67	371	81.67	417	81.53	-17	-17.14	-0.14

[43] Public universities

Civil Engineering	194	93.30	202	87.13	273	74.73	-6.17	-18.57	-12.40
Nautical Science	43	83.72	45	73.33	53	84.91	-10.39	1.19	11.58
Advanced manufacturing technologies	942	95.75	1373	90.02	1,300	87.69	-5.73	-8.06	-2.33
Information and Communication	918	94.77	1426	92.57	1,140	92.37	-2.2	-2.40	-0.20
Agricultural Science	374	93.05	295	83.73	283	77.39	-9.32	-15.66	-6.34
Aviation	-	-	54	75.93	45	84.44	-	-	8.51

Difference: Calculated by the proportional difference between two different samples (e.g. Female 2014 – Female 2011)

Table A7.2 Employment rate and unemployment rate

	Employment			Unemployment		
	n	%	Adjusted residual	*n*	%	Adjusted residual
Geography and History	398	70.69	-9.47	126	22.38	3.19
Philosophy and Humanities	109	66.06	-6.73	32	19.39	6.57
Philology and Comparative Studies	493	83.70	-0.74	62	10.53	1.85
Visual Arts	130	76.02	-3.20	24	14.04	3.70
Economics; Business Administration and Management; Business Sciences	1,706	88.39	4.71	178	9.22	-4.36
Law and Politics	1,331	84.03	-0.88	170	10.73	2.03
Communication and Documentation	861	86.10	1.20	108	10.80	-1.88
Psychology and Pedagogy	547	80.68	-3.04	103	15.19	-0.18
Teaching	1,953	85.62	1.21	243	10.65	-1.37
Tourism	239	81.57	-1.54	36	12.29	1.61
Sport	249	89.25	2.10	24	8.60	-1.76
Chemistry	189	82.17	-1.11	30	13.04	0.39
Biology and Natural Science	551	76.63	-6.22	132	18.36	1.01
Physics and Mathematics	167	88.83	1.56	6	3.19	2.54
Health Care and Assistance	1,051	85.73	0.96	121	9.87	0.25
Medicine and Dentistry	356	95.19	5.67	7	1.87	-1.28
Pharmacy and Food Science & Technology	170	89.95	1.99	14	7.41	-1.11
Veterinary Science	63	85.14	0.09	7	9.46	0.49
Architecture	340	81.53	-1.87	57	13.67	0.55
Civil Engineering	204	74.73	-4.66	50	18.32	2.22

Nautical Science	45	84.91	0.03	6	11.32	-0.18
Advanced Manufacturing Technologies	1,140	87.69	3.05	115	8.85	-1.49
Information and Communication	1,053	92.37	7.40	56	4.91	-2.68
Agricultural Science	219	77.39	-3.49	47	16.61	1.47
Aviation	38	84.44	-0.06	4	8.89	0.80

Adjusted residuals: The residual of a cell is the observed value minus the anticipated value obtained if the two variables were independent, divided by the estimated standard error. The adjusted standardised residual is expressed in units of standard deviation. A value of 1.96 or above for the adjusted residual points to significant differences either above or below the mean.

Table A7.3 Permanent contract rate and temporary/short-term work contract rate

	Permanent contract			Temporary/short-term work contract		
	n	%	Adjusted residuals	*n*	%	Adjusted residuals
Geography and History	224	43.33	-2.32	202	39.07	1.99
Philosophy and Humanities	55	38.19	-2.45	59	40.97	1.52
Philology and Comparative Studies	216	38.50	-4.75	236	42.07	3.59
Visual Arts	46	28.22	-5.17	53	32.52	-0.66
Economics; Business Administration and Management; Business Sciences	1,239	65.01	15.54	395	20.72	-13.93
Law and Politics	863	56.81	6.96	379	24.95	-8.63
Communication and Documentation	480	48.63	0.19	283	28.67	-4.29
Psychology and Pedagogy	277	42.42	-3.09	260	39.82	2.65
Teaching	815	36.58	-12.00	1,312	58.89	25.57
Tourism	163	56.79	2.89	101	35.19	0.08
Sport	119	42.96	-1.81	113	40.79	2.05
Chemistry	94	42.34	-1.80	71	31.98	-0.94
Biology and Natural Science	210	30.75	-9.41	290	42.46	4.19
Physics and Mathematics	78	43.82	-1.21	61	34.27	-0.20
Health Care and Assistance	452	37.70	-7.68	554	46.21	8.49
Medicine and Dentistry	98	26.27	-8.63	161	43.16	3.36
Pharmacy and Food Science & Technology	125	67.20	5.18	37	19.89	-4.34
Veterinary Science	38	51.35	0.52	13	17.57	-3.15

Architecture	124	30.92	-7.07	76	18.95	-6.82
Civil Engineering	113	45.38	-0.94	93	37.35	0.79
Nautical Science	32	62.75	2.06	17	33.33	-0.25
Advanced Manufacturing Technologies	762	60.38	8.93	346	27.42	-5.88
Information and Communication	751	66.87	12.90	224	19.95	-10.97
Agricultural Science	117	44.15	-1.38	94	35.47	0.17
Aviation	26	61.90	1.76	9	21.43	-1.84

Table A7.4 Graduate-level job duties and responsibilities, managerial duties and responsibilities, and skilled jobs

	Graduate-level job duties and responsibilities %			**Managerial duties and responsibilities %**			**Skilled jobs %**		
	n	**%**	**Adjusted residuals**	***n***	**%**	**Adjusted residuals**	***n***	**%**	**Adjusted residuals**
Geography and History	261	50.39	-15.46	109	21.04	-2.78	313	61.13	-13.32
Philosophy and Humanities	76	52.41	-7.49	35	24.14	-0.60	97	67.83	-4.82
Philology and Comparative Studies	416	73.76	-2.50	124	21.99	-2.38	428	78.10	-3.05
Visual Arts	100	61.35	-5.17	43	26.38	0.02	131	80.86	-0.70
Economics; Business Administration and Management; Business Sciences	1,506	78.97	1.05	847	44.42	19.15	1,514	80.06	-3.52
Law and Politics	1,041	68.44	-9.51	501	32.92	6.15	1,079	71.27	-12.69
Communication and Documentation	710	71.94	-4.78	376	38.10	8.68	773	83.30	0.32
Psychology and Pedagogy	486	74.43	-2.28	153	23.43	-1.71	555	85.25	1.62
Teaching	1,801	80.80	3.40	243	10.90	-17.86	1,922	86.77	5.21
Tourism	195	67.94	-4.17	85	29.62	1.28	102	35.54	-21.53
Sport	198	71.48	-2.66	87	31.29	1.90	244	87.77	2.17
Chemistry	201	90.54	4.53	28	12.61	-4.67	200	91.74	3.49
Biology and Natural Science	487	71.20	-4.42	112	16.37	-6.04	550	80.65	-1.61

Physics and Mathematics	158	88.76	3.48	15	8.43	-5.45	158	89.77	2.43
Health Care and Assistance	1,081	90.08	10.49	130	10.83	-12.68	994	84.67	1.66
Medicine and Dentistry	372	99.73	10.24	8	2.14	-10.73	373	100.00	8.87
Pharmacy and Food Science & Technology	174	93.55	5.14	57	30.65	1.35	177	96.72	4.99
Veterinary Science	71	95.95	3.73	13	17.57	-1.71	69	95.83	2.92
Architecture	325	81.05	1.48	173	43.14	7.75	347	90.36	3.93
Civil Engineering	207	82.80	1.83	97	38.80	4.52	227	90.80	3.34
Nautical Science	40	76.92	-0.19	22	42.31	2.62	36	70.59	-2.34
Advanced Manufacturing Technologies	1,054	83.45	4.85	427	33.81	6.30	1,129	89.82	6.78
Information and Communication	949	84.43	5.38	321	28.56	1.77	1,077	96.59	12.60
Agricultural Science	199	74.81	-1.28	77	28.95	0.98	210	78.95	-1.74
Aviation	39	92.86	2.32	15	35.71	1.38	38	100.00	2.80

Table A7.5 Earnings over 24,000 euros

	Over 24,000 euros		
	n	%	Adjusted residuals
Geography and History	61	12.35	-6.82
Philosophy and Humanities	13	10.24	-3.96
Philology and Comparative Studies	53	10.37	-7.99
Visual Arts	12	7.95	-4.98
Economics; Business Administration and Management; Business Sciences	739	41.06	16.16
Law and Politics	420	29.35	3.51
Communication and Documentation	167	17.77	-5.63
Psychology and Pedagogy	68	11.07	-8.38
Teaching	99	4.74	-23.52
Tourism	32	11.72	-5.27
Sport	19	7.34	-6.77
Chemistry	47	22.27	-1.08
Biology and Natural Science	77	11.63	-8.38
Physics and Mathematics	55	31.25	1.76
Health Care and Assistance	130	11.62	-11.09
Medicine and Dentistry	186	54.23	12.35

Pharmacy and Food Science & Technology	48	28.24	0.82
Veterinary Science	11	15.71	-1.88
Architecture	85	23.04	-1.10
Civil Engineering	113	48.29	8.06
Nautical Science	24	50.00	3.90
Advanced Manufacturing Technologies	629	52.81	22.56
Information and Communication	575	53.84	22.06
Agricultural Science	51	19.54	-2.23
Aviation	23	57.50	4.65

ANNEX A8. INDICATORS BY GENDER[44]

Table A8.1 Employment rate, unemployment rate and inactivity rate

		2008				2011				2014				2011-2008		2014-2008		2014-2011	
		Female		Male		Female		Male		Female		Male		Female	Male	Female	Male	Female	Male
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%						
Humanities	Employed	1,043	89.15	481	90.07	988	82.68	374	78.57	798	77.93	332	71.55%	-6.47%	-11.50%	-11.22%	-18.52%	-4.75%	-7.02%
	Unemployed	68	5.81	30	5.62	146	12.22	70	14.71	160	15.63	84	18.10%	6.41%	9.09%	9.81%	12.49%	3.41%	3.40%
	Inactive	59	5.04	23	4.31	61	5.10	32	6.72	66	6.45	48	10.34%	0.06%	2.42%	1.40%	6.04%	1.34%	3.62%
	Total	1,70	100.00	534	100.00	1,195	100.00	476	100.00	1,024	100.00	464	100.00%						
Social Sciences	Employed	3,709	94.52	1,445	93.23	4,493	90.13	1834	89.16	4,653	84.62	2,221	87.72%	-4.39%	-4.07%	-9.91%	-5.51%	-5.52%	-1.44%
	Unemployed	101	2.57	59	3.81	329	6.60	152	7.39	631	11.47	230	9.08%	4.03%	3.58%	8.90%	5.28%	4.88%	1.69%
	Inactive	114	2.91	46	2.97	163	3.27	71	3.45	215	3.91	81	3.20%	0.36%	0.48%	1.00%	0.23%	0.64%	-0.25%
	Total	3,924	100.00	1,550	100.00	4,985	100.00	2,057	100.00	5,499	100.00	2,532	100.00%						
Experimental Sciences	Employed	552	89.32	366	92.19	618	88.16	320	83.33	548	78.62	359	81.59%	-1.16%	-8.86%	-10.70%	-10.60%	-9.54%	-1.74%
	Unemployed	21	3.40	9	2.27	49	6.99	44	11.46	117	16.79	51	11.59%	3.59%	9.19%	13.39%	9.32%	9.80%	0.13%

[44] Public universities

	Inactive	45	7.28	22	5.54	34	4.85	20	5.21	32	4.59	30	6.82%	-2.43%	-0.33%	-2.69%	1.28%	-0.26%	1.61%
	Total	618	100.00	397	100.00	701	100.00	384	100.00	697	100.00	440	100.00%						
Health Sciences	**Employed**	999	95.32	233	95.10	1,212	92.45	327	92.63	1,255	87.33	385	90.38%	-2.88%	-2.47%	-7.99%	-4.73%	-5.11%	-2.26%
	Unemployed	22	2.10	5	2.04	64	4.88	21	5.95	124	8.63	25	5.87%	2.78%	3.91%	6.53%	3.83%	3.75%	-0.08%
	Inactive	27	2.58	7	2.86	35	2.67	5	1.42	58	4.04	16	3.76%	0.09%	-1.44%	1.46%	0.90%	1.37%	2.34%
	Total	1,048	100.00	245	100.00	1,311	100.00	353	100.00	1,437	100.00	426	100.00%						
Engineering and Architecture	**Employed**	695	93.79	1,939	95.47	824	87.66	2,532	89.60	693	83.19	2,358	87.59%	-6.13%	-5.87%	-10.60%	-7.88%	-4.47%	-2.00%
	Unemployed	20	2.70	45	2.22	83	8.83	205	7.25	105	12.61	231	8.58%	6.13%	5.04%	9.91%	6.37%	3.78%	1.33%
	Inactive	26	3.51	47	2.31	33	3.51	89	3.15	35	4.20	103	3.83%	0.00%	0.84%	0.69%	1.51%	0.69%	0.68%
	Total	741	100.00	2,031	100.00	940	100.00	2,826	100.00	833	100.00	2,692	100.00%						
Total	**Employed**	6,998	93.29	4,464	93.84	8,135	89.08	5,387	88.37	7,947	83.74	5,655	86.28%	-4.21%	-5.47%	-9.55%	-7.56%	-5.34%	-2.09%
	Unemployed	232	3.09	148	3.11	671	7.35	492	8.07	1,137	11.98	621	9.48%	4.25%	4.96%	8.89%	6.36%	4.63%	1.40%
	Inactive	271	3.61	145	3.05	326	3.57	217	3.56	406	4.28	278	4.24%	-0.04%	0.51%	0.67%	1.19%	0.71%	0.68%
	Total	7,501	100.00	4,757	100.00	9,132	100.00	6,096	100.00	9,490	100.00	6,554	100.00%						

Table A8.2 Employment rate according to subject grouping

Employment rate	Female		Male				
	p1	*n1*	*p2*	*n2*	Diff.%	Test statistic P	Value Z ~ N(0,1)
Geography and History	73.47%	252	66.36%	146	-0.07	0.709	1.504
Philosophy and Humanities	62.77%	59	70.42%	50	0.08	0.663	-0.843
Philology and Comparative Studies	84.57%	400	80.17%	93	-0.04	0.837	1.034
Visual Arts	76.32%	87	75.44%	43	-0.01	0.760	0.110
Economics; Business Administration and Management; Business Sciences	87.85%	918	89.04%	788	0.01	0.884	-0.767
Law and Politics	81.51%	829	88.54%	502	0.07	0.842	-3.401
Communication and Documentation	85.94%	538	86.36%	323	0.00	0.861	-0.173
Psychology and Pedagogy	80.90%	483	79.01%	64	-0.02	0.807	0.360
Teaching	85.33%	1,634	87.16%	319	0.02	0.856	-0.853
Tourism	82.38%	187	78.79%	52	-0.04	0.816	0.591
Sport	89.04%	65	89.32%	184	0.00	0.892	-0.062
Chemistry	79.86%	111	85.71%	78	0.06	0.823	-1.038
Biology and Natural Science	76.69%	375	76.52%	176	0.00	0.766	0.043
Physics and Mathematics	89.86%	62	88.24%	105	-0.02	0.888	0.321
Health Care and Assistance	85.14%	825	87.94%	226	0.03	0.857	-1.066
Medicine and Dentistry	95.13%	254	95.33%	102	0.00	0.952	-0.078
Pharmacy, Food Science and Technology	88.59%	132	95.00%	38	0.06	0.900	-1.162
Veterinary Science	84.62%	44	86.36%	19	0.02	0.851	-0.179
Architecture	81.10%	133	81.82%	207	0.01	0.815	-0.167
Civil Engineering	71.76%	61	76.06%	143	0.04	0.748	-0.647
Nautical Science	69.23%	9	90.00%	36	0.21	0.858	-1.599
Advanced Manufacturing Technologies	86.04%	228	88.12%	912	0.02	0.877	-0.855
Information and Communication	92.06%	174	92.43%	879	0.00	0.924	-0.166
Agricultural Science	74.77%	80	78.98%	139	0.04	0.774	-0.718
Aviation	77.78%	7	86.11%	31	0.08	0.846	-0.551

Diff.: Difference

Test of equal proportions for two independent populations:

H_0: Employment rate for females = Employment rate for males

H_a: Employment rate for females ¹ Employment rate for males

Test statistic P: Function of the sample data according to which the decision is made to reject H_0 or not, i.e. to either reject the equality of the rates or not. For this test, the function of the test statistic P is: $P = \frac{n_1P_1+n_2P_2}{n_1+n_2}$

Value Z ~ N(0,1): Rejection region of the values for the test statistic P in which H_0 will be rejected. For this test, the function of the rejection zone Z is: $Z = \frac{P_1-P_2}{\sqrt{P(1-P)\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$

NB: These data should be interpreted within the context of the low frequency (*n*<30) of people in certain categories

Table A8.3 Unemployment rate according to subject grouping

Unemployment rate	Female		Male				
	p1	*n1*	*p2*	*n2*	Diff.%	Test statistic P	Value Z ~ N(0,1)
Geography and History	21.28%	73	24.09%	53	0.028	0.22	-0.373
Philosophy and Humanities	20.21%	19	18.31%	13	-0.019	0.19	0.134
Philology and Comparative Studies	10.99%	52	8.62%	10	-0.024	0.11	0.223
Visual Arts	14.04%	16	14.04%	8	0.000	0.14	0.000
Economics; Business Administration and Management; Business Sciences	10.05%	105	8.25%	73	-0.018	0.09	0.406
Law and Politics	12.59%	128	7.41%	42	-0.052	0.11	0.920
Communication and Documentation	10.86%	68	10.70%	40	-0.002	0.11	0.027
Psychology and Pedagogy	14.91%	89	17.28%	14	0.024	0.15	-0.230
Teaching	10.76%	206	10.11%	37	-0.006	0.11	0.118
Tourism	12.33%	28	12.12%	8	-0.002	0.12	0.016
Sport	9.59%	7	8.25%	17	-0.013	0.09	0.106
Chemistry	15.83%	22	8.79%	8	-0.070	0.14	0.492
Biology and Natural Science	18.81%	92	17.39%	40	-0.014	0.18	0.194
Physics and Mathematics	4.35%	3	2.52%	3	-0.018	0.03	0.123
Health Care and Assistance	10.42%	101	7.78%	20	-0.026	0.10	0.360
Medicine and Dentistry	1.87%	5	1.87%	2	0.000	0.02	0.000
Pharmacy, Food Science and Technology	8.72%	13	2.50%	1	-0.062	0.08	0.218
Veterinary Science	9.62%	5	9.09%	2	-0.005	0.09	0.021
Architecture	13.41%	22	13.83%	35	0.004	0.14	-0.045
Civil Engineering	20.00%	17	17.55%	33	-0.024	0.18	0.212
Nautical Science	30.77%	4	5.00%	2	-0.258	0.22	0.716
Advanced Manufacturing Technologies	11.32%	30	8.21%	85	-0.031	0.09	0.511
Information and Communication	4.76%	9	4.94%	47	0.002	0.05	-0.023
Agricultural Science	19.63%	21	14.77%	26	-0.049	0.17	0.441
Aviation	22.22%	2	5.56%	2	-0.167	0.14	0.482

Table A8.4 Percentage of graduates with permanent contracts according to subject grouping

Stability rate	Female		Male		Diff.%	Test statistic P	Value Z ~ N(0,1)
	p1	*n1*	*p2*	*n2*			
Geography and History	46.27%	149	38.46%	75	-0.078	0.44	1.113
Philosophy and Humanities	41.46%	34	33.87%	21	-0.076	0.39	0.562
Philology and Comparative Studies	40.80%	184	29.09%	32	-0.117	0.39	1.253
Visual Arts	26.17%	28	32.14%	18	0.060	0.29	-0.438
Economics; Business Administration and Management; Business Sciences	68.55%	704	60.86%	535	-0.077	0.65	2.813
Law and Politics	55.01%	533	60.00%	330	0.050	0.57	-1.440
Communication and Documentation	52.59%	325	42.01%	155	-0.106	0.49	2.169
Psychology and Pedagogy	42.01%	242	45.45%	35	0.034	0.42	-0.385
Teaching	35.54%	665	42.02%	150	0.065	0.37	-1.486
Tourism	56.95%	127	56.25%	36	-0.007	0.57	0.075
Sport	46.58%	34	41.67%	85	-0.049	0.43	0.489
Chemistry	46.27%	62	36.36%	32	-0.099	0.43	0.919
Biology and Natural Science	33.04%	152	26.01%	58	-0.070	0.31	0.985
Physics and Mathematics	47.76%	32	41.44%	46	-0.063	0.44	0.553
Health Care and Assistance	37.58%	357	38.15%	95	0.006	0.38	-0.103
Medicine and Dentistry	28.95%	77	19.63%	21	-0.093	0.27	0.853
Pharmacy, Food Science and Technology	69.39%	102	58.97%	23	-0.104	0.67	0.963
Veterinary Science	55.77%	29	40.91%	9	-0.149	0.52	0.780
Architecture	28.85%	45	32.24%	79	0.034	0.31	-0.393
Civil Engineering	46.05%	35	45.09%	78	-0.010	0.45	0.095
Nautical Science	54.55%	6	65.00%	26	0.105	0.63	-0.478
Advanced Manufacturing Technologies	60.39%	154	60.38%	608	0.000	0.60	0.003
Information and Communication	67.57%	125	66.74%	626	-0.008	0.67	0.180
Agricultural Science	45.92%	45	43.11%	72	-0.028	0.44	0.297
Aviation	66.67%	6	60.61%	20	-0.061	0.62	0.268

Table A8.5 Percentage of graduates with either temporary or short-term work contracts according to subject grouping

Temporary/short-term work contract rate	Female		Male		Diff.%	Test statistic P	Value Z ~ N(0,1)
	p1	*n1*	*p2*	*n2*			
Geography and History	38.51%	124	40.00%	78	0.015	0.39	-0.211
Philosophy and Humanities	42.68%	35	38.71%	24	-0.040	0.41	0.305
Philology and Comparative Studies	41.69%	188	43.64%	48	0.020	0.42	-0.244
Visual Arts	39.25%	42	19.64%	11	-0.196	0.35	1.212
Economics; Business Administration and Management; Business Sciences	22.20%	228	19.00%	167	-0.032	0.21	0.774
Law and Politics	28.69%	278	18.36%	101	-0.103	0.26	2.028
Communication and Documentation	29.45%	182	27.37%	101	-0.021	0.29	0.370
Psychology and Pedagogy	40.10%	231	37.66%	29	-0.024	0.40	0.253
Teaching	60.56%	1,133	50.14%	179	-0.104	0.59	2.634
Tourism	34.53%	77	37.50%	24	0.030	0.35	-0.266
Sport	43.84%	32	39.71%	81	-0.041	0.41	0.402
Chemistry	35.07%	47	27.27%	24	-0.078	0.32	0.664
Biology and Natural Science	42.61%	196	42.15%	94	-0.005	0.42	0.074
Physics and Mathematics	31.34%	21	36.04%	40	0.047	0.34	-0.367
Health Care and Assistance	49.26%	468	34.54%	86	-0.147	0.47	2.515
Medicine and Dentistry	42.86%	114	43.93%	47	0.011	0.43	-0.124
Pharmacy. Food Science and Technology	22.45%	33	10.26%	4	-0.122	0.21	0.564
Veterinary Science	17.31%	9	18.18%	4	0.009	0.18	-0.038
Architecture	21.79%	34	17.14%	42	-0.047	0.19	0.512
Civil Engineering	34.21%	26	38.73%	67	0.045	0.37	-0.404
Nautical Science	45.45%	5	30.00%	12	-0.155	0.35	0.611
Advanced Manufacturing Technologies	31.37%	80	26.42%	266	-0.050	0.28	0.870
Information and Communication	20.54%	38	19.83%	186	-0.007	0.20	0.100
Agricultural Science	32.65%	32	37.13%	62	0.045	0.36	-0.429
Aviation	33.33%	3	18.18%	6	-0.152	0.23	0.507

Table A8.6 Percentage of those with graduate-level job duties and responsibilities by subject grouping

Graduate-level job duties and responsibilities	Female		Male				
	p1	*n1*	*p2*	*n2*	Diff.%	Test statistic P	Value Z ~ N(0,1)
Geography and History	53.42%	172	45.41%	89	-0.080	0.51	1.227
Philosophy and Humanities	51.22%	42	53.97%	34	0.027	0.52	-0.239
Philology and Comparative Studies	73.95%	335	72.97%	81	-0.010	0.74	0.180
Visual Arts	61.68%	66	60.71%	34	-0.010	0.61	0.094
Economics; Business Administration and Management; Business Sciences	77.70%	798	80.45%	708	0.028	0.79	-1.309
Law and Politics	68.90%	669	67.64%	372	-0.013	0.68	0.420
Communication and Documentation	75.73%	468	65.58%	242	-0.101	0.72	2.862
Psychology and Pedagogy	74.48%	429	74.03%	57	-0.005	0.74	0.074
Teaching	82.10%	1,536	74.02%	265	-0.081	0.81	3.088
Tourism	68.16%	152	67.19%	43	-0.010	0.68	0.121
Sport	75.34%	55	70.10%	143	-0.052	0.72	0.733
Chemistry	90.30%	121	90.91%	80	0.006	0.91	-0.145
Biology and Natural Science	72.02%	332	69.51%	155	-0.025	0.71	0.570
Physics and Mathematics	91.04%	61	87.39%	97	-0.037	0.89	0.710
Health Care and Assistance	89.89%	854	90.80%	227	0.009	0.90	-0.406
Medicine and Dentistry	99.62%	265	100.00 %	107	0.004	1.00	-0.635
Pharmacy, Food Science and Technology	92.52%	136	97.44%	38	0.049	0.94	-1.095
Veterinary Science	96.15%	50	95.45%	21	-0.007	0.96	0.136
Architecture	80.13%	125	81.63%	200	0.015	0.81	-0.337
Civil Engineering	78.95%	60	84.48%	147	0.055	0.83	-0.959
Nautical Science	50.00%	6	85.00%	34	0.350	0.80	-1.967
Advanced Manufacturing Technologies	81.57%	208	83.93%	846	0.024	0.83	-0.821
Information and Communication	83.24%	154	84.66%	795	0.014	0.84	-0.445
Agricultural Science	72.73%	72	76.05%	127	0.033	0.75	-0.519
Aviation	100.00 %	9	90.91%	30	-0.091	0.93	0.938

Table A8.7 Percentage of graduates with managerial duties and responsibilities according to subject grouping

Percentage of graduates with managerial duties and responsibilities	Female		Male				
	p1	*n1*	*p2*	*n2*	Diff.%	Test statistic P	Value Z ~ N(0,1)
Geography and History	21.43%	69	20.41%	40	-0.010	0.21	0.126
Philosophy and Humanities	24.39%	20	23.81%	15	-0.006	0.24	0.040
Philology and Comparative Studies	23.18%	105	17.12%	19	-0.061	0.22	0.585
Visual Arts	23.36%	25	32.14%	18	0.088	0.27	-0.639
Economics; Business Administration and Management; Business Sciences	41.09%	422	48.30%	425	0.072	0.45	-2.109
Law and Politics	29.15%	283	39.56%	218	0.104	0.34	-2.446
Communication and Documentation	37.86%	234	38.48%	142	0.006	0.38	-0.120
Psychology and Pedagogy	24.13%	139	18.18%	14	-0.060	0.24	0.500
Teaching	10.53%	197	12.85%	46	0.023	0.11	-0.453
Tourism	29.15%	65	31.25%	20	0.021	0.30	-0.180
Sport	28.77%	21	32.20%	66	0.034	0.31	-0.295
Chemistry	14.18%	19	10.23%	9	-0.040	0.13	0.291
Biology and Natural Science	16.49%	76	16.14%	36	-0.003	0.16	0.046
Physics and Mathematics	10.45%	7	7.21%	8	-0.032	0.09	0.222
Health Care and Assistance	10.00%	95	14.00%	35	0.040	0.11	-0.645
Medicine and Dentistry	0.75%	2	5.61%	6	0.049	0.04	-0.290
Pharmacy, Food Science and Technology	31.29%	46	28.21%	11	-0.031	0.31	0.199
Veterinary Science	17.31%	9	18.18%	4	0.009	0.18	-0.038
Architecture	35.90%	56	47.76%	117	0.119	0.44	-1.470
Civil Engineering	35.53%	27	40.23%	70	0.047	0.39	-0.426
Nautical Science	16.67%	2	50.00%	20	0.333	0.47	-0.901
Advanced Manufacturing Technologies	29.80%	76	34.82%	351	0.050	0.34	-0.838
Information and Communication	30.81%	57	28.12%	264	-0.027	0.29	0.408
Agricultural Science	28.28%	28	29.34%	49	0.011	0.29	-0.099
Aviation	44.44%	4	33.33%	11	-0.111	0.36	0.396

Table A8.8 Part-time job rate according to subject grouping

Part-time job	Female		Male				
	p1	*n1*	*p2*	*n2*	Diff.%	Test statistic P	Value Z ~ N(0,1)
Geography and History	41.06%	124	32.97%	60	-0.081	0.38	1.058
Philosophy and Humanities	54.43%	43	40.00%	24	-0.144	0.49	1.133
Philology and Comparative Studies	42.86%	186	37.62%	38	-0.052	0.42	0.596
Visual Arts	40.20%	41	26.42%	14	-0.138	0.37	0.924
Economics; Business Administration and Management; Business Sciences	9.87%	99	7.76%	67	-0.021	0.09	0.465
Law and Politics	20.94%	197	14.61%	78	-0.063	0.19	1.202
Communication and Documentation	24.01%	145	20.44%	74	-0.036	0.23	0.595
Psychology and Pedagogy	44.23%	249	33.33%	25	-0.109	0.43	1.048
Teaching	47.37%	882	44.16%	155	-0.032	0.47	0.738
Tourism	18.81%	41	12.50%	8	-0.063	0.18	0.427
Sport	52.78%	38	56.50%	113	0.037	0.56	-0.399
Chemistry	19.47%	22	8.20%	5	-0.113	0.17	0.600
Biology and Natural Science	29.67%	108	31.98%	55	0.023	0.30	-0.303
Physics and Mathematics	10.91%	6	10.75%	10	-0.002	0.11	0.010
Health Care and Assistance	44.21%	416	36.29%	90	-0.079	0.43	1.377
Medicine and Dentistry	32.18%	84	29.52%	31	-0.027	0.31	0.273
Pharmacy, Food Science and Technology	14.18%	20	6.25%	2	-0.079	0.13	0.313
Veterinary Science	19.15%	9	23.53%	4	0.044	0.20	-0.181
Architecture	26.97%	41	17.99%	43	-0.090	0.22	0.987
Civil Engineering	13.04%	9	9.20%	15	-0.038	0.11	0.295
Nautical Science	16.67%	2	2.56%	1	-0.141	0.12	0.355
Advanced Manufacturing Technologies	14.29%	35	6.76%	65	-0.075	0.09	1.231
Information and Communication	8.14%	14	4.83%	43	-0.033	0.06	0.467
Agricultural Science	14.77%	13	14.56%	23	-0.002	0.15	0.018
Aviation	0.00%	0	3.45%	1	0.034	0.03	-

Table A8.9 Percentage of graduates earning over 24,000 euros according to subject grouping

Over 24,000 euros a year	Female		Male				
	p1	*n1*	*p2*	*n2*	Diff.%	Test statistic P	Value Z ~ N(0,1)
Geography and History	11.36%	35	13.98%	26	0.026	0.12	-0.306
Philosophy and Humanities	10.00%	7	10.53%	6	0.005	0.10	-0.031
Philology and Comparative Studies	9.22%	38	15.15%	15	0.059	0.11	-0.624
Visual Arts	7.29%	7	9.09%	5	0.018	0.08	-0.113
Economics; Business Administration and Management; Business Sciences	32.48%	316	51.15%	423	0.187	0.43	-5.070
Law and Politics	20.77%	190	44.57%	230	0.238	0.34	-5.134
Communication and Documentation	15.57%	92	21.49%	75	0.059	0.18	-0.986
Psychology and Pedagogy	10.35%	56	16.44%	12	0.061	0.11	-0.602
Teaching	4.05%	71	8.31%	28	0.043	0.05	-0.855
Tourism	9.43%	20	19.67%	12	0.102	0.13	-0.826
Sport	1.52%	1	9.33%	18	0.078	0.09	-0.267
Chemistry	21.43%	27	23.53%	20	0.021	0.22	-0.171
Biology and Natural Science	10.71%	48	13.55%	29	0.028	0.12	-0.374
Physics and Mathematics	28.79%	19	32.73%	36	0.039	0.31	-0.299
Health Care and Assistance	9.83%	87	18.38%	43	0.085	0.13	-1.379
Medicine and Dentistry	52.65%	129	58.16%	57	0.055	0.54	-0.696
Pharmacy, Food Science and Technology	28.47%	39	27.27%	9	-0.012	0.28	0.072
Veterinary Science	8.16%	4	33.33%	7	0.252	0.24	-0.938
Architecture	10.14%	14	30.74%	71	0.206	0.27	-1.580
Civil Engineering	41.67%	30	51.23%	83	0.096	0.49	-0.899
Nautical Science	18.18%	2	59.46%	22	0.413	0.56	-1.126
Advanced Manufacturing Technologies	46.94%	115	54.33%	514	0.074	0.53	-1.436
Information and Communication	48.02%	85	54.99%	490	0.070	0.54	-1.190
Agricultural Science	10.20%	10	25.15%	41	0.149	0.22	-1.020
Aviation	66.67%	6	54.84%	17	-0.118	0.58	0.505

Table A8.10 Skilled job rate according to subject grouping

Skilled job rate	Female		Male				
	p1	*n1*	*p2*	*n2*	Diff.%	Test statistic P	Value Z ~ N(0,1)
Geography and History	63.41%	201	57.44%	112	-0.060	0.61	1.040
Philosophy and Humanities	67.07%	55	68.85%	42	0.018	0.68	-0.186
Philology and Comparative Studies	76.47%	338	84.91%	90	0.084	0.78	-1.724
Visual Arts	81.13%	86	80.36%	45	-0.008	0.81	0.107
Economics; Business Administration and Management; Business Sciences	76.30%	776	84.44%	738	0.081	0.80	-3.976
Law and Politics	71.22%	688	71.35%	391	0.001	0.71	-0.045
Communication and Documentation	83.56%	488	82.85%	285	-0.007	0.83	0.256
Psychology and Pedagogy	84.70%	487	89.47%	68	0.048	0.85	-1.042
Teaching	86.90%	1,618	86.12%	304	-0.008	0.87	0.367
Tourism	35.43%	79	35.94%	23	0.005	0.36	-0.045
Sport	91.78%	67	86.34%	177	-0.054	0.88	1.160
Chemistry	90.98%	121	92.94%	79	0.020	0.92	-0.494
Biology and Natural Science	81.70%	375	78.48%	175	-0.032	0.81	0.892
Physics and Mathematics	83.33%	55	93.64%	103	0.103	0.90	-2.061
Health Care and Assistance	83.15%	770	90.32%	224	0.072	0.85	-2.628
Medicine and Dentistry	100.00 %	266	100.00 %	107	0.000	1.00	#¡DIV/0 !
Pharmacy, Food Science and Technology	97.22%	140	94.87%	37	-0.024	0.97	0.715
Veterinary Science	96.08%	49	95.24%	20	-0.008	0.96	0.159
Architecture	90.07%	136	90.56%	211	0.005	0.90	-0.152
Civil Engineering	88.16%	67	91.95%	160	0.038	0.91	-0.904
Nautical Science	33.33%	4	82.05%	32	0.487	0.77	-2.171
Advanced Manufacturing Technologies	87.84%	224	90.32%	905	0.025	0.90	-1.098
Information and Communication	94.05%	174	97.10%	903	0.030	0.97	-2.029
Agricultural Science	83.84%	83	76.05%	127	-0.078	0.79	1.358
Aviation	100.00 %	8	100.00 %	30	0.000	1.00	-

ANNEX A9. TECHNICAL SPECIFICATIONS

Company that carried out the fieldwork

IKERFEL

Population

People who graduated in the 2010 cohort (2009-2010 academic year). In the case of Medicine, due to the longer period of time for graduates to enter the labour market due to compulsory work experience (internship), it was those who graduated in the 2007 cohort (2006-2007 academic year).

This fifth survey includes several post-Bologna degree programmes in Design, International Commerce, Audiovisual and Multimedia Studies, Archival Studies and Document Management, Tourism, Multimedia Studies, Photography and Digital Creation.

Sample

Calculations were made to obtain the necessary sample with a sampling error per degree and university no greater than 8%.

Period

The survey was carried out between 15 January and 28 March 2014. In the case of the Open University/UOC, it was carried out between 12-25 February 2014.

Schedule for the telephone calls

From 8.30 a.m. to 10.30 p.m., although usually from 9.15 a.m. to 9.30 p.m. Calls were also made during the weekend.

Back office

Coding of the sector of economic activity was based on the open description of the sector. Occupations were codified according to the Spanish Classification of Occupations (CNO), based on the open description of the type of job and the precoded options for degree programmes.

Average call time

The average duration of each call was 11.06 minutes for graduates in work; 12.48 minutes for graduates who did not have a job at the time of the survey, but who had worked since completing their studies; and 8.48 minutes for graduates who had not worked at all since graduation.

In the case of the Open University/UOC, the average duration of each call was 11.54 minutes for graduates in work, 12.48 minutes for graduates who did not have a job at the time of the survey, but who had worked since completing their studies, and 9.48 minutes for graduates who had not worked at all since graduation.

Types of call

The different ways that survey telephone calls were made were as follows:

Table A9.1 Types of telephone call to graduates (excluding UOC/Open University graduates)

	n	%
Landline/regular phone	2,710	16.89%
International	255	1.59%
Mobile/cell	12,925	80.56%
Unclassifiable	105	0.65%
Text	49	0.31%
Total	**16,044**	**100.00%**

Table A9.2 Types of telephone call to UOC/Open University graduates

	n	%
Landline/regular phone	285	22.04%
International	1	0.08%
Mobile/cell	3	0.23%
Unclassifiable	951	73.55%
Text	53	4.10%
Total	**1,293**	**100.00%**

Call-based data entries: end result

There were 28,616 entries in the initial database.

Table A9.3 Survey interviews

	n	%
Interviews	16,044	57.29%
Negative responses	634	2.26%
Deferred, incomplete	1,328	4.74%
Wrong numbers	1,056	3.77%
Limit for the number of calls exceeded (calls not answered)	140	0.50%
No reply/answer phone	6,810	24.32%
Dropped out of the survey	64	0.23%
Not used because of a full quota	789	2.82%
Abroad	503	1.80%
Others	637	2.27%
Total	**28,005**	**100.00%**

Table A9.4 Survey interviews Open University/UOC

	n	%
Interviews	1,293	39.49%
Negative responses	61	1.86%
Deferred, incomplete	282	8.61%
Wrong numbers	101	3.08%
Limit for the number of calls exceeded (calls not answered)	4	0.12%
No reply/answer phone	1,116	34.09%
Dropped out of the survey	17	0.52%
Not used due to a full quota	350	10.69%
Abroad	12	0.37%
Others	38	1.16%
Total	**3,274**	**100.00%**

ANNEX A10. SURVEY

DEGREE

.....

1. Do you work at present?

(1) Yes
(2) Not at present → State your last employment. Do not reply to SATISFACTION section
(3) Never → Go to 70

2. What kind of work are you/have you been employed in? .....

FOR Fine Art, Journalism, Audio-visual Communication, Psychology, Nursing, Pharmacy, Medicine, Veterinary, Architecture, Law, Computing, Chemistry, Mathematics, Business Management and Administration there are pre-set categories. Please classify your work in one of the following fields.

If you are a **medical graduate**, have you completed or are you in the process of completing the MIR (internal resident doctor training programme)?

(1) Yes, I did it

(2) I'm doing it

(3) No

In the event of (1) or (2), in which medical specialism?

3. Did you work during the last two years of your degree?

(1) No, I was a full-time student or with intermittent work
(2) Yes, I studied and worked **part-time** in a job related to my studies
(3) Yes, I studied and worked **part-time** in a job unrelated to my studies
(4) Yes, I studied and worked **full-time** in a job related to my studies
(5) Yes, I studied and worked **full-time** in a job unrelated to my studies

4. Is your current job your first? (1) Yes (2) No

5. How long did it take you to find your first job?

(1) It was the job I did before completing my degree
(2) Less than 1 month
(3) Between 1 and 3 months
(4) Between 4 and 6 months
(5) Between 7 months and 1 year
(6) More than one year

6. How did you find you first job?

(1) Contacts (personal, family...)
(2) Newspaper advertisement
(3) Public competition
(4) *Servei Català de Col·locació* (Catalan employment agency) / INEM (Spanish employment institute)
(5) Institutional employment agencies (public administration and/or professional associations)
(6) Self-employment

(7) Internship | (8) University services (employment bureau, observatory...) | (9) Temping agency

(10) Recruitment agency | (11) Internet | (12) Other

In relation to you **CURRENT JOB** (the main one) or your **LAST JOB**:

7. When did you start work there? ..... (two digits)

8. What was required for this job?

(1) Your specific degree → Go to 9.1

(2) Any degree
(3) No university degree was required
} Go to 9.2

9.1. Are/were your studies relevant to the job you do/did? (1) Yes (2) No

9.2. For the job that you do/did, do you think a university degree is/was necessary? (1) Yes (2) No

10. In what sector of the economy is the company where you work/worked? .....

11. What duties does/did your job involve?

(1) Direction/Management | (2) Commercial or logistical | (3) Teaching | (4) R&D

(5) Medical and social assistance | (6) Art and design | (7) Technical duties | (8) Other skilled duties (administrative, etc.)

(9) Non-skilled duties (auxiliary...)

12. What kind of contract do/did you have?

(1) Long-term

(2) Self-employed → 12.1 Those answering "Self-employed", do/did you work:

(1) For oneself (*economically dependent self-employed worker, where 75% of all of one's work is done for one client*) Do not reply to: FACTORS INFLUENCING CONTRACTING (24-31)

(2) For a third party

(3) Temporary

(4) Internship — Those answering "Internship", do not reply to the sections: SATISFACTION WITH CURRENT WORK (19-22), FACTORS INFLUENCING CONTRACTING (24-31) or NUMBER OF WORKERS IN THE COMPANY (17)

(5) Without a contract — For those who answer "without a contract" do not reply to FACTORS INFLUENCING CONTRACTING (24-31)

13. Do you work full-time? **(Except (4) those answering "Internship" in 12)**

(1) Yes (2) No (part-time...)

14. How long was the contract for? **(Only those answering (3) "Temporary" in 12)**

(1) Less than 6 months | (2) Between 6 months and one year | (3) More than one year

15. What sector is the company in:

(1) Public | (2) Private

16. How much do you/did you earn a year (gross)?

(1) Less than €9,000 | (2) Between €9,000 and €12,000 | (3) Between €12,000 and €15,000

(4) Between €15,000 and €18,000 | (5) Between €18,000 and €24,000 | (6) Between €24,000 and €30,000

(7) Between €30,000 and €40,000 | (8) More than €40,000

17. How many people does the company employ? **(Except: (4) those answering "Internship" in 12)**

(1) Less than 10 (2) Between 10 and 50 (3) Between 51 and 100

(4) Between 101 and 250 (5) Between 251 and 500 (6) More than 500

18. Where did you/do you work (province or country)?

(1) Barcelona (2)Tarragona (3) Girona (4) Lleida

(5) Other autonomous communities (6) Europe 18.1 In which country do/did you work?

(7) Other 18.2. In which continent do/did you work?

18.3. In which country?

ASSESS YOUR SATISFACTION WITH YOUR CURRENT JOB

Rate your satisfaction from 1 to 7 (where 1 is **not at all** satisfied and 7 is **very** satisfied) **[Except internships and those who are not at present employed i.e. those answering (2) "Not at present" in 1, (4) "Internships" and (5) "Without contract" in 12]**

19. With the content of your work .....

20. With your prospects for promotion and personal development? .....

21. With the salary? .....

22. With the usefulness of the knowledge gained through university studies for the job? .....

23. With the job in general? (Those answering "Internship" in 12 please reply to 23) .....

ASSESS THE FACTORS INFLUENCING YOUR RECRUITMENT

Rate the reasons which influenced your recruitment from 1 to 7 (where 1 is of little importance or not in any way influential and 7 is very important or very influential): **(Except those answering internships, without contract and self-employed and working for oneself: "Internship" and "Without contract" in 12 and "Self employed working for oneself" in 12.1)**

24. Theoretical knowledge .....

25. Practical knowledge .....

26. Language training / Having knowledge of languages .....

27. Training in the use of information technology and new technologies / Command of information technology and new technologies .....

28. Character: personality, social skills, communication... .....

29. Management and planning skills .....

30. Teamwork skills .....

31. Summarise the role of your university studies as a whole on your recruitment? .....

ASSESS YOUR UNIVERSITY STUDIES AND THE DEGREE TO WHICH THEY COINCIDE WITH YOUR NEEDS IN THE WORKPLACE

What is your opinion of your university studies? Rate from 1 to 7 (where 1 is very poor and 7 is very good) the following aspects of your university studies in relation to your needs in the workplace.

32./33. Theoretical training ...../..... 34./35. Practical training ...../.....

36./37. Oral expression...../..... 38./39. Written communication ...../.....

40./41. Teamwork...../..... 42./43. Leadership ...../.....

44./45. Management ...../..... 46./47. Problem solving ...../.....

48./49. Decision making capacity ...../..... 50./51. Creativity ...../.....

52./53. Critical thinking ...../.....

54./55. Operational skills: information technology ...../.....

56./57. Operational skills: languages ...../.....

58./59. Operational skills: documentation ...../.....

60. If you were to go back to university to take a degree again, would you choose the same degree course? (1) Yes (2) No

61. If you were to go back to university again, would you choose the same university? (1) Yes (2) No

FURTHER STUDIES

62. Since completing your studies, have you taken or are you taking any further studies?

(1) No → Go to 64 (2) Yes, specialised courses (3) Yes, a degree course

(4) Yes, a postgraduate/Master's. (5) Yes, a doctorate (6) Other

63. Are you taking the course at the same university? (1) Yes (2) No

MOBILITY

64. Have you had any experience with mobility?

(1) No → go on to question 66

(2) Yes, during my studies

(3) Yes, for work

(4) Yes, for my studies and my work

65. Was your experience of mobility during either your studies, for your work, or both, international?

(1) Yes

(2) No

ACADEMIC PERFORMANCE AND SOCIOECONOMIC STATUS:

66. What grade did you achieve in your degree course?

(1) Pass (third class honours) (2) Good (Lower-second class honours) (3) Excellent (upper-second class honours) (4) Distinction (first-class honours)

67. What was the highest level of education your parents completed?

(1) Neither of them completed any formal education (2) One obtained secondary education qualifications (3) Both obtained secondary education qualifications

(4) One obtained higher education qualifications (5) Both obtained higher education qualifications

IN THE CASE OF UNEMPLOYMENT **(Those answering: (2) Not at present and (3) Never in question 1)**

68. Are you currently looking for work?

(1) Yes → Go to 71

(2) No

69. If your answer was NO, what are your reasons?

(1) To continue studying/public competitions

(2) Maternity/family → 70. If your answer was Maternity/family, do you expect to look for work in the future?

(3) Other

(1) Yes → **(go on to questions 66 to 67 and complete the survey)**

(2) No → **(go onto questions 66 to 67 and complete the survey)**

From 71 to 82 (Those answering: (1) "Yes" in 68)

71. How long have you been looking for work?

(1) Less than 6 months (2) Between 6 months and 1 year (3) Between 1 and 2 years

(4) More than 2 years

72. How are you looking for work? (You can select more than one option.)

(1) Personal contacts or family

(2) Personal initiative (sending curriculum, requesting interviews...)

(3) Newspaper advertisements

(4) Public competitions

(5) Servei Català de Col·locació (Catalan employment agency)

(6) Setting up your own company or office

(7) University services (careers office)

(8) Education cooperation agreements

(9) Colleges or professional associations

(10) Institutional employment agencies

(11) Internet

(12) Other

(13) I am not looking for work

Rate from 1 to 7 the importance of each of these elements as regards the problems you have had finding work (where 1 is not very important and 7 is very important):

73. Gaps in your university studies .....

74. Personal activities that prevent you from working (studies, family, other...) .....

75. Lack of professional experience .....

76. I want a job that I enjoy doing .....

77. A lack of knowledge of the labour market/how to get a job .....

78. I want a job with a satisfactory salary .....

79. Insufficient foreign language skills .....

80. Lack of computer skills .....

81. Lack of complementary skills or knowledge .....

82. Since graduating, how many jobs have you turned down as being unsuitable? .....

(Go from 66 to 67 and end of questionnaire)

ANNEX A11. EDITORIAL TEAM

Compilation and editing

Anna Prades Nebot	Project Manager, Quality Assurance/AQU
Lorena Bernáldez Arjona	Administrative assistant, Quality Assurance/AQU

Contributors

Sandra Nieto Viramontes	Technical Officer, Quality Assurance/AQU
Concepción Herruzo Fonayet	Editor, Planning and Communication/AQU
Maria Giné Soca	Secretary to AQU Catalunya and the AQU Board
Martí Casadesús Fa	Director
Sebastián Rodríguez Espinar	Consultant, quality innovation and development


Universitat
de Barcelona


UAB
Universitat Autònoma
de Barcelona


UPC
UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH


upf.
Universitat
Pompeu Fabra
Barcelona


Universitat
de Girona


Universitat de Lleida


UNIVERSITAT
ROVIRA i VIRGILI


UOC
Universitat Oberta
de Catalunya


Universitat
Ramon
Llull


UVIC
UNIVERSITAT DE VIC
UNIVERSITAT CENTRAL
DE CATALUNYA


Universitat
Abat Oliba CEU


Universitat
Internacional
de Catalunya