2017

ACCESS TO THE LABOUR MARKET FOR GRADUATES OF MASTER'S DEGREES FROM CATALAN UNIVERSITIES

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Agència per a la Qualitat del Sistema Universitari de Catalunya

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AQU CATALUNYA, 2018

Agència per a la Qualitat del Sistema Universitari de Catalunya

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INTRODUCTION

In 2017, the survey on access to the labour market of the Catalan universities was conducted and it included qualified Bachelor's degree graduates (6 editions), qualified Master's degree graduates (2 editions) and PhD graduates (4 editions). This ambitious project has been conducted thanks to the engagement of the social councils of Catalan public universities, private universities and attached centres, as they envision this instrument to be a distinguishing trait that fosters continual improvement in universities, aligning them closer with society's demands.

The study on Master's degrees analyses access to the labour market as experienced by 8,747 people, accounting for 45% of all Master's degree graduates in the 2011-12 and 2012-13 academic years. The scope and continuity of the study on access to the labour market make it possible to place these results in context in longitudinal terms (comparing them with the data from 2014) and in a cross-disciplinary fashion with other education levels (comparing the data for Bachelor's and Master's degrees and PhDs).

The survey asks questions on factors linked to employment (employment/unemployment, time taken to find the first job, pathways to work, field of work, employment sectors, etc.); **quality of employment** (if employment is found in the field studied, functions performed, contractual stability, yearly earnings, job satisfaction, etc.); and **satisfaction in relation to the study programme followed** (skills acquired, usefulness in the job, willingness to take the same programme again, mobility, etc.).

If we sum up the content of this report, we may draw the following primary conclusions:

- Master's degrees have become firmly established within the educational offer: the proportion of Master's graduates to Bachelor's graduates has risen from a ratio of 1 to 3 in the 2011-12 academic year to 1 to 2 in the 2015-16 academic year. The current figures show that each year around 34,000 Bachelor's degree students, 15,000 Master's degree students and 2,500 PhD students qualify.
- Master's degrees appeal to a substantial number of foreign students: 30% of Master's degree graduates were foreign nationals in the 2015-16 academic year.
- Another indicator of the competitiveness of Master's degrees is the fact that less than half of those who graduate had studied earlier programmes at the same university (37% to be precise).
- In addition, the higher the education level within the university system the better the suitability rate (the percentage performing university-level functions) along with other elements indicative of employment quality (remuneration and job satisfaction).
- 9 in every 10 Master's degree graduates are in employment. The employment rate varies from 83% among those who follow fine arts and 100% among those who follow mechanical engineering and industrial design. Accordingly, the specific degree programme has a significant bearing on access to the labour market.
- The employment rate shows a recovery across all education levels compared to 2014. In addition, an improvement can also be seen in employment conditions compared to 2014 (for instance, full-time employment, greater proportion of permanent contracts, higher earnings, a greater level of responsibility and enhanced job satisfaction), a factor which is not the case at Bachelor's level.
- The proportion of national graduates working abroad has fallen. Employment quality is higher among those who work outside Spain.
- All the specific skills of the Master's degree in line with the Spanish Qualifications Framework (MECES) have received a rating higher than satisfactory. The only skill that shows an obvious shortfall is English. Unlike at Bachelor's level, no improvement has been seen with the development of skills over time.
- 2 in every 3 would take the same Master's degree again; however, there are significant variations according to the field ranging from as high as 77% of those graduating in the sub-field of physics

and mathematics, or documentation (75%) and economics (74%), to 31% of those graduating in the sub-field of building or 40% for fine arts.

- 7 in every 10 go on to take further studies after obtaining the Master's degree, 3 of which follow a PhD (more than half in the case of experimental sciences but only 15% in the field of social sciences). 2 in every 10 continue their education with another Master's degree.
- Overall, the Master's degrees that tend to function the most effectively are those linked to the areas of IT; business administration; medicine and dentistry; nursing; and economics. On the other hand, history; linguistics; Catalan and Spanish philology; sociology and geography; earth sciences; and psychology are the fields that showed the worst performance when compared to the remainder.
- There have been gender-based differences observed in relation to the labour market (25% of these are substantial) and in most cases (80%) men are the favoured gender.

This report is supplemented with invaluable information obtained from the UNEIX Catalan university information system, coordinated by the Secretariat for Universities and Research of the Autonomous Government of Catalonia, and with data from the National Statistics Institute in order to include points of reference in the results obtained.

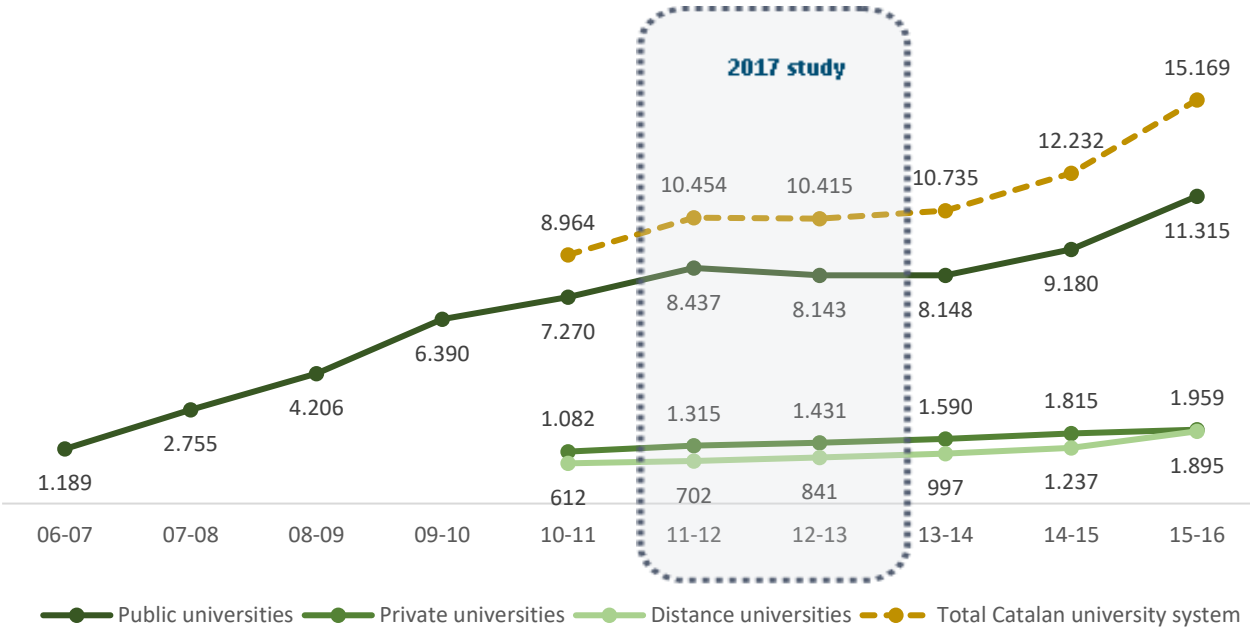
Your interest is greatly appreciated.

Martí Casadesús Fa, AQU Catalunya director

POPULATION DATA

Trend in the population of Master's degree graduates in Catalonia

Figure 1. Trend in the population of Master's degree graduates based on the nature of the university[1] and the scope of the study[2]



The number of individuals obtaining a Master's degree has witnessed a 70% increase in 5 years

- Around 3 in every 4 have graduated from public universities.
- Even so, distance and private universities have witnessed the greatest proportional increase in the number of graduates over the past 5 years (of 210% and 81%, respectively).
- If we look at a broader timeframe, the number of graduates obtaining a Master's degree has increased ninefold over a nine year period (solely taking public universities into consideration).
- In Catalonia, the figures for the number of graduates are currently in the region of 34,000 for Bachelor's degrees, 15,000 for Master's degrees and 2,500 for PhDs. The proportion of Master's graduates to Bachelor's graduates has risen from a ratio of 1 to 3 in the 2011-12 academic year to 1 to 2 in the 2015-16 academic year.

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[1] UNEIX – the source of this data – has been compiling information from private universities and distance universities since the 2011-12 academic year. Attached centres come under the university they are affiliated to.

[2] Includes graduates who qualified 3-4 years before the survey (February 2017) in order to analyse more firmly established employment circumstances rather than just looking at the situation upon graduation.

The graduate population and fields of knowledge

Figure 2. The population of Master's degree graduates according to educational fields and gender (2015-16 academic year for all universities)

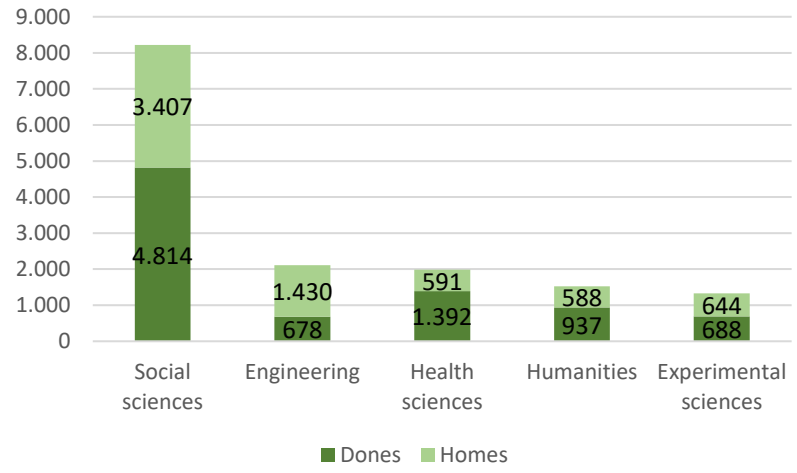
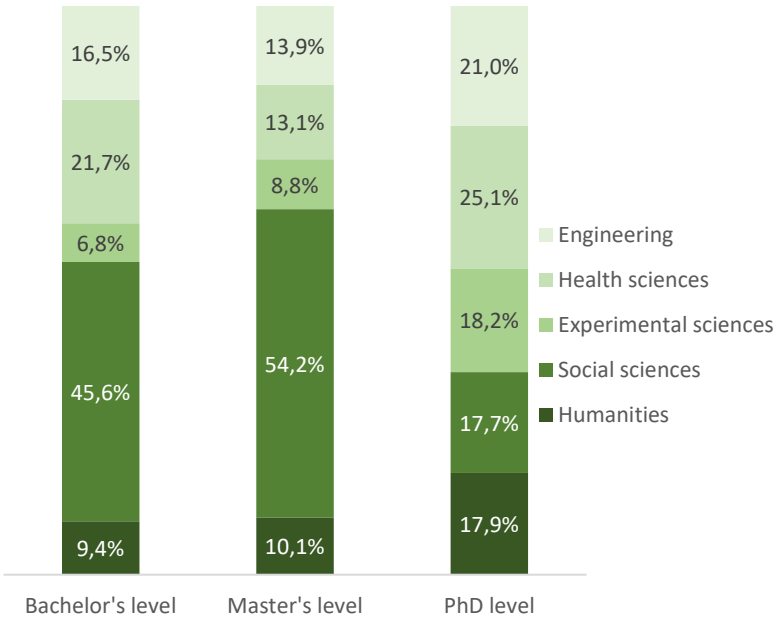


Figure 3. Difference between Bachelor's level, Master's level and PhD level in terms of the percentages following the various educational fields (2015-16 academic year for all universities; only EHEA Bachelor's degrees)



More than half of Master's degree graduates follow social sciences

- The proportions of Master's degree graduates qualifying in humanities and experimental sciences are each around 10%.
- 56% of Master's degree graduates are women. Women form a majority in all fields with the exception of engineering where they account for 32%.
- The percentages following each educational field change according to the university level. Experimental sciences and humanities account for the lowest proportion at Bachelor's level but this increases the higher the level.

Figure 4. Educational fields of Master's degree graduates according to type of university (2015-16 academic year)

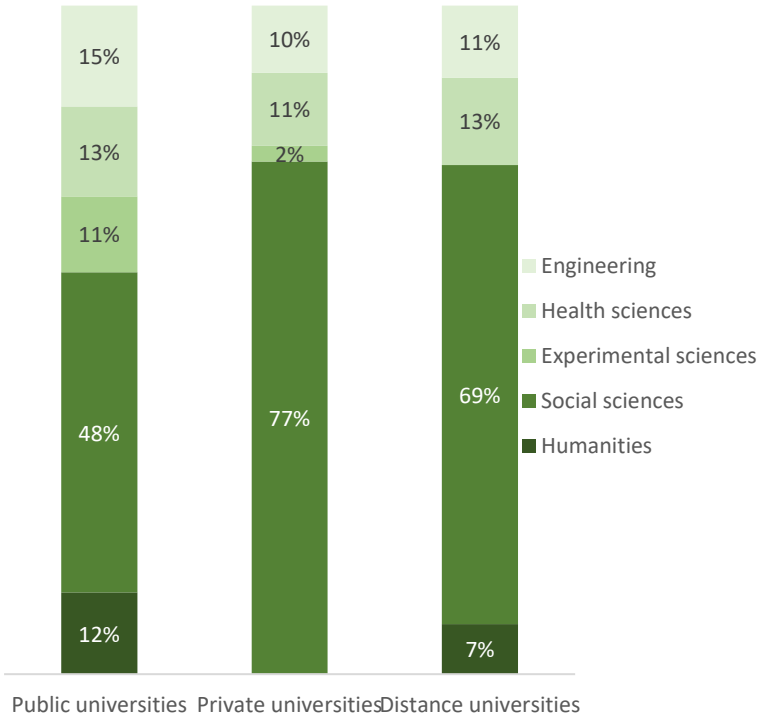
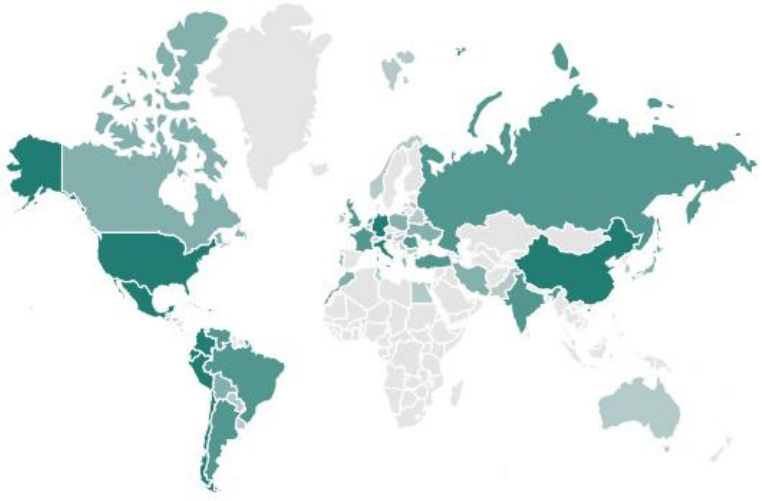


Figure 5. Population of foreign Master's degree graduates (2015-16 academic year for all universities)



The field of social sciences is widely represented, above all at private and distance universities

- The field of social sciences has a more professionally-oriented profile.
- No Master's degree graduates followed humanities at private universities or sciences at distance universities.

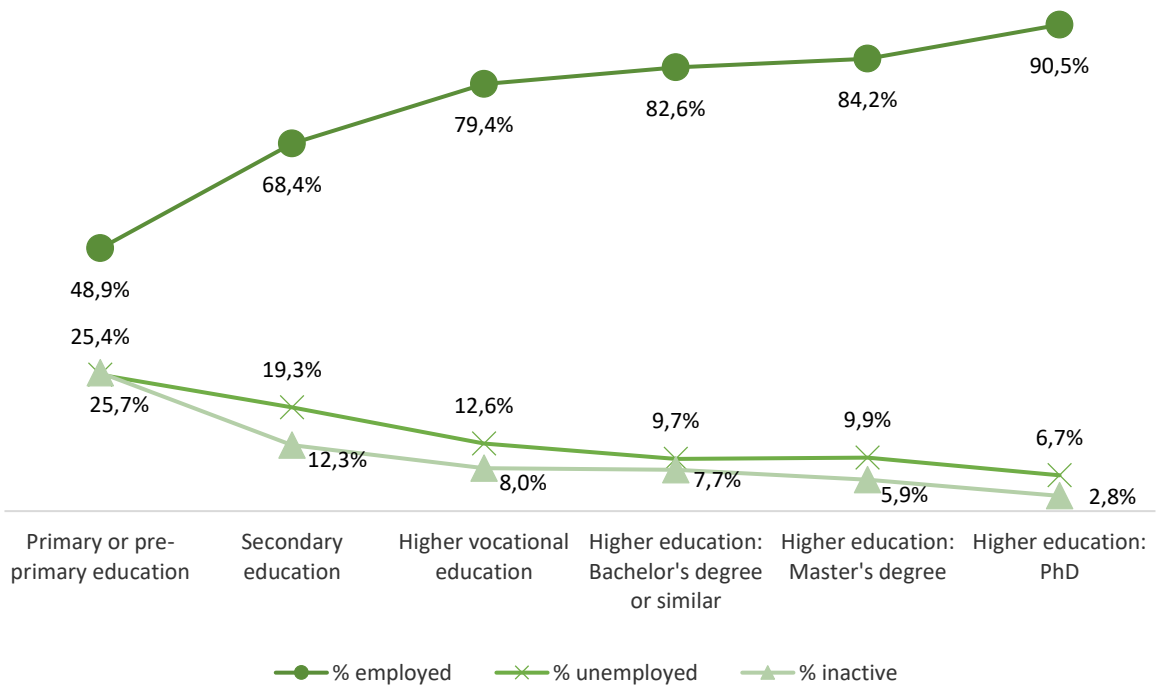
30% of the graduate population are foreign nationals

- 13% are from Ecuador, 12% from Colombia and 8% from China. The remaining 67% are distributed among more than 100 countries.
- By continents: 51% are from South America (up from 41% in the 2013-14 academic year), 25% are from Europe and

THE SURVEY ON THE ACTIVE POPULATION IN SPAIN (APS)[3]

Access to the labour market according to education level

Figure 6. Percentage of the population who are employed, unemployed or inactive[4] according to education level (people aged 25-44 years – APS, 1st quarter 2017)



The higher the education level, the better the access to the labour market

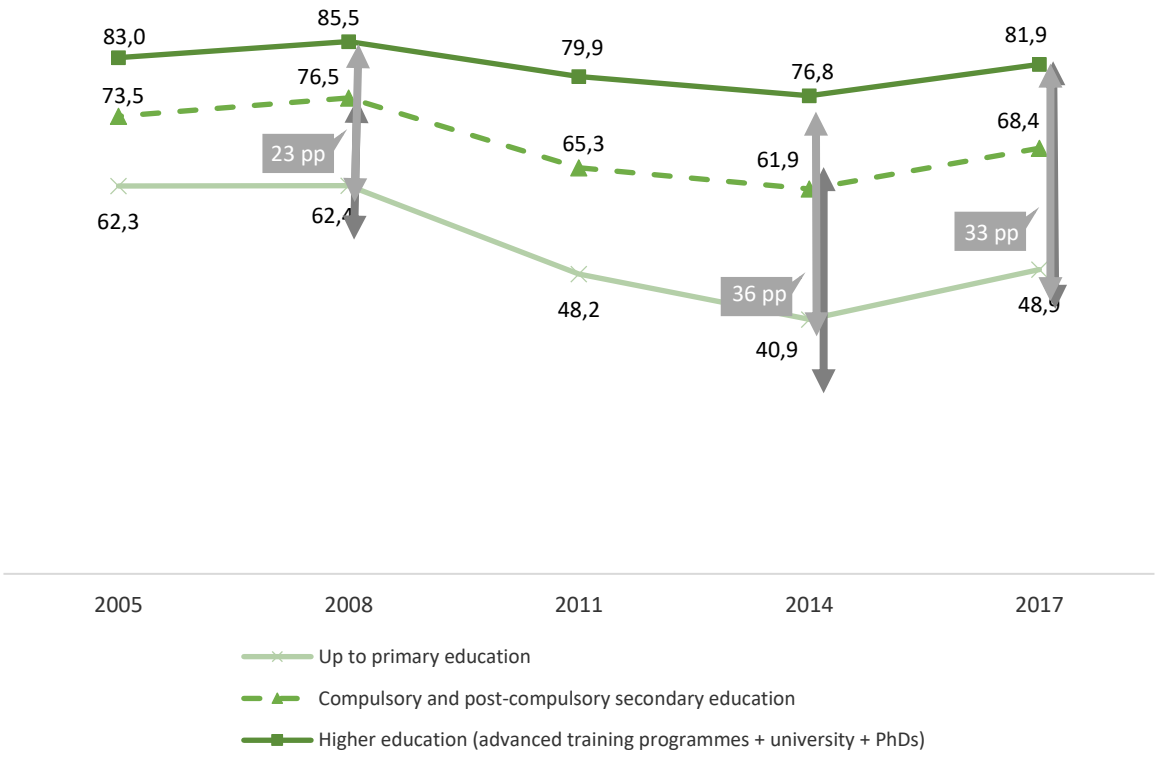
- Pursuing a higher (vocational or university) education clearly enhances employability and saves individuals from unemployment.
- Spain is one of the OECD countries where this distinction is far greater. According to the OECD, the difference in the levels of unemployment among people who pursue the highest education level and those who only follow the lowest in Spain is 28 pp, while the average difference for all OECD countries is of an average 7 pp (OECD, 2016).

[3] Source: National Statistics Institute

[4] Each indicator is calculated with regard to the overall population in each education level.

Trend in the employment rate

Figure 7. Trend in the employment rate according to education level (people aged 25-44 years – APS, 1st quarter of each respective year)



The employment rate shows a recovery for all education levels compared to 2014

- The employment rate for individuals with a higher education shows a 5 pp increase over the past three years and now stands at 82%.
- The difference in the employment rate according to education levels – which rose during the recession, reaching 36 pp in 2014 – shows a slight fall with the figure standing at 33 pp in 2017.
- Therefore, the current economic upturn has favoured access to the labour market for the population with the differences between the various education levels falling.
- Even so, the circumstances are far from reaching pre-recession levels when the difference in the employment rate between those who only had a primary education and those with a higher education qualification was 23 pp.

THE SURVEY ON ACCESS TO THE LABOUR MARKET FOR MASTER'S DEGREE GRADUATES

Employment

Figure 8. Employment according to the university level reached in 2017

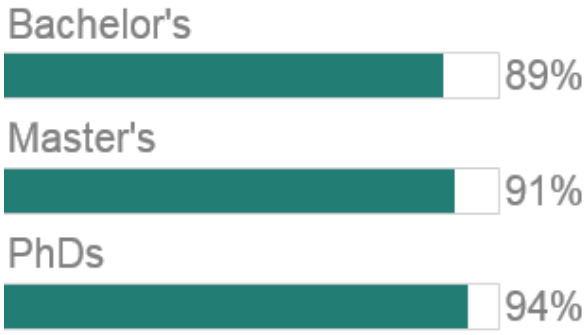
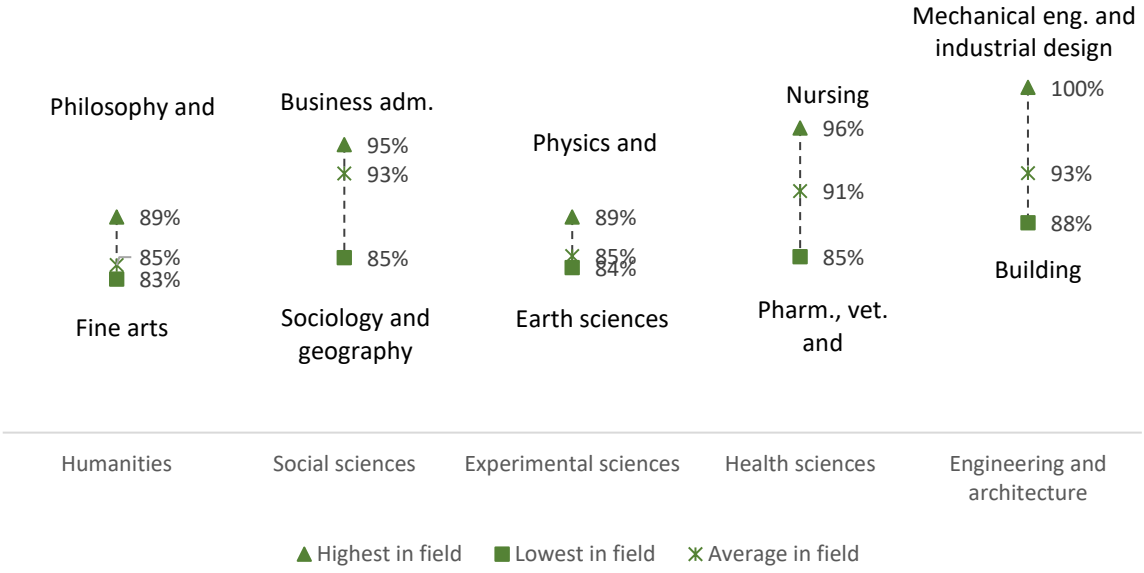


Figure 9. Employment according to educational field in 2017 (showing the sub-fields with the highest and lowest employment levels in each field)



9 in every 10 Master's degree graduates are in work

- The figures show that a slightly higher proportion of Master's degree graduates are in work compared to Bachelor's graduates, although the proportion is still lower than among PhD holders.
- The figures for social sciences, engineering and health sciences are 6-8 pp higher than the remaining fields, although there are significant differences within those fields.
- The sub-fields in humanities show similar proportions to those in experimental sciences; whereas, at Bachelor's level the scores are clearly lower (see AQU Catalunya, 2017*b*).

Figure 10. Trend in the employment situation of Master's degree graduates according to sub-fields between the 2014 survey and the 2017 survey

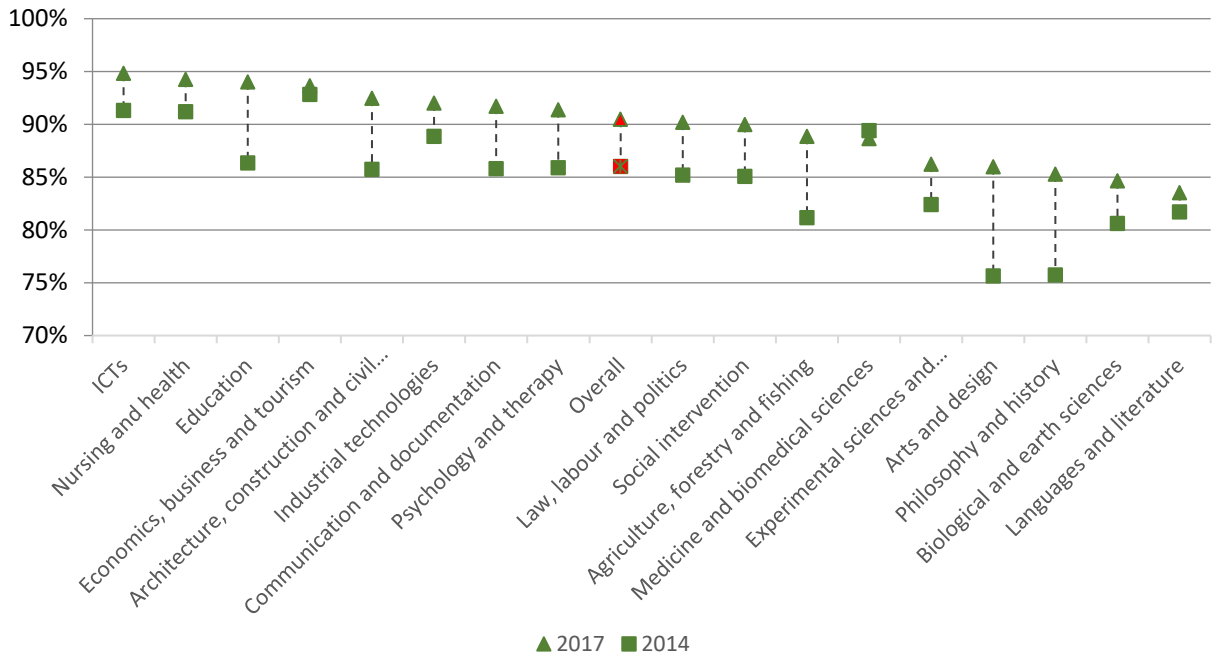


Table 1. Trend in the weight of the branches of employment between 2014 and 2017

	2014		2017		
	n	%	*n*	%	Difference (pp)
Consumer services	660	9.3%	1123	13.1%	+3.7
Industry	687	9.7%	970	11.3%	+1.6
Public administration	332	4.7%	474	5.5%	+0.8
Communication technologies	261	3.7%	358	4.2%	+0.5
Financial institutions, insurance, real estate	160	2.3%	232	2.7%	+0.4
Information and communication	119	1.7%	170	2.0%	+0.3
Raw material and energy production	178	2.5%	234	2.7%	+0.2
Social care and health	821	11.6%	998	11.6%	+0.0
Construction	238	3.4%	267	3.1%	-0.3
Business services	693	9.8%	658	7.7%	-2.1
Education, culture and research	2919	41.3%	3107	36.2%	-5.1

Improved employment in virtually all sub-fields since 2014

- This is particularly true in education (linked to the public sector), arts and design, philosophy and history.
- Employment has increased in virtually all branches in absolute terms (except in business services). In relative terms, the increase has been large in consumer services and industry.
- The economic sector of education, culture and research shows the largest fall in relative weight (-5.1 pp, albeit with an increase in absolute numbers). Nonetheless, this has not happened among those who graduate in the sub-field of education and work in this sector (for which there has been an increase from 61% to 71%); instead, it applies to the other sub-fields.

Unemployment

Figure 11. Percentage unemployment according to university level in 2017

Figure 12. Period for which unemployed Master's degree graduates have been looking for work in 2017

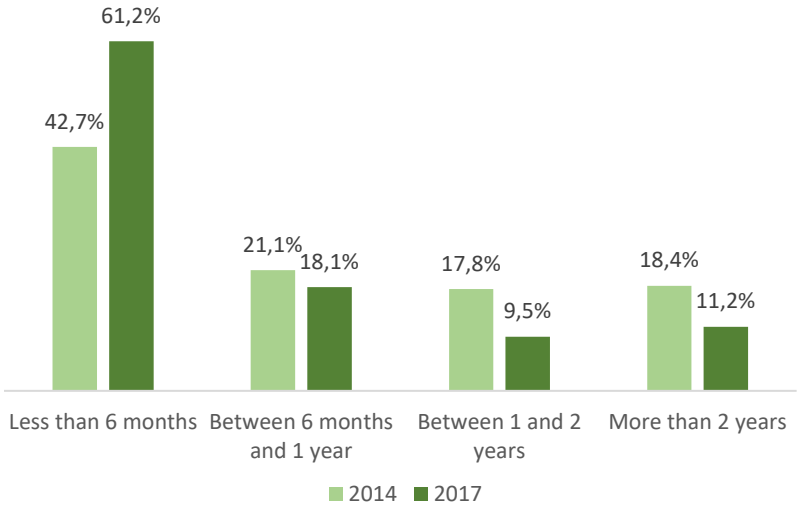


Figure 13. Importance of the reasons why graduates do not find work (on a scale of 0 to 10) in 2017

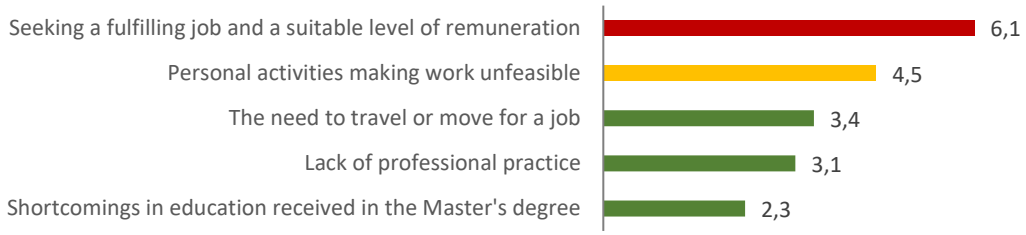


Table 2. Data for sub-fields based on main reasons for not finding work (samples of more than 5 unemployed individuals only)

	Type of work and salary level	Personal activities	Demand for mobility	Lack of practice	Shortcomings in education
Top 5	Social education and work (9.6)	Law (8.2)	Arts and design (7.1)	Arts and design (6.8)	Law (5.3)
	Law (8.3)	Catalan and Spanish philology (7.6)	Economics (5.2)	Business administration (5.1)	Foreign philologies (5.0)
	Business administration (7.6)	Social education and work (6.8)	Law (5.1)	Labour (5.0)	Architecture (5.0)
	Labour (7.5)	Electronic and automation engineering (6.5)	Catalan and Spanish philology (4.5)	Social education and work (4.9)	Catalan and Spanish philology (4.7)
	Tourism (7.4)	Physics and maths (5.4)	Social education and work (4.4)	Philosophy and humanities (4.9)	Documentation (3.9)

Major importance
High importance
Average importance
Low relevance

Long-term unemployment down compared to 2014

- 1 in every 10 unemployed graduates have been looking for work for over 2 years, a similar proportion to the percentage of Bachelor's graduates.
- As for the 6% of unemployed Master's degree graduates, the primary reasons for not finding work are: seeking a fulfilling job and a suitable level of remuneration.
- Factors linked to lack of practice and an education shortfall in the Master's degree are not revealed to be important (unlike at Bachelor's level). However, they do have relevance for the detailed sub-fields of arts and design; law; business administration; foreign philologies; labour and architecture.

Are Master's degree graduates in the public or private sector?

Figure 14. Proportion of Master's degree graduates working in the public sector according to university level in 2017

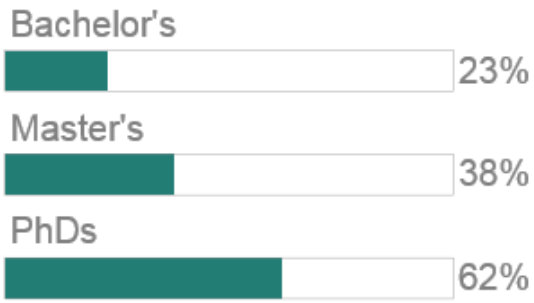


Table 3. The 10 sub-fields with the greatest variation in the population employed in the public sector between 2014 and 2017 (where *n*>10)

	2014		2017			
	n	%	*n*	%	Difference (pp)	
Pedagogy and psychopedagogy	432	36.4%	622	47.4%	+11.0	Top 5
Foreign philologies	25	30.1%	39	39.0%	+8.9	
Catalan and Spanish philology	51	42.1%	95	50.0%	+7.9	
Architecture	33	18.9%	45	25.7%	+6.9	
Communication	62	22.6%	102	29.4%	+6.8	
Overall	2679	37.9%	3238	37.8%	+0.1	
Electronic and automation engineering	22	41.5%	20	23.0%	-18.5	Bottom 5
Civil engineering	24	51.1%	18	32.1%	-18.9	
Physics and mathematics	82	68.9%	71	48.3%	-20.6	
Economics	38	40.9%	54	20.1%	-20.7	
Construction engineering	20	43.5%	11	19.3%	-24.2	

Public and private sector employment increase to the same degree

- The higher the education level the greater the proportion of public sector employment.
- Around 4 in every 10 Master's degree graduates work in the public sector. In sub-fields such as pedagogy (teaching) or philologies, growth in the public sector between 2014 and 2017 exceeded that of private sector growth.
- However, in civil and construction engineering, growth has been higher in the private sector. The revival of the construction sector has been crucial to this trend. In the fields of economics and physics and mathematics, growth in the private sector has occurred particularly in the sphere of communication technologies (with its importance increasing ninefold), consumer services (threefold) and industry (twofold).

Suitability

Figure 15. Suitability of functions at work in 2017

Figure 16. University-level functions (whether specific or not) according to university level in 2017

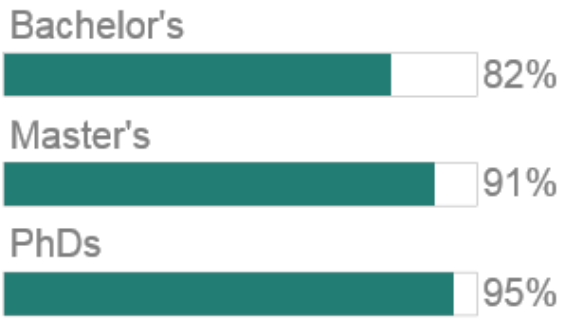
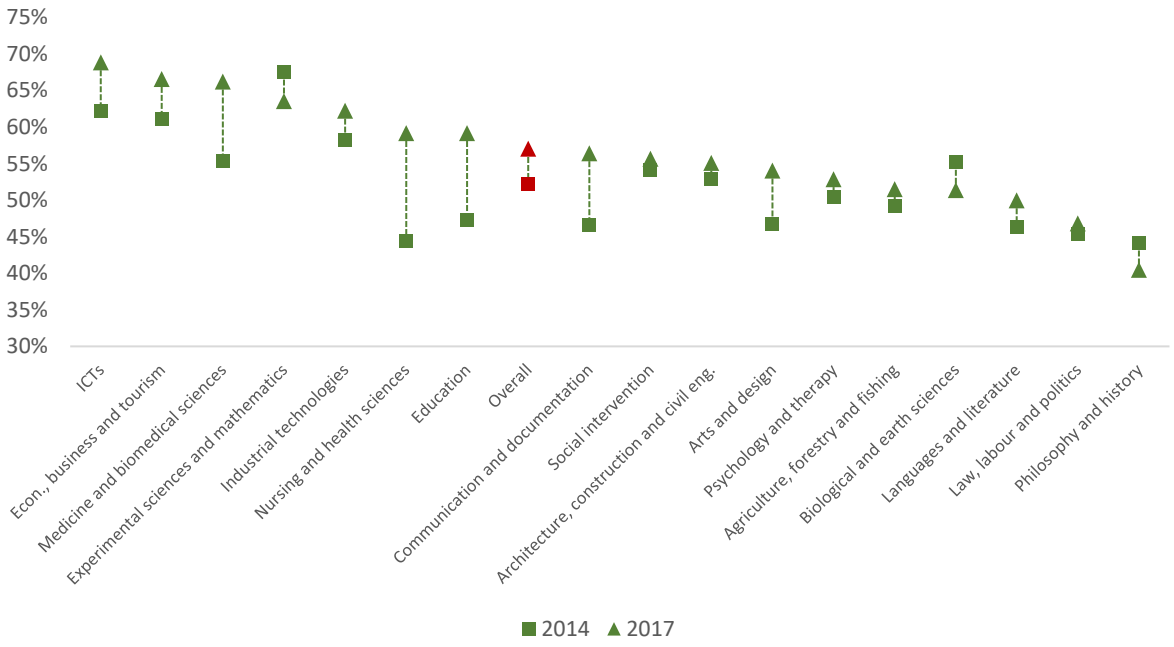


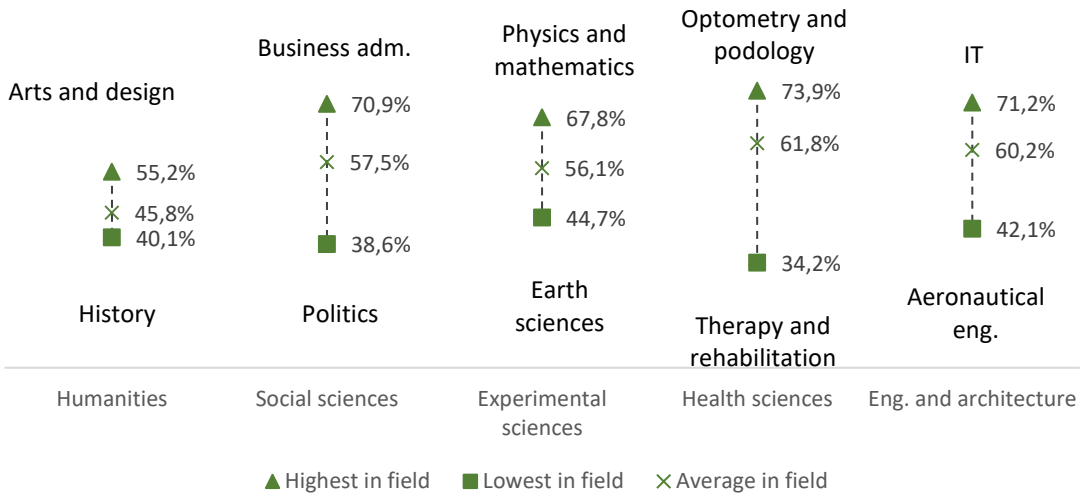
Figure 17. Trend in the percentage of graduates performing functions specific to the Master's degree broken down according to sub-field for 2017



Around 9 in every 10 graduates perform university-level functions at work

- Of the foregoing 9, 6 perform functions linked to the specific Master's degree and 2 perform functions linked to the earlier degree programme.
- Only 9% do not perform university-level functions, while this proportion is twice as high at Bachelor's level.
- Between 2014 and 2017, the proportion of functions linked to the study programme rose, especially in nursing and health; education; medicine and biomedical sciences; and communication and documentation.

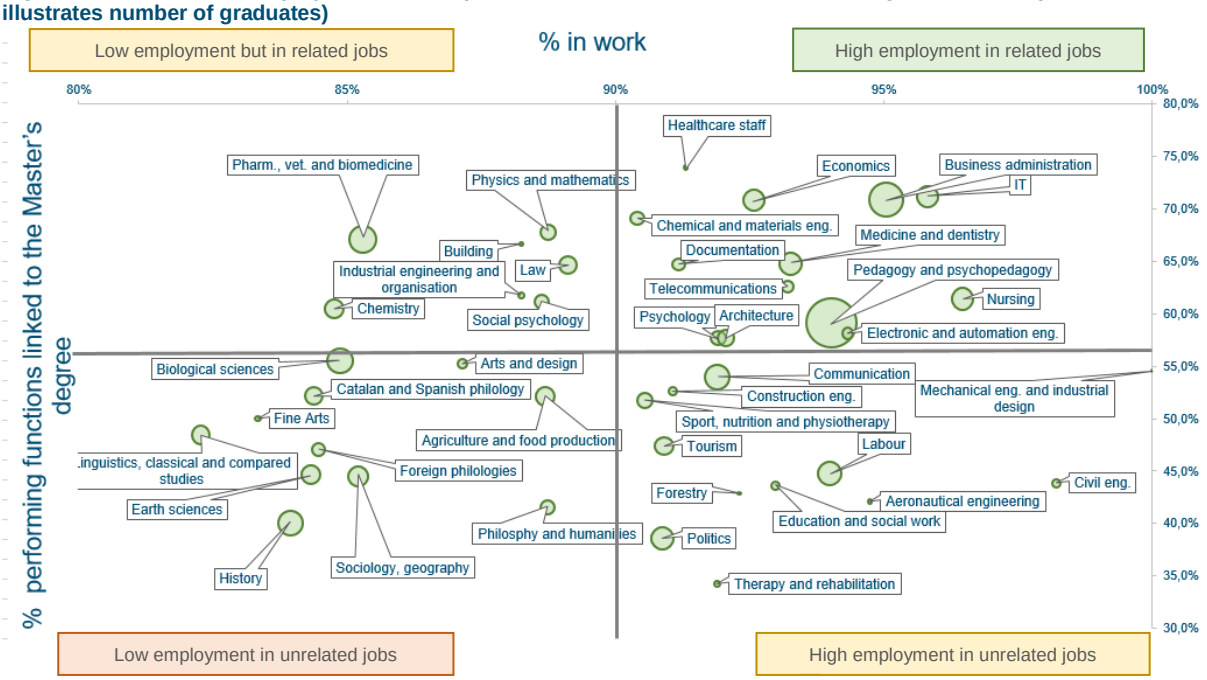
Figure 18. Percentage of graduates who perform functions linked to the Master's degree according to field in 2017 (showing the sub-fields with the highest and lowest percentage in each field)



Health is the field where functions linked to the programme are performed to the largest extent

- In addition, the field has above-average employment scores. Even so, therapy and rehabilitation do not follow this pattern.
- On the other hand, in humanities there are fewer graduates who perform functions linked to the Master's degree, with lower employment levels compared to the Catalan university system average.
- Despite firm employment scores, sub-fields such as politics, tourism or labour have below average specific suitability levels.

Figure 19. Link between employment and the performance of linked functions according to sub-fields (2017; circle size illustrates number of graduates)



EMPLOYMENT CONDITIONS

Contract type

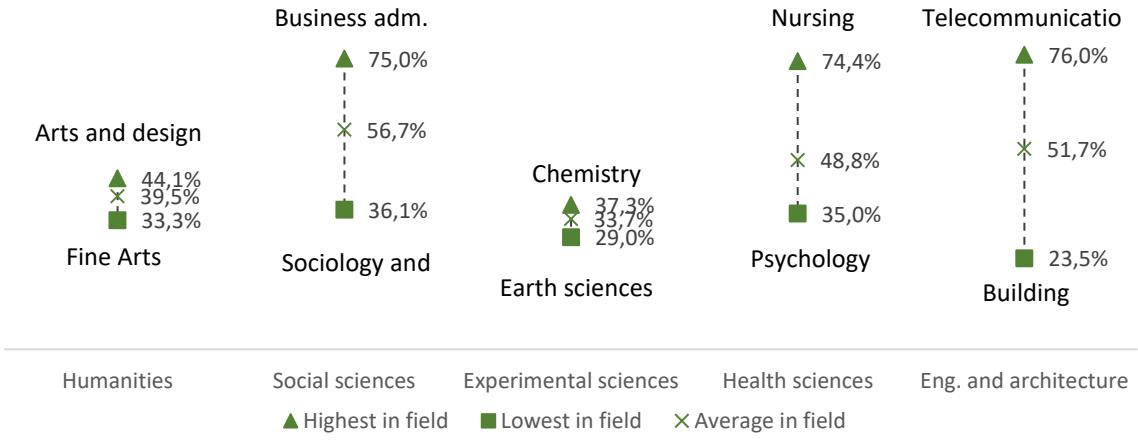
Figure 20. Contract type in 2017

Figure 21. Variation in contract type between 2014 and 2017 (percentage points)

Half of Master's degree graduates are on a permanent contract

- Between 2014 and 2017, the proportion of permanent contracts rose as did the number of temporary contacts, although to a lesser extent. There are very few differences in the proportion of employment stability between Bachelor's, Master's and PhD levels.
- Open-ended contracts are more common in engineering and social sciences, albeit with major variations within the field. However, only 4 in every 10 of those who followed humanities and experimental sciences have an open-ended contract with very few differences within the field.

Figure 22. Permanent contracts by field in 2017 (showing the sub-fields with the highest and lowest percentage in each field)



Full- or part-time employment

Figure 23. Percentage in full-time employment according to university level in 2017

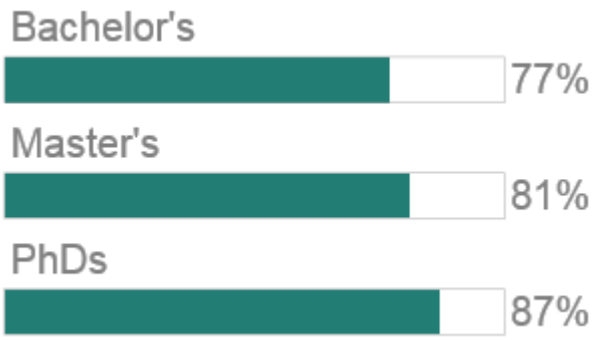


Figure 24. Master's degree graduates in full-time employment according to educational fields in 2017

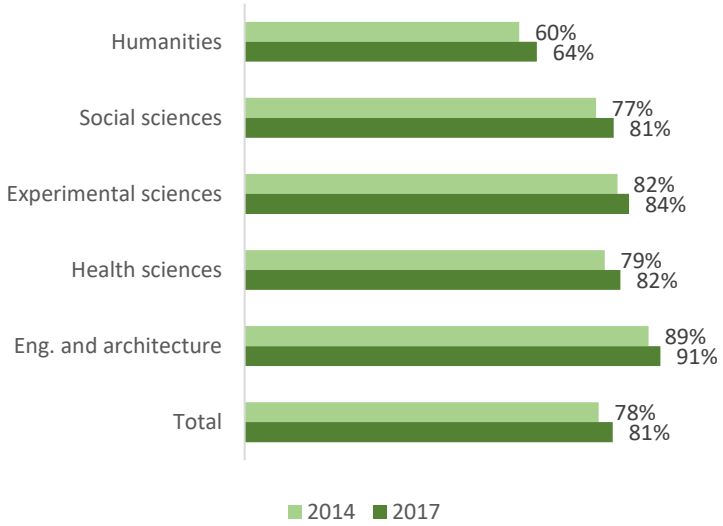
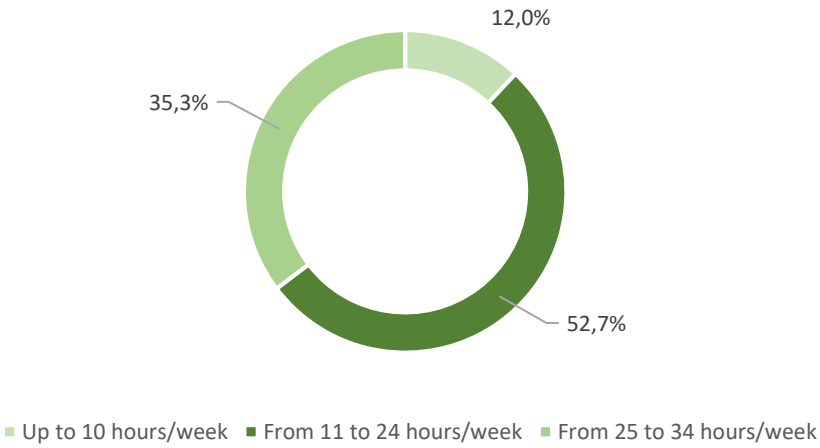


Figure 25. Percentage of part-time employed in each range of hours in 2017



8 in every 10 Master's degree graduates are in full-time work

- This is slightly above the proportion at Bachelor's level and below the proportion for doctors (even so, setting labour market factors aside, part-time work is also linked to going on to take further studies, a more likely factor at Bachelor's level).
- Only 6 in every 10 humanities graduates are in full-time work.
- Compared to 2014, full-time work has risen slightly with the sharpest rises seen among humanities and social sciences graduates despite these fields showing the lowest values.
- Almost 90% of those in part-time work are on contracts of more than 10 hours per week. 35% work more than 25 hours each week.

Earnings

Table 4. Trend in earnings of those graduates in full-time work in 2017

	2014	2017	Difference (pp)
Above €24,000/year	51.1%	51.8%	+0.8
Up to €24,000/year	29.7%	31.6%	+1.9
Up to €15,000/year	19.3%	16.6%	-2.7

Figure 26. Percentage earning above €24,000/year according to university level in 2017 (full-time contracts only)

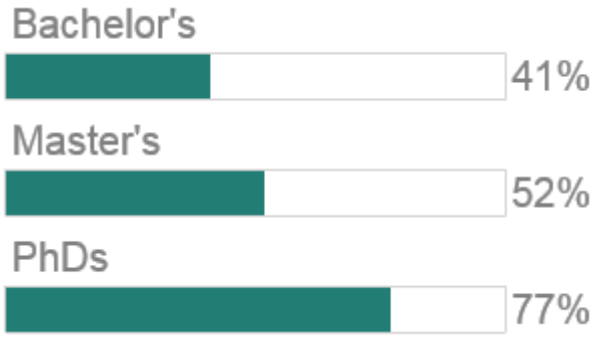
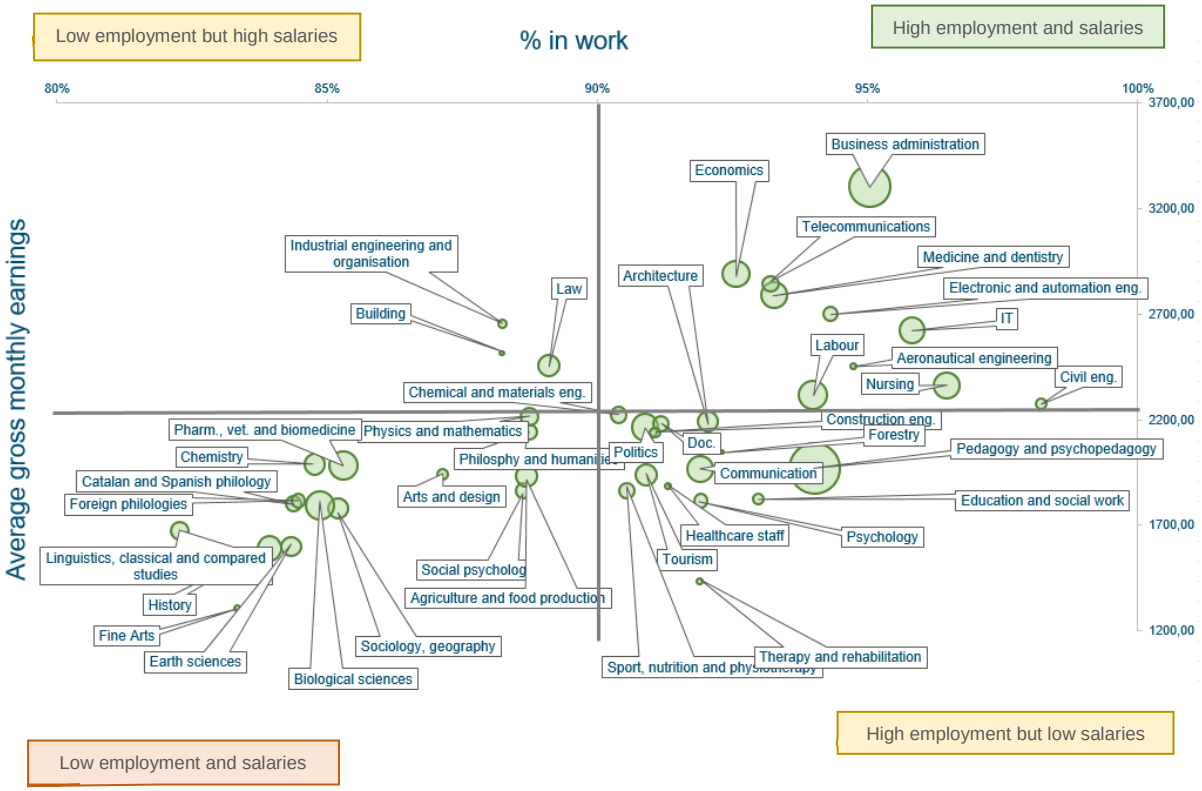


Figure 27. Link between employment and average gross monthly earnings according to sub-fields (2017; circle size illustrates number of graduates)

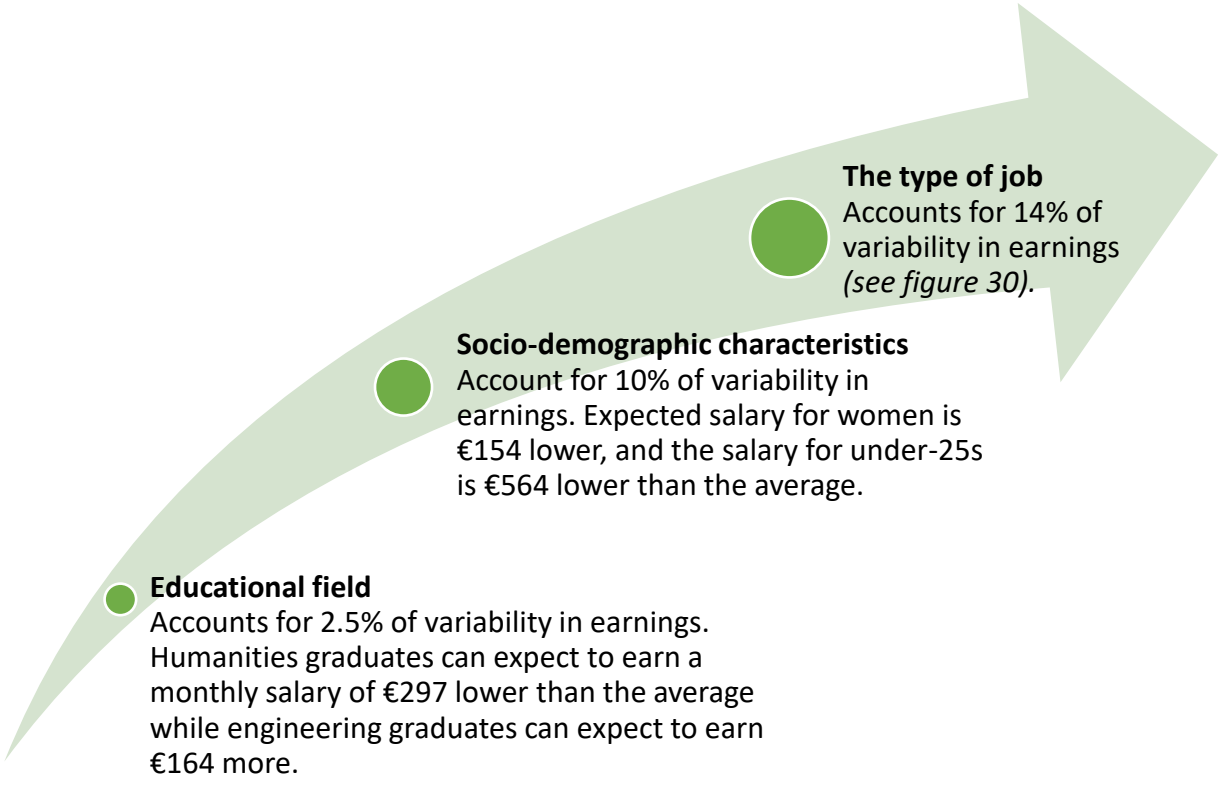


Rise in Master's degree graduates' salaries between 2014 and 2017

- 5 in every 10 Master's degree graduates in full-time employment are on gross salaries above €24,000/year, a larger proportion than at Bachelor's level but below the proportion of doctors.
- Average salaries are lower in the fields of humanities and experimental sciences.
- Sub-fields such as pedagogy and psychopedagogy (teaching); communication; tourism and politics lead to salaries below the overall average, despite showing good employment scores.
- In general, the engineering sub-fields lead to above average levels of employment and salaries; however, this is not the case in food production and agriculture.

Explanatory factors for earnings

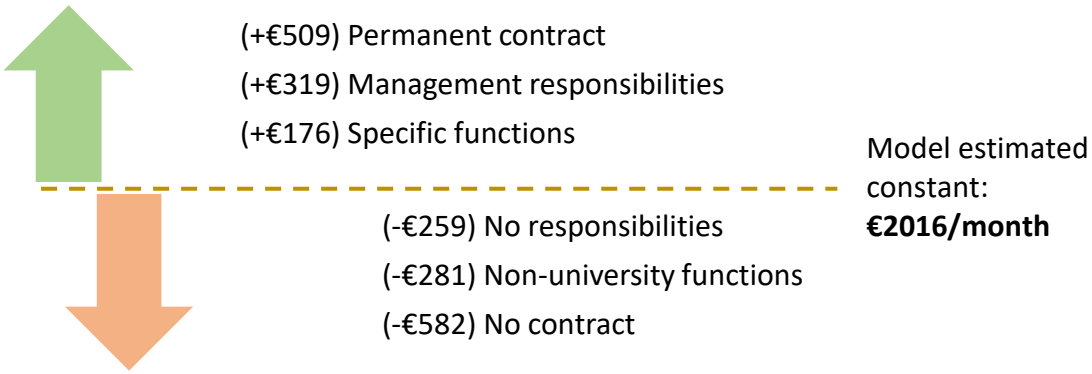
Figure 28. Explanatory factors for gross monthly earnings (2017)[5]



Contractual circumstances: the factor most closely linked to earnings

- Under equality in terms of employment conditions and socio-demographic characteristics, humanities graduates earn salaries of 15% lower than the overall average.

Figure 29. Expected variation in gross earnings from the average based on employment factors (2017)



[5] Results of a variance analysis model using socio-demographic factors and educational field as control factors for the link between employment factors and gross monthly earnings.

Level of responsibility

Figure 30. Level of responsibility over other individuals (2017)

Figure 31. Variation in level of responsibility between 2014 and 2017 (percentage points)

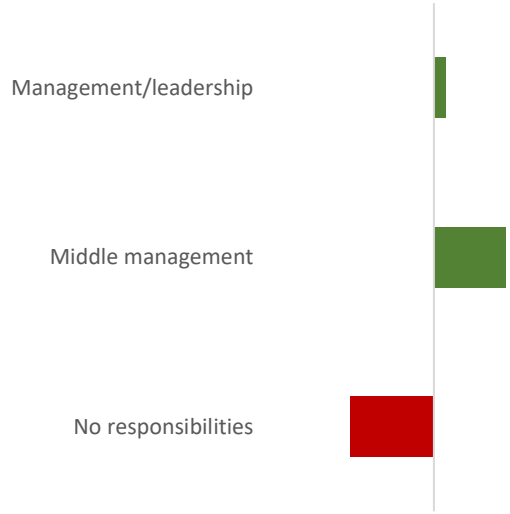
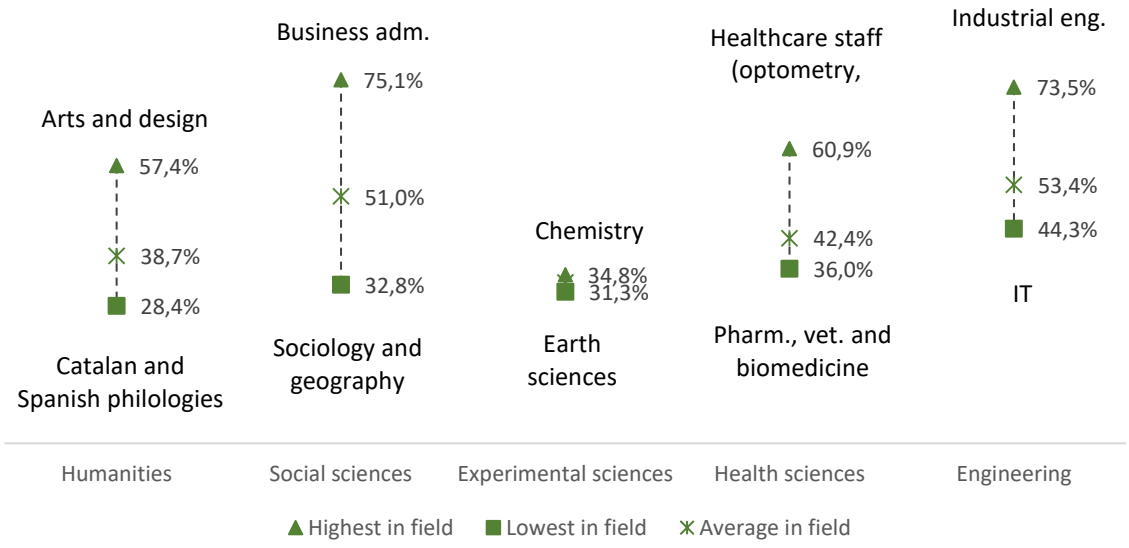


Figure 32. Proportion of Master's degree graduates with responsibilities according to fields in 2017 (showing the sub-fields with the highest and lowest percentage in each field)



5 in every 10 Master's degree graduates exercises a certain level of responsibility over other individuals

- The percentage having responsibilities over third parties has risen compared to 2014.
- Experimental sciences typically has low proportions of people with responsibilities over others in all sub-fields, whereas in humanities the sub-field of arts and design stands out particularly (where 6 in every 10 do have such responsibilities).

Job satisfaction

Table 5. Job satisfaction (on a scale of 0 to 10)

	Job content	Potential for promotion	Remuneration level	Usefulness of Master's degree knowledge	General satisfaction
Humanities	8.1	5.9	5.8	4.7	7.6
Social sciences	8.2	6.5	6.4	5.4	7.7
Experimental sciences	8.1	6.4	6.0	4.8	7.6
Health sciences	8.3	6.5	6.2	5.6	7.9
Engineering	8.3	6.8	6.3	5.4	7.7
2017 total	**8.2**	**6.5**	**6.2**	**5.3**	**7.7**
2014 total	*8.0*	*6.0*	*5.7*	*5.3*	7.6

Job satisfaction has improved, with the exception of usefulness of knowledge

- General satisfaction with the job stands at 7.7. Satisfaction with job content is notably high (8.2).
- The worst rating applies to usefulness of the Master's degree knowledge (5.3), with the rating for humanities and experimental sciences being less than satisfactory.
- Job satisfaction has increased slightly compared to 2014 in terms of potential for promotion and remuneration level.

Occupational quality index (OQI)[6]

Figure 33. OQI according to university level in 2017

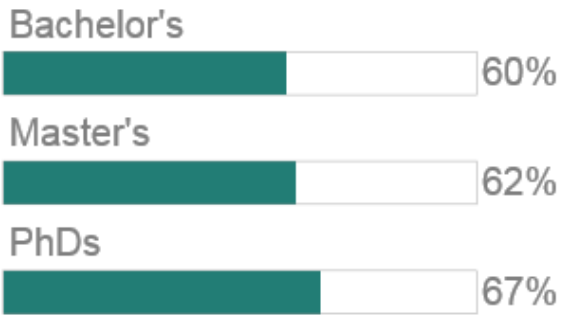
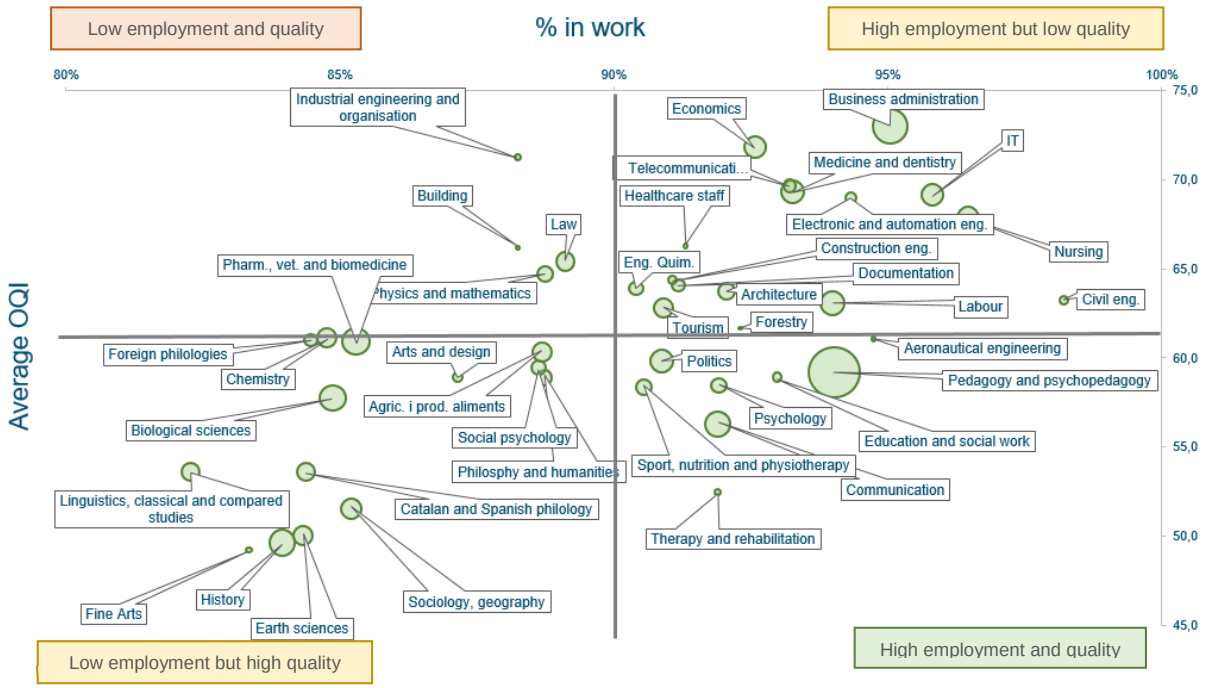


Figure 34. OQI of Master's degree graduates according to educational fields in 2017

Figure 35. Link between employment and the average OQI according to sub-fields (2017; circle size illustrates number of graduates)

The higher the university level, the better the occupational quality

- The total OQI for Master's degree graduates is 62, up from 60 in 2014. Humanities has the lowest figure (54) while the highest applies in engineering (65).
- Sub-fields such as pedagogy (teaching), communication and politics have high occupation albeit of below average quality. However, despite having lower occupation levels, the quality of occupation in law or physics and mathematics is above average.



[6] The occupational quality index is formed by several indicators: contract type, job satisfaction, remuneration and suitability. The value range is from 0 to 100 and the higher the rating the better the occupational quality experienced. For further details, refer to Corominas *et al.* (2012).

THE JOB SEEKING PROCESS

Career paths

Figure 36. Flowchart of career paths of Master's degree graduates in 2017 (combination of study and paid employment)

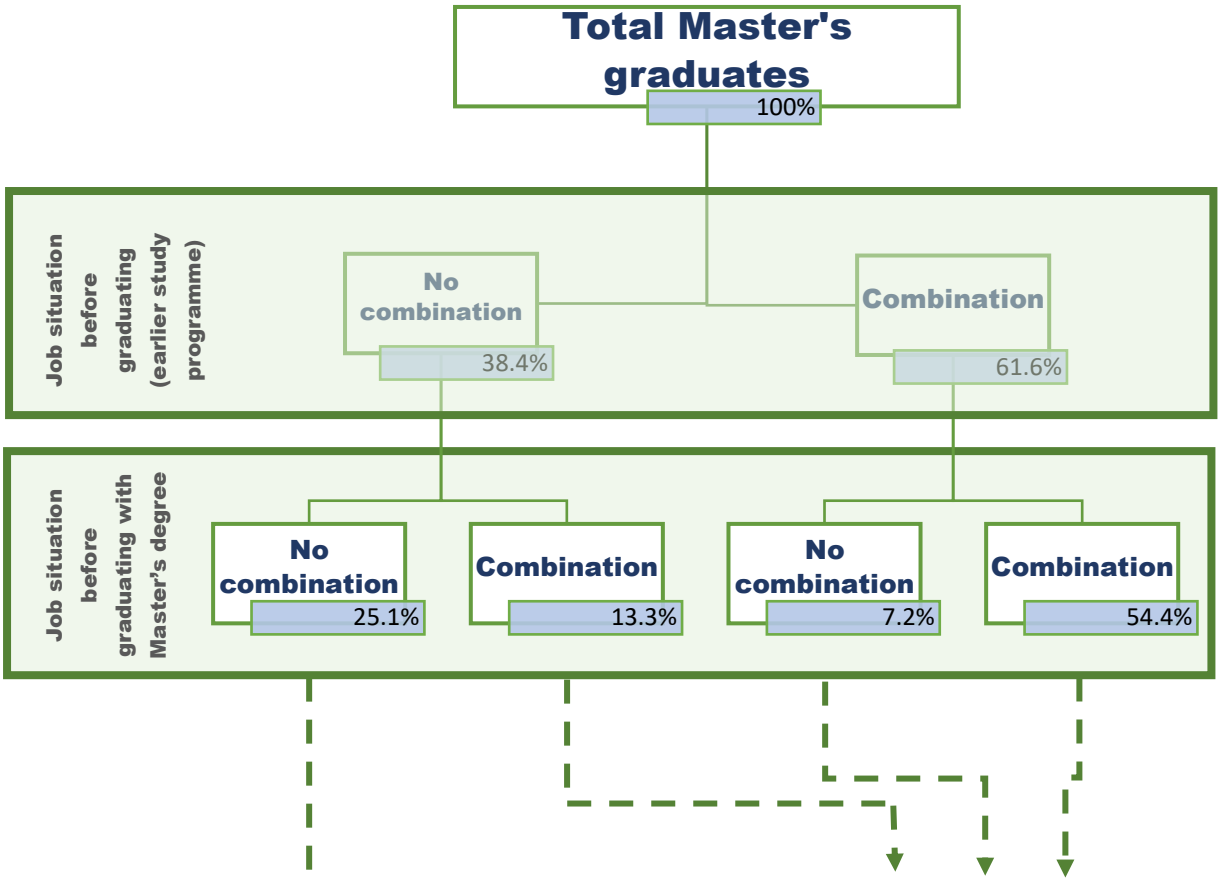


Figure 37. Time taken to find 1st job after obtaining the Master's degree (2017)

	% yes	% yes	% yes	TOTAL
Change of employment?	65%	69%	52%	**56%**
Better contract?	54%	53%	35%	**40%**
Better salary?	60%	59%	47%	**50%**
Longer hours?	52%	55%	38%	**42%**
Better category?	61%	64%	47%	**51%**
	$\bar{x}$	$\bar{x}$	$\bar{x}$	TOTAL
Enhanced job opportunities	5.8	5.6	5.5	**5.6**
New responsibilities	5.5	5.2	5.0	**5.1**
New products or lines	5.7	5.4	5.4	**5.5**
Key role in decision-making	4.8	4.5	4.5	**4.6**
Enhanced training	7.2	7.0	7.2	**7.2**
More contacts	5.9	6.2	5.9	**6.0**

Table 6. Impact of the Master's degree on current job compared to job prior to graduating with the Master's degree (2017)

3 in every 4 Master's degree graduates have combined university education with employment at some point

- Up to Master's degree graduation level more students combine study and work (68%) than during earlier study programmes (62%). At Master's level, the proportion combining study and work has changed scarcely since 2014, but the proportion doing so during earlier study programmes has risen by 14 pp.
- Of the 25% that have never combined study and work, 2 in every 10 secured their first job more than 1 year after obtaining their Master's degree.
- Of those who had previously combined study and work, 56% changed jobs after graduating, 50% reached a higher category and salary, and 40% received a better contract and longer hours. A more heightened improvement is seen in the figures for those who have been detached from the labour market for some time.

Comparison of access to the labour market according to the previous career path

Table 7. Main socio-demographic and labour indicators according to prior professional career path

	Did not work during university education	Worked while studying Master's degree	Worked during earlier study programme	Worked throughout whole study path
Average age	29.0	31.3	31.3	36.9
Women	43.5%	43.0%	45.6%	45.0%
% in work	85.4%	88.9%	85.1%	93.9%
% performing Master's degree-level functions	57.3%	57.7%	52.4%	57.2%
% on permanent contracts	37.8%	47.2%	37.6%	58.1%
% earning above €24,000	27.1%	35.2%	27.4%	50.1%
OQI	58.0	59.8	57.5	64.1

Combining work with study before graduating with the Master's degree is associated with better access to the labour market

- This is the case regardless of gender, age and educational field (with an estimated difference of 3 points depending on whether the student has combined study and work). Employment stability and salary show a marked improvement. More contacts and professional experience are paramount in accounting for these trends.
- The average age of graduates who follow a combined path is slightly above the remainder.
- The percentage who perform functions linked to the Master's degree is similar for all the above paths with the exception of those who solely combined study and work during earlier study programmes.

MOBILITY AND INTERNATIONALISATION

Where are Master's degree graduates currently working?

Figure 38. Proportion working abroad according to university level (total graduates; 2017)

Figure 39. Job location of graduates (total; 2017)

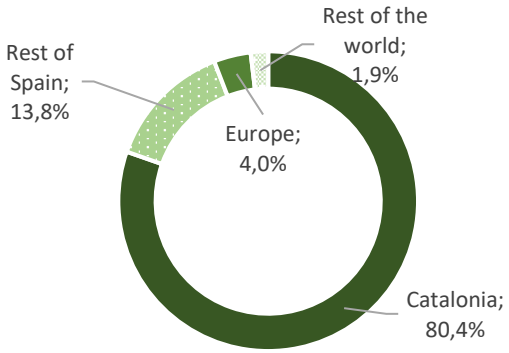


Figure 40. Destination country of those who leave to go abroad (total graduates; 2017)

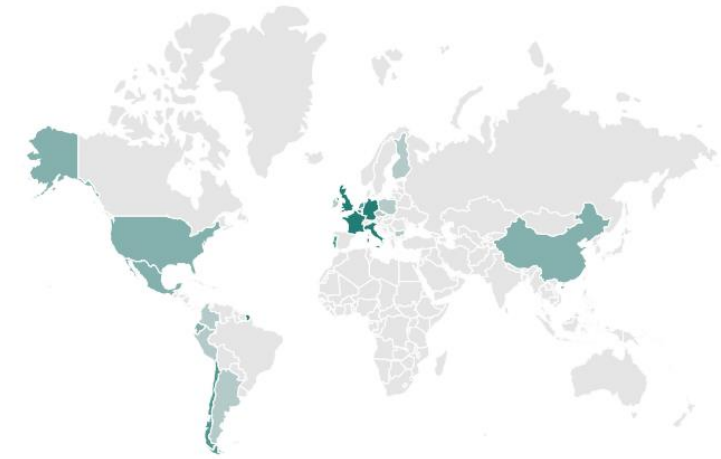


Table 8. Trend in the percentages of Master's degree graduates working abroad according to educational field and nationality

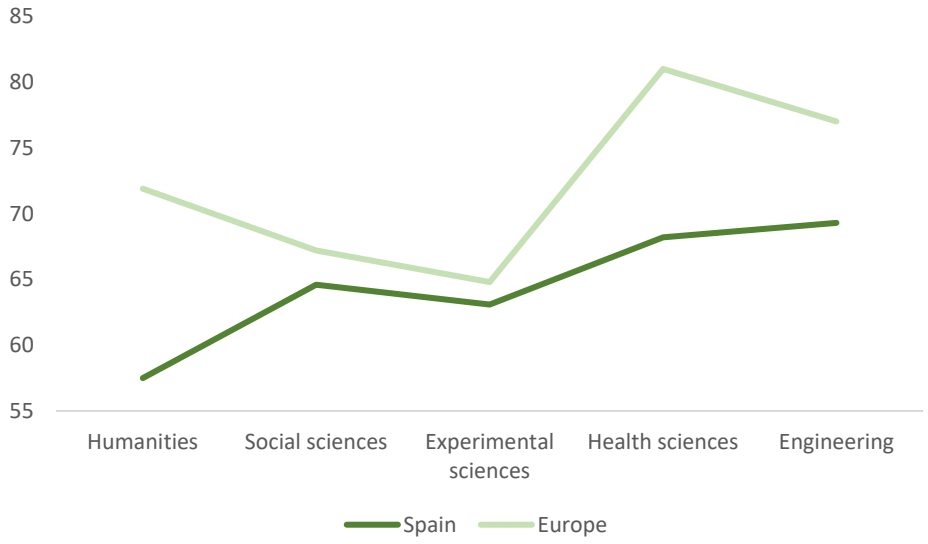
	Nationals		Total	
	2014	2017	2014	2017
Humanities	4.9%	4.7%	11.8%	7.0%
Social sciences	3.3%	2.3%	11.0%	5.9%
Experimental sciences	2.9%	5.4%	4.4%	6.0%
Health sciences	2.6%	2.8%	4.7%	3.7%
Engineering	7.5%	6.0%	17.4%	7.3%
Total	3.9%	3.6%	10.4%	5.9%

Working abroad has become less common

- Nevertheless, the figure is above the proportion at Bachelor's level.
- Europe is the primary destination for work (74.5% of graduates who emigrate work there), followed by America (with 18.3%).
- The drop in the percentages working abroad has been most notable in engineering (despite being the field with the largest proportion of graduates emigrating), even when only taking into consideration

Does working abroad enhance the quality of access to the labour market?

Figure 41. Estimated OQI according to job location (total graduates; 2017)[7]



Those who work abroad experience enhanced employment quality

- This applies to the fields of humanities, health sciences and engineering. On the other hand, the differences are not statistically significant among graduates of social and experimental sciences.

[7] Results of an analysis of variance model controlled according to age and gender. It does not include work outside Europe due to the scant sample size available.

Labour mobility after obtaining the Master's degree

Figure 42. Labour mobility after obtaining the Master's degree (nationals; 2017)

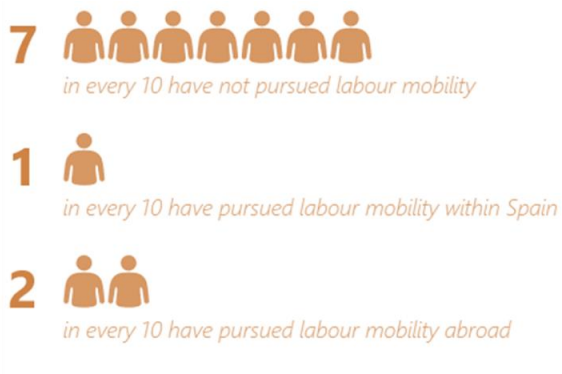


Figure 43. Trend in labour mobility between 2014 and 2017 (nationals; percentage points)

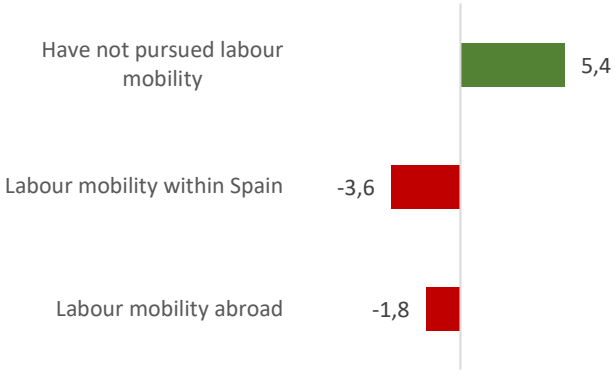


Table 9. Labour mobility after obtaining the Master's degree according to graduate profile and field (2017)

	No labour mobility	Labour mobility within Spain	Labour mobility abroad
Nationality			
National	75.1%	9.3%	15.6%
International	70.1%	4.7%	25.2%
Age (nationals)			
Average	34.0	33.7	30.9
Gender (nationals)			
Women	77.3%	9.2%	13.5%
Men	72.5%	9.3%	18.2%
Field (nationals)			
Humanities	72.4%	9.9%	17.7%
Social sciences	78.1%	10.0%	11.9%
Experimental sciences	65.6%	8.7%	25.7%
Health sciences	78.7%	8.7%	12.6%
Eng. and architecture	70.8%	7.1%	22.1%

2 in every 10 pursue labour mobility outside Spain after completing their Master's degree

- This statistic stands in contrast to the 3.6% of national graduates who were working abroad at the time of the survey.
- International labour mobility after obtaining the Master's degree has witnessed a fall compared to 2014, a change that in 2017 has been particularly evident in the field of experimental sciences and engineering, whereas graduates in social sciences stand out as accounting for a greater proportion of those who pursue labour mobility within Spain.

Academic mobility during the study programme

Figure 44. International academic mobility during the Master's degree (nationals; 2017)

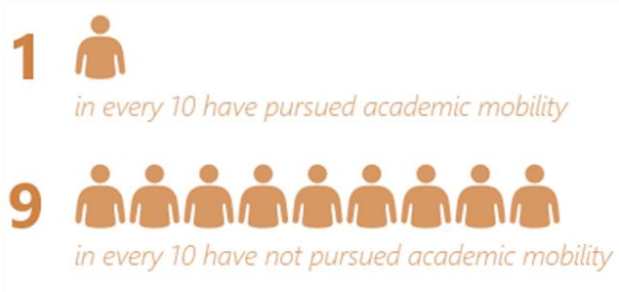


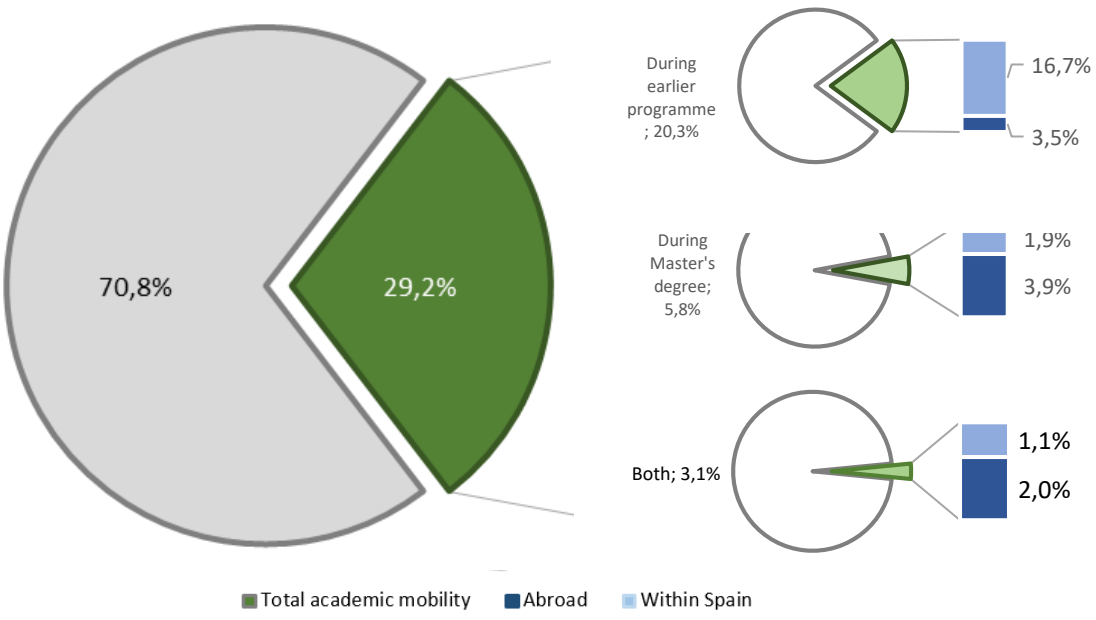
Table 10. Largest shares of international academic mobility during Master's degree according to sub-field and trend (nationals; 2014 and 2017)

	Sub-field	%
Top 3	Tourism	28.3%
	Business administration	18.2%
	Telecommunications	15.6%
2017 total		**5.9%**
2014 total		**7.1%**

Academic mobility falls: 1 in every 10 have taken an academic stay abroad during the Master's degree

- Sub-fields such as tourism and business administration stand out for above average levels of international academic mobility during the Master's degree.
- During their university career, 29.2% of Master's degree graduates have pursued at least one academic mobility experience; however, most undertake this mobility during their earlier study programme (20.3% + 3.1%), particularly within Spain (16.7% + 1.1%).

Figure 45. Type of academic mobility of Master's degree graduates (nationals; 2017)

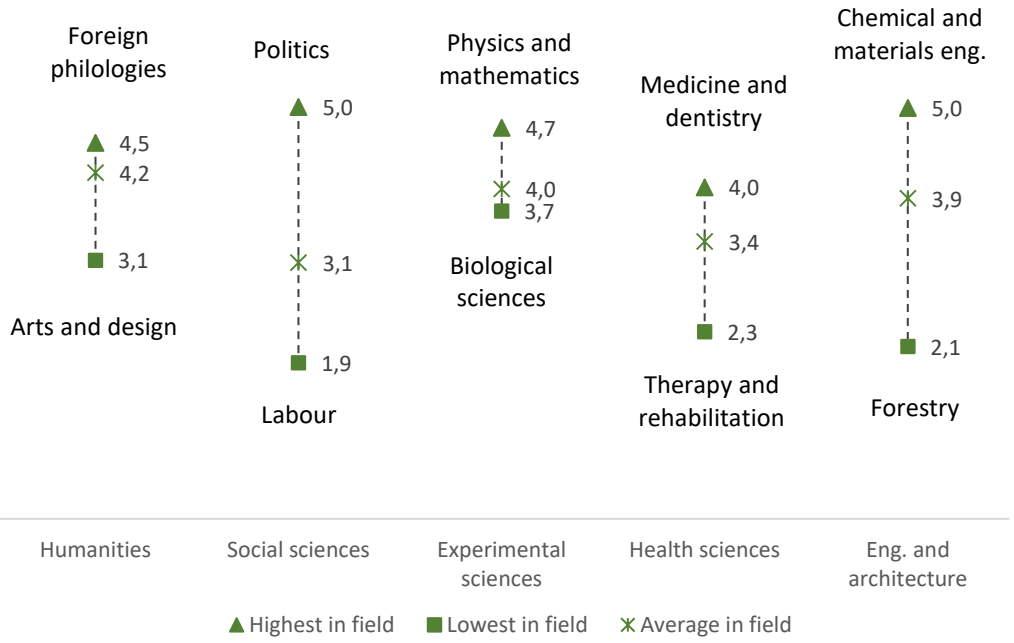


Assessment of the international perspective of the Master's degree

Table 11. Assessment out of 10 of the extent to which the Master's degree has enabled students to pursue the following areas according to student nationality (2017)

	National graduates	International graduates
International training placements or stays	2.3	4.2
Contacts with international teaching staff	2.7	4.4
Involvement in international events	2.8	4.7
International networking	2.8	5.0
Discovery of international employment opportunities	2.3	4.2
International perspective in the Master's degree subject area	3.5	5.7

Figure 46. Assessment out of 10 of the international perspective in the specific subject area in 2017 (nationals; showing the sub-fields with the highest and lowest score in each field)



The international perspective of Catalan Master's degrees falls below satisfactory in virtually all areas and educational fields

- The assessment is substantially lower from national graduates and the fields of social and health sciences.
- The international perspective of the Master's degree was rated as acceptable in two sub-fields by national students: politics, and chemical and materials engineering.

MOTIVATION AND SATISFACTION WITH THE STUDY PROGRAMME

Reasons for choosing the Master's degree

Figure 47. Assessment of the reasons for following the Master's degree (2017)

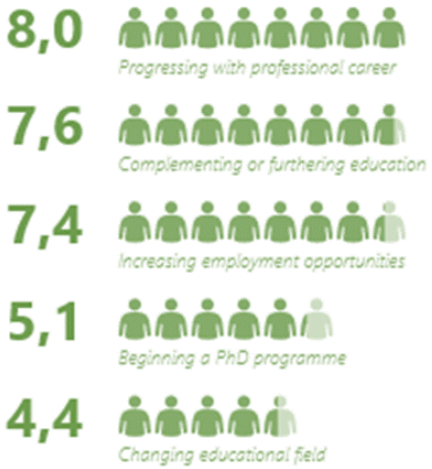


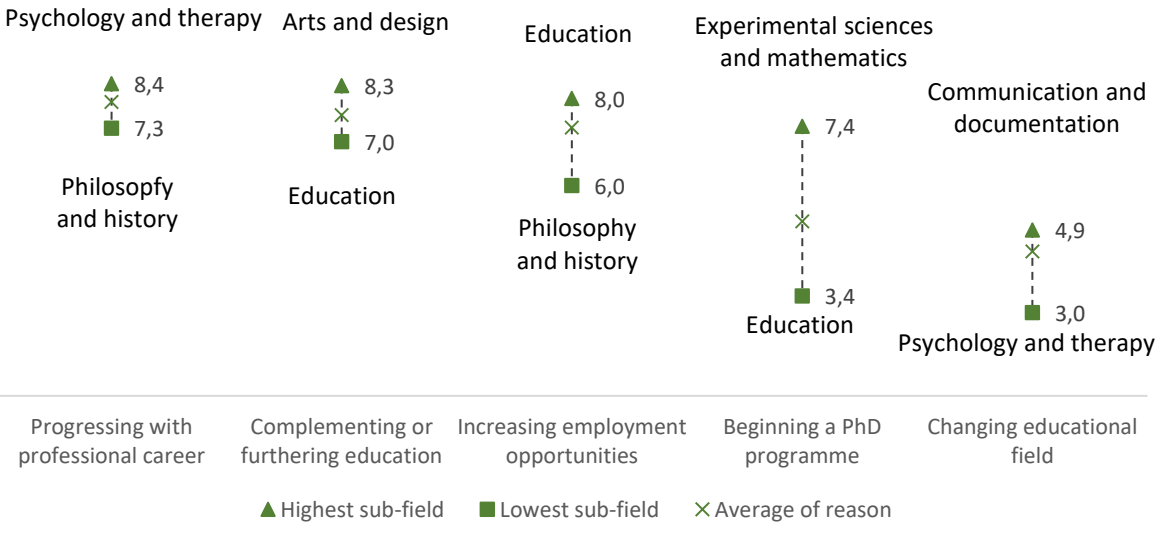
Table 12. Reasons for choice according to employment career path (2017)

	No combination	Work and study combination
Progressing professionally	7.9	8.0
Furthering education	7.5	7.7
Increasing opportunities	7.5	7.3
Beginning a PhD	5.6	5.0
Changing field	4.1	4.5

The primary reason is progressing in their professional career

- Differences are identified depending on their earlier employment career: the most prominent reasons among those who had combined study and work were furthering their education and changing field. The most notable reasons among those who had not combined study and work were increasing employment opportunities and beginning a PhD.
- The greatest difference between the highest and lowest sub-field is observed for the reason "beginning a PhD".

Figure 48. Highest and lowest sub-field for each reason for the choice (2017)



Satisfaction with the Master's degree

Figure 49. The proportion willing to take the Master's degree again according to university level (2017)

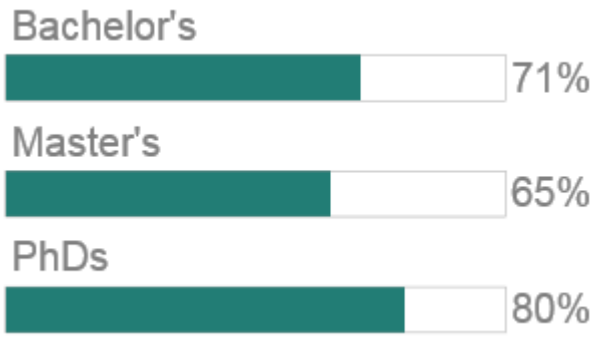
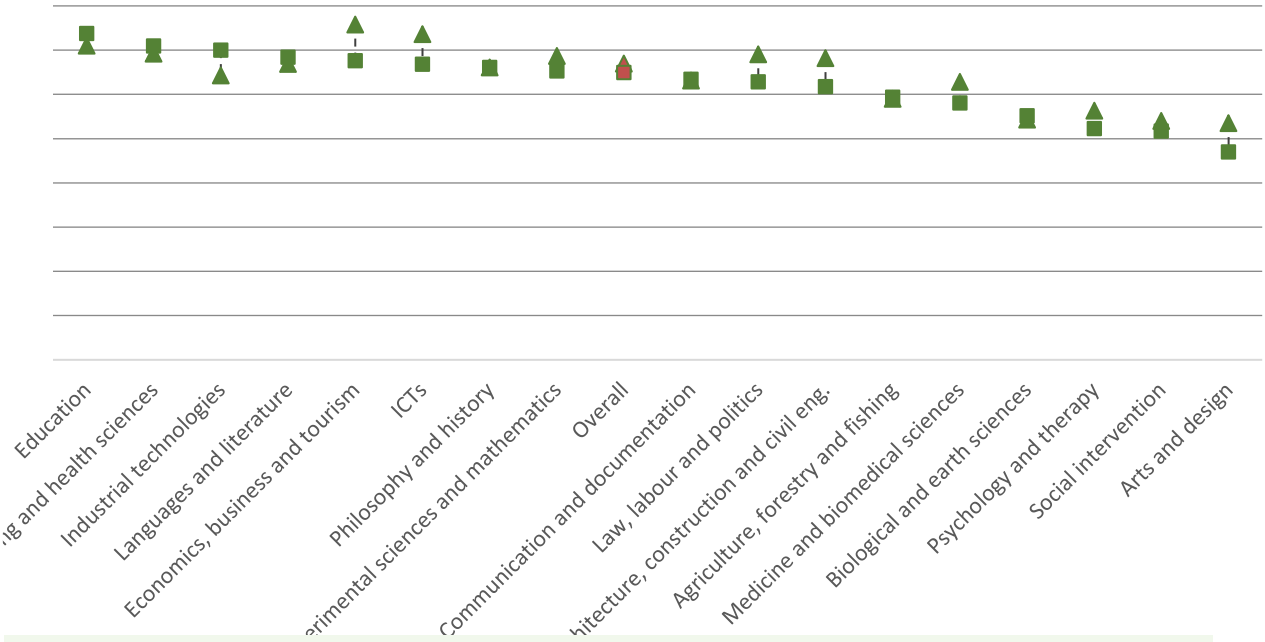


Figure 50. Trend in willingness to take the Master's degree again detailed according to sub-fields in 2017

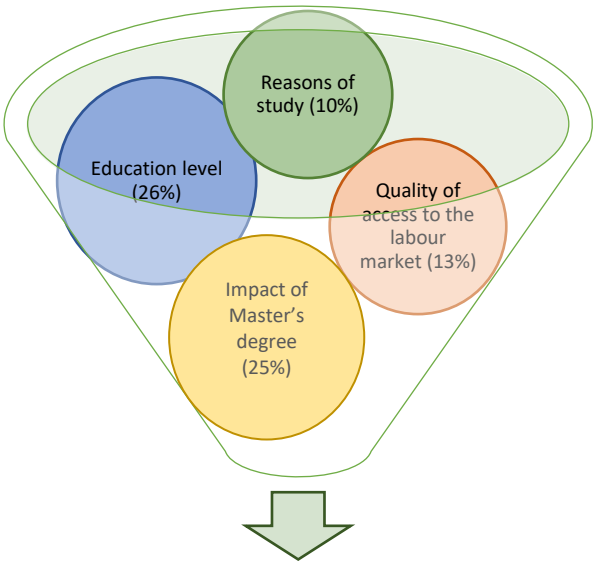


2 in every 3 would take the same Master's programme again

- Even so, this proportion is the lowest of all university levels. This is likely due to the fact that the programmes are short, there is a broad range on offer and they are extensively specialised.
- The number who would take the programme again has fallen compared to 2014, particularly in the following sub-fields: economics, business and tourism; ICTs; law, labour and politics; architecture, construction and civil engineering; and, arts and design.
- However, the proportion has especially increased compared to 2014 in the sub-field of industrial technologies.

Explanatory factors for satisfaction

Figure 51. Main explanatory factors for willingness to take the Master's degree again according to the block of variables in 2017 (brackets: % explained variance for each block of variables)



	Most influential factors[8]	Exp. coefficient (B)	Explained variance
+	Endorsement of theoretical skills (0 to 10)	1.25	34%
	Specific functions in work (Yes or No)	1.92	
	Increasing employment opportunities (0 to 10)	1.15	
	Endorsement of practical skills (0 to 10)	1.08	
	Endorsement of development of creativity (0 to 10)	1.06	
–	Academic and professional enhancement (0 to 10)	1.06	

Sound theoretical skills and high suitability in work are factors that lead to better satisfaction with the Master's degree

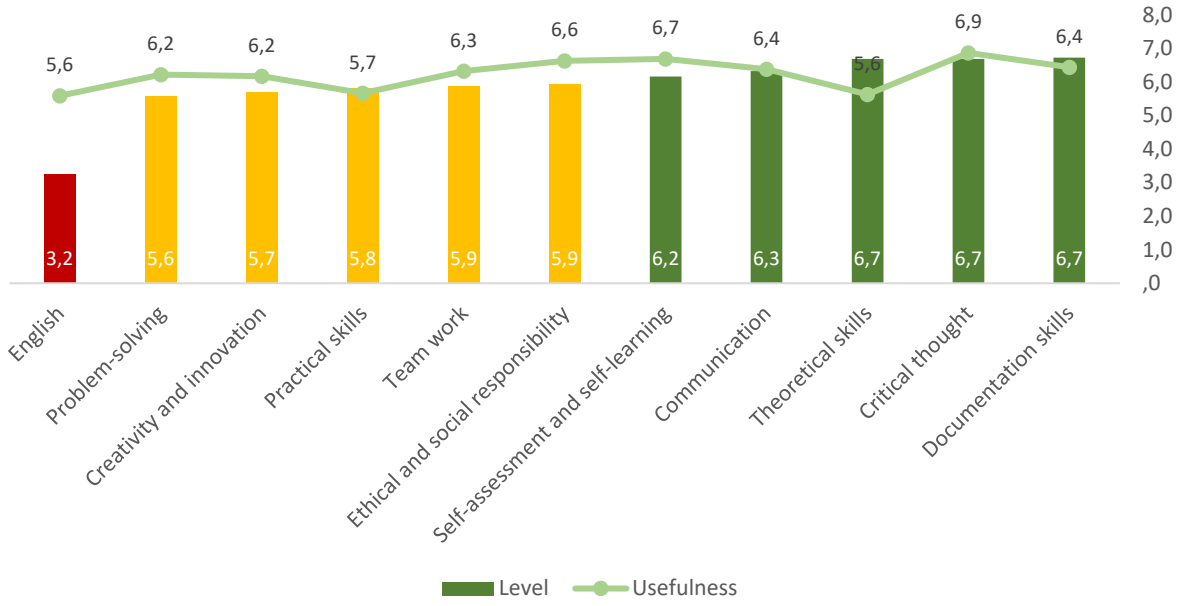
- Those who perform specific functions are up to twice as likely to take the same Master's degree again while other employment indicators (earnings, contract type, etc.) are not identified as being related to satisfaction with the Master's degree.
- Satisfaction with the Master's degree is closely linked to the level of skills provided, and especially to theoretical skills: every additional point in the assessment means the individual is 1.25 times more likely to take the Master's degree again.
- In general, skills and professional enhancement have a greater bearing on satisfaction than employment quality or the reasons that led students to follow their Master's degree.

[8] The selection of the most influential variables was made using a backward best subset selection procedure. The coefficients are obtained from a dichotomous logistic regression analysis model where satisfaction with the Master's degree appears as a dependent variable (willingness to take the programme again), controlled by age, gender and specific sub-field.

QUALITY OF EDUCATION

Level of education and its usefulness in work

Figure 52. Assessment of the level of education provided in the study programme (for all graduates) and its usefulness in work (only for those performing university-level functions) in 2017 (on a scale of 0 to 10)

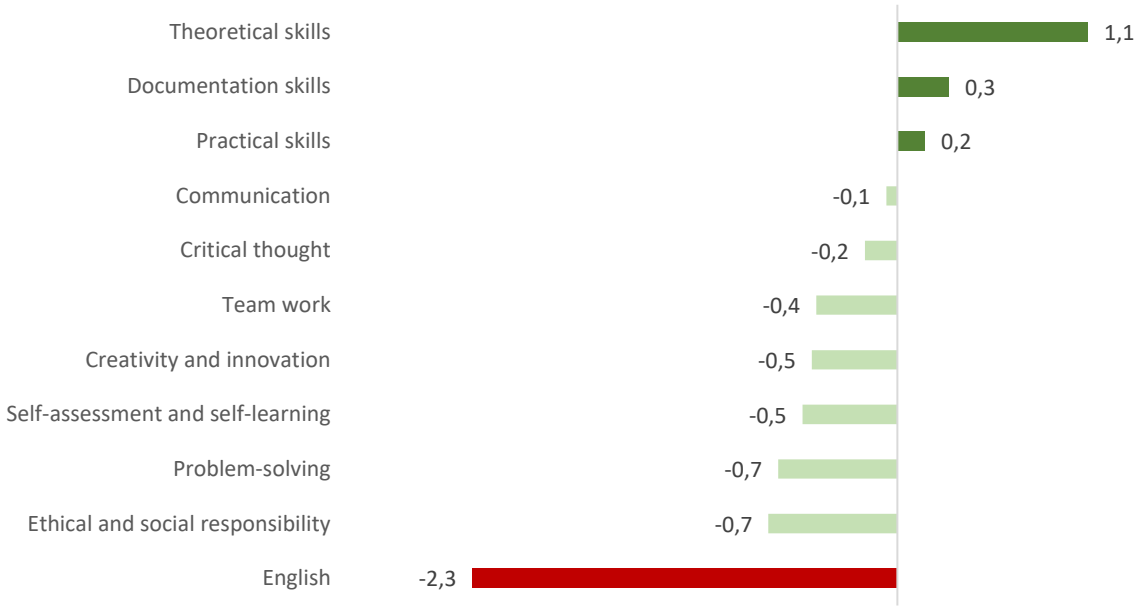


Critical thought, self-assessment and self-learning, and ethical and social responsibility are the most useful skills in work according to graduates

- In terms of the education level provided, half of the skills – for instance, problem-solving, creativity or practical skills – are rated with a score of less than 6 out of 10.
- Languages still constitute a skill with scope for improvement in the higher education system. Overall, it is the skill that has received the lowest rating. This is true also in terms of its usefulness in work.

Scope for improvement from the standpoint of an education shortfall

Figure 53. Education shortfall: difference between the assessment of the level of education provided in the study programme and its usefulness in work (only for Master's degree graduates who perform university-level functions)



The greatest difference between the level of education provided and the level needed for work is still in languages

- Ethical and social responsibility, and problem-solving capacity are also skills that show shortcomings when it comes to the labour market, although the difference is less than 1 point.
- On the other hand, theoretical skills (and to a lesser extent practical skills) are within the positive range in terms of the link between the education level provided and its usefulness in work. The theoretical skills provided are better than those needed in the labour market according to the opinions of recently-qualified individuals. This can be explained by the fact that access to the labour market is more universal than it is specific.

Has education improved at Master's level?

Table 13. Trend in the assessment of the level of education provided in cross-disciplinary skills

	2014	2017	Difference 2017-2014
Theoretical skills	6.8	6.7	-0.1
Practical skills	6.0	5.8	-0.1
Communication	6.4	6.3	-0.1
Team work	6.0	5.9	-0.1
Problem solving	5.7	5.6	-0.1
Critical thought	6.8	6.7	-0.1
Creativity and innovation	5.9	5.7	-0.2
Documentation	6.9	6.7	-0.1
English	3.2	3.2	0.0
Self-assessment and self-learning	6.3	6.2	-0.1
Ethical and social responsibility	6.1	5.9	-0.2

A downward trend is seen between 2014 and 2017 in virtually all skills

- Nevertheless, the fall is very low and the timeframe applied is only three years.
- English – the skill rated the lowest of all – is an indicator that shows no change compared to 2014.

Table 14. Assessment of the level of education provided according to fields of knowledge in 2017 and trend compared to 2014

	Humanities		Social sciences		Experimental sciences		Health sciences		Engineering	
	2017	Dif.	2017	Dif.	2017	Dif.	2017	Dif.	2017	Dif.
Theoretical skills	6.9	0.0	6.6	-0.2	6.5	0.0	6.7	0.3	6.8	-0.1
Practical skills	5.4	0.0	5.8	-0.4	6.3	0.1	5.9	0.2	5.7	-0.1
Communication	6.8	0.3	6.2	-0.1	6.4	0.0	6.3	-0.1	6.2	-0.3
Team work	5.0	0.0	6.0	-0.3	5.8	0.0	5.9	0.1	6.1	-0.1
Problem-solving	4.9	0.0	5.6	-0.2	5.6	-0.1	5.5	0.1	6.0	0.0
Critical thought	7.3	-0.1	6.6	-0.2	6.5	0.0	6.6	0.0	6.6	-0.1
Creativity and innovation	6.1	-0.2	5.7	-0.3	5.4	-0.1	5.3	-0.1	5.9	-0.1
Documentation	7.3	0.2	6.4	-0.2	6.8	0.0	6.9	-0.1	6.8	-0.2
English	2.9	0.2	2.8	-0.1	4.4	0.3	3.5	0.1	3.9	0.1
Self-ass. and self-learning	6.2	0.0	6.2	-0.2	6.0	-0.2	6.2	0.1	6.2	-0.1
Ethical and social respons.	5.7	-0.2	6.1	-0.4	5.4	0.0	6.2	0.2	5.4	-0.3

If we break down the data according to fields, in health sciences and humanities the education provided has improved slightly in certain skills

- However, in social sciences the assessment of education has fallen in all skills, and in some skills in the case of engineering.
- As regards the skills, the ones that have declined in the various fields are as follows: ethical and social responsibility, self-learning, and creativity and innovation which we should recall are those that received the highest assessment in terms of usefulness for the labour market according to recently-qualified graduates.
- Mention should be made of the skill English. Despite being the poorest assessed skill in all fields, the assessment of it has improved slightly in humanities (which had the lowest rating) and in experimental sciences (which had the highest rating).

EDUCATIONAL PATHS

Changes of university and of fields of knowledge

Figure 54. Original university type for earlier study programme compared to nature of the Master's degree university (2017)

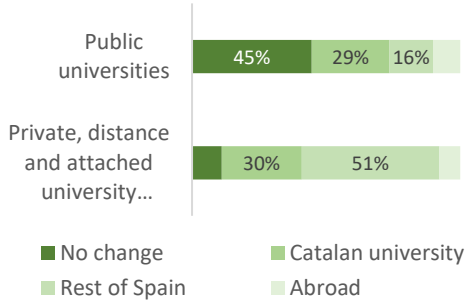


Table 15. Which sub-fields attract the largest proportion of students from outside the Catalan university system (2017)?

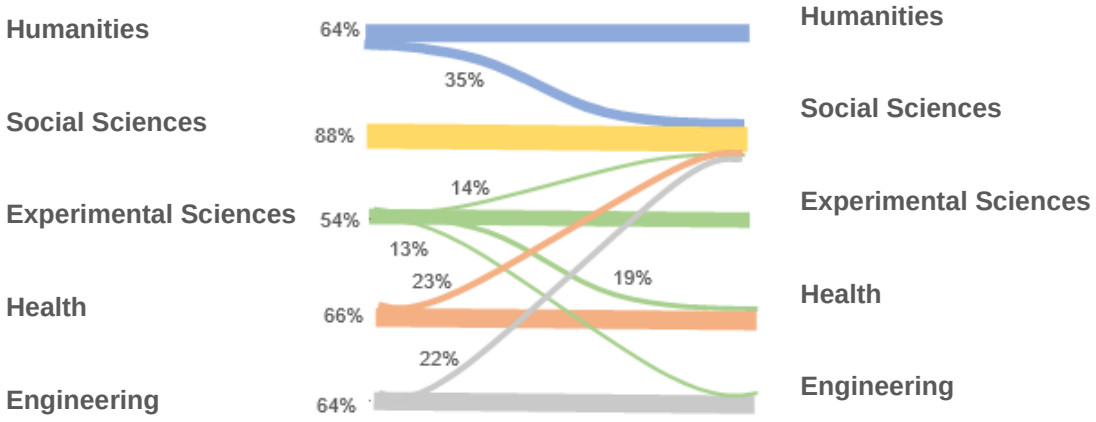
	From rest of Spain	From overseas
Top 5	Business adm. (59%)	Foreign phils. (30%)
	Arts and design	Arts and design
	Law	Tourism
	Sport, nutrition and physiotherapy	Aeronautical eng.
	Documentation (37%)	Business adm. (19%)

Almost 1 in every 10 Master's degree graduates in Catalonia have taken earlier programmes in a foreign university

The sub-fields drawing most foreign students are foreign philologies, arts and design, and tourism.

- 3 in every 10 change to a different university within the Catalan university system to follow their Master's degree. Around 2 in every 10 have previously studied at universities in the rest of Spain.
- In experimental sciences, 46% chose a different educational field for their Master's degree from the field of their earlier programmes (19% then choose health sciences and 14% social sciences). However, in the social sciences only 22% decide to change fields.

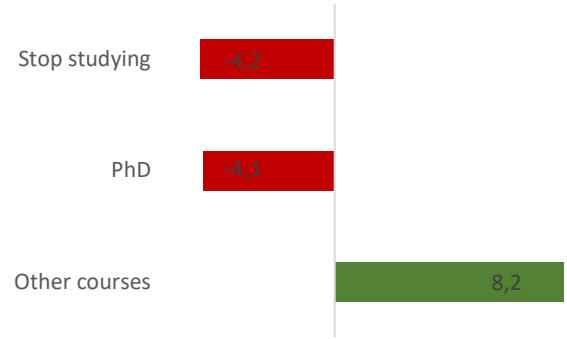
Figure 55. Changes of educational field between earlier programmes and the Master's degree (only includes changes accounting for more than 10% with regard to the earlier field; only public universities; 2017)



Do Master's degree graduates go on to take further studies?

Figure 56. Proportion of Master's degree graduates going on to further studies (2017)

Figure 57. Difference between 2014 and 2017 (percentage points)



The number continuing after obtaining the Master's degree is higher, although PhDs account for a lower proportion

- 7 in every 10 go on to take further studies after obtaining the Master's degree (65%), 3 of which choose to follow a PhD (27%).
- In the experimental sciences field, more than half of graduates follow a PhD after obtaining the Master's degree while only 15% of graduates do so in the field of social sciences.
- Of the 4 in every 10 who confirm they have followed other programmes, a large proportion have followed another Master's degree (accounting for around 20% of all graduates at this level). Specialist courses, postgraduate programmes, languages and even other university Bachelor's degrees also stand out.

Figure 58. Array of options available to those who have gone on to take "further programmes" (2017)

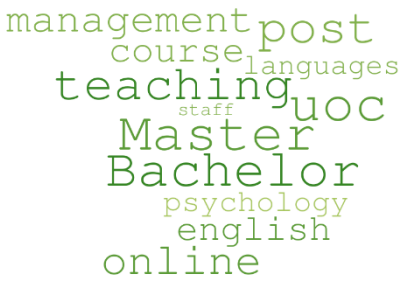
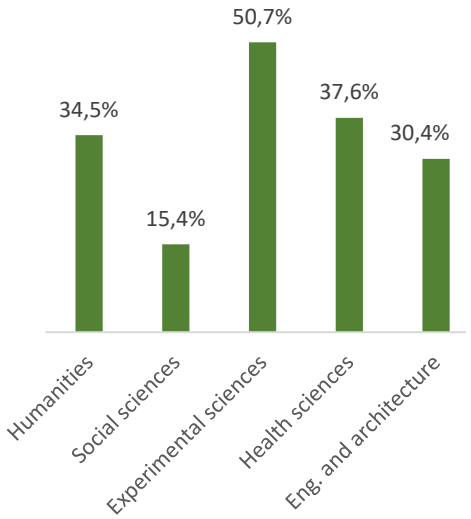


Figure 59. Going on to follow a PhD according to field (2017)



CHARACTERISATION OF ACADEMIC SUB-FIELDS COMPARISON ACCORDING TO SUB-FIELDS

Access to the labour market and satisfaction

- As the table below shows, in terms of employment the sub-fields linked to IT, business administration, medicine and dentistry, nursing, and economics score significantly better results than the remainder for most indicators.
- However, the sub-fields of humanities, such as history, linguistics, and Catalan and Spanish philology, or other sub-fields such as sociology and geography, earth sciences, and psychology score lower results than the remainder in comparative terms.
- When it comes to willingness to take the Master's degree again, once more business administration, economics, and nursing score above the rest. Fields scoring below the rest include the sub-fields linked to arts, experimental sciences, and sociology and geography.

Quality of education

- The column "Positive education quality scores" analyses the number of items that score higher than the remaining sub-fields from a total of 10 items (annex 1). This allows us to see which sub-fields stand out in terms of the education provided.
- The sub-fields of business administration, nursing, tourism, and telecommunications stand out in this respect. It is also necessary to mention the scores of the study programmes in the humanities and experimental sciences fields, which stand in contrast to the lower results achieved in terms of access to the labour market.

Master's degree impact compared to earlier employment

- The column "Positive Master's degree impact scores" analyses the number of items that score higher than the remaining sub-fields from a total of 3 items (annex 1).
- In terms of the impact analysed, business administration, mechanical engineering, and industrial design stand out. The impact of the Master's degree in the sub-field of tourism is also noteworthy; it is a sub-field that is significant owing to the lower scores received in access to the labour market indicators at Bachelor's level.

The specific case of tourism

- Tourism is an example worth underlining. The education provided is not noteworthy at Bachelor's level where the field has the lowest OQI and willingness to take the same programme again (AQU, 2017*b*) in the system. On the other hand, the level of education provided at Master's level stands out from other sub-fields, it has an average OQI and willingness to take the same programme again is higher than that among graduates of similar Bachelor's degrees when the opposite normally takes place.

Table 16. Comparison of access to the labour market and quality of education according to sub-fields (2017)[9]

	% in work	% performing functions linked to the Master's degree	% working full-time	% on a permanent contract	Average earnings	Occupational quality index	% of qualified graduates who would take the same programme again	Positive education quality scores (out of 10)	Positive Master's degree impact scores (out of 3)
10101 History	🔴	🔴	🔴	🔴	🔴	🔴	🟡	4	0
10102 Philosophy and humanities	🟡	🔴	🟡	🔴	🟡	🟡	🟡	4	0
10201 Linguistics, and classical and comparative studies	🔴	🔴	🔴	🔴	🔴	🔴	🟡	4	0
10202 Catalan and Spanish philology	🔴	🟡	🔴	🔴	🔴	🔴	🟡	1	0
10203 Foreign philologies	🟡	🟡	🟡	🟡	🟡	🟡	🟡	5	0
10301 Fine arts	🟡	🟡	🟡	🔴	🔴	🔴	🔴	0	0
10302 Arts and design	🟡	🟡	🟡	🟡	🟡	🟡	🔴	0	0
20101 Economics	🟡	🟢	🟢	🟢	🟢	🟢	🟢	3	1
20102 Business administration	🟢	🟢	🟢	🟢	🟢	🟢	🟢	7	3
20103 Tourism	🟡	🟡	🟢	🟡	🔴	🟡	🟡	6	2
20201 Law	🟡	🟢	🟢	🟡	🟢	🟢	🟡	2	0
20202 Labour	🟢	🔴	🟢	🟢	🟢	🟢	🟢	1	0
20203 Politics	🟡	🔴	🟢	🟢	🟡	🟡	🟡	3	1
20204 Sociology and geography	🔴	🔴	🔴	🔴	🔴	🔴	🔴	2	0
20301 Communication	🟡	🔴	🟡	🟡	🔴	🔴	🔴	0	0
20302 Documentation	🟡	🟢	🟢	🟡	🟡	🟡	🟡	0	1
20402 Pedagogy and psychopedagogy	🟢	🟢	🔴	🔴	🔴	🔴	🟢	2	0
20501 Social education and work	🟡	🔴	🟢	🟡	🔴	🟡	🟡	0	0
20502 Social psychology	🟡	🟡	🟡	🟡	🔴	🟡	🔴	1	0
30101 Biological sciences	🔴	🟡	🟢	🔴	🔴	🔴	🔴	3	1
30102 Earth sciences	🔴	🔴	🔴	🔴	🔴	🔴	🔴	2	0
30201 Chemistry	🔴	🟡	🟢	🔴	🔴	🟡	🔴	4	0
30202 Physics and mathematics	🟡	🟢	🟢	🔴	🟡	🟢	🟢	4	1
40101 Sport, nutrition and physiotherapy	🟡	🟡	🔴	🟡	🔴	🟡	🟡	0	0
40102 Nursing	🟢	🟡	🟢	🟢	🟢	🟢	🟢	7	1
40103 Healthcare staff	🟡	🟡	🟡	🟡	🔴	🟡	🟡	0	0
40201 Psychology	🟡	🟡	🔴	🔴	🔴	🔴	🔴	0	0
40202 Therapy and rehabilitation	🟡	🔴	🟡	🟡	🔴	🔴	🟡	0	0
40301 Medicine and dentistry	🟢	🟢	🟢	🟡	🟢	🟢	🟡	3	0
40302 Pharm., vet. and biomedicine	🔴	🟢	🟢	🔴	🔴	🟡	🔴	2	0
50101 Architecture	🟡	🟡	🟢	🔴	🟡	🟡	🟡	3	0
50102 Building	🟡	🟡	🟡	🔴	🟡	🟡	🔴	1	0
50103 Construction engineering	🟡	🟡	🟢	🟡	🟡	🟡	🟡	0	0
50104 Civil engineering	🟢	🟡	🟢	🟡	🟡	🟡	🟡	0	0
50202 Aeronautical engineering	🟡	🟡	🟢	🟡	🟡	🟡	🟡	1	0
50203 Electronic and automation eng.	🟡	🟡	🟢	🟢	🟢	🟢	🟡	0	1
50204 Mechanical eng. and industrial design	🟢	🟡	🟡	🟡	🟡	🟡	🟡	3	3
50205 Chemical and materials engineering	🟡	🟢	🟢	🟡	🟡	🟡	🟢	3	2
50206 Industrial eng. and organisation	🟡	🟡	🟢	🟡	🟢	🟢	🟡	0	1
50301 Telecommunications	🟡	🟡	🟢	🟢	🟢	🟢	🟡	6	1
50302 IT	🟢	🟢	🟢	🟢	🟢	🟢	🟡	5	2
50401 Agriculture and food production	🟡	🟡	🟢	🟡	🔴	🟡	🟡	1	0
50402 Forestry	🟡	🟡	🟡	🟡	🟡	🟡	🟡	0	0

[9] The indicator represents the result of hypothesis testing for the difference of population means between two groups (the specific sub-field vs. the remainder). We consider equality of population means as our main contrast or null hypothesis. The bootstrap method is performed with a confidence of 95%. Absences of difference are shown in yellow, higher scores for the sub-field in green and lower scores for the sub-field in red.

Occupational quality index (OQI)[10]

Table 17. Organisation of sub-fields according to average OQI (2017; sub-fields *n*>10)

		OQI
Top 10	20102 Business administration	72.9
	50206 Industrial eng. and organisation	70.4
	50201 Naval engineering	70.4
	20101 Economics	70.0
	40102 Nursing	68.9
	50301 Telecommunications	68.4
	50302 IT	68.1
	40301 Medicine and dentistry	67.9
	50203 Electronic and automation engineering	67.6
	20201 Law	66.5
	40103 Healthcare staff	66.2
	50205 Chemical and materials engineering	65.7
	50204 Mechanical eng. and industrial design	65.6
	20302 Documentation	64.8
	30202 Physics and mathematics	64.5
	50103 Construction engineering	64.3
	50104 Civil engineering	63.9
	50202 Aeronautical engineering	63.2
	20202 Labour	62.5
	50101 Architecture	61.4
	40302 Pharm., vet. and biomedicine	61.3
	20103 Tourism	61.2
	50102 Building	60.3
	30201 Chemistry	60.2
	50401 Agriculture and food production	58.9
	50402 Forestry	58.7
	10203 Foreign philologies	58.6
	10302 Arts and design	58.2
	20501 Social education and work	58.1
	20203 Politics	58.0
	40201 Psychology	57.6
	20502 Social psychology	57.5
	30101 Biological sciences	57.3
	10102 Philosophy and humanities	57.3
Bottom 10	20402 Pedagogy and psychopedagogy	57.2
	40101 Sport, nutrition and physiotherapy	57.1
	20301 Communication	54.9
	10202 Catalan and Spanish philology	53.5
	40202 Therapy and rehabilitation	53.5
	20204 Sociology and geography	52.9
	10201 Linguistics, and class. and comp. studies	52.5
	10301 Fine arts	50.1
	10101 History	49.5
	30102 Earth sciences	49.2

[10] The occupational quality index (OQI) is formed by several indicators: contract type, job satisfaction, remuneration and suitability. The value range is from 0 to 100 and the higher the rating the better the occupational quality experienced. For further details, refer to Corominas *et al.* (2012).

Willingness to take the Master's degree again

Table 18. Organisation of sub-fields according to willingness to take the Master's degree again (2017; sub-fields *n*>10)

		% yes
Top 10	30202 Physics and mathematics	77.1%
	20302 Documentation	75.1%
	20101 Economics	74.3%
	20102 Business administration	73.8%
	40102 Nursing	73.5%
	20202 Labour	72.8%
	20402 Pedagogy and psychopedagogy	72.5%
	50302 IT	72.3%
	50201 Naval engineering	71.4%
	50204 Mechanical eng. and industrial design	70.8%
	50205 Chemical and materials engineering	70.8%
	10201 Linguistics, and class. and comp. studies	69.9%
	10102 Philosophy and humanities	69.6%
	20201 Law	68.9%
	50101 Architecture	67.8%
	40301 Medicine and dentistry	67.3%
	50103 Construction engineering	67.3%
	10203 Foreign philologies	66.5%
	50301 Telecommunications	66.4%
	10202 Catalan and Spanish philology	66.1%
	40101 Sport, nutrition and physiotherapy	65.8%
	10101 History	64.6%
	50203 Electronic and automation engineering	64.3%
	40103 Healthcare staff	64.1%
	50206 Industrial eng. and organisation	63.5%
	50202 Aeronautical engineering	63.3%
	50104 Civil engineering	63.2%
	20204 Sociology and geography	60.3%
	50401 Agriculture and food production	60.2%
	20203 Politics	60.0%
	20301 Communication	59.6%
	30201 Chemistry	59.1%
	20501 Social education and work	58.6%
	40302 Pharm., vet. and biomedicine	56.0%
Bottom 10	30101 Biological sciences	55.3%
	40201 Psychology	54.6%
	10302 Arts and design	54.5%
	30102 Earth sciences	53.8%
	20103 Tourism	52.4%
	40202 Therapy and rehabilitation	51.1%
	20502 Social psychology	50.2%
	50402 Forestry	44.0%
	10301 Fine arts	40.7%
	50102 Building	31.4%

GENDER-BASED COMPARISON OF ACCESS TO THE LABOUR MARKET

In most differences in terms of access to the labour market, the scores for women are lower

- 25% of differences are significant, i.e., there are differences in access to the labour market/satisfaction based on gender. For the remaining 75%, no major differences between women and men have been identified in the variables analysed.
- Of these significant differences, most (81%) show that men have a better indicator for access to the labour market or satisfaction compared to women. This also applies to sub-fields traditionally dominated by women: fine arts, nursing, and psychology.
- The sub-fields where women do show higher scores than men in certain indicators are: foreign philologies, politics, social education and work, physics and mathematics, and aeronautical engineering.
- Of the variables analysed, the indicator relating to salaries shows more general differences between the genders (it only includes full-time employment). Most show salaries are higher for men – pointing to the gender pay gap – although in 4 sub-fields the opposite is true.
- When it comes to the proportion in full-time employment, only differences favouring men have been observed.

Table 19. Comparison of the breakdown of each sub-field according to graduate gender (2017)[11]

	% in work	% performing functions linked to the Master's	% working full-time	% on a permanent contract	% on annual earnings above €24,000	Occupational quality index	% of qualified graduates who would take the
10101 History			M				M
10102 Philosophy and humanities			M		M		M
10201 Linguistics, and classical and comparative studies							M
10202 Catalan and Spanish philology				M			M
10203 Foreign philologies					W	W	
10301 Fine arts	M		M				
10302 Arts and design			M		M	M	
20101 Economics							
20102 Business administration					M	M	M
20103 Tourism					M	M	
20201 Law							
20202 Labour		W	M	M	M		
20203 Politics						W	
20204 Sociology and geography							
20301 Communication							
20302 Documentation	W		M		M		
20402 Pedagogy and psychopedagogy	M		M	M	M		M
20501 Social education and work					W		
20502 Social psychology			M				
30101 Biological sciences		M		W			
30102 Earth sciences	M					M	
30201 Chemistry							
30202 Physics and mathematics		W					
40101 Sport, nutrition and physiotherapy					M		
40102 Nursing		M			M		
40103 Healthcare staff							
40201 Psychology		M			M	M	
40202 Therapy and rehabilitation	W			M	W		
40301 Medicine and dentistry		M	M		M	M	
40302 Pharm., vet. and biomedicine				M	M		M
50101 Architecture			M	W	M		
50102 Building						M	
50103 Construction engineering		M			M		
50104 Civil engineering							
50202 Aeronautical engineering				W	W		
50203 Electronic and automation eng.		M					
50204 Mechanical eng. and industrial design			M	M			W
50205 Chemical and materials engineering							
50206 Industrial eng. and organisation							
50301 Telecommunications							
50302 IT		M	M	M			M
50401 Agriculture and food production	M						M
50402 Forestry				M			

[11] The indicator represents the result of hypothesis testing for the difference of population means between two groups (women vs. men for each sub-field). We consider equality of population means as our main contrast or null hypothesis. The student *t*-test is performed with a confidence interval of 95%. W = higher for women. M = higher for men.

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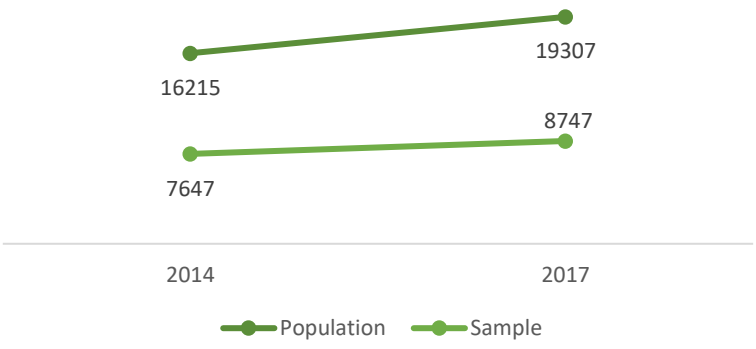
DATA SHEET

Survey on Master's degree graduates[12]

Population	Individuals who graduated in the 2011-12 and 2012-13 academic years securing Master's degrees
Survey period	From 01/02/17 to 28/04/17
Average time taken	If employed: 15 min 16 sec

PUBLIC UNIVIERSITIES	Contactable population	Sample	Response rate	Sample error
University of Barcelona	5,690	2,674	47.0%	1.41%
Autonomous University of Barcelona	3,012	1,422	47.2%	1.93%
Technical University of Catalonia	1,764	764	43.3%	2.72%
Pompeu Fabra University	1,285	463	36.0%	3.72%
University of Girona	743	382	51.4%	3.57%
University of Lleida	698	383	54.9%	3.44%
Rovira i Virgili University	1,300	604	46.5%	2.98%
Total	**14,492**	**6,861**	**47.3%**	**0.88%**
PRIVATE UNIVERSITIES				
University of Vic - Central University of Catalonia	299	169	56.5%	5.08%
Ramon Llull University	1,698	659	38.8%	3.05%
Universitat Oberta de Catalunya	1,235	678	54.9%	2.58%
International University of Catalonia	273	94	34.4%	8.37%
Abat Oliba CEU University	114	52	45.6%	10.27%
Total	**3,619**	**1,483**	**41.0%**	**2.00%**
Attached centres (affiliated with public and private universities)	1,196	403	33.7%	4.06%
STUDY TOTAL	**19,307**	**8,747**	**45.3%**	**0.79%**



[12] The data set out in this report is weighted according to study programme code and sample unit, based on the sample obtained during the fieldwork.

ANNEX 1

Indicators of quality of education included in the study
Theoretical skills
International perspective of the subject area
Practical skills
Scientific and professional communication
Team work
Problem-solving
Creativity and innovation
Critical thought
Self-assessment and continuous learning
English

Indicators of the impact of the Master's degree included in the study
Improvement in earnings
Development of new projects or lines
Establishment of new contacts

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