#ACCESSTOTHELABOURMARKET

2020

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

AQU CATALUNYA

2020

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

BARCELONA, 2021

C. d'Enric Granados, 33
08007 Barcelona

First edition: March 2021

TABLE OF CONTENTS

INTRODUCTION

The aim of this study on access to the labour market is to provide a host of information and data on the quality of access to the labour market experienced by graduates of Master's degrees in Catalonia. The goal is to encourage reflection and improvements to the Master's degree programmes delivered by Catalan universities.

This ambitious project – in its 3rd edition in 2020 in the case of Master's degree graduates – has been conducted thanks to the engagement of the social councils of Catalan state universities and private universities, as they envision this instrument to be a distinguishing item that fosters continual improvement in universities, aligning them closer with society's demands.

The survey asks questions on factors linked to employment (employment/unemployment, sector, place of work), **quality of employment** (suitability of work, contractual stability, earnings, etc.) and **satisfaction in relation to the study programme followed** (skills acquired, willingness to take the programme again, etc.). Over all three editions of the study on access to the labour market almost 26,000 helpful responses have been received from Master's degree graduates. This edition has surveyed almost 4 in every 10 individuals from the target population; namely, individuals who completed their Master's degrees in the 2014-15 and 2015-16 academic years. These academic years are the first to include Bachelor's level graduates whose programmes have been fully adapted to the European Higher Education Area. Accordingly, these are the first results to include a large body of individuals surveyed whose entire higher education is aligned to the post-Bologna model.

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

- 9 in every 10 Master's graduates are in work as of the time of responding to the survey[1] with 6 in every 10 performing specific functions from the Master's degree they followed. These figures are encouraging, as is the fact that only around 5% perform non-university functions at work.
- In addition, the results in 2020 are the best from the 3 editions of the survey conducted to date, with an upward trend exhibited since 2014 in the midst of the financial crisis. Furthermore, there has been an improvement in employment conditions compared to previous years, particularly with the increase in employment stability and in income.
- Overall job satisfaction is good, rated at 8 out of 10, also showing an upward trend since the previous edition.
- Master's degrees linked to Business Administration and Didactics make up the largest proportion of study programmes in the system and, generally speaking, the employment outcomes they lead to are good.
- Employment experience prior to undertaking the Master's degree programme leads to enhanced access to the labour market upon qualifying, regardless of the student's gender, age or educational sub-field. Consequently, the relevance of promoting profiles of students who have experienced a break in their education path and the relevance of making it easier to combine studies with employment should not be underestimated.
- Satisfaction is also at an all-time high with 71% of graduates expressing willingness to take the same Master's degree again, an upward trend that is reported in virtually all educational sub-fields.

[1] To avoid the impact of the Covid-19 health emergency, questions asked over the weeks affected have enquired about the employment situation in February 2020.

Nevertheless, of those who express their dissatisfaction, 50% point to aspects relating to the quality of the Master's degree, which the university system needs to address.

> The assessment of the skills acquired by graduates has improved compared to 2017, in particular with regard to practical training. English is the only skill that falls short.

> Graduates rate the international perspective of the Master's degree as less than satisfactory.

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 (INE) in order to include points of reference in the results obtained.

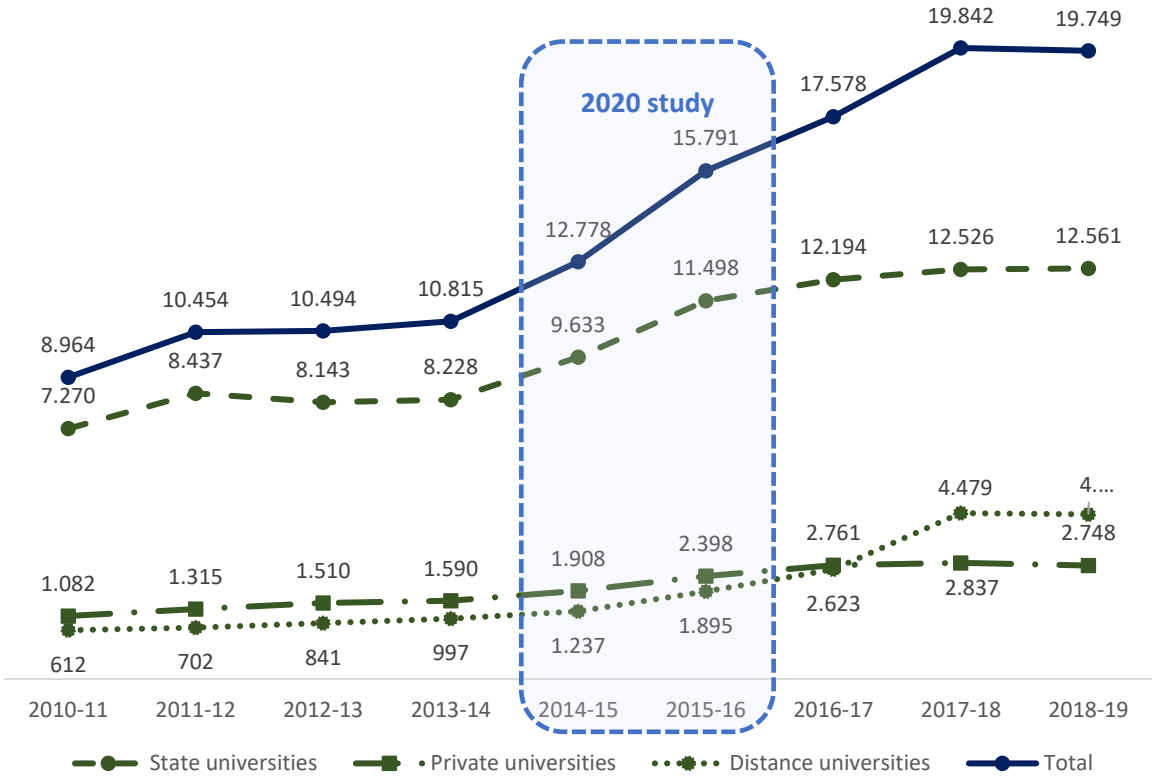
Your interest is greatly appreciated.

Martí Casadesús Fa, AQU Catalunya director

POPULATION DATA FROM CATALONIA

> 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 university2



The number of individuals obtaining a Master's degree has witnessed a twofold increase in recent years

> With the implementation of the European Higher Education Area (EHEA), postgraduate studies have been gaining importance as the level of specialisation in the respective field and in professional qualification. This edition of the survey is the first to encompass Master's degree graduates from the new EHEA Bachelor's degrees, largely implemented in 2010.

> At present, around 30,000 students graduate at Bachelor's level in Catalonia every year, while the figure at Master's level is increasingly approaching that amount, currently in the region of 20,000 individuals.

> Although more than half of Master's degree graduates qualify from state universities, private – and especially distance – universities have been at the forefront of the growth seen over the last two academic years on the graph.

[2] UNEIX – the source of this data – has been compiling information from private universities and distance universities in a comprehensive fashion since the 2010-11 academic year. Attached centres are included within their respective university category.

> The graduate population and fields of knowledge

Figure 2. The population of Master's degree graduates according to educational fields and gender (2014-15 and 2015-16 graduations surveyed[3])

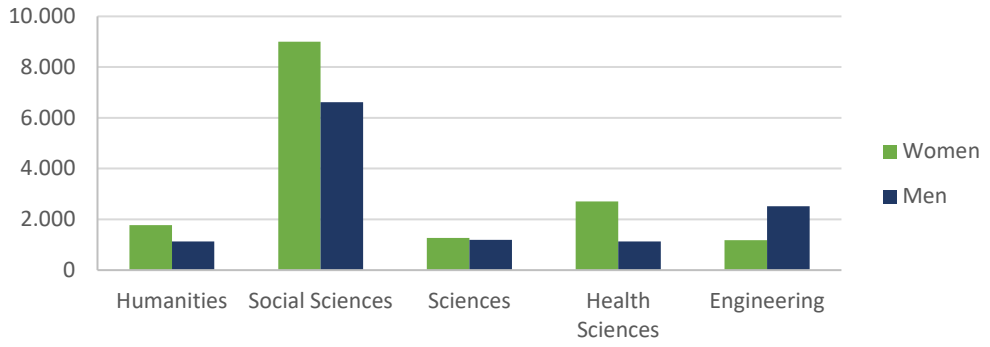
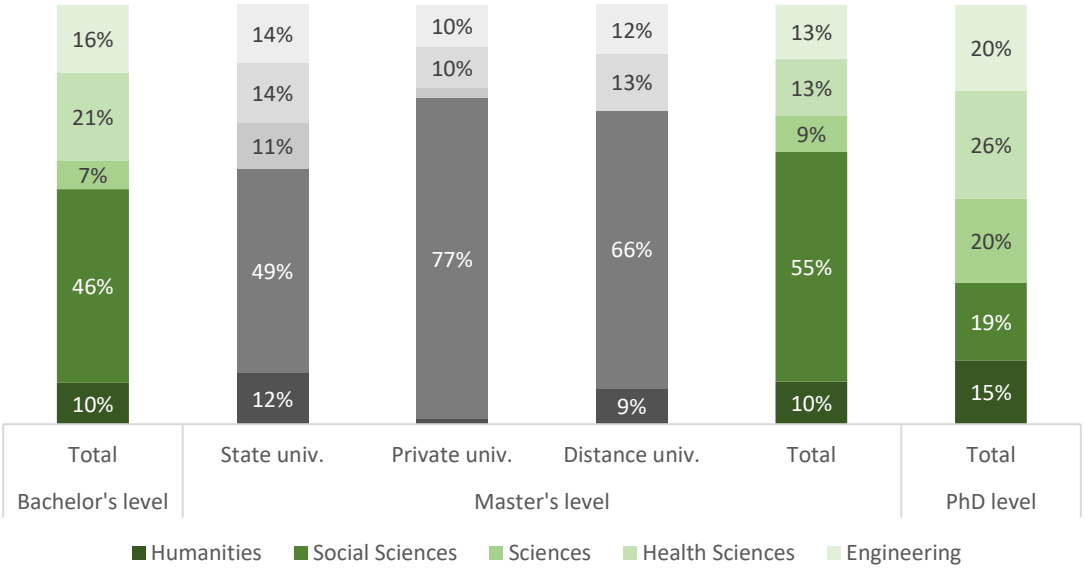


Figure 3. Graduate population according to educational field, education level and type of university (2014-15 and 2015-16 graduations)



Master's degrees in Social Sciences account for more than half of study programmes

> This field is especially broad in the case of private and distance universities.

> Social Sciences account for a higher proportion of study programmes followed at Master's than Bachelor's level, whereas for Health Sciences, or Engineering and Architecture the opposite is true.

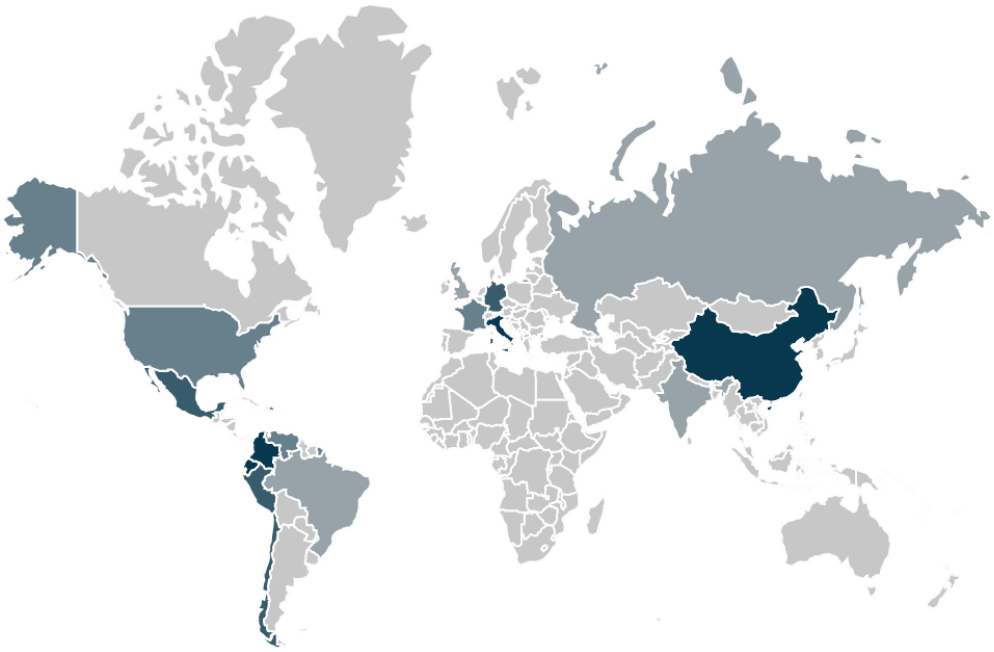
> Women account for a large proportion of Master's degree graduates (56% overall) in virtually all fields, except for Engineering and Architecture.

[3] This covers graduates who qualified 3-4 years before the survey in order to analyse better established employment circumstances.

> Where the talent comes from

Figure 4. Population of Master's degree graduates according to nationality (2014-15 and 2015-16 graduations surveyed)

Figure 5. Place of origin of foreign graduates (2014-15 and 2015-16 graduations surveyed)



30% of the population of Master's degree graduates in Catalonia are foreign nationals

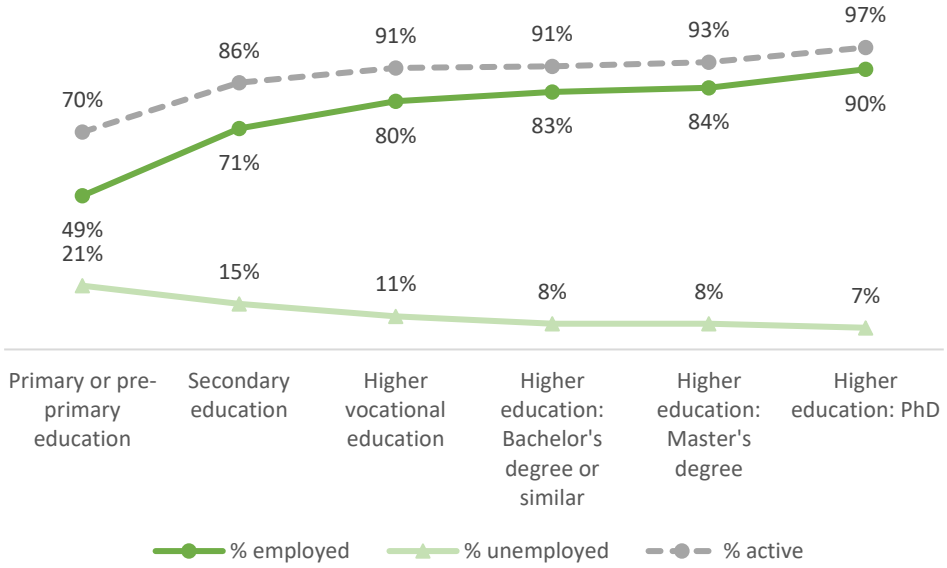
> This proportion has remained stable over the years while the number of study programmes has grown.

> Almost half of the foreign student community qualifying are from only 5 countries: Ecuador, Colombia, China, Italy and Mexico, in this order.

THE SURVEY ON THE ACTIVE POPULATION IN SPAIN (APS)[4]

> Access to the labour market according to education level

Figure 6. Percentage of the population who are employed and unemployed[5] according to education level (people aged 25-44 years – APS, 1st quarter 2020, pre-Covid results)



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

> Pursuing a higher (vocational or university) education clearly enhances access to the labour market and employment while saving individuals from unemployment.

> According to the OECD, Spain is one of the OECD countries where the distinction in the percentage of the employed population[6] according to education level is below the average, i.e., the benefits afforded by pursuing a higher education in terms of access to the Spanish labour market fall below other countries. Indeed, the difference in employment exhibited among those reaching the highest and the lowest education level in Spain is 24 percentage points (pp), while the overall OECD average stands at 27 pp (OECD, 2019).

[4] Source: National Statistics Institute (INE). These results do not reflect the impact of COVID-19 on the Spanish labour market because the interviews from the first quarter of the study are conducted over the first 13 weeks of the year and the impact of COVID was only established in the interviews held in weeks 11 to 13.
[5] Each indicator is calculated with regard to the overall population in each education level.
[6] People aged 25-64 years in 2018.

> Trend in the employment and unemployment rates

Figure 7. Trend in the employment rate according to education level (people aged 25-44 years – APS, 1st quarter 2020)

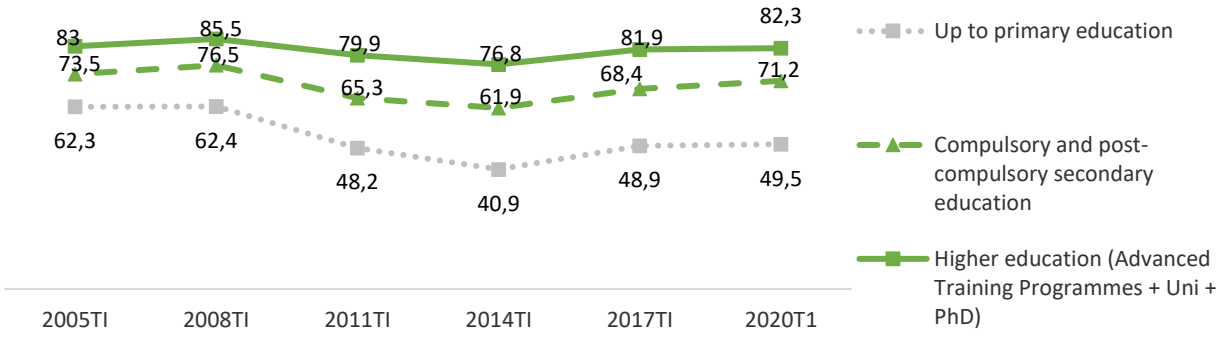
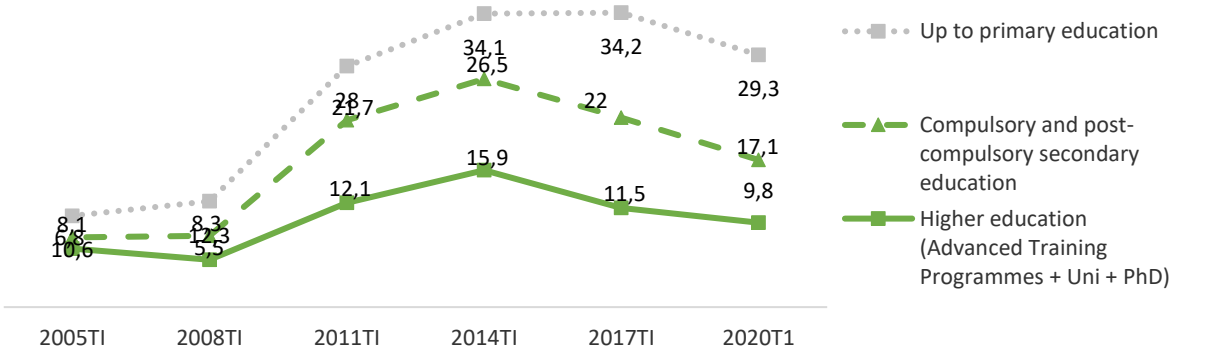


Figure 8. Trend in the unemployment rate[7] according to education level (people aged 25-44 years – APS, 1st quarter 2020)



The unemployment rate is down substantially across all education levels while the employment rate witnesses an increase, albeit smaller

> The employment rate among individuals with a higher education stands at 82.3% (0.4 pp higher than in 2017) while the unemployment rate stands at 9.8% (1.7 pp below 2017).

> The divergence between the employment and unemployment rates according to education level has narrowed since 2017, although it is still far from the levels witnessed before the recession.

[7] Unemployment rate measured by determining the unemployed population as a proportion of the active population.

THE SURVEY ON ACCESS TO THE LABOUR MARKET

> Employment

Figure 9. Trend in the percentages of employment, unemployment and inactivity

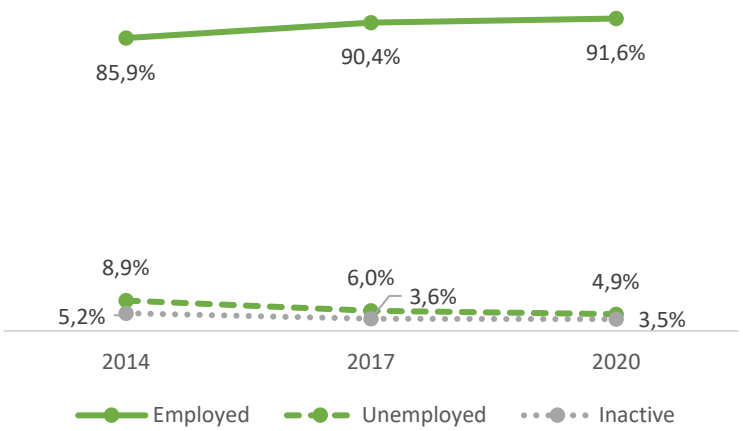
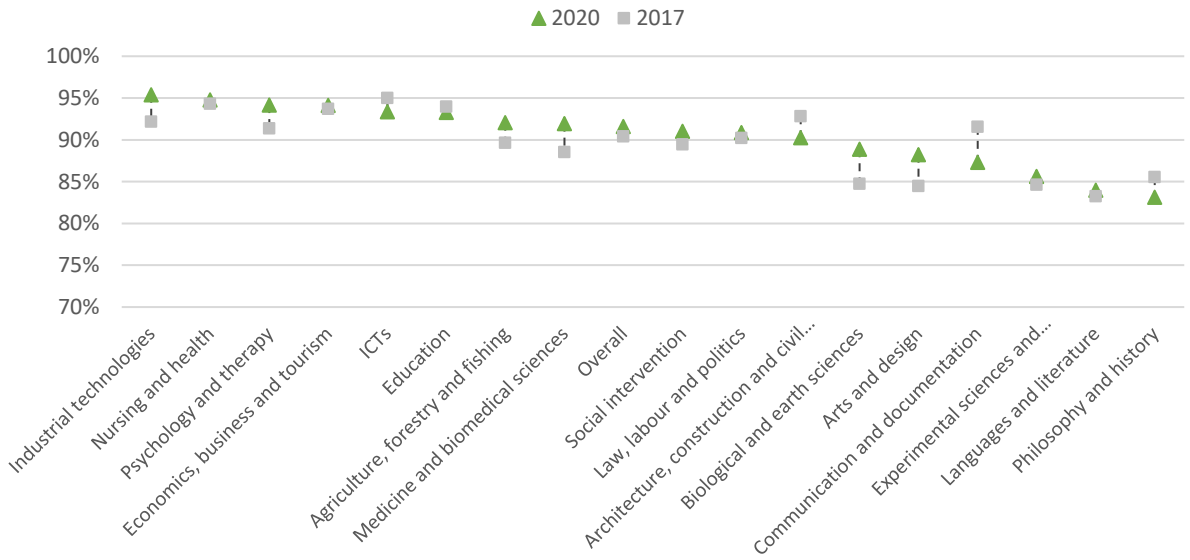


Figure 10. Trend in the percentage of employment broken down according to sub-fields between the 2017 and the 2020 surveys



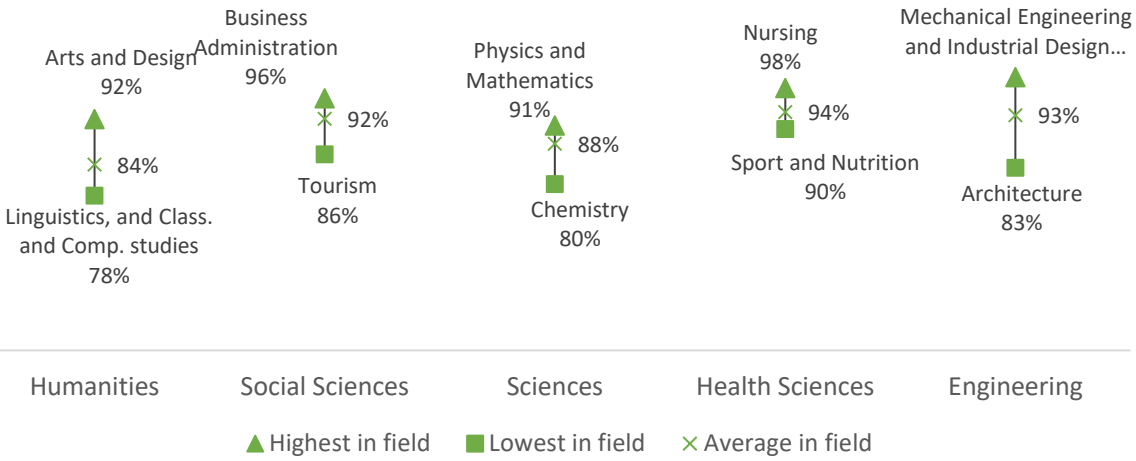
92% of Master's degree graduates are in work

> Employment shows an upward trend while unemployment has almost halved over the past 6 years.

> With regard to the growth in employment compared to 2017, blended study programmes, along with the fields of Arts and Design and Biological and Earth Sciences stand out.

> On the other hand, a slight decline is observed in sub-fields such as Communication and Documentation; Philosophy and History; and Architecture, Construction and Civil Engineering.

Figure 11. Employment according to educational field in 2020 (showing the sub-fields with the highest and lowest employment levels in each field)

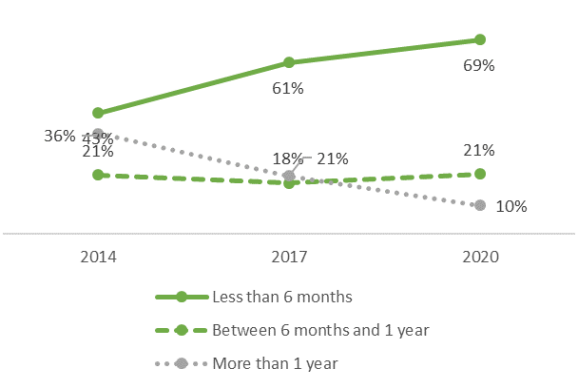


Health Sciences is the field exhibiting the highest employment, followed by Engineering and Social Sciences

- The fields of Humanities and Health Sciences are 10 percentage points apart.
- In addition, the greatest difference within a field in terms of employment takes place in Health Sciences, while Architecture and Chemistry exhibit employment levels that are significantly below the average for their field.

Characteristics of unemployment

Figure 12. Trend in the period of unemployment



Lower levels – and indeed shorter periods – of unemployment

- The percentage experiencing long-term unemployment has fallen from 36% to 10% in 6 years.
- 7 in every 10 unemployed individuals in 2020 have been looking for work for fewer than 6 months.

Figure 13. Importance of the reasons why graduates do not find work (on a scale of 10) (2020)

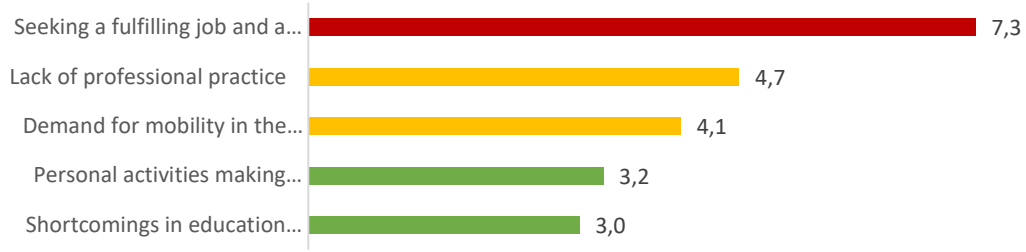


Figure 14. Data for sub-fields based on main reasons for not finding work (samples of more than 5 unemployed individuals only) (on a scale of 10) (2020)

	Type of work and salary level	Lack of practice	Mobility	Personal activities	Shortcomings in education
Top 5	Agriculture and Forestry (8.8)	Chemical and Materials Engineering (6.8)	Architecture (7.0)	Agriculture and Forestry (5.7)	Telecommunications (5.6)
	Business Administration (8.8)	Architecture (6.6)	Pedagogy and Psychopedagogy (6.6)	Philosophy and Humanities (5.4)	Politics (4.5)
	Telecommunications (8.7)	Foreign Philologies (6.6)	Telecommunications (6.3)	Pedagogy and Psychopedagogy (5.0)	Architecture (4.3)
	Linguistics, and Classical and Compared Studies (8.3)	Telecommunications (6.6)	Catalan and Spanish Philology (6.1)	Communication (4.4)	Medicine and Dentistry (4.3)
	Politics (8.2)	Psychology (6.0)	Computer Science (4.8)	Foreign Philologies (4.3)	Pharmacy and Biomedicine (4.1)

Major importance (7-10) **High importance (6-7)** **Average importance (4-5)**

Of those who are unemployed, finding a fulfilling job with suitable remuneration is the chief stumbling block to securing work

> Nevertheless, two aspects that may be more directly derived from university education should be highlighted: firstly, lack of professional practice is reported overall to a significant extent, being decisive in study programmes in the sub-field of Chemical and Materials Engineering, Architecture, Foreign Philologies, Telecommunications and Psychology.

> Secondly, unemployed individuals who qualify in the field of Telecommunications also report substantial shortcomings in the education received in the Master's degree.

> Sector of employment

Figure 15. Trend in employment according to sector

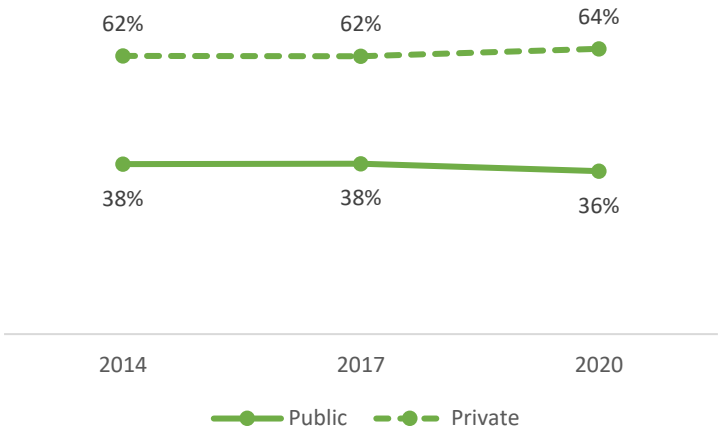


Figure 16. The 10 sub-fields with the greatest variation in the population employed in the public sector between 2017 and 2020 (where *n*>10)

	2017	2020	Difference (pp)	
Building	11.1%	38.7%	+27.6	Increase seen in public sector
Therapy and Rehabilitation	54.1%	78.6%	+24.6	
Didactics: Teachers and Lecturers	43.4%	59.9%	+16.5	
Linguistics, and Classical and Comparative Studies	39.2%	54.5%	+15.3	
Pedagogy and Psychopedagogy	52.9%	65.1%	+12.2	
OVERALL	38.0%	36.3%	-1.7	
Law	33.2%	21.3%	-11.8	Increase seen in private sector
Construction Engineering	19.6%	5.9%	-13.8	
Industrial Engineering and Organisation	26.5%	6.7%	-19.8	
Electronic and Automation Engineering	28.7%	6.7%	-22.1	
Mechanical Engineering and Industrial Design	45.5%	19.0%	-26.4	

Overall, the proportion of Master's degree graduates employed by the private sector has remained constant

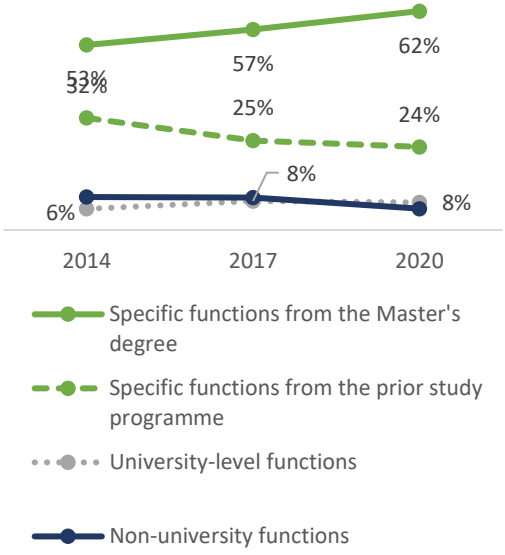
> The bulk of the growth seen in the private sector is exhibited in Industrial Engineering.

> On the other hand, in sub-fields more closely associated with public sector employment, the public sector employs a larger percentage than it did in 2017.

> Suitability of functions at work

Figure 17. Suitability of functions at work (2020)

Figure 18. Trend in suitability at work



6 in every 10 perform specific functions from the Master's degree they have taken when at work

> In addition, the percentage continues on the upward trend seen over the past 6 years, while the percentage performing specific functions from the prior study programme has been in decline.

Figure 19. Functions specific to the Master's degree broken down according to sub-field for 2020 (showing the sub-fields with the highest and lowest employment levels in each field)

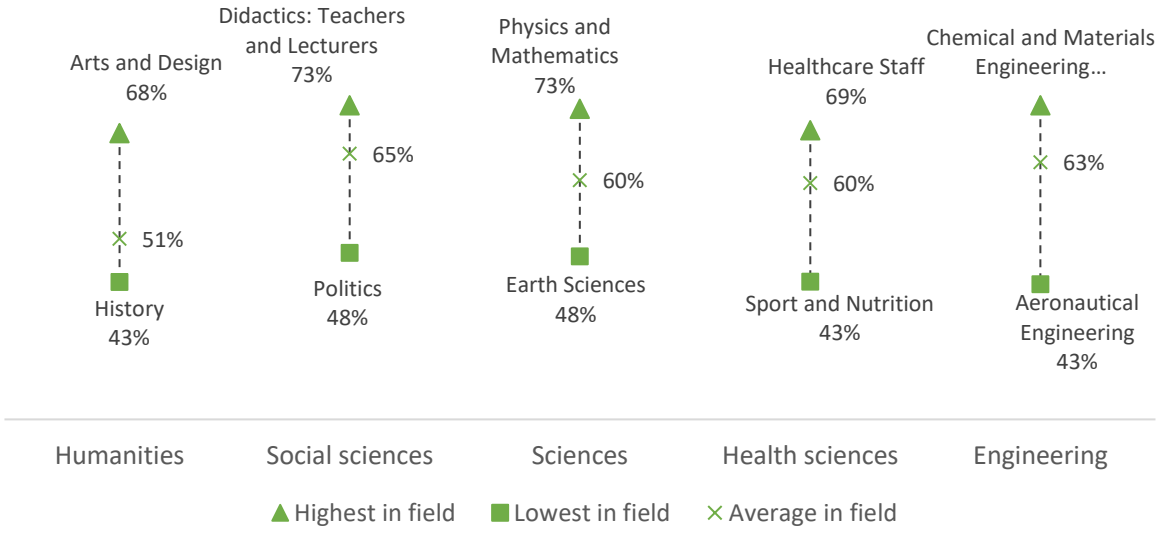
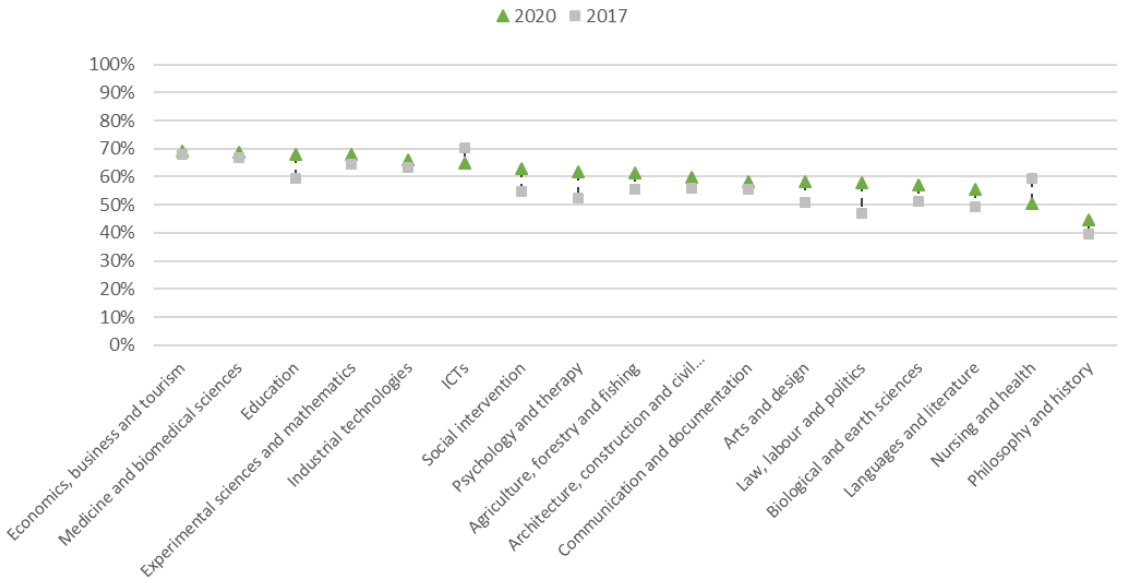


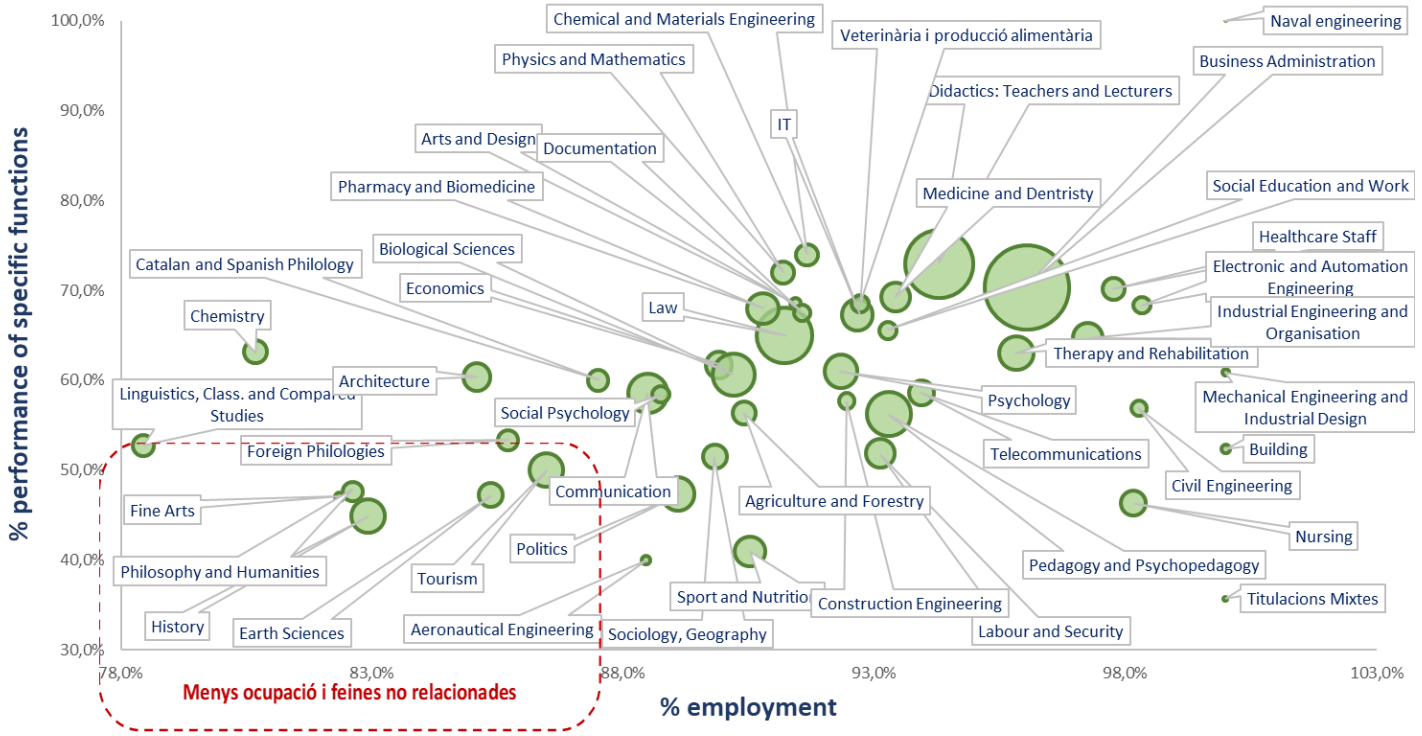
Figure 20. Trend in the percentage of graduates performing specific functions from the Master's degree broken down according to sub-field between 2017 and 2020



6 in every 10 perform specific functions from the Master's degree they have taken when at work

- The percentages performing specific functions from the Master's degree range from 65% among those following Social Sciences to 51% in Humanities. The highest levels reach as much as 73%, for instance, in Master's degrees in Didactics, in Physics and Mathematics, and in Chemical and Materials Engineering; with the lowest levels at 43% in History, Sport and Nutrition, and Aeronautical Engineering.
- Overall, when broken down the percentage of individuals performing specific functions from the Master's degree shows an increase in all sub-fields between 2017 and 2020, with the exception of ITCs, and Nursing and Health.

Figure 21. Link between employment and the performance of specific functions according to sub-fields in 2020 (circle size illustrates number of graduates)

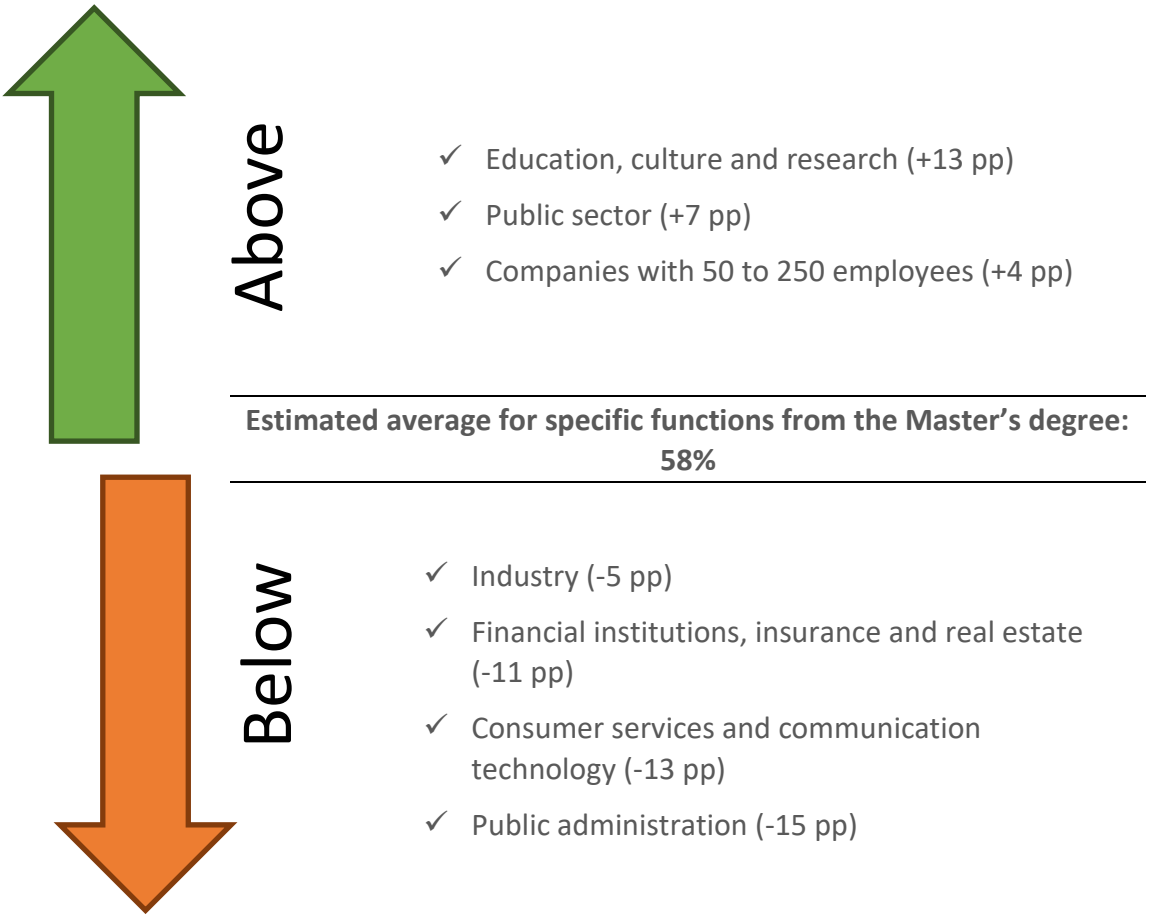


The larger sub-fields – in terms of the number of graduates – show above-average employment and suitability indicators

- They are Business Administration and Didactics: these Master's degrees account for a substantial proportion of the university programmes followed at Master's level and they stand out in terms of employment outcomes.
- On the other hand, graduates who qualify in Master's degrees in the sub-fields of History, Tourism or Politics encounter greater difficulty in finding employment aligned with their study background.

> Economic fabric and demand for Master's-level functions

Figure 22. The economic fabric in which there is greater demand for performing specific functions from Master's degrees at work (2020)[8]



The education, culture and research branch – particularly in the public sector – exhibits the greatest percentage of graduates performing specific functions from the Master's degree

> These results are regardless of the gender and age of the individual qualifying.

> Irrespective of the branch and the sector, medium-sized companies account for a large proportion of demand for specific functions from the Master's degree.

> On the other hand, the branches of Public Administration (general administrative activity), consumer services and communication technologies experience a lower percentage.

[8] Results of a multi-level variance model using socio-demographic factors as control variables: gender, age and individual sub-field. Dichotomous dependent variable: Master's degree functions. Independent variables: economic branch, company size and sector. The model explains 8% of the variance in whether Master's degree functions are performed at work.

EMPLOYMENT CONDITIONS

> Contract type

Figure 23. Contract type (2020)

Figure 24. Trend in terms of contract type

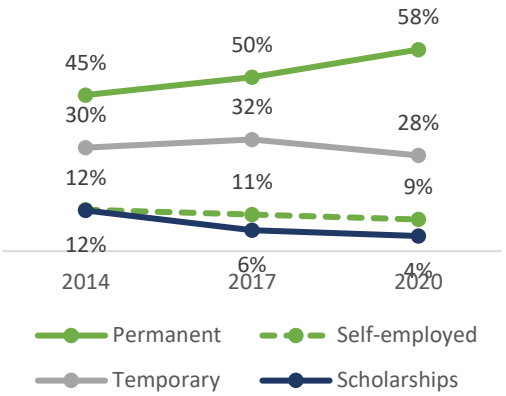


Figure 25. Contract type according to educational field with maximums highlighted in each row (2020)

	Humanities	Social Sciences	Sciences	Health Sciences	Engineering
Permanent	41.2%	63.7%	38.2%	50.8%	67.2%
Self-employed	13.3%	9.2%	2.2%	11.8%	8.4%
Temporary	36.6%	25.1%	42.9%	31.1%	19.4%
Scholarships	8.1%	1.6%	16.0%	5.8%	4.5%
No contract	0.8%	0.4%	0.6%	0.4%	0.5%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

The upward trend in employment stability has grown to encompass 6 in every 10 in 2020

- 3 in every 10 are on temporary contracts, down by 4 pp over the past three years, with the other contract groups also falling slightly.
- According to fields, stability is most prominent among graduates of Master's degrees in Social Sciences and Engineering.
- Scholarships linked to research and temporary contracts are common features among those qualifying in Sciences, indicative of the type of recruitment that is characteristic of the innovation and research sector.
- Entrepreneurship is substantial in Humanities and Health Sciences, while employment without a formal contract is most prominent among those qualifying in Humanities when compared to the other fields, albeit still at an insignificant percentage.

> Working hours

Figure 26. Trend in the percentage in full-time employment

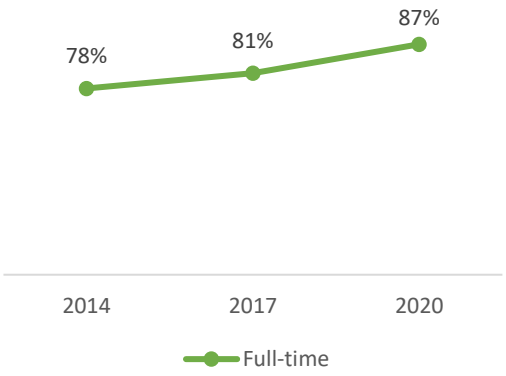
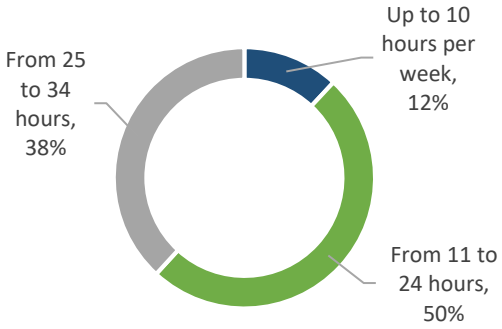


Figure 27. Weekly hours worked by those employed part-time (2020)



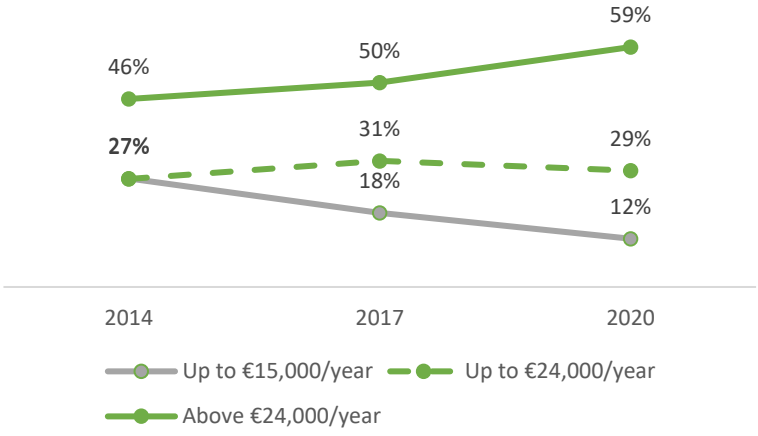
Upward trend in the proportion in full-time employment

> 87% of employment undertaken by Master's degree graduates is full-time.

> Of those working part-time, around 1 in every 2 work a half day (i.e., between 11 and 24 hours per week).

> Earnings

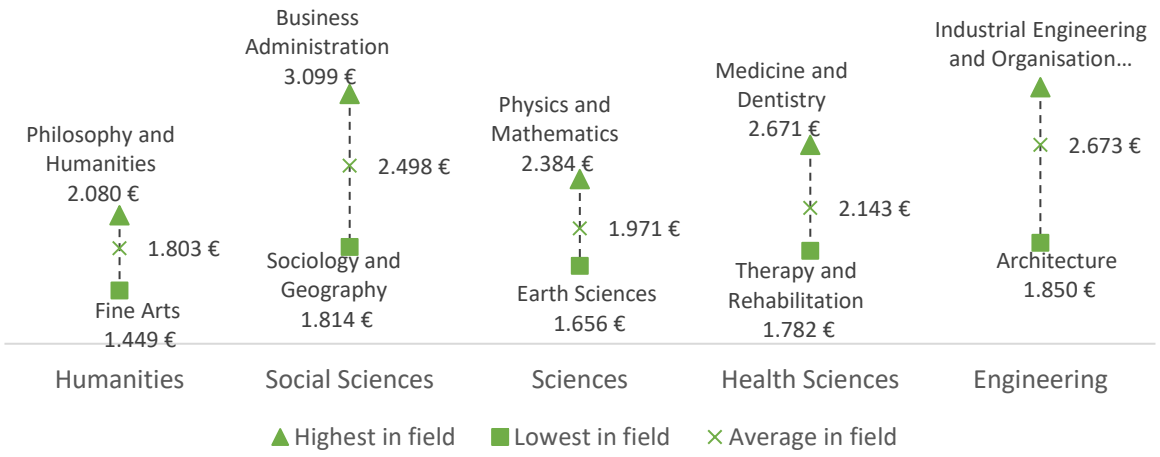
Figure 28. Trend in gross earnings (only individuals in full-time employment)



Upward trend in earnings

> The proportion earning more than €24,000/year gross has risen from 46% to 59% in 6 years. In 2020, only 1 in every 10 are earning up to €15,000/year.

Figure 29. Average gross monthly earnings according to educational field in 2020 (showing the sub-fields with the highest and lowest amount in each field)



Average gross earnings are higher among those qualifying in Social Sciences and Engineering

- Nevertheless, within those fields the largest difference between study programmes is also exhibited with a range of up to €1,200/month gross.
- The sub-fields of Business Administration, Industrial Engineering and Organisation or Medicine and Dentistry have high earnings in comparative terms.
- On the other hand, Fine Arts, Earth Sciences or Therapy and Rehabilitation are at the bottom end of the scale.

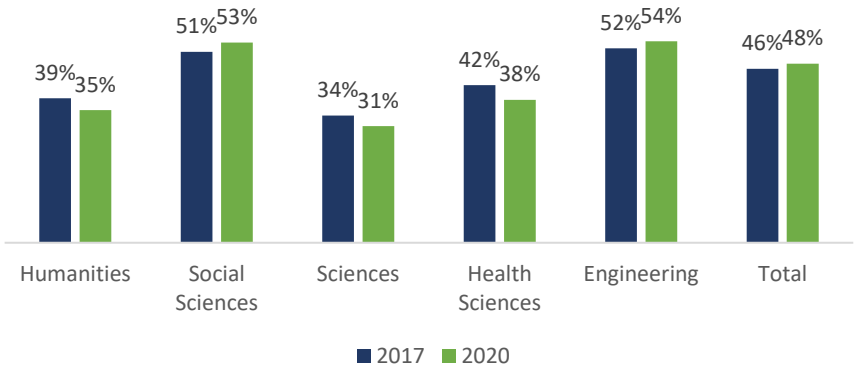
> Level of responsibility

Figure 30. Level of responsibility over other individuals at work (2020)

Around half of employment involves responsibility over other individuals

- The following graph shows that this is the case in Social Sciences and Engineering, but not in the remaining fields.
- In addition, growth compared to 2017 is only seen in these two fields, while the proportion occupying positions of responsibility is declining in the remainder.

Figure 31. Percentage of employment involving responsibility over other individuals at work according to field (2020)



> Job satisfaction

Figure 32. Job satisfaction according to educational field (out of 10) (the shading highlights the main digressions from the average for each factor) (2020 with the 2017 comparison)

	Job content	Potential for promotion	Remuneration level	Usefulness of Master's degree knowledge	Overall
Humanities	8.3	6.5	6.5	5.1	7.7
Social Sciences	8.5	7.2	6.9	6.0	8.0
Sciences	8.2	6.6	6.2	5.3	7.7
Health Sciences	8.6	7.1	6.6	6.3	8.1
Engineering	8.4	7.2	6.8	5.9	8.0
2020 total	**8.4**	**7.1**	**6.8**	**5.9**	**8.0**
2017 total	*8.2*	*6.5*	*6.3*	*5.3*	*7,7*

Overall job satisfaction stands at 8 out of 10

- Those employed are least satisfied with the usefulness of Master's degree knowledge. Nevertheless, this factor stands out clearly more positively among Master's degrees in Health Sciences.
- The scores given for the various factors examined are fairly similar in the fields of Social Sciences, Health Sciences and Engineering. On the other hand, Humanities and Sciences both exhibit substantially lower assessments in practically all areas.
- Compared to 2017, the assessments for all factors are higher in 2020. Usefulness of Master's degree knowledge is one of the areas that have seen the largest increase.

> Occupational Quality Index (OQI)[9]

Figure 33. OQI according to university level (2020)

Figure 34. OQI trend

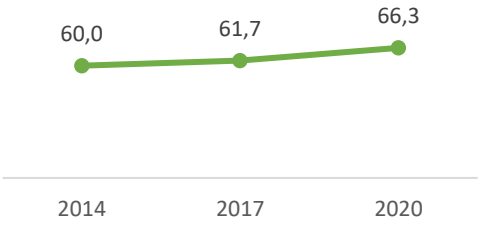
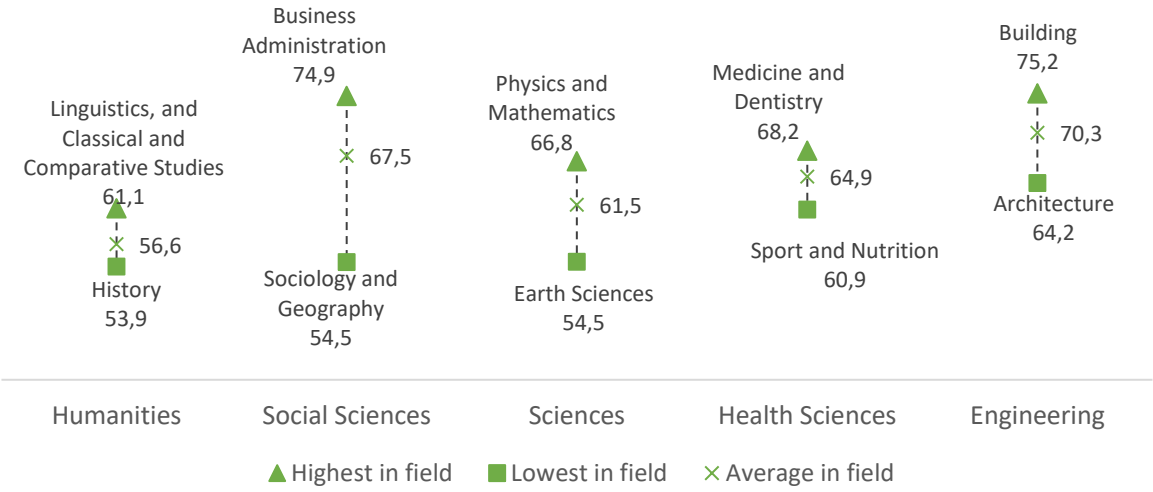


Figure 35. OQI according to educational fields in 2020 (showing the sub-fields with the highest and lowest levels in each field)



Substantial rise in occupational quality compared to 2017

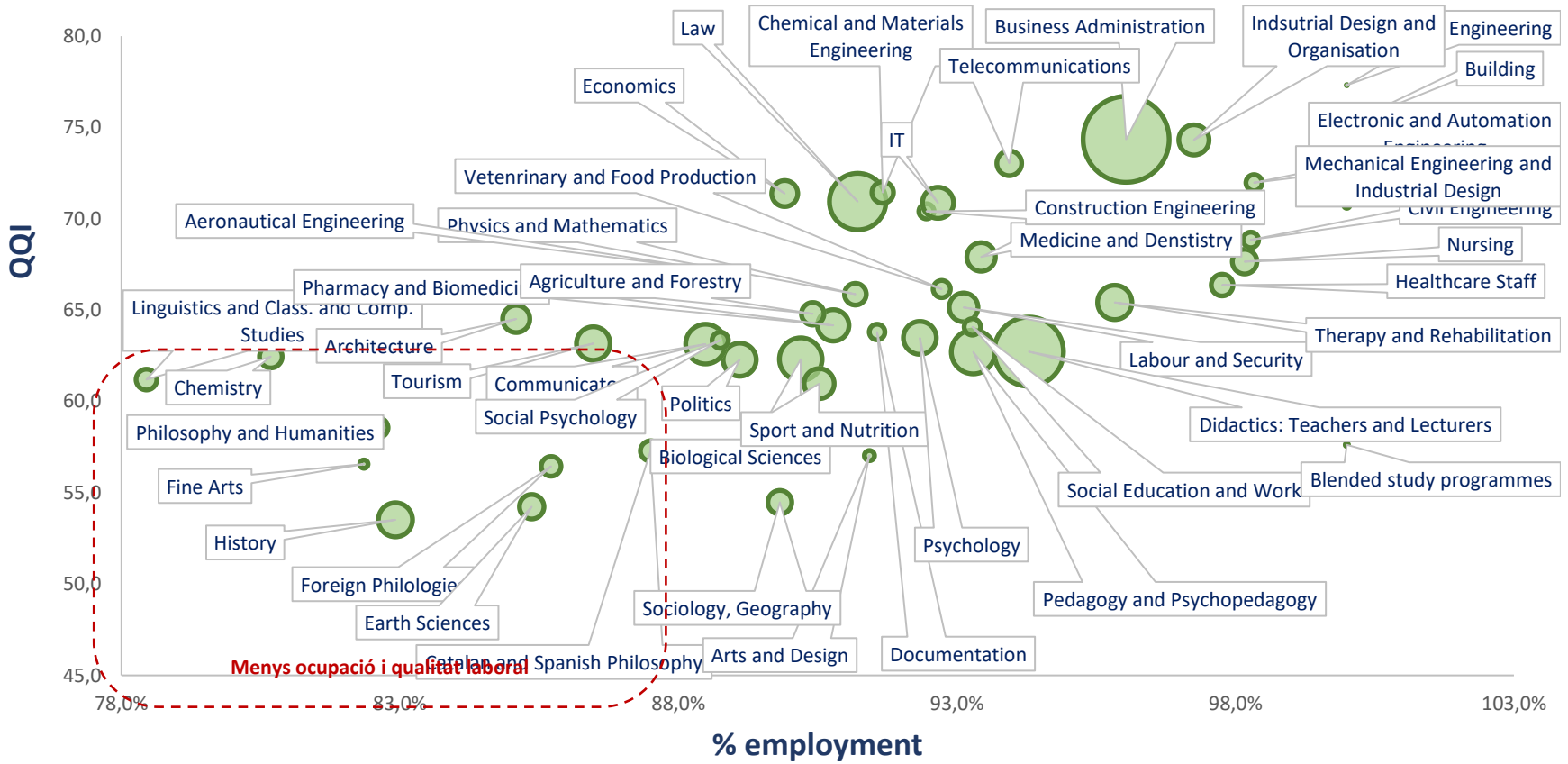
> The Occupational Quality Index (OQI) allows us to sum up various employment indicators, such as contract type, earnings, suitability of functions and job satisfaction.

> Humanities is clearly above the remaining fields and indeed exhibits few differences between its sub-fields, while the best assessment is given for Engineering.

> Social Sciences shows the greatest spectrum of difference within its field in terms of occupational quality.

[9] 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).

Figure 36. Link between employment and the average OQI according to sub-fields in 2020 (circle size illustrates number of graduates)



Business Administration – which includes the bulk of Master's degree graduates – shows very positive results for employment

> The same is observed in smaller sub-fields such as Industrial Engineering and Organisation, or Electronic and Automation Engineering.

> The opposite quadrant incorporates sub-fields such as History, Earth Sciences, Philologies, or Sociology and Geography. They exhibit lower levels of employment and poorer employment conditions.

CAREER PATHS

> Combination of study and paid employment

Figure 37. Trend in the percentage of graduates who have not experienced stable employment until qualifying with the Master's degree

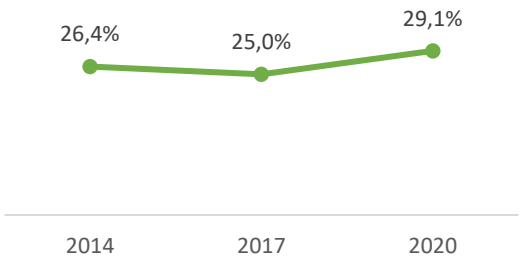
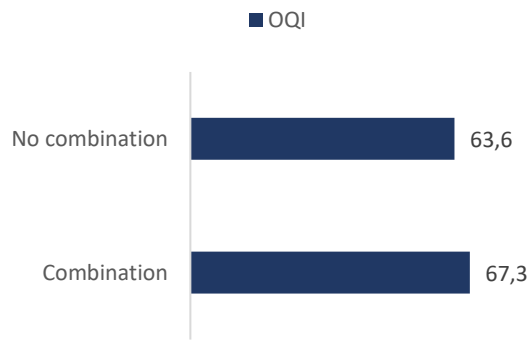


Figure 38. Time taken to find 1st job by individuals who had not worked prior to qualifying with the Master's degree (2020)

An increase is seen in the percentage of graduates who had not benefitted from access to the labour market prior to qualifying with their Master's degree

> Most of this group find work in less than three months.

Figure 39. Comparison of employment and employment conditions according to whether the graduate combined study with a steady job (2020)



Does employment experience prior to qualifying with the Master's degree enhance subsequent access to the labour market?

> It does. Also, the differences seen on the graph are regardless of gender, age and the educational sub-field of the Master's degree.

> Specifically, when the age, gender and field are the same, no combination leads to a 2.5 point OQI fall in the estimated average.[10]

[10] Results of a multi-level variance model using socio-demographic factors (gender and age) and a breakdown of sub-fields as control variables, with combination as an independent variable. The model explains 13% variance of the OQI.

> Impact of the Master's degree on access to the labour market

Figure 40. Impact of the Master's degree in terms of employment compared to the job held prior to qualifying (2020)

Figure 41. Objective impact of the Master's degree in terms of employment compared to the job held prior to qualifying, according to educational field (2020)

	Humanities	Social Sciences	Sciences	Health	Engineering
Change of employment	65.4%	67.0%	68.1%	49.8%	64.5%
Better contract	62.6%	65.2%	71.6%	52.7%	66.6%
Better salary	69.3%	76.8%	73.8%	52.8%	79.9%
Longer hours	59.2%	53.4%	63.5%	50.0%	46.6%
Better category	68.5%	72.2%	75.9%	52.4%	73.3%

Figure 42. Subjective impact of the Master's degree in terms of employability compared to the employment situation prior to qualifying, according to educational field (2020) (out of 10)

	Humanities	Social Sciences	Sciences	Health	Engineering
Enhanced job opportunities	5.5	6.8	6.2	6.0	6.6
New responsibilities	5.0	6.5	5.8	5.6	6.1
New products or lines	5.5	6.3	6.0	6.1	6.3
Key role in decision making	4.4	5.8	5.3	5.2	5.7
Enhanced training	7.4	7.4	7.5	7.6	7.6
More contacts	6.2	6.2	6.5	5.9	6.2

For more than half of graduates, the Master's degree has led to improvement in access to the labour market compared to the previous job

- This improvement applies particularly to earnings and professional category.
- The impact is broader in the fields of Social Sciences and Engineering which, as we shall recall, exhibit the best employment indicators for Master's degrees.
- The impact of the Master's degree is also huge in the case of those qualifying in Sciences, although it has a smaller impact for individuals qualifying in Health Sciences.

INTERNATIONALISATION

> Job location*

* The data relates to individuals who responded to the telephone survey; therefore, it will overestimate those living in Spain. Although 30% of the target population are foreign nationals, the figure stands at 25% in the case of respondents.

Figure 43. Job location (2020)

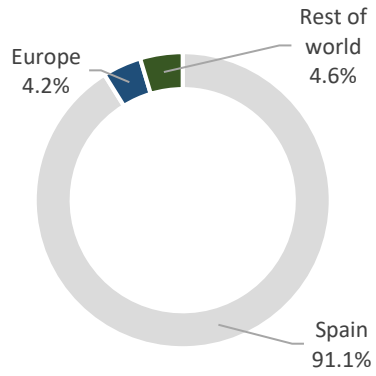


Figure 44. Country of employment of individuals who are not working in Spain

Figure 45. Overseas employment among Spanish nationals

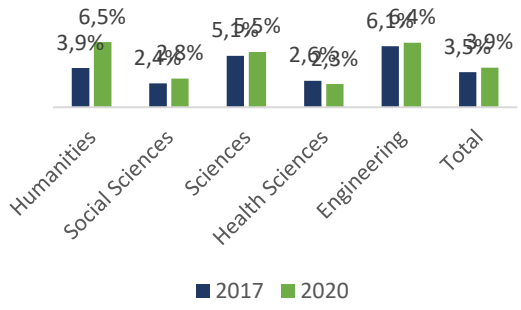
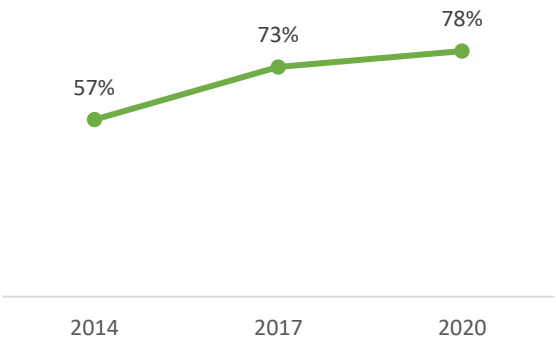


Figure 46. Trend in percentage of foreign graduates working in Spain



1 in every 10 individuals who complete a Master's degree in Catalonia is employed overseas

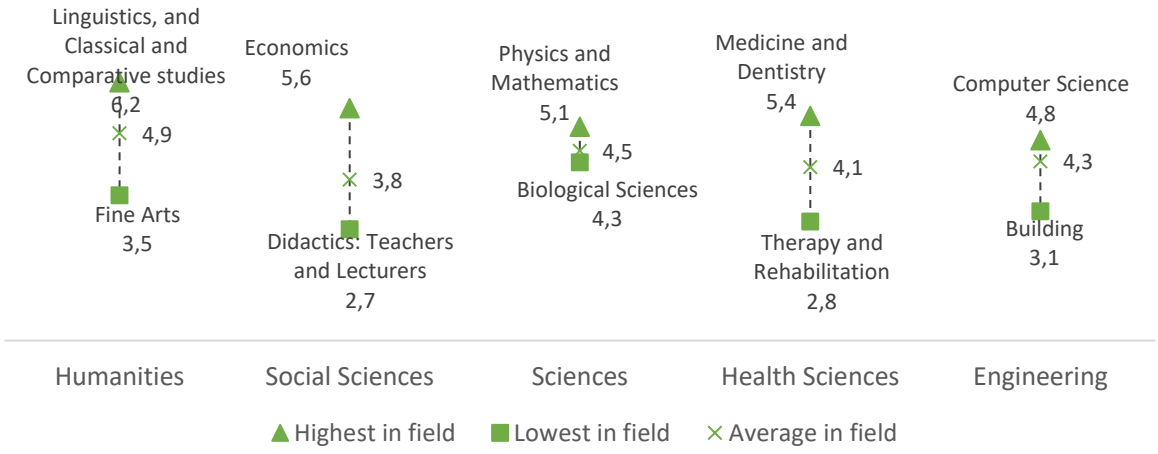
- Almost half of this talent produced in Catalonia is employed in Ecuador, Colombia or Italy. Nevertheless, these are also the main countries of origin of international students.
- Consequently, if we only consider Spanish nationals, 4% of them are employed overseas, a slight increase compared to 2017, and they are mainly employed in the UK, Germany and France.
- Foreign talent educated in Catalonia and who remain in Spain stands at 78%, a figure that also exhibits an increase.

> Assessment of the international perspective of the Master's degree

Figure 47. Assessment of the level of internationalisation in the Master's degree according to the nationality of the respondent (2020) (out of 10)

	National graduates	International graduates
Contacts with international teaching staff	3.3	3.5
International networking	3.0	3.6
International perspective in the Master's degree subject area	4.1	5.0

Figure 48. Assessment of the international perspective in the specific subject area in 2020 (showing the sub-fields with the highest and lowest score in each field) (only national graduates) (out of 10)



Graduates express dissatisfaction with the international perspective of the Master's degree

- Humanities is the field in which the highest average assessment is given, at almost 5 out of 10, while the lowest average rating is seen in Social Sciences.
- Master's degrees in Didactics, which as we shall recall account for a large proportion of Master's programmes undertaken, receive the lowest score at 2.7 out of 10.
- Linguistics and Classical and Comparative Studies, along with Economics, are the two sub-fields in which the best rating was given in this regard.

MOTIVATION AND SATISFACTION WITH THE STUDY PROGRAMME

> Reasons for choosing the Master's degree

Figure 49. Reasons for following the Master's education (2020)

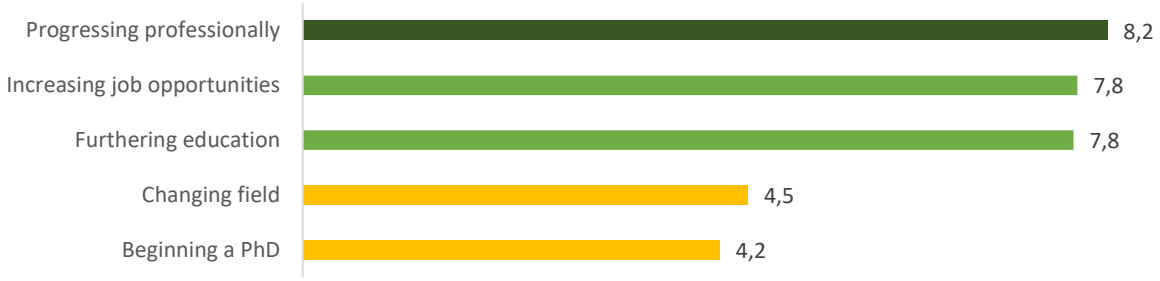
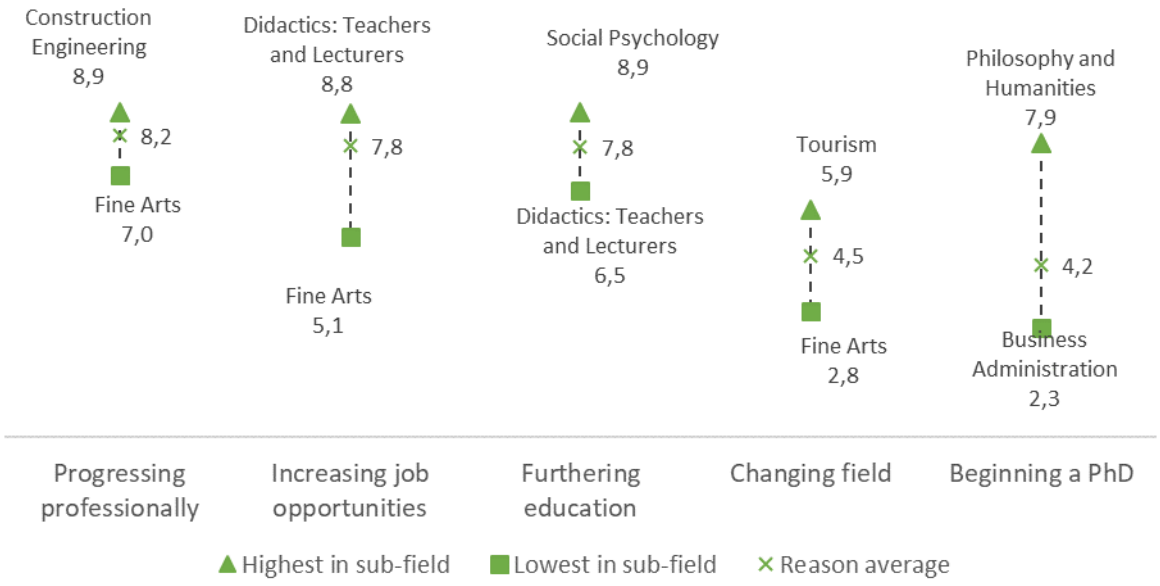


Figure 50. Highest and lowest sub-field for each reason for the choice (2020)

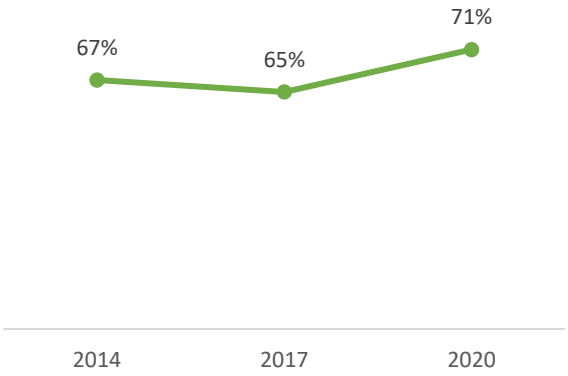


Progressing professionally is the key reason for pursuing a Master's degree

> Beginning a PhD is a significant reason in sub-fields such as Philosophy and Humanities, while Master's degrees in Tourism are a prominent option among those who wish to change educational field.

> Willingness to take the Master's degree again

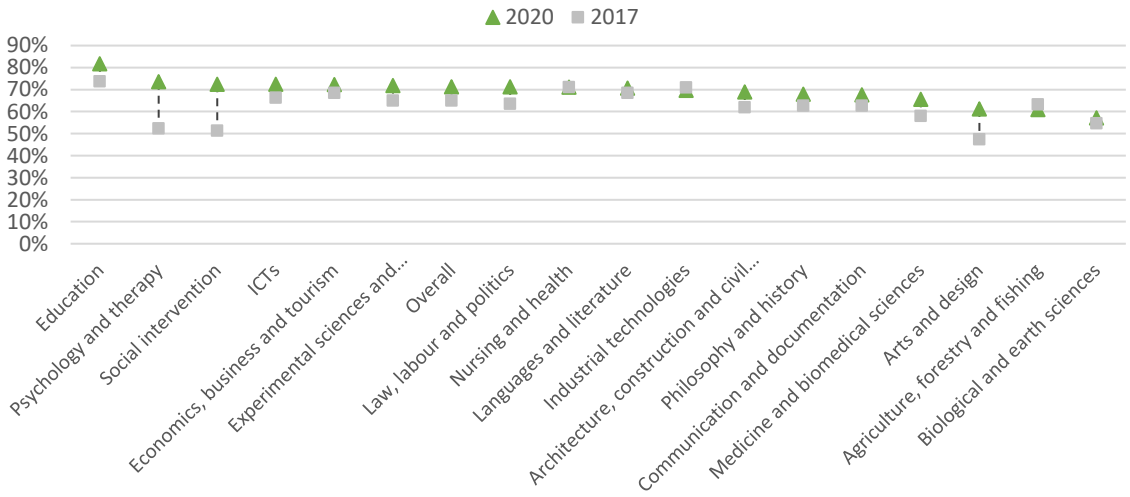
Figure 51. Trend in the percentage of graduates willing to take the Master's degree again



Satisfaction with the Master's degree rebounds again in 2020

> 7 in every 10 graduates would take the same Master's degree again, pointing to a high level of satisfaction with the programme.

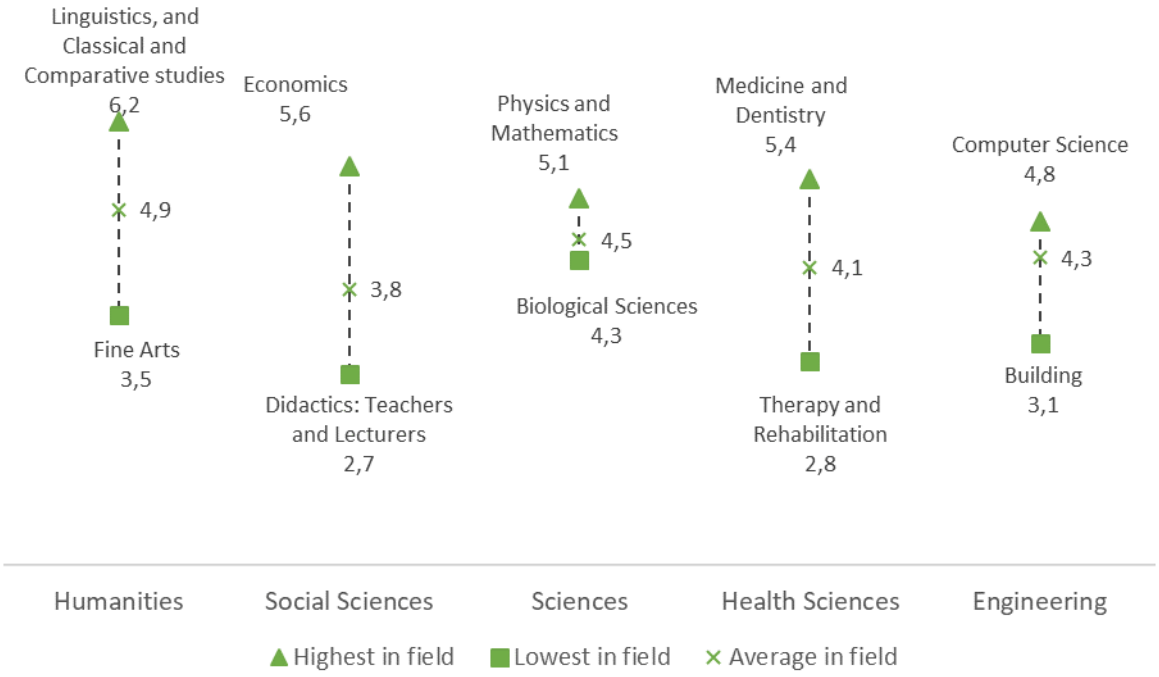
Figure 52. Trend in willingness to take the Master's degree again detailed according to sub-fields between 2017 and 2020



The percentage of graduates willing to take the Master's degree again rises in almost all educational sub-fields

> This is especially true of Psychology and Therapy, and Social Intervention, which were both at the bottom end of the scale in 2017.

Figure 53. Highest and lowest sub-field for each reason for not taking the study programme again (multiple response) (2020)



Dissatisfaction with the design or quality of the Master's degree is reported by 50% of individuals who would not be willing to take the same programme again

- The figure is as high as 75% for this factor among those qualifying in Fine Arts while the lowest end of the range is among those qualifying in Construction Engineering, albeit with 1 in every 4 individuals reporting their dissatisfaction.
- Dissatisfaction with job opportunities constitutes the reason reported by 38% of respondents.
- 25% state that they had other interests, pointing out that among other factors they had mixed feelings about the appeal of the Master's degree they followed.
- Aspects of dissatisfaction stemming from (lack of) social and academic integration in the Master's degree are least significant, although 13% of individuals who follow Fine Arts report this to be important.
- "Other" reasons include specific reasons in the case of each study programme which, overall, constitute the primary reason for dissatisfaction.

ASSESSMENT OF EDUCATION

> Level of education

Figure 54. Assessment of education received in 2020 and the increase compared to 2017 (out of 10)

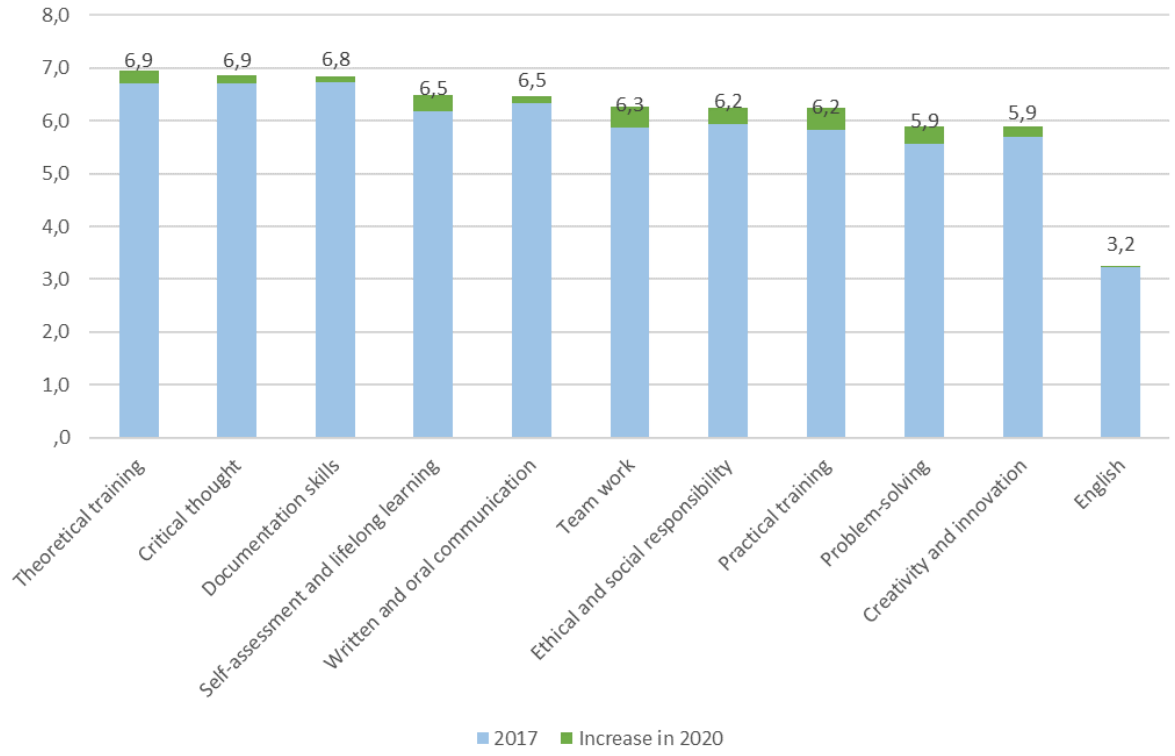


Figure 55. Assessment of education received in 2020 and difference compared to 2017 according to educational field (out of 10)

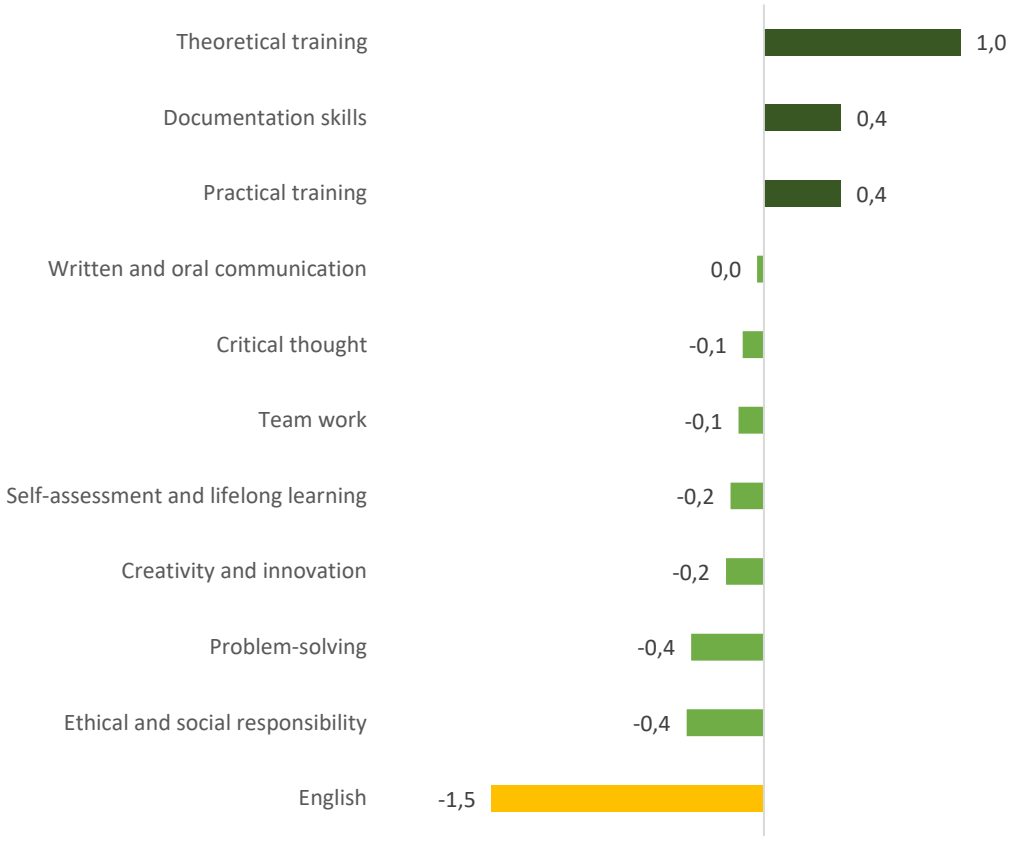
	Humanities		Social Sciences		Sciences		Health Sciences		Engineering	
	X	Diff.	X	Diff.	X	Diff.	X	Diff.	X	Diff.
Theoretical training	7.2	+0.3	6.9	+0.2	6.8	+0.3	7.0	+0.3	7.0	+0.1
Practical training	5.6	+0.2	6.3	+0.5	6.5	+0.2	6.5	+0.6	6.0	+0.2
Oral and written communication	7.1	+0.3	6.5	+0.2	6.3	0.0	6.5	+0.2	6.2	-0.1
Team work and leadership	5.3	+0.4	6.5	+0.4	6.0	+0.3	6.1	+0.1	6.4	+0.2
Problem solving	5.2	+0.4	5.9	+0.3	5.8	+0.3	5.8	+0.4	6.2	+0.2
Critical thought	7.7	+0.4	6.7	+0.1	6.8	+0.3	7.0	+0.4	6.7	+0.1
Creativity and innovation	6.4	+0.4	5.9	+0.1	5.5	+0.2	5.7	+0.4	5.9	0.0
Ability for documentation	7.6	+0.2	6.6	+0.2	6.9	0.0	7.2	+0.3	6.7	-0.2
English	3.2	+0.4	3.0	+0.2	4.6	+0.3	3.0	-0.4	3.8	-0.3
Self-assessment and lifelong learning	6.5	+0.4	6.5	+0.3	6.3	+0.3	6.6	+0.4	6.5	+0.2
Ethical and social responsibility	6.0	+0.3	6.5	+0.3	5.4	+0.1	6.6	+0.3	5.6	+0.1

Generally speaking, the assessment of education has increased compared to 2017

- Practical training shows the greatest improvement, by almost half a point out of 10.
- One exception to the rule is the skill of English within Health Sciences and Engineering.
- Indeed, English is the only skill for which shortcomings are reported.

Scope for improvement from the standpoint of an education shortfall

Figure 56. Education shortfall or surplus: difference between the average level of education delivered and its usefulness in work (only for Master's degree graduates who perform university-level functions) (out of 10) (2020)



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

- The remaining skills show a far less substantial shortcoming in the education delivered. Consequently, generally speaking the delivery of skills at Master's level is perfectly suited to the needs of the labour market.
- In the case of certain skills, the education received goes beyond the level needed in work.

Figure 57. Education shortfall: difference between the average level of education delivered and its usefulness in work, according to field (only for Master's degree graduates who perform university-level functions) (out of 10) (2020)

	Humanities	Social Sciences	Sciences	Health Sciences	Engineering
Theoretical training	1.8	.9	1.3	.8	1.3
Practical training	.5	.3	1.0	.3	.5
Oral and written communication	.6	-.1	-.1	.1	-.2
Team work and leadership	-.1	-.1	-.4	-.1	-.3
Problem solving	-.3	-.3	-.7	-.3	-.5
Critical thought	.5	-.1	-.5	.0	-.5
Creativity and innovation	.1	-.1	-.6	-.2	-.3
Ability for documentation	1.0	.4	.0	.6	.1
English	-1.4	-1.4	-1.9	-.9	-2.0
Self-assessment and lifelong learning	.0	-.1	-.4	-.1	-.4
Ethical and social responsibility	-.2	-.3	-.7	-.3	-.8

The overall education shortfalls identified are the same in each educational field

> The field in which the lowest education shortfall is reported is Humanities.

> A particularly substantial education shortfall is identified with regard to English among respondents who studied Engineering and Sciences, at around 2 points out of 10.

EDUCATIONAL PATHS

> Changes of university and of fields of knowledge[11]

Figure 58. Original university type compared to nature of the Master's degree university (2020)

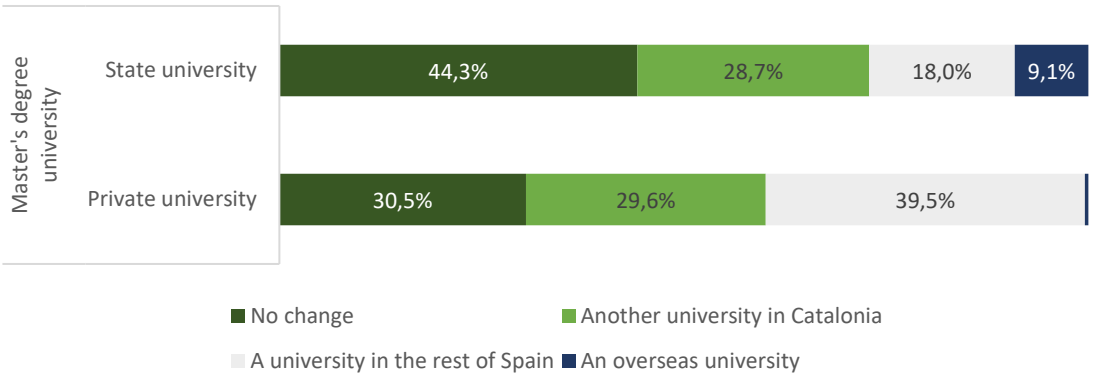


Figure 59. Sub-fields that attract the largest proportion of students from outside the Catalan university system (2020)

	From the rest of Spain	From overseas
Top 5	Industrial Engineering and Organisation (58%)	Economics (41%)
	Construction Engineering (53%)	Arts and Design (38%)
	Telecommunications (40%)	Foreign Philologies (35%)
	Therapy and Rehabilitation (36%)	Medicine and Dentistry (26%)
	Earth Sciences (34%)	Communication (24%)

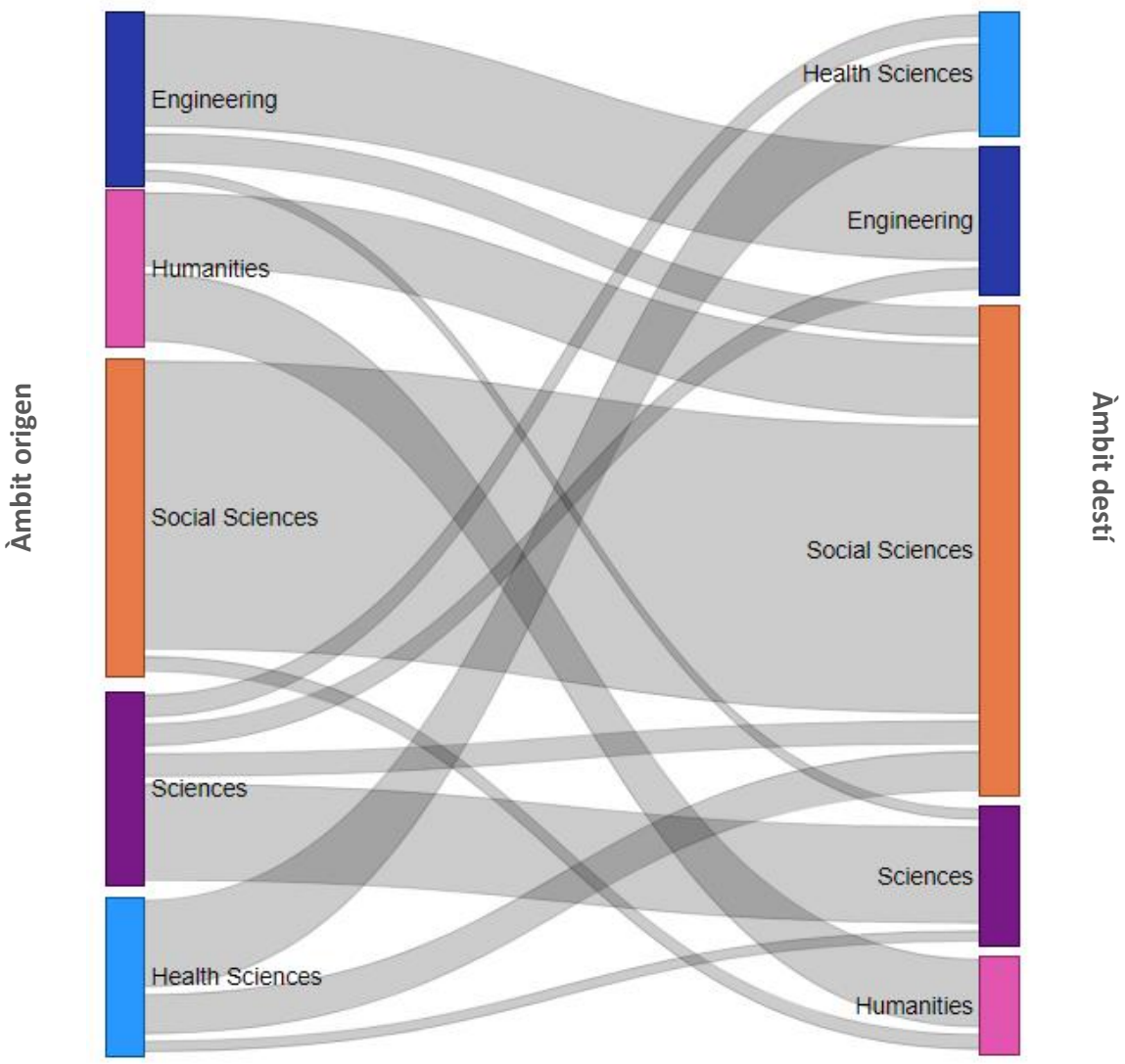
At private universities there is a larger percentage of students who previously studied at other universities

> The Master's degrees they deliver appeal to students from other universities, particularly from the rest of Spain.

> On the other hand, the proportion of students from overseas is significantly higher in the case of state universities.

[11] Owing to the type of administrative data received from the universities we do not have information in 50% of the cases surveyed in 2020. These results are therefore only indicative.

Figure 60. Flow chart showing the educational field followed in the earlier programme and in the Master's degree (only includes changes accounting for more than 5% with regard to the earlier field) (2020)



Master's degrees in the field of Social Sciences receive students from all educational fields

- In addition, these students change fields less commonly.
- On the other hand, students from the fields of Humanities and Health Sciences are those that most commonly change the educational field in order to pursue their Master's degree.

> Further studies

Figure 61. Further studies after the Master's degree (2020)

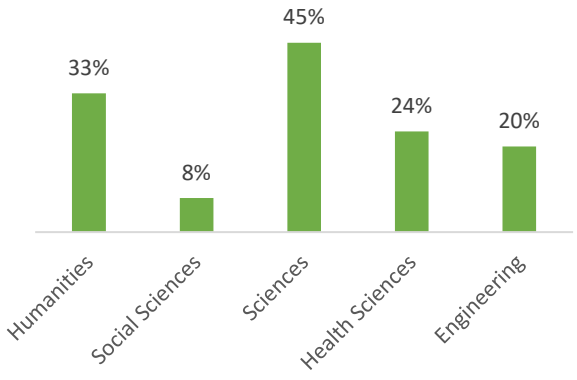
Figure 62. Tag cloud of the courses most commonly cited by individuals in the "other courses" category (2020)

7 in every 10 Master's degree graduates go on to take further studies

> 2 in every 10 choose to follow a PhD, and a further 2 in every 10 choose to pursue another Master's degree or postgraduate programme; therefore, demand for more than one Master's degree is a significant factor for a substantial percentage of individuals.

> Of those that go on to follow other training courses, the ones linked to the Master's degree, languages, competitive exams or IT are particularly popular.

Figure 63. Going on to follow a PhD after the Master's degree according to educational field (2020)



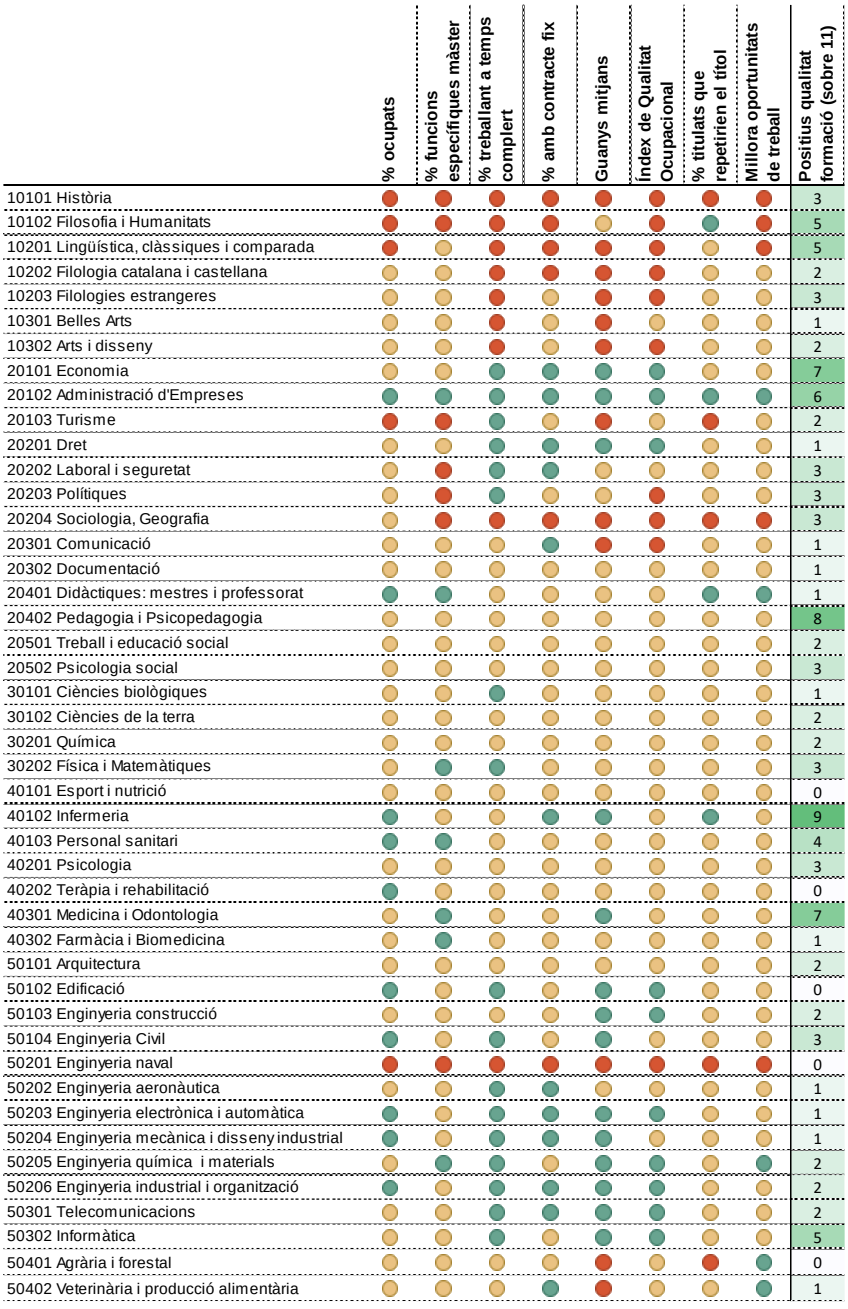
Master's degree graduates in Sciences form the largest proportion of those who go on to follow a PhD

> Almost half of them go on to do so, while fewer than 10% of those qualifying in Social Sciences go on to undertake a PhD.

CHARACTERISATION OF ACADEMIC SUB-FIELDS

> Major differences between sub-fields

Figure 64. Comparison of access to the labour market and quality of education according to sub-fields (2020)[12]



	% ocupats	% funcions específiques màster	% treballant a temps complert	% amb contracte fix	Guanys mitjans	Índex de Qualitat Ocupacional	% titulats que repetirien el títol	Millora oportunitats de treball	Positius qualitat formació (sobre 11)
10101 Història									3
10102 Filosofia i Humanitats									5
10201 Lingüística, clàssiques i comparada									5
10202 Filologia catalana i castellana									2
10203 Filologies estrangeres									3
10301 Belles Arts									1
10302 Arts i disseny									2
20101 Economia									7
20102 Administració d'Empreses									6
20103 Turisme									2
20201 Dret									1
20202 Laboral i seguretat									3
20203 Polítiques									3
20204 Sociologia, Geografia									3
20301 Comunicació									1
20302 Documentació									1
20401 Didàctiques: mestres i professorat									1
20402 Pedagogia i Psicopedagogia									8
20501 Treball i educació social									2
20502 Psicologia social									3
30101 Ciències biològiques									1
30102 Ciències de la terra									2
30201 Química									2
30202 Física i Matemàtiques									3
40101 Esport i nutrició									0
40102 Infermeria									9
40103 Personal sanitari									4
40201 Psicologia									3
40202 Teràpia i rehabilitació									0
40301 Medicina i Odontologia									7
40302 Farmàcia i Biomedicina									1
50101 Arquitectura									2
50102 Edificació									0
50103 Enginyeria construcció									2
50104 Enginyeria Civil									3
50201 Enginyeria naval									0
50202 Enginyeria aeronàutica									1
50203 Enginyeria electrònica i automàtica									1
50204 Enginyeria mecànica i disseny industrial									1
50205 Enginyeria química i materials									2
50206 Enginyeria industrial i organització									2
50301 Telecomunicacions									2
50302 Informàtica									5
50401 Agrària i forestal									0
50402 Veterinària i producció alimentària									1

[12] 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.

> Organisation according to OQI

Figure 65. Organisation of sub-fields (*n*>10) according to average OQI (2020) (not weighted)

	$\bar{x}$
Building	75.2
Business Administration	74.4
Industrial Engineering and Organisation	74.3
Telecommunications	73.0
Electronic and Automation Engineering	72.0
Chemical and Materials Engineering	71.4
Economics	71.4
Law	70.9
IT	70.9
Mechanical Engineering and Industrial Design	70.7
Construction Engineering	70.4
Civil Engineering	68.8
Medicine and Dentistry	67.9
Nursing	67.7
Aeronautical Engineering	67.3
Healthcare Staff	66.4
Veterinary Medicine and Food Production	66.2
Physics and Mathematics	65.9
Therapy and Rehabilitation	65.4
Labour and Security	65.1
Agriculture and Forestry	64.8
Architecture	64.5
Pharmacy and Biomedicine	64.2
Social Education and Work	64.1
Documentation	63.8
Psychology	63.5
Social Psychology	63.4
Tourism	63.2
Communication	63.1
Didactics: Teachers and Lecturers	62.7
Pedagogy and Psychopedagogy	62.7
Chemistry	62.5
Biological Sciences	62.3
Politics	62.3
Linguistics, Classical and Compared Studies	61.2
Sport and Nutrition	61.0
Arts and Design	60.8
Philosophy and Humanities	58.6
Blended study programmes	57.6
Catalan and Spanish Philologies	57.3
Fine Arts	56.6
Foreign Philologies	56.4
Sociology, Geography	54.5
Earth Sciences	54.2
History	53.5

> Organisation according to satisfaction with the Master's degree

Figure 66. Organisation of sub-fields (*n*>10) according to whether students would take the Master's degree again (2020) (not weighted)

	%
Didactics: Teachers and Lecturers	85.8%
Philosophy and Humanities	81.7%
Nursing	79.4%
Social Psychology	77.5%
Documentation	77.1%
Catalan and Spanish Philologies	75.0%
Therapy and Rehabilitation	75.0%
Healthcare Staff	74.6%
Pedagogy and Psychopedagogy	74.6%
Linguistics, Classical and Compared Studies	74.1%
Business Administration	73.9%
Physics and Mathematics	73.5%
Law	73.5%
IT	72.5%
Civil Engineering	72.4%
Labour and Security	72.0%
Psychology	71.8%
Industrial Engineering and Organisation	71.8%
Medicine and Dentistry	71.7%
Telecommunications	71.5%
Arts and Design	70.0%
Chemistry	69.9%
Economics	69.7%
Architecture	69.3%
Politics	68.7%
Chemical and Materials Engineering	68.3%
Construction Engineering	67.9%
Communication	65.8%
Social Education and Work	65.5%
Aeronautical Engineering	65.4%
Sport and Nutrition	65.3%
Electronic and Automation Engineering	65.0%
Veterinary Medicine and Food Production	64.5%
Foreign Philologies	63.5%
Sociology, Geography	63.5%
History	63.0%
Mechanical Engineering and Industrial Design	60.9%
Pharmacy and Biomedicine	60.3%
Agriculture and Forestry	59.6%
Earth Sciences	58.5%
Building	57.1%
Biological Sciences	56.1%
Fine Arts	52.9%
Tourism	52.9%

Blended study programmes	35.7%

GENDER PERSPECTIVE

> Gender-based comparison of access to the labour market

Figure 67. Gender-based comparison of indicators according to each sub-field (n>10) (2020)[13]

	% in work	% specific functions	% full-time hours	% permanent contract	% >€24,000/year gross (full-time)	OQI	% would take Master's degree again
History		M				M	M
Philosophy and Humanities			M				
Linguistics, Classical and Compared Studies						M	
Catalan and Spanish Philologies					M		
Foreign Philologies			W	W			
Fine Arts	M		M				
Arts and Design							
Economics							
Business Administration	M				M		
Tourism							
Law							
Labour and Security							
Politics					M		
Sociology, Geography							
Communication	M						
Documentation							
Didactics: teachers and lecturers		W			M		
Pedagogy and Psychopedagogy	M		M		M	M	
Social Education and Work							
Social Psychology							
Biological Sciences							
Earth Sciences							
Chemistry							
Physics and Mathematics							
Sport and Nutrition					M		
Nursing							
Healthcare Staff							
Psychology							

[13] The indicator represents the result of hypothesis testing for the difference of population means between two groups (men vs. women for each sub-field). We consider equality of population means as our main contrast or null hypothesis. Student's *t*-test is performed with a confidence of 95%. W = highest score for women; M = highest score for men.

Therapy and Rehabilitation			M
Medicine and Dentistry	M	M	M
Pharmacy and Biomedicine			
Architecture		M	M
Building			
Construction Engineering			
Civil Engineering			
Aeronautical Engineering	W		
Electronic and Automation Engineering			
Mechanical Engineering and Industrial Design			M
Chemical and Materials Engineering			
Industrial Engineering and Organisation			
Telecommunications			M
IT		M	
Agriculture and Forestry			
Veterinary Medicine and Food Production	M		
Blended study programmes			

When broken down by gender there are few differences in the employment indicators, although where there are the employment outcomes are poorer for women than for men

- Of 315 comparisons made, only 10% reveal statistically significant differences, meaning that differences do not apply generally across most sub-fields. However, it should be pointed out that since we are dealing with small sample strata with obvious gender segregation, the thresholds for achieving statistically significant differences are high.
- Of those comparisons that are significant, in almost 90% of cases the employment outcomes for men are better than those for women. The primary indicator in which these divergences become apparent is with gross earnings among full-time employees. Indeed, this data sheds light on the complex phenomenon of the pay gap. Other significant indicators include full-time working hours and the percentage in employment, while the differences between the genders in terms of suitability of functions and contract type are scant.
- When broken down into sub-fields, Pedagogy and Psychopedagogy, History, and Medicine and Dentistry exhibit the greatest proportion of significant differences where men are favoured.

COMPARISON BETWEEN HIGHER EDUCATION LEVELS

> Results according to higher education level

Figure 68. Employment, full-time hours and gross earnings according to higher education level (2020)

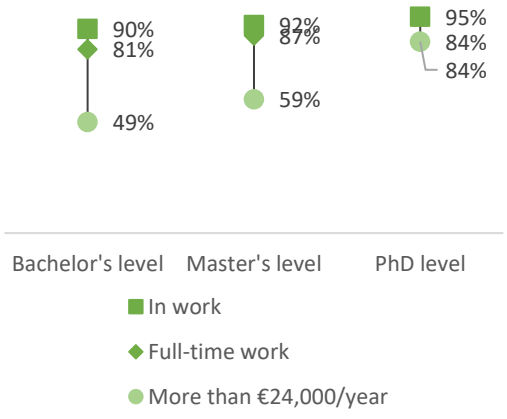


Figure 69. Functions performed at work according to education level completed (2020)

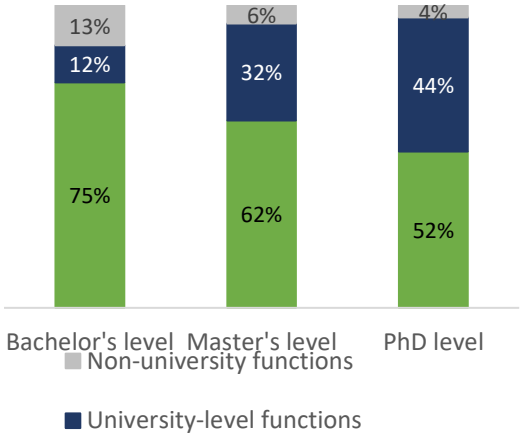
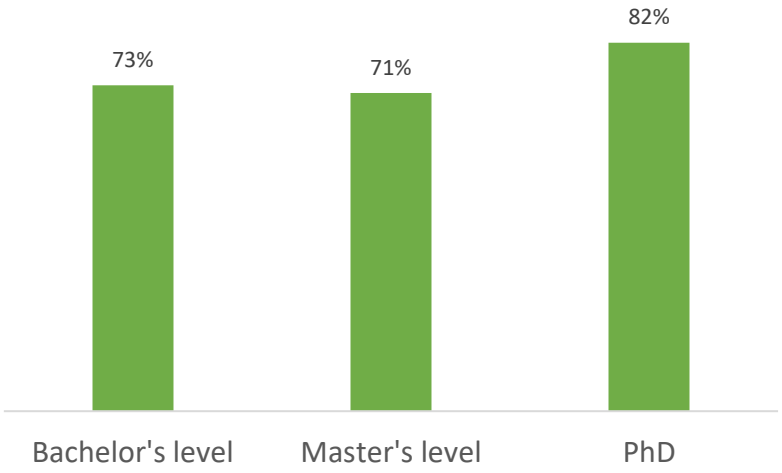


Figure 70. Percentage of graduates who would take the study programme again according to the education level completed (2020)



The higher the education level the better the employment indicators

> This is the case with the percentage in work, gross earnings and suitability of functions at work. Indeed, in relation to the latter, although at higher education levels a lower extent of specific functions is reported, non-university functions are very rarely performed.

> Satisfaction is at similar rates among individuals at Bachelor's level and Master's level, and is very high at PhD level.

> Master's degrees leading to a professional qualification

Figure 71. Master's degrees leading to a professional qualification among respondents, employment outcomes and satisfaction results (2020)

University Master's degrees	Sample	% specific functions from the Master's degree	% willing to take the Master's degree again
Law	572	66%	72%
Teacher Training	992	74%	86%
General Health Psychology	199	62%	72%
Architecture	23	78%	74%
Mining Engineering	5	20%	80%
Civil Engineering	38	63%	79%
Navigation and Sea Transport Management	2	100%	100%
Aeronautical Engineering	4	75%	100%
Industrial Engineering	94	64%	67%
Telecommunication Engineering	50	50%	76%
Agricultural Engineering	16	69%	81%
TOTAL qualifying Master's degrees	**1,995**	**69%**	**79%**
Comparison with non-qualifying Master's degrees	**7,452**	**60%**	**69%**

Master's degrees leading to a professional qualification are Master's programmes that are essential in order to practice a regulated profession

> In the 2020 edition, in the case of Engineering programmes, for the first time there were graduates in these regulated Master's degrees who had previously taken Bachelor's degrees aligned to the EHEA rather than the equivalent advanced engineering programmes. As a result, this is the first edition where these individuals needed to secure the Master's degree in order to be qualified to practice their profession.

> Overall, graduates in Master's degrees leading to a professional qualification perform specific functions from the Master's degree to a greater extent and the level of satisfaction reported by them is higher.

BIBLIOGRAPHY

> COROMINAS, E.; VILLAR, E.; SAURINA, C. & FÀBREGAS, M. (2012). Construcción de un Índice de Calidad Ocupacional (ICO) para el análisis de la inserción profesional de los graduados universitarios, *Revista de Educación*, 357:351-374.

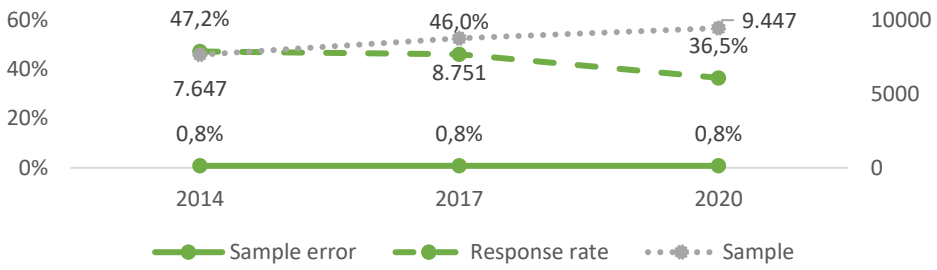
DATA SHEET

Survey on Master's degree graduates[14]

Population	Individuals who graduated in the 2014-15 and 2015-16 academic years securing Master's degrees
Survey period	From 16/01/2020 to 12/06/2020. To avoid the impact of the Covid-19 health emergency, questions asked over the weeks affected have enquired about the employment situation in February 2020.
Average time taken	If employed: 13:28 minutes
Participating universities	UB, UAB, UPC, UPF, URL, UdL, UdG, URV, UOC, UVic-UCC, UIC, UAO CEU and 21 attached centres[15]

Population data and sample

UNIVERSITY	Population	Reachable population	Sample	Response rate	Sample error
University of Barcelona	6,733	6,348	2,410	38.0%	1.6%
Autonomous University of Barcelona	4,353	4,085	1,576	38.6%	1.9%
Technical University of Catalonia	2,596	2,410	743	30.8%	3.0%
Pompeu Fabra University	3,390	3,164	1,063	33.6%	2.4%
Ramon Llull University	2,855	2,787	901	32.3%	2.7%
University of Lleida	919	850	358	42.1%	3.9%
University of Girona	973	890	363	40.8%	4.0%
Rovira i Virgili University	1,271	1,147	464	40.5%	3.5%
Open University of Catalonia	2,928	2,873	1,150	40.0%	2.2%
University of Vic-UCC	772	745	228	30.6%	5.4%
International University of Catalonia	400	299	75	25.1%	9.8%
Abat Oliba CEU University	276	275	116	42.2%	6.9%
TOTAL	**27,466**	**25,873**	**9,447**	**36.5%**	**0.8%**



[14] The data presented in this report is weighted according to a stratified sample broken down according to sub-fields and sample units.
[15] Two arts higher education institutions also took part, although they are not included in the results set out in this report.

DRAFTING COMMITTEE

> Editors

Dani Torrents Vilà	Project manager from the Internationalisation and Knowledge Generation Department

> Contributors

Anna Prades Nebot	Project manager from the Internationalisation and Knowledge Generation Department
Sandra Nieto Viramontes	Project manager from the Internationalisation and Knowledge Generation Department
Lidia Daza Pérez	Project manager from the Internationalisation and Knowledge Generation Department
Núria Mancho Fora	Management technician from the Internationalisation and Knowledge Generation Department
Martí Casadesús Fa	Director

Agència per a la Qualitat del Sistema Universitari de Catalunya

March 2021 · AQU-15-2021

www.aqu.cat

@aqucatalunya