

25th Report Occupational Condition of Graduates

2023 Summary Report

Supported by



Summary of the 25th Survey on the Occupational Condition of Graduates (the 2023 AlmaLaurea Report)

The 25th AlmaLaurea Survey on Occupational Condition of Graduates involved around 670,000 first and second-level graduates (two-year masters and single-cycle second-level graduates)¹ of 78 of the 80 Italian Universities that belonged to AlmaLaurea in June 2023.² More specifically, 296,000 were first and second-level graduates in 2021 involved one year after graduation; 122,000 were second-level graduates in 2019 involved three years after graduation; 117,000 were second-level graduates in 2017 involved five years after graduation; 73,000 and 61,000 were first-level graduates involved three and five years after graduation, in 2019 and 2017 respectively, and who did not continue their university education.

The graduates involved in the survey (excluding three- and five-year first-level graduates) were contacted using a dual survey technique, CAWI (Computer-Assisted Web Interviewing) and CATI (Computer-Assisted Telephone Interviewing). Indeed, the necessity to contain survey costs and the wide availability of e-mail addresses suggested contacting graduates via e-mail, and inviting them to fill in a questionnaire hosted on the AlmaLaurea website. The CAWI survey was combined by the CATI as to contact those who did not respond to the online questionnaire. Such a twofold survey methodology - that is to say CAWI+CATI - led to an overall response rate of 73.2% among first and second-level graduates one year after graduation, 76.5% among second-level graduates three years after graduation and 64.2% among second-level graduates five years after graduation, measured in relation to graduates who were contacted with their consent in accordance with the GDPR (General Data Protection Regulation). First-level graduates at three and five years were exclusively contacted through a CAWI-type survey instead, achieving response rates, based on the total number of emails sent, of 15.2% at three years and 10.2% at five years. This is naturally a lower rate given the methodology used and the population involved. The results were subject to a special statistical calibration procedure, so as to obtain estimates that were representative of all the graduates of the Italian Universities.

This Summary highlights the most relevant aspects of the employment performance of first and second-level graduates.³ However, it should be noted that first-level graduates largely continue their studies by enrolling in a second-level course of study. Indeed, in the 2021 cohort this choice was made by 67.2% of respondents. This value, down 1.8 percentage points compared to the same survey in 2021, breaks the upward trend in the propensity to continue studies by enrolling in a second-level course, a tendency that had been observed for several years. The increase was 12.0 percentage points compared to 2014, the year in which the lowest continuation rate in the 2008-2022 observation period was recorded according to AlmaLaurea surveys. Taking into account this evidence, in order to better monitor the employment outcomes of graduates, for first-level graduates it was considered appropriate

¹ Starting in 2015, AlmaLaurea has also been carrying out annual surveys on the Profile and Occupational Condition of PhD and Academic Master graduates. The results of the most recent surveys are available on www.almalaurea.it/en/our-data/almalaurea-surveys.

² On an annual basis, the graduates involved in the survey make up approximately 90% of all graduates of Italian non-online universities.

³ Second-level graduates from 2007 to 2018 include two-year and single-cycle masters as well as graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no. 249/2010). Due to its peculiarity and small size this population was excluded from the survey starting with the graduates of 2019. The documentation is available, including separately per degree type, at: www.almalaurea.it/en/our-data/almalaurea-surveys/graduates-employment-status.

to limit the analysis to those who did not enrol in another course of study after graduation (31.8% for 2021 graduates after one year).

The survey performed in 2022 shows a substantially positive employment situation, both for new graduates and for those who have been in the market for a longer time, although there are some critical issues. The main indicators examined (employment rate, unemployment rate, but also the share of permanent contracts) confirm the gradual improvement in the labour market observed for several years. This improvement was only interrupted in 2020 following the outbreak of the Covid-19 pandemic, which severely impacted the Italian economy, altering the labour market trends prior to the outbreak.⁴ Added to this was the instability created by the continuing geopolitical situation. These elements make it difficult to discern which changes in employment indicators can be attributed to contingent factors and which to structural labour market developments. In this regard, one of the indicators showing signs of regression is the remuneration received by graduates, which is down compared to last year due to rising inflation.

1. Employment rate

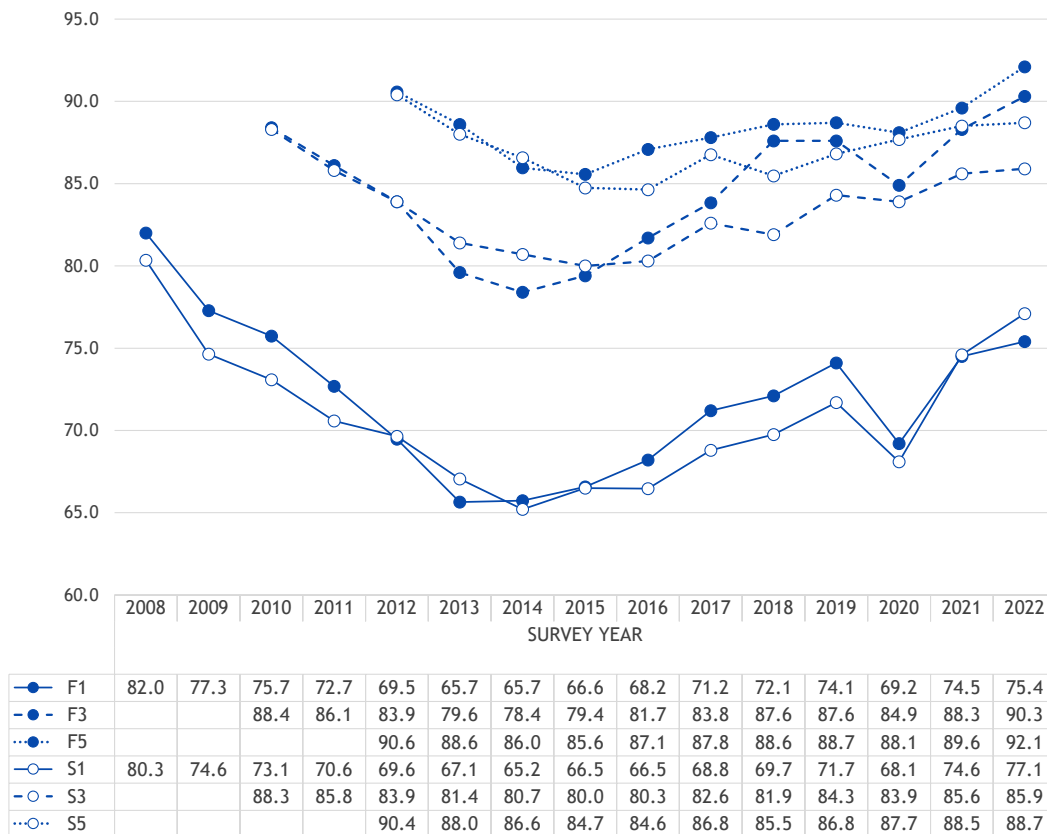
The employment levels observed in 2022 confirm the gradual improvement in the labour market's absorption capacity, which has been evident for some years now. Specifically, the values observed are particularly positive because they show an improvement not only with respect to 2021, but also with respect to what was observed in previous years, when the upward trend in employment levels, especially of recent graduates, had not yet been halted - albeit temporarily - by the advent of the pandemic. Among other things, 2022 will see the highest employment levels in the last decade both among first and second-level graduates. This is the case among recent graduates as well as among those who graduated before. The only exceptions are second-level graduates five years after graduation, whose employment rate in 2022 remained quite high and gradually improving.

In detail, the employment rate in 2022 was 75.4% among first-level graduates one year after graduation, and 77.1% among second-level graduates in 2021 after the same amount of time (Figure 1). These values were up by +0.9 and +2.5 percentage points respectively over the past year.

Even graduates three and five years after graduation show important signs of improvement in employment performance, reaching decidedly high employment levels. In detail, three years after graduation, the employment rate reached 90.3% among first-level graduates and 85.9% among second-level graduates (+2.0 and +0.3 percentage points, respectively, compared to 2021).

⁴ As pointed out in previous Reports, it is recalled that the onset of the pandemic had a more pronounced effect on graduates one year after graduation than on those five years after graduation. Among the former, the impacts were different based on the course of study undertaken and the professional sector of employment.

Figure 1 - 2007-2021 graduates surveyed one, three and five years after graduation: employment rate by degree type. Survey years 2008-2022 (percentage values)



Legend

F: first-level; S: second-level;

1: one year after graduation; 3: three years after graduation; 5: five years after graduation.

Note: as for the first-level, only graduates not enrolled in another course of study were considered. Until the 2018 cohort, second-level graduates also include graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no. 249/2010).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

Five years after graduation, the employment rate was 92.1% for first-level graduates and 88.7% for second-level graduates. A comparison with 2021’s survey suggests that the employment rate increased by 2.5 percentage points among first-level graduates, while it is essentially stable among second-level graduates (+0.2 percentage points).

1.1. Employment rate insight: outcomes of a logistic regression model

The employment outcomes of graduates show strong differentiations that in general involve both first and second-level graduates. In particular, these differences relate to gender, geographic area of residence as well as the completed course of study.

In order to jointly analyse the factors that generally affect the probability of being employed, a logistic regression model was used. The 2021 graduates were considered and interviewed one year after obtaining their degree. Such group included both first-level graduates - who did not continue

their education by enrolling in another course of study - and second-level graduates - who were interviewed one year after obtaining their degree.⁵

The analysis presented below looks at factors linked to socio-demographic aspects (gender; parents' qualifications; geographic area of residence), university qualifications (degree type; field of study; geographic area of the university; age at graduation; degree completion time; exam marks, geographic mobility for study purposes) and experience and skills acquired during the study period (internships/curricular traineeships; experiences of study abroad or work; computer skills). Consideration was also given to job orientation training initiatives⁶ and attention was paid to the aspirations and inclinations declared by the graduates on the eve of the end of their studies (intent to pursue their studies, willingness to travel for business, expectations regarding the job they intend to seek after graduation, in terms of acquisition of professional skills, job security, relevance to cultural interests, free time and flexibility of working hours).⁷

As Table 1 shows (the only significant variables), the course of study completed has an effect on the employment opportunities of new graduates. In fact, all other things being equal, the most favoured are graduates from the information and communication technologies (ICTs), as well as those from the engineering and engineering trades; health and pharmacy; architecture and construction field of study. Others include the natural sciences, mathematics, physics and statistics, as well as agriculture, forestry and veterinary, but also economics and education field of study. Less favoured, on the other hand, are graduates from the psychology, arts and design, as well as humanities and literature and, finally, law.

Furthermore, it can be observed that, all other conditions being equal, second-level degrees show greater employment opportunities one year after graduation. As a result, second-level graduates are 39.5% more likely to be employed than first-level graduates. However, this result has to be treated with extreme caution, since profoundly different populations are being compared, both in terms of the educational path undertaken and in terms of professional and study prospects. Indeed, among second-level graduates there is a notable proportion of those who engage in activities preparatory to work as freelance professionals, such as internships or specialisation schools.

The gender analysis shows that, all else being equal, men are better off (11.7% more likely to be employed than women). The traditional gender differences in terms of employment are thus confirmed as significant, with men once again having an advantage over women.⁸

Territorial differences in terms of geographical breakdown of both residence and study are also significant. In detail, those who reside in the North are more likely to be employed (+32.1%) than those who reside in the South. Similarly, as regards the geographical breakdown of where the students went

⁵ The model does not consider those already working at the time of graduation and those living abroad.

⁶ Particular consideration was given to the satisfaction expressed by graduates upon graduation with respect to the initiatives organised by the University, including for example help with preparing CVs and company presentations in the classroom.

⁷ Factors related to aspects of the pre-university experience (type of diploma and high school/secondary school diploma mark) were taken into account but were not significant, as well as expectations of the job sought related to: earning prospects, career opportunities, independence and autonomy, prestige, opportunities for contacts abroad, possibility of making the best use of the skills acquired during studies, social utility of the job and involvement and participation in work and decision-making processes. In view of their low level of contribution, the following were excluded from the model: final marks, knowledge of foreign languages, as well as expectations of the job sought with respect to coherence with the studies completed, relations with colleagues in the workplace and workplace (i.e. location and relative physical characteristics).

⁸ Gender differences are also evident with regard to different aspects of the work performed. On this topic, in January 2022 AlmaLaurea published the Report "Male and female graduates: professional choices, experiences and achievements", www.almalaurea.it/i-dati/le-nostre-indagini/indagini-tematiche/laureate-e-laureati-scelte-esperienze-e-realizzazioni-professionali (in Italian).

to school, graduates from the North are 42.9% more likely to be employed than those in the South. In addition, those who live in a province other than their place of study are 6.0% more likely to be employed than those who study in the same province of residence.

Although the analysis leads to the estimation of a limited influence, graduates from families in which at least one parent has a degree show a lower probability of employment (-7.0%) one year after graduation, compared to those who have parents with a non-university degree. The hypothesis embedded in this result is that the family context allows graduates to choose to delay entry into the labour market while waiting for a better placement. This is part of a broader context in which the family of origin influences both the educational and occupational choices of graduates. In this regard, specific studies have compared the university studies of graduates with those of their parents, highlighting how the phenomenon of inheritance of the degree is especially widespread among graduates (i.e. medicine, law and architecture) which give access to the freelance profession. Moreover, such courses of study require a further cycle of specialisation in order to enter into freelance work.⁹

The analyses reveal interesting results on employment opportunities one year after graduation as a function of study performance. As calculated by taking into account their distribution by university, field of study and degree class, exam marks have a positive effect on employment opportunities. For instance, the chance of being employed one year after graduation increases by 10.2% for those with scores above the median value of their reference group. Compliance with the deadlines set by the regulations for the completion of the course of study also favours better employment opportunities. Compared to those who graduate at least one year late, graduates who finish their studies on time are 11.9% more likely to be employed. Finally, all things being equal, as the age at graduation increases, the probability of being employed decreases (-4.2% for each additional year). This is connected with the fact that those who enter the labour market at a younger age probably have more “attractive” prospects and availability to employers even on a contractual basis.

Work experience, regardless of its nature and continuity, has a positive effect on employment opportunities one year after completion of studies. All other things being equal, studying workers (i.e. those who have had continuous full-time work experience for at least half the duration of their studies) are 35.1% more likely to be employed than students who graduate without any work experience. However, working students (i.e. those who have had other types of work experience) are 32.9% more likely to be employed than those who have no work experience. It is worth remembering that in this specific study only the employment opportunities of graduates were considered, without taking into account the characteristics of the job found. The results just described suggest that work experience of any kind helps graduates find employment more easily after graduation.

⁹ AlmaLaurea (2023), *25th Graduate Profile Survey 2022. Summary of the 2023 Report*, www.almaurea.it/en/our-data/almaurea-surveys/graduates-profile.

Table 1 - 2021 first and second-level graduates interviewed one year after graduation: logistical regression model for the assessment the probability of being employed. Survey year 2022

	b	S.E.	Exp(b)
Gender (female=0)			
male	0,111	0,020	1,117
At least one parent with a university degree (no=0)			
yes	-0,073	0,019	0,930
Geographic area of residence (South=0)			
North	0,278	0,032	1,321
Centre	0,119	0,035	1,127
Degree type (First-Level=0)			
Second-Level	0,333	0,022	1,395
Field of study (Politics, social sciences and communications=0)			
Agriculture, forestry and veterinary	0,565	0,064	1,759
Architecture and construction	1,195	0,055	3,304
Arts and design	-0,215	0,056	0,807
Economics	0,537	0,037	1,710
Education	0,513	0,048	1,670
Law	-0,133	0,041	0,876
Information and communication technologies (ICTs)	1,780	0,121	5,927
Engineering and engineering trades	1,552	0,048	4,720
Humanities and literature	-0,150	0,050	0,861
Foreign languages*	0,114	0,045	1,121
Health and pharmacy	1,538	0,038	4,655
Psychology	-0,711	0,049	0,491
Natural sciences, mathematics, physics and statistics	0,662	0,043	1,939
Sports sciences and physical education**	-0,131	0,071	0,877
Geographic area of university (South=0)			
North	0,357	0,033	1,429
Centre	0,284	0,034	1,329
Age at graduation			
on time	-0,043	0,003	0,958
Degree completion time (1 or more years late =0)			
mark above or equal to the median value	0,113	0,020	1,119
Exam mark (below the median value = 0)			
mark above or equal to the median value	0,097	0,019	1,102
Comparison between province of residence and of study (same province=0)			
reside in a province other than the place of study	0,059	0,019	1,060
Internships organised by the course of study (no=0)			
yes*	0,042	0,020	1,043
Work during studies (no work experience=0)			
studying workers	0,301	0,051	1,351
working students	0,285	0,019	1,329
Studied abroad during the course of study (no experience=0)			
study abroad recognised by the course of study	0,116	0,027	1,123
personal initiative	0,229	0,073	1,258
Number of known IT tools (almost 2 IT tools=0)			
3 or 4 IT tools*	0,052	0,026	1,054
5 or more IT tools	0,180	0,023	1,198
Participation in job orientation training initiatives organised by the University (not participate=0)			
yes	0,077	0,018	1,080
Plan to pursue post-graduate studies (yes=0)			
no	0,351	0,020	1,420
Willingness to travel for business (no=0)			
yes	0,215	0,048	1,239
Aspects important for job-seeking: acquisition of professional skills (no=0)			
yes	0,172	0,025	1,188
Aspects important for job-seeking: job security (no=0)			
yes*	-0,057	0,023	0,945
Aspects important for job-seeking: relevance to cultural interests (no=0)			
yes	-0,084	0,020	0,920
Aspects important for job-seeking: free time (no=0)			
yes	-0,071	0,022	0,932
Aspects important for job-seeking: flexibility of working hours (no=0)			
yes	-0,071	0,022	0,932
Constant	0,072	0,105	1,075

Note: Correct classification rate of 67.1%; N=78,326; R2 Nagelkerke=0.171.

* Significance at 5% (p<0.05) - ** Significance at 10% (p<0.10).

Where not explicitly stated, parameters significant at 1% (p<0.01).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

There are also a number of experiences gained during the course of study that increase employment possibilities. Those who have done a curricular internship are, *ceteris paribus*, 4.3% more likely to be employed one year after graduation than those who have not performed such an activity. Similarly, those who have spent a period of study abroad are more likely to be employed than those who have never studied abroad, whether these are experiences recognised by their course of study¹⁰ (+12.3% probability of being employed one year after obtaining their degree) or whether they are - albeit numerically small - experiences abroad resulting from personal initiative (+25.8% probability of being employed).

Computer skills also have a positive effect on the possibility of finding a job within the first year after graduation: the likelihood of being employed among those who know at least five IT tools is 19.8% higher than among those who know at most two tools, confirming that knowledge of IT and digital tools has become essential in today's society. A specific study carried out by AlmaLaurea investigated knowledge of IT tools at a gender level, which highlighted the existence of differences in employment performance and job characteristics.¹¹

There are also initiatives organised by universities to support the university-work transition, which are found to increase the likelihood of employment one year after graduation. This in-depth study focused in particular on job orientation training initiatives organised by the University. Those who reported having participated in such initiatives at the time of graduation are more likely to be employed (+8.0%) one year after graduation than those who did not take advantage of them. Further investigation revealed that those who took advantage of the employment guidance initiatives were more likely to find a job regardless of whether they were satisfied with these initiatives or not.

The statements made by graduates on the eve of finishing their studies regarding the importance they attached to certain aspects of the job they intended to seek were also significant. All other things being equal, those who in their job search attributed a high degree of importance ('definitely yes') to the acquisition of professional skills (+18.8%) were more likely to be employed one year after graduation, an aspect for which a faster entry into the labour market is important in order to gain experience and acquire skills. The willingness to travel for work reasons is also rewarding in terms of employment (+23.9% more likely than those who do not declare this willingness), regardless of the frequency. Against this, there is a lower probability of employment for those who consider important the relevance to cultural interests (-8.0%), free time and flexibility of working hours (-6.8% for both), and job security (-5.5%). These aspects probably lead graduates to be more selective while searching for a job.

¹⁰ These are study experiences within the framework of a European Union programme (i.e. Erasmus) and other programmes recognised by the course of study (i.e. Overseas).

¹¹ Girotti C. and Binassi S. (2020), "Computer Skills and Employment. A Comparative Gender Study", in Colombo M. and Salmieri L. (eds.), *The Education of Gender. The Gender of Education*. Sociological Research in Italy, www.learning4.it/wp-content/uploads/2020/11/the-education-of-gender-The-gender-of-education_SDvolume.pdf.

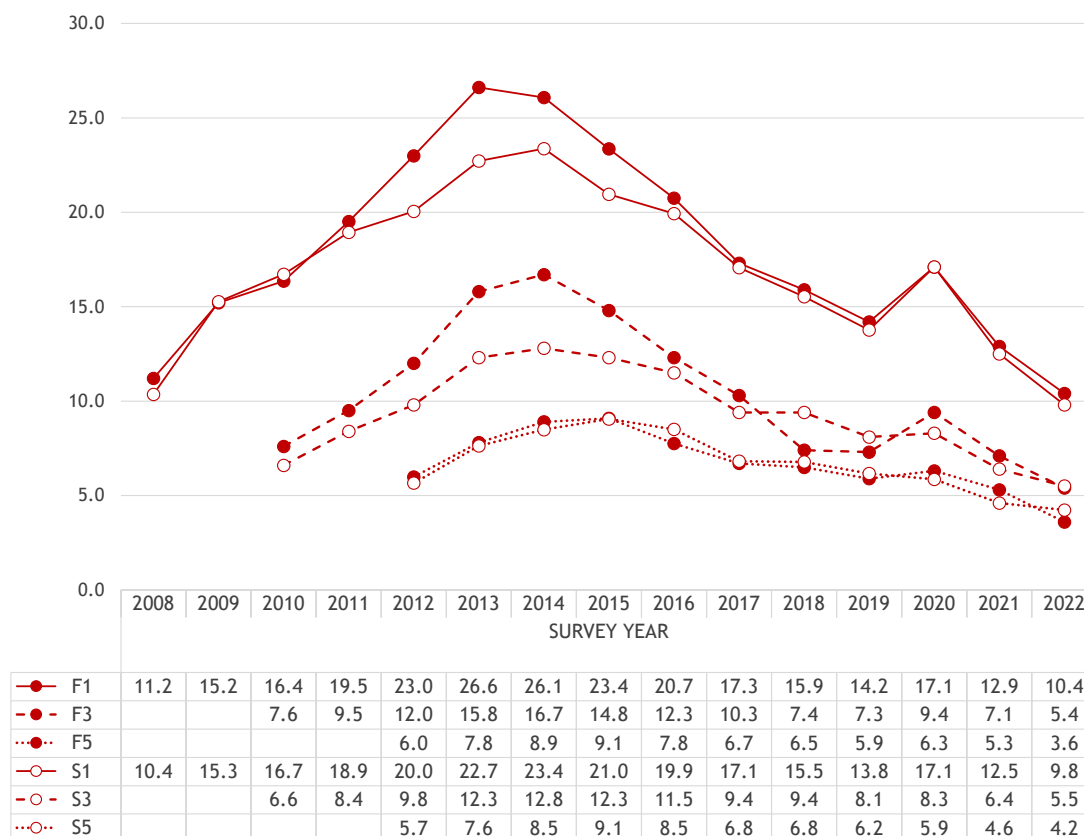
2. Unemployment rate

The analysis of the unemployment rate confirms the considerations discussed to this point even more sharply, with 2022 values at historical lows for all cohorts under consideration (Figure 2).

One year after graduation the unemployment rate was 10.4% for first-level graduates and 9.8% for second-level graduates. This result, which is consistent with the positive trend observed in recent years, shows a contraction compared to the values observed in 2021 of -2.5 percentage points among first-level graduates and -2.7 points among second-level graduates.

Since the unemployment rate is calculated with respect to the labour force, i.e. those who have entered the labour market either because they are employed or because they are actively looking for a job, a complete analysis of the phenomenon requires taking into account its relative size. In 2022, one year after graduation, 84.2% of first-level graduates and 85.5% of second-level graduates were in the labour force. Compared to the 2021 survey, the share of the workforce was down 1.4% for first-level graduates, while it remained almost unchanged for second-level graduates (+0.2%).

Figure 2 - 2007-2021 graduates surveyed one, three and five years after graduation: unemployment rate by degree type. Survey years 2008-2022 (percentage values)



Legend

F: first-level; S: second-level;

1: one year after graduation; 3: three years after graduation; 5: five years after graduation.

Note: as for the first-level, only graduates not enrolled in another course of study were considered. Until the 2018 cohort, second-level graduates also include graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no. 249/2010).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

Three years after graduation, the unemployment rate is lower than at one year and is 5.4% for first-level graduates and 5.5% for second-level graduates. Compared to the 2021 survey, these values were down by 1.7 and 0.9 percentage points, respectively. The labour force, which has remained substantially stable over the past year, exceeds 90% among both first-level graduates (95.4%) and second-level graduates (91.0%).

Unemployment levels five years after graduation stand at 3.6% among first-level graduates and 4.2% among second-level graduates, down from the 2021 survey by -1.7 and -0.4 percentage points respectively. This positive result acquires further value with the analysis of the labour force which, five years after graduation, shows values of 95.5% for first-level graduates and 92.6% for second-level graduates, substantially in line with those recorded in recent years.

3. Job characteristics: definition of the cohort under examination and availability of documentation

After extensive studies as documented in the last Reports to assess the impact, starting with the 2023 Report an important change was introduced in the definition of the cohort for whom job characteristics are analysed. Thus, from this Report job characteristics are analysed for all those who declare that they are engaged in paid employment, including post-graduate training such as internships, doctorates, specialisations and so on.¹² Depending on the degree type and the course of study completed, there are also relevant differences in the size of the cohort being analysed, particularly in those subject groups where such training activities are widespread. However, this has a limited impact on the levels of the individual indicators examined and does not alter the relative time trends. In this regard, while this new approach was adopted starting with the 2023 Report, the survey questionnaire was modified in 2018 and therefore it is possible to analyse five years of data.¹³

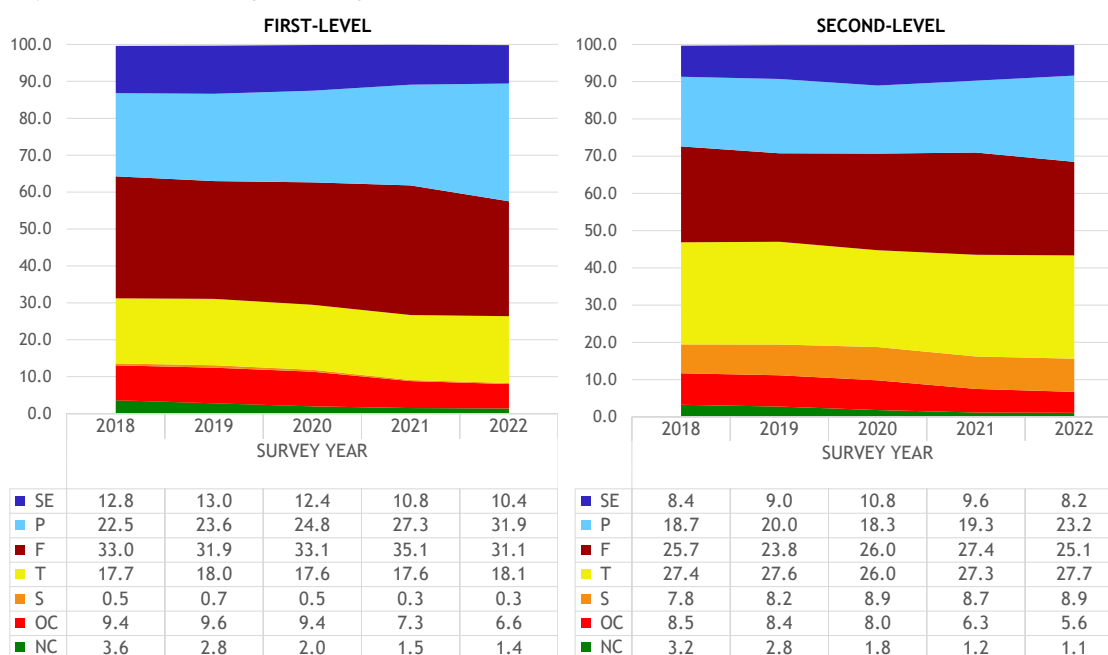
¹² Until the 2022 Report, these characteristics were only examined for those who declared to be in paid employment (thus excluding post-graduate studies). The change in the definition of the cohort under analysis is justified by the opportunity to align the AlmaLaurea survey with ISTAT's approach, as far as possible, in the most recent survey on graduates and in the Labour Force survey.

¹³ While the survey questionnaire was partly modified between 2018 and 2022, specific analyses enabled the consistency of the indicators to be checked. For details on methodological aspects, see the Methodological Notes published at: www2.alma laurea.it/cgi-php/universita/statistiche/note-metodologiche.php?lang=en&config=occupazione&anno=2022.

4. Type of work

The predominant forms of employment among graduates employed one year after graduation (Figure 3) are permanent employment contracts (31.9% among employed first-level graduates and 23.2% among employed second-level graduates), fixed-term contracts (31.1% and 25.1%, respectively) and training contracts¹⁴ (18.1% and 27.7%, respectively). Conversely, 10.4% of first-level and 8.2% of second-level employed graduates are self-employed. As might be expected, activities supported by a scholarship or research fellowship¹⁵ are most common among second-level graduates (8.9%), while they are residual among first-level graduates (0.3%). Undocumented employment affects 1.4% of first-level and 1.1% of second-level graduates. Finally, the other contractual forms¹⁶ concern 6.6% and 5.6% of the employed respectively.

Figure 3 - 2017-2021 graduates employed one year after graduation: type of work by degree type. Survey years 2018-2022 (percentage values)



Legend

SE: self-employment; P: permanent contract; F: fixed-term contract; T: training contracts; S: scholarship or research fellowship; OC: other contract; NC: no contract. The sum of the percentages may be less than 100 due to non-responses.

Note: as for the first-level, only graduates not enrolled in another course of study were considered. Until the 2018 cohort, second-level graduates also include graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no. 249/2010).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

A comparison with the surveys of previous years shows trends that are not always linear, often differentiated between first and second-level graduates and difficult to fully explain given the multiplicity of factors that affect the results. Here we simply highlight that for both cohorts surveyed there was an increase in permanent contracts (compared to the 2021 survey, +4.6 percentage points

¹⁴ These include apprenticeships and in-company internships.

¹⁵ More specifically, scholarships or research grants, work grants and research fellowships.

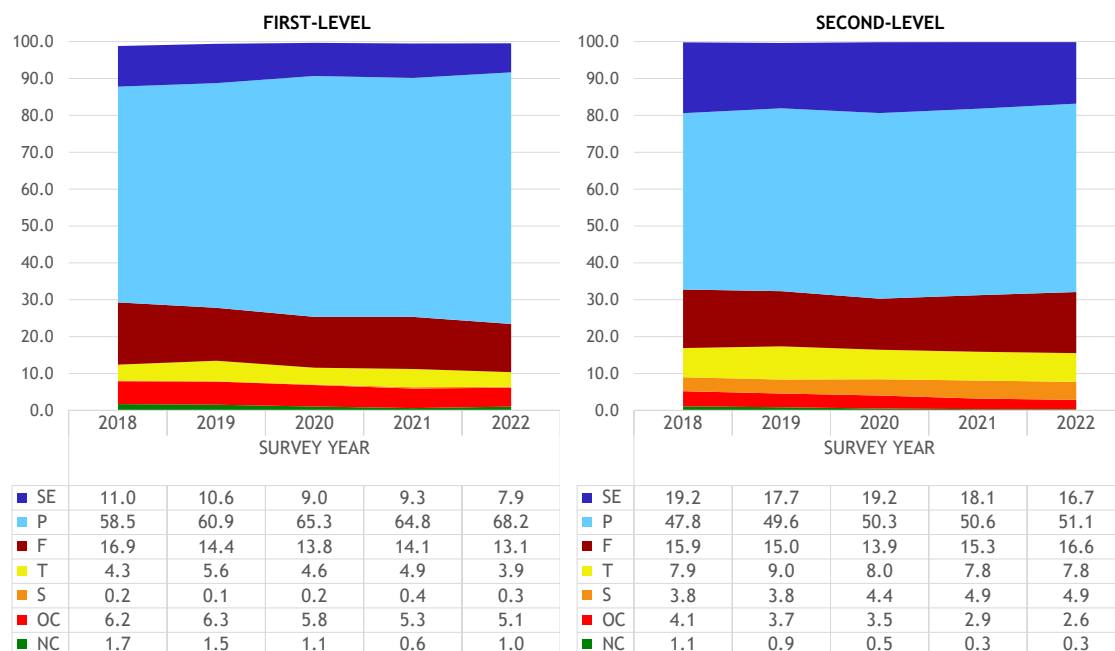
¹⁶ These include coordinated and continuous collaborations, occasional collaborations and intermittent or on-call work.

for first-level graduates and +3.9 points for second-level graduates) and a contraction in both fixed-term contracts (-4.0 and -2.3 points, respectively) and self-employment (-0.4 and -1.4 points).

Extending the period of observation beyond the first year after graduation allows a more complete assessment of the characteristics of the type of work. Three years after graduation, permanent employment contracts had been given to 53.6% of first-level graduates and 37.8% of second-level graduates. Three years after graduation fixed-term employment contracts (19.0% among first-level graduates and 20.9% among second-level graduates) and training contracts (10.6% and 16.8%, respectively) remain widespread. Conversely, 8.4% of first-level graduates and 12.9% of second-level graduates are self-employed. Once again, the activities supported by a scholarship or research fellowship are more prevalent among second-level graduates (7.6%) than first-level graduates (0.5%).

Among 2017 graduates, five years after receiving their degree (Figure 4) the share of those employed with a permanent contract exceeds half of those in employment and reaches 68.2% among first-level graduates and 51.1% among second-level graduates. 13.1% of first and 16.6% of second-level graduates are employed with fixed-term contracts, while training contracts involve 3.9% and 7.8% of the employed respectively. On the other hand, self-employment concerns 7.9% of first-level and 16.7% of second-level employed graduates. All other forms of work are residual, showing percentages of around 5% at most.

Figure 4 - 2013-2017 graduates employed five years after graduation: type of work by degree type. Survey years 2018-2022 (percentage values)



Legend

SE: self-employment; P: permanent contract; F: fixed-term contract; T: training contracts; S: scholarship or research fellowship; OC: other contract; NC: no contract. The sum of the percentages may be less than 100 due to non-responses.

Note: as for the first-level, only graduates not enrolled in another course of study were considered; second-level graduates also include graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no 249/2010).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

An increase in permanent employment contracts is recorded compared to the 2021 survey especially for first-level graduates (+3.4 percentage points, +0.5 for second-level graduates). Fixed-term contracts decreased for first-level graduates (-1.0 points), while they increased for second-level graduates (+1.3 points). Finally, self-employment is decreasing both among first-level graduates and second-level graduates (-1.4 percentage points for both cohorts surveyed).

4.1. Smart working and other forms to work remotely

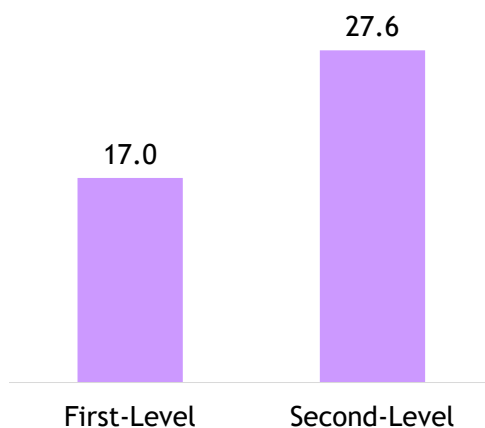
Where feasible, the sudden emergence of the Covid-19 pandemic made it inevitably necessary to rely on the so called ‘smart working’, an organisational method that has enabled many companies and public bodies to provide continuity of work that would otherwise have been impossible, especially during the lockdown. It is actually a form of work organisation that, together with ‘telelavoro’, was introduced in Italy some time ago,¹⁷ but which had not previously been particularly used by Italian companies. In recent years, however, there has been a sharp increase in remote workers for the aforementioned reasons. It is also true that the return to the office, after the pandemic was contained, was regulated differently for the public and private sectors, thus leading to a different intensity of remote working in the two sectors to date. According to the Smart Working Observatory of Milan Polytechnic, teleworking was on the rise in 2022, and therefore increasingly widespread in large companies (91% of which use it, compared to 81% in 2021). On the other hand, this working method is decreasing both in the public administration (57%, compared to 67% in 2021) and in small and medium-sized enterprises (48%, compared to 53% in 2021). The differences also relate to the intensity of smart working: in large companies each employee on average teleworks 9.5 days per month, while for the public administration and small and medium-sized companies the days of teleworking per month drop to 8 and 4.5 respectively.

The 2022 AlmaLaurea survey shows that smart working and, more generally, remote work, involves a total of 17.0% of first-level graduates and 27.6% of second-level graduates employed one year after graduation (Figure 5). While these figures are down from what was observed in 2021 (-2.7 percentage points among first-level graduates and -3.9 points among second-level graduates), following a gradual return to normality after the health emergency, this mode of work is nevertheless more widespread than what was observed before the outbreak of the pandemic.

For the ease of reading, we will hereinafter refer to ‘smart working’ as employed or self-employed activities carried out remotely. Here we will limit ourselves to noting that ‘telelavoro’ is definitely less widespread. In fact, it overall concerns 0.6% of first-level graduates and 1.2% of second-level graduates. By contrast, there is a greater use of ‘smart working’ (8.5% and 13.0% respectively) or, for self-employed activities, remote working (7.8% and 13.4% respectively).

¹⁷ Smart working, which in Italian legislation is called ‘lavoro agile’, was established with Law no. 81/2017. On the other hand, the so called ‘telelavoro’ (remote working) has been active in our country for longer and has been differentially regulated between the public and private sectors.

Figure 5 - 2021 graduates employed one year after graduation: proportion of teleworkers by degree type. Survey year 2022 (percentage values)



Note: for the first-level only graduates not enrolled in another course of study are considered.

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

Teleworkers more frequently pursue an intellectual, scientific and highly specialised profession, as well as in executive jobs. They work more often in the private sector, less so in the public sector. They are relatively more employed in the computer science, professional consulting, communications as well as credit and insurance branches. In contrast, they are relatively less employed in those areas where a physical presence in the workplace is usually required, i.e. in the healthcare, commerce and education and research branches. In terms of type of employment, to a greater extent those who work remotely have a permanent employment contract or a training contract, while fixed-term contracts are less frequent.

These results are generally confirmed for both first and second-level graduates. Moreover, the trends are confirmed both at one and five years after graduation.

5. Salaries

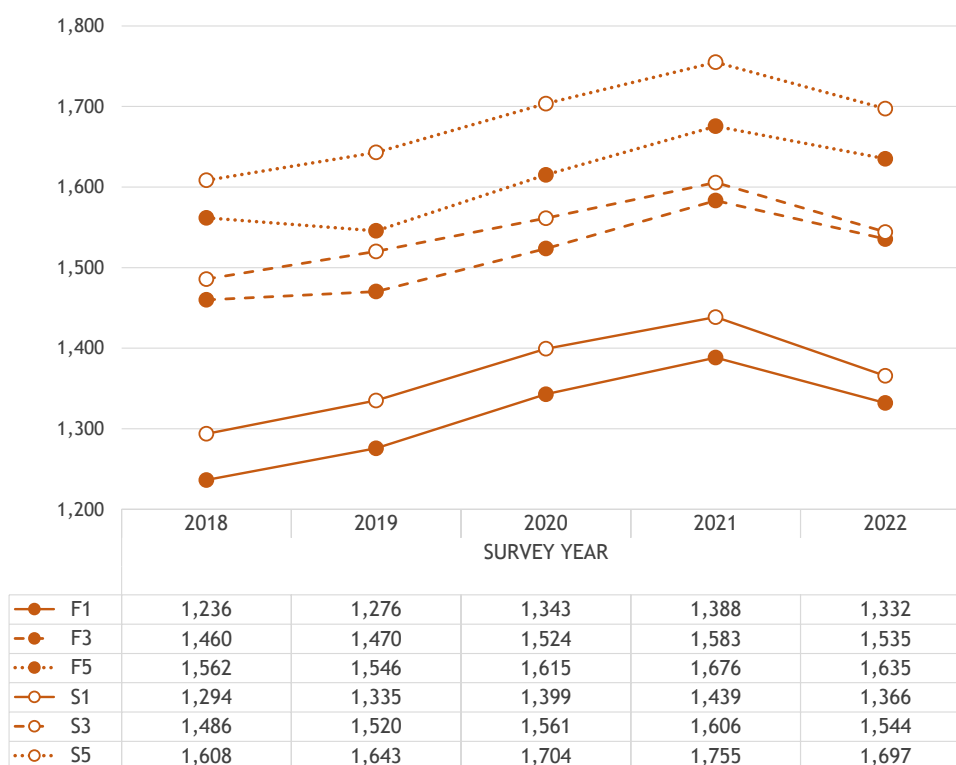
The analysis of remuneration must necessarily take into account the high levels of inflation observed in 2022, mainly due to the consequences of continuing geopolitical instability. In fact, for all cohorts examined, net monthly wages in 2022 were found to be growing in nominal terms, i.e. taking into account the values actually collected from the graduates' responses in their interviews. However, taking into account the changed purchasing power, the snapshot changes significantly. In fact, in real terms wage levels contracted substantially in 2022 in all the cohorts analysed, interrupting the growth trend seen until last year. Therefore it is deemed appropriate to only analyse real wages below.

More specifically, in 2022, one year after graduation the net monthly salary was on average equal to €1,332 for first-level graduates and €1,366 for second-level graduates (Figure 6). As mentioned above, these values appear to have fallen in real terms over the past year by 4.1% for first-level graduates and 5.1% for second-level graduates. These results are affected by the different incidence of part-time work, which in 2022 involved 18.6% of first-level graduates and 14.2% of second-level graduates. These values, which have tended to decrease in recent years (respectively -0.9 and -1.1 percentage points compared to 2021), do not however influence the salary trends illustrated. On the

other hand, the different proportion of part-time work has an impact on the pay differentials between first and second-level graduates: in 2022 the latter receive a net monthly salary 2.6% higher than first-level graduates, but if we isolate those who work full-time the pay differential is nullified (0.2%).

Three years after graduation the net monthly salary reaches €1,535 for first-level graduates and €1,544 for second-level graduates, registering a drop in the last year of 3.0% and 3.8%, respectively.

Figure 6 - 2013-2021 graduates employed one, three and five years after graduation: net monthly earnings by degree type. Survey years 2018-2022 (values revalued according to ISTAT consumer price indices; average values in euros)



Legend

F: first-level; S: second-level;

1: one year after graduation; 3: three years after graduation; 5: five years after graduation.

Note: as for the first-level, only graduates not enrolled in another course of study were considered. Until the 2018 cohort, second-level graduates also include graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no. 249/2010).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

Five years after graduation, the net monthly salary is €1,635 for first-level graduates and €1,697 for second-level graduates. Even five years after graduation, there was a decrease in salaries compared to the similar survey in 2021: -2.4% for first-level graduates and -3.3% for second-level graduates. Here, too, it is worth taking into account the varying prevalence of part-time work, which in 2022 involved 12.3% of first-level graduates and 7.0% of second-level graduates (compared to 2021, -1.7 percentage points for first-level graduates and -0.7 points for second-level graduates). The different proportion of part-time work has no impact on the observed salary trends, while it does have an effect on the differential observed between first and second-level graduates. The latter receive a net monthly salary that is 3.8% higher than that of first-level graduates. However, if the comparison is restricted to those working full-time, the salary differential drops to 1.8%.

5.1. An additional salary insight: outcomes of a linear regression model

A linear regression model was used to analyse the multiple factors affecting graduates' net monthly earnings. The approach followed is similar to that described in section 1.1 for the assessment of the probability of being employed, although with some peculiarities related to the different phenomenon under investigation. The 2021 graduates were thus considered and interviewed one year after obtaining their degree. Such group included both first-level graduates - who did not continue their education by enrolling in a course of study, and second-level graduates - who were contacted one year after obtaining their degree.¹⁸

The analysis considers factors related to gender and university degree (degree type, field of study) and, given its descriptive nature, also some characteristics of the work performed, which are closely linked to graduate salaries (geographic area of work, full/part-time, average number of hours worked per week, type of work, company's sector and branch of economic activity, profession performed). These are concomitant factors, which have been included for merely descriptive reasons.¹⁹

The model shown in Table 2 spotted evident differentiations by degree type, which were already highlighted by the descriptive analyses previously discussed. All else being equal, compared to a first-level degree, obtaining a second-level degree allows on average an estimated monthly net bonus payment of €99.

All other things being equal, the field of study also has a decisive effect on the pay differentials of recent graduates. Compared to graduates of the politics, social sciences and communications field of study, graduates receive, on average, significantly higher salaries from the health and pharmacy (+€272 net per month), information and communication technologies ICTs (+€207), engineering and engineering trades (+€204), economics (+€109), as well as natural sciences, mathematics, physics and statistics (+€71), education (+€62) and sports sciences and physical education (+€46). On the other hand, graduates in law (-€102 net per month), architecture and construction (-€43 net per month), psychology (-€40) and arts and design (-€32) are at a greater disadvantage in terms of salary.

¹⁸ As with the in-depth study of the probability of being employed, the model does not include those who were already working at the time of graduation and those living abroad.

¹⁹ Factors that were considered but not found to be significant include age at graduation, declared intention at graduation to continue studies, willingness to travel for business, as well as job expectations sought related to relations with colleagues in the workplace, independence and autonomy, involvement and participation in work and decision-making processes, coherence with the studies completed, acquisition of professional skills, relevance to cultural interests, free time, workplace (i.e. location and relative physical characteristics), flexibility of working hours. On the other hand, excluded from the model due to modest correlation were aspects relating to the family of origin (parents' qualifications, social class), the geographic area of residence, the geographical area of the university, geographic mobility for study purposes, degree completion time, knowledge of IT tools, knowledge of foreign languages, average exam scores, expectations of the job sought linked to earning prospects, career opportunities, social utility of the job, prestige, job security, opportunities for contacts abroad, possibility of making the best use of the skills acquired during studies, as well as work and internship experiences, study abroad experiences gained during university studies and certain factors related to the work carried out (coordination of work done by others and effectiveness of the degree).

Table 2 - 2021 first and second-level graduates employed one year after graduation: linear regression model for assessing net monthly earnings. Survey year 2022

	b	S.E.
Gender (female=0)		
male	70.145	3.543
Degree type (First-Level=0)		
Second-Level	99.109	4.279
Field of study (Politics, social sciences and communications=0)		
Agriculture, forestry and veterinary**	-10.239	12.679
Architecture and construction	-42.899	10.755
Arts and design*	-32.194	13.639
Economics	108.795	8.164
Education	61.941	11.020
Law	-101.895	9.595
Information and communication technologies (ICTs)	206.889	14.993
Engineering and engineering trades	204.318	8.546
Humanities and literature**	6.093	11.839
Foreign languages**	6.810	10.069
Health and pharmacy	272.483	8.663
Psychology	-39.822	13.363
Natural sciences, mathematics, physics and statistics	70.823	8.867
Sports sciences and physical education*	46.040	18.001
Geographic area of work (South=0)		
North	101.375	4.154
Centre	52.921	4.893
Abroad	635.625	9.268
Full-time/part-time (part-time=0)		
full-time	272.297	6.560
Hours worked per week		
	9.651	0.249
Type of work (other contract=0)		
self-employment	447.155	6.903
permanent contract	302.406	4.774
fixed-term contract	255.388	4.338
Company sector (private=0)		
public	143.277	5.562
not-for-profit**	-6.317	10.836
Company branch (social and personal, recreational and cultural services=0)		
agriculture**	24.615	20.032
engineering industries and precision engineering industries	116.377	11.998
building industry*	30.841	13.148
chemical and energy industries	107.214	11.426
manufacturing industry	90.819	11.670
commerce	38.917	10.022
credit and insurance	234.550	12.549
transport, advertising and communications	76.558	11.972
consulting**	1.355	9.807
computer science	118.992	11.801
other services for companies	57.998	13.147
public administration, armed forces	96.194	14.516
education and research*	19.421	9.595
healthcare	271.044	9.561
Profession (other professions=0)		
entrepreneurs, executives or intellectual, scientific and highly spec. professions	141.311	4.008
Constant	92.767	12.842

Note: R-squared = 0.447 (adjusted R-squared = 0.447), N=61,017

* Significance at 5% (p<0.05) - ** Not significant

Where not explicitly stated, parameters significant at 1% (p<0.01).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

The traditional gender differences is noticeable; in fact, the model estimates that, all else being equal, men earn a net average of €70 more per month one year after graduation.

Pay differences are also found in geographical terms: compared to those employed in the South, those working in the North earn on average a net €101 more per month, while those working in the Centre earn €53 more. But it is above all among graduates working abroad that the pay advantage is considerably marked (more than €600 net per month more than those working in the South). However, it is worth remembering the differences in the cost of living that characterise different countries and regions within the same country, thus having an impact on wages, as also underscored in various studies on AlmaLaurea data.²⁰

Turning to an analysis of specific job characteristics, it was found that all other things being equal there were differences in pay according to weekly working hours as well as the prevalence of full-time and part-time work. Specifically, the model estimates that on average those in full-time employment receive €272 net per month more than those working part-time.

Even in contractual terms, all else being equal, important salary differences are estimated, with self-employment, permanent and fixed-term employment contracts corresponding to higher salaries (+€447, +€302 and +€255 respectively) compared to other forms of work, including training contracts, scholarship or research fellowships, and work not governed by any contract. In more general terms, the results of the study show that fixed-term contracts correspond to lower wages.

The company's sector and branch of economic activity have a significant impact on the salaries of graduates. In fact, all other things being equal, compared to the private sector, the public sector has an estimated wage advantage of €143. The branches of economic activity with the largest wage differentials - compared to social and personal, recreational and cultural services - are above all healthcare (+€271)²¹ and the credit and insurance (+€235). The model also estimates a wage advantage for the computer science (+€119), engineering industries and precision engineering industries (+€116), as well as chemical and energy industries (+€107).

Finally, the profession held by graduates has a positive effect on their earnings. All else being equal, graduates in high professions such as entrepreneurs, executives or intellectual, scientific and highly specialised professions receive +€141 than graduates in other professions.²²

²⁰ See among others Chiesi A. M. and Girotti C. (2016), "Retribuzioni dei laureati e mercato del lavoro in tempi di crisi", in *Quaderni di sociologia*: Vol. LX, Rosenberg&Sellier, page 72.

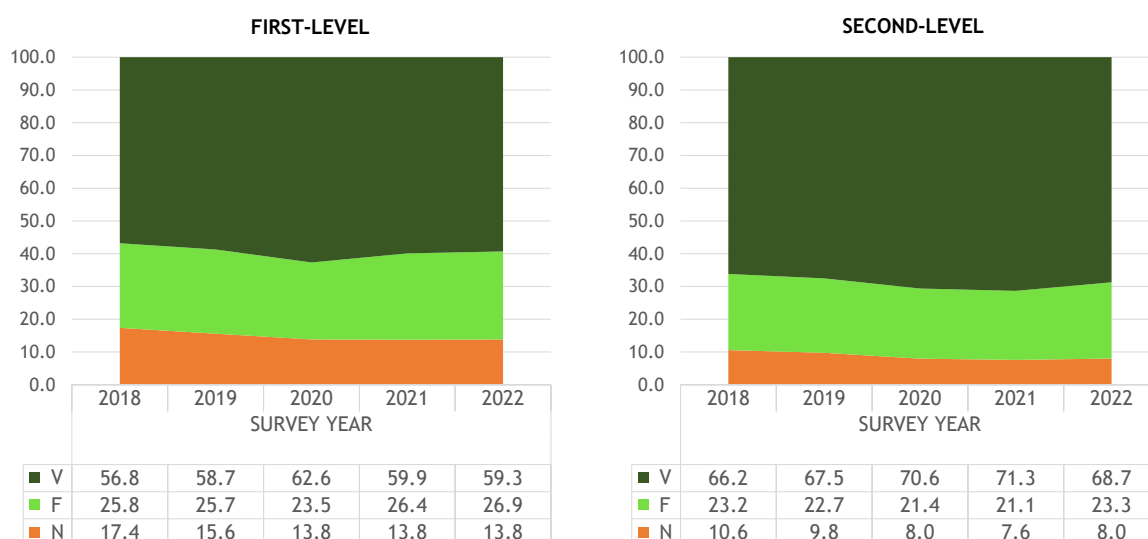
²¹ Although the *ceteris paribus* approach is used in the model, its result is likely to be influenced by the pandemic of recent years.

²² 'Other professions' include technical jobs, executive office workers, skilled trades and services, professions related to the armed forces and the remaining non-classified occupations (ISTAT, CP2011), as well as those engaged in post-graduate studies.

6. Effectiveness of the degree on the job

Graduation effectiveness is a subjective measure of coherence between studies completed and jobs performed, as it is based on evaluations expressed by employed graduates. Together with regulatory and statistical measures, it is a way to identify and analyse horizontal or vertical mismatches. As regards graduates' statements on the use of the skills acquired during their studies, as well as on the formal or substantive necessity of the qualification for employment, it was found that one year after graduation the degree was 'very effective or effective' for 59.3% of employed first-level graduates and 68.7% of employed second-level graduates (Figure 7). Overall, compared to the 2021 survey effectiveness levels are slightly down for first-level graduates (-0.6 percentage points), while among second-level graduates the decline is more pronounced (-2.6 points). Thus the second-level graduates are now showing the same break in the trend of improving effectiveness levels that had already been observed last year among first-level graduates.

Figure 7 - 2017-2021 graduates employed one year after graduation: degree effectiveness by degree type. Survey years 2018-2022 (percentage values)



Legend

V: very effective/effective; F: fairly effective; N: not very/not at all effective.

Note: as for the first-level, only graduates not enrolled in another course of study were considered. Until the 2018 cohort, second-level graduates also include graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no. 249/2010).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

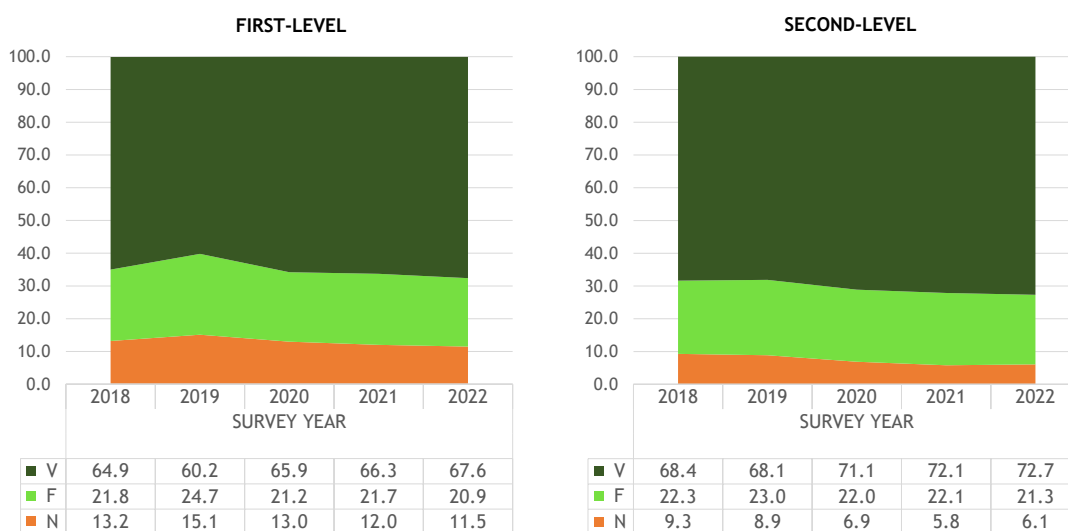
As discussed before, as time passes after graduation the characteristics of the job performed improve including the effectiveness of the degree. Considering 2019 graduates at three years, the degree is 'very effective or effective' for 68.8% of first-level graduates (+1.1 percentage points compared to 2021) and for 74.1% of second-level graduates (+3.1 percentage points).

At five years these quotas respectively reach 67.6% and 72.7% of employed first and second-level graduates (Figure 8).

Compared to the similar survey in 2021, effectiveness levels are up by +1.3 percentage points among employed first-level graduates and +0.6 percentage points among employed second-level graduates. This confirms the trend of slow improvement in recent years, the highest levels of effectiveness observed during the period under review being reached in 2022.

The picture here outlined is largely confirmed if we separately consider the two components of effectiveness. That is to say, in the job performed, the use of the skills acquired at university and the formal or substantive requirement of a degree for the practice of one's own type of work.

Figure 8 - 2013-2017 graduates employed five years after graduation: degree effectiveness by degree type. Survey years 2018-2022 (percentage values)



Legend

V: very effective/effective; F: fairly effective; N: not very/not at all effective.

Note: as for the first-level, only graduates not enrolled in another course of study were considered; second-level graduates also include graduates from the pre-reform course of study in Primary Education Sciences (before the reform of Italian Ministerial Decree no 249/2010).

Source: AlmaLaurea, Survey on the Occupational Condition of Graduates.

The complete documentation is available at:

www.almalaurea.it/en/our-data/almalaurea-surveys/graduates-employment-status.

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