



XXV Survey Graduates' Employment Status

Report 2023

Methodological Notes to the online database

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

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METHODOLOGICAL NOTES

1. Population analysed

The 2022 survey involved a total of about 670,000 first- and second-level graduates - single-cycle and two-year master's graduates - of 78 out of 80 Italian universities¹ in AlmaLaurea Consortium in April 2023. Specifically:

- 296,000 first- and second-level graduates in 2021, contacted one year after graduation.
- 122,000 second-level graduates in 2019, contacted three years after graduation.
- 117,000 second-level graduates in 2017, contacted five years after graduation.
- 73,000 and 61,000 first-level graduates in 2019 and 2017 who did not continue university training, contacted three and five years after graduation.²

2019 graduates were already been involved in the similar 2020 Survey, completed one year after graduation. Graduates in 2017, on the other hand, were contacted twice more: in 2018, one year after graduation and in 2020, three years out.

The survey involves all the graduates of a given calendar year and makes available documentation that is reliable down to the level of a single degree programme. This allows the universities belonging to the AlmaLaurea Consortium to respond promptly to Ministry of University and Research requests (Italian Ministerial Decree no. 544/2007, Directorial Decree no. 61/2008, Italian Ministerial Decree no. 17/2010, Italian Ministerial Decree no. 50/2010 and, among the most recent, Italian Ministerial Decree no. 1154/2021 and Italian Ministerial Decree no. 289/2021). In the data sheets prepared,

¹ It refers to the universities in AlmaLaurea Consortium in April 2022. Among these there are also the Scuola Superiore Sant'Anna of Pisa, the Scuola Normale Superiore of Pisa and the Scuola Superiore IUSS of Pavia. Given the peculiar nature of these schools, for the moment their data sheets are not included in the current search system.

² Given the particular nature of this population and the survey methodology (CAWI only), data sheets were not produced for these groups.

graduates belonging to the degree classes included in Italian Ministerial Decree no. 509/1999 are considered together with those of the degree classes reformed by the subsequent Italian Ministerial Decree no. 270/2004, according to the correspondence between the new classes and the previous ones as specified in the latter decree. Therefore, by "second-level master's/single-cycle master's" graduates are also meant the single-cycle specialist/specialist graduates of the classes established by Italian Ministerial Decree no. 509/1999. For the particular case of the single-cycle master's degree in Dentistry and orthodontics, it should be noted that Italian Ministerial Decree regulation no. 270 changed the normal duration of the course, extending it from 5 to 6 years. For this reason, when analysing the graduates of both the Italian Ministerial Decree regulations no. 509 and 270 courses at the same time the different durations of the courses must be taken into account, especially when considering the "age at graduation" and "duration of studies" indicator.

Furthermore, in addition to the first- and second-level graduates, the 2017 graduate population examined also includes graduates in Primary Education Sciences degree programme, a degree programme that was not reformed by Italian Ministerial Decree no. 509/1999 but only by the more recent Italian Ministerial Decree no. 249/2010. This decree established the single-cycle degree programme in Primary Education Sciences (LM-85bis) lasting five years, replacing the previous four-year degree programme. The first degrees from the LM-85bis class were awarded in 2016. The 2022 survey on employment outcomes involved both the single-cycle second-level graduates, one, three and five years out, and the pre-reform graduates, five years out, already involved in the previous surveys. Therefore, for the 2017 graduates, second-level graduates include also the pre-reform graduates in Primary Education Sciences degree programme.

Given the purpose of the prepared data sheets (to guarantee each university in the consortium extensive and detailed documentation down to the individual degree programmes), the data were not affected by the calibration procedure (called raking), used instead for the preparation of the Annual Report related to the graduates overall. In fact, in this latter case calibrating guarantees representative estimates of the graduates of Italian universities.

Finally, it should be noted that in some cases the number of graduates involved in the survey does not exactly coincide with what is reported in the statistics in the Graduate Profile. This is due to additions or corrections made to the statistical files after the preparation of the documentation on Graduate Profile. The survey on Graduates' Employment Status also includes universities that have only recently entered the Consortium and that have requested that the survey be extended both to the 2021 cohort and to the older cohorts of 2019 and 2017. Therefore, for some universities and cohorts of graduates the relevant information in the data sheets of the Profile Survey is not available.

1.1 Comments on some cohorts which have not been investigated

The survey did not include those graduates who have achieved more than an academic qualification. In particular, as for first- and second-level degree holders (included Primary Education Sciences degree programme³), only the second-level degree has been taken into consideration (for 2021 graduates holding a first-level degree and a Primary Education Sciences degree programme only the first-level degree has been taken into consideration, this is due to the fact that, at one year after graduation, graduates in Primary Education Sciences degree programme have not been involved in the survey); whereas in case of students having two degrees of the same level, only the first one (i.e., in terms of graduation date) was considered for the analysis. If a student earned a Primary Education Sciences degree programme and then a second-cycle degree, prominence has been given to the second-cycle degree.

It was also decided to exclude the graduates who have earned an academic degree on the basis of special conventions. This case mainly regards: workers of the health sector whose professional experience were acknowledged by the University of Chieti-Pescara, which awarded them a first-level degree in one of the health sectors' faculties; the members of the armed forces and police officers who

³ Please see the paragraph 1 for further details on the pre-reform course in Primary Education Sciences degree programme.

have concluded the degree-course in Management and Organisational Sciences at Tuscia University or the Business Legal Expert first-level degree programme at Aquila University or the first-level degree programme in Security legal sciences at Rome Tor Vergata University. It was also excluded students of the Financial Police who have completed the degree course in Law at Bergamo University.

2. Survey methods and response rates

Graduates involved in the survey (excluding those of the first level at three and five years) were contacted through a two-step technique, CAWI (Computer-Assisted Web Interviewing) and CATI (Computer-Assisted Telephone Interviewing). The need to contain survey costs and, above all, the wide availability of email addresses suggested contacting graduates in a first phase via email, inviting them to fill out a questionnaire⁴ on AlmaLaurea's website.

The General Data Protection Regulation no. 2016/679 (also known as GDPR), operational since May 2018, has had an impact on the identification of graduates for interviews. In fact, with the updating of the privacy policy given to graduates, AlmaLaurea has seen an increase - especially among recent graduates - of those who have denied consent to be contacted for statistical survey purposes. These are in fact graduates who were present in the target population who but could not be contacted.

In fact an email address is known for 97.3% of graduates in 2021, 96.8% of graduates in 2019 and 95.7% of graduates in 2017, for the latter without significant differences in degree programme type.

The research plan provided for five reminders, and the participation of the graduates was satisfactory, taking into account the type of survey: the overall response rate to the CAWI survey was 16.7% (with respect to the emails sent) including graduates at one year (rise to 19.7% among two-year master's graduates). Among the second-level graduates contacted at three years from the degree, the participation was 15.3% and, at five years, the web survey response

⁴ For a better adaptation of the questionnaire to more modern devices like smartphones and tablets, a mobile version was also developed.

rate was 13.4%; also in this case, response rates are higher among two-year master's graduates.⁵ However, some of the emails were not delivered, in particular due to the obsolescence of the email addresses, as well as problems related to full mailboxes. This phenomenon - in technical jargon called "bounces" - occurs a few frequently among all graduates (less than 1.0%).

In order to raise the participation rates to the usual standards, the telephone survey were combined to the web survey. Graduates were contacted at two different times: graduates of the January-June period were contacted between March and July 2022, those of July-December between August 2022 and February 2023.⁶ This in order to carry out the interviews with essentially the same amount of time having passed since graduation.⁷

At the end of the survey, the response rate on total graduates (CAWI + CATI) reached 68.2% among the first- and second-level graduates from 2021 at one year out. At three years, the response rate reached a total of 58.2% of second-level graduates from 2019. Among the second-level graduates of 2017 involved in the five-year survey, the response rate reached 55.0% (Table 1).

As noted, response rates have been affected by the proportion of graduates who were not contacted because they did not give their consent. Therefore, considering only graduates who could be contacted, the response rate on contactable graduates (CAWI+CATI) was 73.2% among 2021 first- and second-level graduates one year out,

⁵ The higher participation in web surveys by the two-year master's graduates is justified in particular by the higher level of knowledge of IT tools, especially among graduates of the information and communication technologies (ICTs), architecture and construction, and engineering and engineering trades groups.

⁶ For greater uniformity and comparability of the data, for both surveys the telephone interviews were scheduled for 1 May and 1 October 2022 respectively. In other words, all the people contacted after these dates were asked to refer to their employment situation on 1 May (1 October) 2022.

⁷ The launch of the web and telephone surveys, as well as the management of reminders, took into account, for the first time, the different propensity of graduates to participate in the survey. Being able to count on the results of the previous surveys, in fact, it was possible to identify four groups of graduates, homogeneous with respect to the response rate to the CAWI and CATI surveys. Each group received a different response solicitation (in particular, in terms of a more or less extended survey period); this, with the aim of submitting to graduates the most effective survey methodology for achieving high participation.

76.5% and 64.2% respectively among 2019 second-level graduates after three years and 2017 graduates after five years.

Table 1 Survey 2022: graduates involved, survey methodology and response rates (absolute values and percentages)

	Number of graduates	Survey methodology		Response rate on total graduates	Response rate on contactable graduates
		CAWI	CATI		
ONE YEAR AFTER GRADUATION					
First-level degree	167,467	X	X	68.7%	72.6%
Second-level degree	94,673	X	X	67.1%	73.9%
Single-cycle second-level degree	34,257	X	X	69.2%	73.9%
THREE YEARS AFTER GRADUATION					
First-level degree	72,945	X		15.2%*	15.2%*
Second-level degree	86,117	X	X	53.7%	76.8%
Single-cycle second-level degree	35,969	X	X	68.9%	75.8%
FIVE YEARS AFTER GRADUATION					
First-level degree	61,490	X		10.2%*	10.2%*
Second-level degree	80,369	X	X	55.3%	64.5%
Single-cycle second-level degree	36,082	X	X	54.1%	63.6%
Primary Schooling Sciences degree	409	X	X	54.8%	60.4%

* Of graduates with an email address.

Source: AlmaLaurea, Survey on the Graduates' employment status.

Given the survey methodology, AlmaLaurea regularly develops specific in-depth analysis to the verification of possible distortions linked to the combination of different survey tools (CAWI and CATI). The results have shown that the quality of the data collected and the validity of the answers provided remain consistent regardless of the survey tool used. In fact, discrepancies between the responses made by those who participated in one type of survey compared to the other are very limited (in the order of a few percentage points), however lower than discrepancies recorded on the same typology of analysis on 2010 and 2008 surveys. More specifically, the same check carried out on 2008 and 2010 surveys,

confirmed the correctness of the data collected, except for a couple of exceptions related more to the formulation and complexity of the questions than to the survey instrument used: these aspects were taken into account in the drafting of subsequent questionnaires,⁸ verifying later on a reduction in discrepancies following the changes to the questionnaire.

In contrast, first-level graduates three and five years out were involved only in a CAWI survey: also in this case, therefore, all contactable graduates having an email address (94.1% at three years and 92.7% at five years) were invited to participate in the survey by completing an online questionnaire. There was no subsequent CATI stage to gather missing responses. The response rates achieved are 15.2% at three years and 10.2% at five years (values calculated on the total number of emails sent) and are lower than those obtained at one year from graduation. This is mainly due to the particular selection made of the survey population. In fact, the three- and five-year survey of first-level graduates focused only on graduates who did not continue their education by enrolling in a second-level degree programme. It is therefore likely that these are people seeking to enter directly into the labour market - if not already employed for some time - and therefore perhaps less interested in participating in web surveys. This is mainly due even in this case some of the emails were not delivered due to so-called "bounces" (due to email addresses that are no longer valid or that have mailboxes that are full) which concern less than 1.0% of the three-year and five-year email addresses.

Specific analyses were carried out to assess the existence of structural differences between the graduates interviewed and those who did not participate in the survey, identifying the existence of some differences that however do not compromise the overall representative nature of the results (overall lower 6 percentage points). In particular, among those interviewed one year after graduation (regardless of the degree programme type) there is a higher presence of graduates of engineering and engineering trades and a lower presence of graduates of politics, social sciences and

⁸ For details, see Camillo, Conti, Ghiselli, *Integration of different data collection techniques using the propensity score*. Presented at WAPOR (World Association for Public Opinion Research) 62nd Annual Conference 2009, Lausanne.

communications, albeit with minor differences. The situation is similar at five years after graduation.

Among the interviewees three years after graduation, on the other hand, there is a higher presence of graduates of health and pharmacy and law and a lower presence of graduates of economics, engineering and engineering trades as well as politics, social sciences and communications, but also humanities and literature and foreign languages.

Overall, there is no difference in participation between men and women, for all the populations studied here. In general, regardless of years since graduation, greater participation is seen in graduates residing in the South and Isles, while those who reside in the Center, in the North and foreign are less likely to participate. For foreign residents - regardless of the degree programme type - there is an objective difficulty in tracking them down (the response rate for these graduates is in any case 34.0% at one year out, 30.5% at three years and 24.2% at five years).

In interpreting the results presented here, please note that for the telephone survey, at one year after graduation, 7.4% of the failed contacts (rising to 11.6% among graduates at three years and 9.1% among those at five years) are due to incorrect phone numbers or the impossibility of contacting the graduate (for example, because abroad or temporarily absent).

3. Data sources

The information used come from the following sources:

- Administrative data: this information comes from the administrative archives of universities that are involved in the survey. The variables that have been taken into consideration are: gender, date of birth, information related to the degree programme attended, year of enrolment, duration of studies and graduation date and mark.
- Survey on Graduates' Employment Status: includes all information related to the employment status of graduates at one, three and five years from graduation. The statistic data collected one year from graduation are related only to first-

and second-level graduates (two-year and single-cycle master's graduates); those collected three years from graduation concern only those with second-level degrees; those collected five years from graduation concern those with second-level degrees and Primary Education Sciences degree programme.

4. Availability of data

The search engine has three options for consulting data: after having select the survey of interest on the basis of the survey year, the degree programme type and the number of years since graduation, you can select some subcohorts of the graduate population. In this way you can focus the analysis on a well-defined cohort. You can also compare several groups of graduates through an analysis based on a specific variable of comparison.

4.1 Available variables for selecting the survey

You can select the survey of interest on the basis of these variables: **survey year**, **degree programme level** (aggregation of the degree programme type: first-level and second-level), **degree programme type** (first-level degree programme, second-level degree programme, single-cycle second-level degree programme, Primary Education Sciences degree programme) and **years since graduation** (one, three and five).

4.2 Available variables for selecting the cohort

The variables available for selection are: **university**, **faculty/department/school**, **broad field of study**, **field of study**, **degree classification**, **degree programme** (Administrative data), **employment status at graduation**, **enrolment in a second-level degree programme** after first-level degree programme (from survey on Graduates' Employment Status). In order to facilitate the consultation of the data, all available variables are displayed, but some of them become active only after having made a particular

selection. For example the variable faculty/department/school can be displayed only after having selected a university.

Similarly, the degree classification is active only after having selected a degree programme type (except the Primary Education Sciences degree programme - pre-reform). It should also be noted that, next to the name of each degree classification in brackets, the Ministry of University and Research code is indicated according to the provisions of the Italian Ministerial Decree no. 270/2004 and, in the case of correspondence between the two systems, the code established by the previous Italian Ministerial Decree no. 509/1999. It is also specified that the choice of the degree course level determines the choice of the degree type variable. However, to activate the variables degree classification, degree programme and enrolment in a second-level degree programme, it is still essential to make a choice in the degree type.

Concerning the field of study and broad field of study (aggregation of the field of study), it has been used the degree classification adopted by the Italian Ministry of Education starting from 2020, based on ISCED-F 2013. The information has been used also for the previous surveys.

Finally, also the variable degree programme becomes active and can therefore be selected only after having made a further choice among degree programme type (except for Primary Education Sciences degree programme), universities and after having selected at least one variable among faculty/department/school, field of study and degree classification. This is determined by the fact that the variable uses the codes of the Off.F. databank containing information on the supply of study opportunities: each degree programme activated in a given university (or sometimes even in a given city) is associated with a unique code, which does not allow aggregations of different universities. In some cases a degree programme activated by a given university may change its identification code, although its name may remain the same. This may happen, for example, as a consequence of changes made to the fields of the degree programme or of a change of the degree programme grouping in which the course is included and so on. In such cases the same courses are treated separately, since the codes they have are different. In order to facilitate the identification of such particular cases, next to the name

of the course has been indicated the academic year up to which the course was still active (e.g. “up to the academic year...”) or the academic year in which the course was started (“from the academic year ...”). In other cases the location of studies was specified. It is also possible that a course has changed its name while not changing its Off.F. code. If the course includes one or more courses with significantly different names from the most recent one, next to that name course is given also the oldest one, preceded by “già”.

The variable employment status at graduation limits the analysis to the interviewees only, as the information is deduced from the questionnaire.

Similarly, the variable enrolment in a second-level degree programme, made active only after having selected the first-level graduates, limits the analysis to the interviewees only, as the information comes from the survey on employment status. In addition, it is only possible to select those who are “currently enrolled in a second-level degree programme” and “never enrolled in a second-level degree programme”; it is not possible to select those who are “currently enrolled in a first-level degree programme” or those who “were enrolled in a - first second level - degree programme but are not currently”.

4.3 Available comparison variables

The variables available for comparison are: **degree programme level** (aggregation of the degree programme type), **degree programme type**, **university**, **faculty/department/school**, **broad field of study**, **field of study**, **degree classification**, **degree programme**, **gender**, **employment status at graduation**, **enrolment in a second-level degree**, **full-time/part-time job**. The last variable with gender can be selected only as comparison variables and not as variables for selection. In particular, the variable enrolment in a second-level degree is available only for post-reform first-level graduates. Moreover, for post-reform graduates the variable degree programme identifies each degree programme activated in a given university (or even in a given city). Therefore you cannot compare different universities since every degree programme is associated with a unique code.

Similarly, starting from the 2013 survey, the variable of faculty/department/school is made available only after selecting a university. Therefore also in this case it is not possible to make a direct comparison between universities. This choice was added following the application of Law no. 240/2010, which involved a major reorganisation of university structures.

To conclude, a further comment on second-level degree and Primary Education Sciences degree programme holders should be made. It rarely happens that no graduates at all result from a comparison based on the years after graduation (see for example the nutrition and health sciences degree programme at the University of Chieti e Pescara, where there are only 25 two-year master's graduates in 2021, no graduates in 2019 and 2017). In this case all relevant elaborations have not been reported.

4.4 Variables available only for some cohorts

Some variables are available only for some degree programme type. It mainly regards:

- All the questions of the 2a section of the tables (“Attendance of a 2nd-level degree programme”) that are available only for first-level graduates.
- Participation in training activities like PhD and postgraduate courses are not available for first-level graduates (see § 6).
- “Employment and training opportunities” is available only for first-level graduates (see § 6).

In this document there is further information on most of the variables. These explanations regard both how the questionnaires were submitted and the answer methods. See the relative paragraphs for further information.

Furthermore, please see paragraph 6 for more details regarding the availability of data related to job characteristics.

5. Conventions and further notes

5.1 Missing data and no-answers

The administrative data are always complete.

As for the survey on Graduates' Employment Status, the only variable for which a remarkable share of "no-answers" is found (i.e. some people decided to take part in the survey but not to answer a specific question) is - as it could be expected - the "Average monthly net earnings".⁹ For all the other variables that have been analysed the no-answer rate is lower.

In order to facilitate the reading and the comprehension of the tables, all no-answers have been omitted. For this reason the sum of the percentages may in some cases be lower than 100.

A share of missing data is found for the comparison variables: employment status at graduation, enrolment in a second-level degree and full-time/part-time job. To facilitate the comprehension of the tables, this share has never been reported, although it is included in the relevant total, i.e. "selected cohort".

5.2 Rounded numbers

Percentages have been approximated to the first decimal place: because of this rounding the sum of the percentages is sometimes different from 100 (with the exception of "no-answers" - see § 5.1).

5.3 Conventional signs

The hyphen "-" is used in the tables when a phenomenon has been analysed but no cases of it have occurred. The percentage value 0.0 indicates that the phenomenon has been found and that some cases occurred, but with a percentage that is lower than 0.05.

⁹ The non-response rate is 5.9% for all first-level graduates one year out. For two-year master's degrees it is 4.1% after one year, 5.5% after three years and 6.4% after five years. For single-cycle master's degrees it is 4.8% after one year, 5.2% after three years and 6.7% five years out. For pre-reform course graduates in Primary Education Sciences it is 2.4% after five years.

The symbol “*” indicates that statistics have not been calculated, since they would have referred to a very small cohort (less than 5 units - see § 5.4). When in a data report statistics are not calculated only for one column, another column is also obscured (the one with the minimum number of graduates) in order to avoid the risk of identification of respondents. Similarly, and for the same reasons, this also occurs for the indicators relating to the employment rate and the net monthly salary by gender: if in a given group the number of male or female graduates is less than 5 units, statistics by gender are obscured and they are maintained only those relating to the total of the group analysed.

5.4 Useful information for a correct interpretation of the results

As already stated before, the tables give a detailed report of all cohorts having at least 5 graduates. Therefore, if the relevant group is below 5 units only the number of graduates (see for example the five-year data for two-year master's degree graduates of the University of Catania's computer science and publishing systems degree classification), the number of interviewees and the response rate (on total graduates and on contactable graduates) concerning the survey on the employment status have been reported. All the remaining statistics have been left out and percentages have been replaced by the “*” symbol.

While analysing the results, it is important to consider the number of people in each cohort: if the number of graduates to be analysed is low, then you should interpret the results with all due attention.

Moreover, you should also consider with all due attention some cohorts of graduates that have particular educational and training backgrounds. There are some degree programmes that stand out from the others because of their importance and unique nature. In these courses (in particular single-cycle second-level ones) a huge number of graduates take part in postgraduate training activities and, as a consequence, they inevitably delay their entry into the labour market. The most common examples are the Medicine and Law faculties. However, it is also important to take into consideration other variables, like the employment status at graduation, or, - as for first-

level graduates - the choice to combine study and work or, more specifically, a full-time/part-time job. These elements significantly influence other factors like employment opportunities and the characteristics of the job held. As for the first variable, it should not be forgotten that those who worked at the time of graduation generally experience easier access to the labour market since they already have the necessary experience for getting a job, even with better conditions. Obviously, those who stay in the job they held before graduation (and, in particular, five years after graduation) have even better conditions for type of work activity and employment earnings. Also the second factor that has been highlighted (i.e. the choice of first-level graduates to combine study and work) has a great influence on the characteristics of the job that has been held, which is generally a temporary or a part-time job and whose wages are low. Similarly, the employment characteristics of those who have a full-time job are obviously different from those of people who work on a part-time basis, in particular when it comes to type of work activity and wages. These variables can be taken into consideration as comparison variables in the tables, so that immediate comparisons can be made between different cohorts. All these variables, except for full-time/part-time job, can be used, as well, as a selection variable.

5.5 Comments on Faculty/Department/School

If a university or a faculty has its courses in different campuses, the presentation of data in the tables reflects this subdivision so that the results about the employment status of graduates can be distinguished for each campus. This subdivision is even more detailed when within a single university there are faculties whose courses are officially distributed among different campuses.

5.6 Meaning of the word "degree" in the available elaborations

In order to facilitate the consultation of the tables, the AlmaLaurea Consortium decided to use the term "degree" without any other more specific information related to the degree programme type analysed (first-level, second-level etc). The only exceptions are the elaborations that are available for only one degree programme type. In this case the degree programme type is specified so that the analysed cohort can be better identified.

Please note that first-level graduates who have continued their university studies by enrolling in a second-level degree programme also include those who registered for a second-level programme at one of the Institutions of Higher Artistic, Musical and Dance Education. Similarly, enrolment in a first-level course also includes enrolment in a first-level course at one of the Institutions of Higher Artistic and Musical Education.

6. Definitions and indices

Postgraduate training

For obvious reasons related to the training courses that can be attended after the achievement of the first-level degree, in the elaborations related to first-level degree holders are not included activities like "PhD" and "second-level master's degree".¹⁰ As a consequence, it should be taken into account that the variable "has taken part in at least one training activity" is calculated in a different way for first-level graduates. Since the 2019 survey the educational activities do not include those who carry out an activity supported by a research grant, who instead are counted among the "employed".

¹⁰ There are actually some graduates who have achieved a second-level degree programme already at one year after graduation. Therefore, they could enroll in a PhD degree programme or in a second-level Master's degree programme. However, the very low number of them (about 200 graduates overall) is the reason the Consortium decided not to analyse these training activities.

Employment status and employment rate

In the data there are two different indicators to measure percentage of those who work according to two different definitions. The first is a “most restrictive” definition. According to this definition, the interviewees who stated that they were carrying out a paid work activity are considered to be employed. According to this definition, graduates in training (traineeships, apprenticeships, PhD and schools of postgraduate studies) are considered unemployed.¹¹ It can be deduced from this definition that having an income is a necessary but not sufficient condition to define a graduate as employed. As of the 2019 survey, those who are paid by a research grant are also considered to be employed.

The second is a “less restrictive” definition. According to this definition, those who stated that they were carrying out a paid activity are considered to be in employment. All those in training are included in this category provided that they are paid.¹²

Depending on the degree programme type and the programme completed, the shift from one definition to the other also leads to significant differences in employment statistics. The adoption of the less restrictive definition particularly rewards the field of study where internships, traineeships, doctorates and specialisations are widespread, which otherwise are penalised by the adoption of the more restrictive definition.

The 2021 questionnaire has seen a significant change to its flow, aligning its content, in actual fact, to the ISTAT’s one related to the professional integration of graduates. In particular, the employed have been identified by adopting the less restrictive definition and the questions on the job characteristics are identified on this broader set. To allow comparability with previous surveys, again for this year,

¹¹ It is substantially the same definition used by the ISTAT Survey carried out in 2011 on the employment status of graduates, *Indagine sull’Inserimento professionale dei laureati*. It should be underlined that in the ISTAT Survey the academic master falls under degree courses, while in AlmaLaurea Survey it falls under post-graduate training activities.

¹² This definition takes up the one used by ISTAT in the Labor Force Survey, with the exception of the PhD which, although paid, is not considered as a working activity in the ISTAT definition of “employed”. For further information, see ISTAT, *La rilevazione sulle forze di lavoro: contenuti, metodologie, organizzazione*, Metodi e norme no. 32, Rome, 2006.

the indicators relating to the characteristics of the work performed have been recalculated with reference to the employed persons identified according to the most restrictive definition. For some of the employed it was not possible to collect some information relating to the characteristics of the work performed: these refer to those who carry out both a job and a paid training activity and have chosen to report the answers on the characteristics of the latter work performed.¹³ Specifically, this concerns the indicators for the sections "Current job characteristics", "Company characteristics", "Salary", "Need for and use of a degree in the current job" and "Degree effectiveness and satisfaction with the current job" (with the exception of "employed graduates looking for a job").

For the 2022 survey, it is possible to consult the data separately for the two definitions of "employed". Following the selection of interest, the data sheet displayed refers to the less restrictive definition of "employed", i.e. it considers employed all those who stated that they were carrying out a paid activity, including training, provided that it is paid; in this case all the indicators, including the characteristics of the work performed, include all the employed identified according to the less restrictive definition. With a specific link within the data sheet, it is possible to view the sheet corresponding to the same selection made but referring to the most restrictive definition of "employed", i.e. which excludes those engaged in paid training activities. Obviously, the indicators contained in the sections "Survey population", "Post-degree studies" and, for first-level graduates, "Attendance of a 2nd-level degree programme" are unchanged.

¹³ Given the different extension level of training activities between the various types of programmes and distinctly for years after graduation (one, three and five years), the share of employees for whom such information are not available is 1.2% among first-level graduates, one year after graduation, 2.6% for two-year master's degrees, one year after graduation, 1.4% at three years and 0.7% among those at five years after graduation; regarding the single-cycle master's degrees, at one year from graduation, the value is 9.2%, while we reach 8.4% at three years and 4.7% at five years after graduation.

Employment and further training conditions of first-level graduates

The employment and further training condition of first-level graduates, in the data sheet referring to the most restrictive definition, has been presented through two different elaborations: in addition to the traditional elaboration having three variables (“they are working”, “they don’t work and don’t look for a job” and “they don’t work, but look for a job”), which is useful to make comparisons with other kinds of analysed degree, another subdivision into five variables has also been included (“they work and they’re not attending a 2nd-level degree programme”, “they work and they’re attending a 2nd-level degree programme”, “they don’t work and they’re attending a 2nd-level degree programme”, “they don’t work, they’re not attending a 2nd-level degree programme and they’re not looking for a job” and “they don’t work, they’re not attending a 2nd-level degree programme but they’re looking for a job”). In this way prominence is given to the employment and training experiences of graduates after the completion of studies.

The share of employed students is obtained from the sum of those who “they work and they’re not attending a 2nd-level degree programme” and those who “they work and they’re attending a 2nd-level degree programme”. Likewise, the total number of those who enrolled in a second-level degree programme has been obtained by summing the number of those who “they work and they’re attending a 2nd-level degree programme” and the number of those “they don’t work and they’re attending a 2nd-level degree programme”.

In the data sheet referring to the less restrictive definition of “employed”, the employment and further training conditions is presented only with the five-modality elaboration. In this type of data sheet, the information relating to those who “not working and not looking for a job” and those who “not working but looking for a job” is shown in the “Job search” indicator.

Unemployment rate

The unemployment rate is the ratio between the number of those seeking employment and the labour force. Job-seekers, i.e. the unemployed, are all those who are not employed and who state that

they are looking for a job, that have performed an “active” job-seeking action in the 30 days prior to the interview and are immediately prepared (within two weeks’ time) to start a job, if offered. To these should be added those who stated that they have already found a job, which they will nevertheless start in the future, but who declared that they are prepared to accept a job within two weeks, should this be offered. By doing this, they would therefore move up the beginning of the working activity to an earlier date.

The labour force results from the sum of job-seekers and those holding jobs.

Employment status at graduation

The index on the employment status at graduation is available for all degree programme type observed. This is made possible by the distinction made between those who continue in the job undertaken before graduation, those who do not continue in the job undertaken before graduation and those who have started to work later.

Effectiveness of the degree within the current job

The effectiveness of the degree, which synthesises two important aspects related to the request and exploitability of the degree on the labour market, derives from the combination of questions concerning the use of the skills acquired at university and the necessity (both formal and substantial) of the academic qualification for the job activity. According to the interpretation offered in the scheme below (Table 2), five levels of effectiveness can be distinguished:

- “Very effective”, for those holding jobs where the degree is required by law or necessary for its execution, and where skills acquired at university are used extensively.
- “Effective”, for those holding jobs where the degree is not required by law but is however useful and where the acquired skills are widely used, or where the qualification is required by law and the skills are used to a lesser extent.
- “Fairly effective”, for those in jobs where the degree is not required by law but is necessary or useful and where the skills acquired at university are used only to some extent.

- “Not very effective”, for those in jobs where the degree is neither required by law nor useful to any extent whatsoever and where the skills acquired are used to a lesser extent, or where the qualification is not required by the law but is useful and the acquired skills are not used at all.
- “Ineffective”, for those holding jobs where the degree is neither required by law nor useful in any way and where the acquired skills are not used at all.

Table 2 Definition of the effectiveness of graduation

Use of the skills acquired at university	Request of the degree				No answers given
	Required by law	Necessary	Useful	Not required by law	
High	VE	VE	E	UC	UC
Low	E	FE	FE	NE	UC
None	UC	UC	NE	IE	UC
No answers given	UC	UC	UC	UC	UC

VE	Very effective	E	Effective	FE	Fairly effective
NE	Not very effective	IE	Ineffective	UC	Unclassifiable

This classification excludes no-answers and also some “anomalous” characteristics that cannot be included in one of the above mentioned categories. The item “unclassifiable” is below 2.0% of the employed graduates for all the surveys (one, three, five years after graduation), without any particular differences among the various degree programmes.

In the case of a data sheet referring to the most restrictive definition of “employed”, the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of “employed”.

7. Comments on some variables and relative aggregation

Response rate

As mentioned above, a proportion of graduates involved in the survey is not been contacted, because of it did not agree to be contacted again for statistical survey purposes. Obviously, the share of these graduates affects the response rates. Starting from 2020 survey, therefore, the tables report both the response rate calculated on the whole of graduates and the response rate calculated on the only graduates that it was possible to contact. The “response rate on total graduates” is calculated on the whole graduates, including those who do not agree to be contacted again for statistical survey purposes. The “response rate on contactable graduates”, instead, is calculated on graduates who agree to be contacted again for statistical survey purposes.

Age at graduation

The age at graduation is calculated on the basis of the difference between the graduation date and the date of birth.

Graduation Mark

In order to calculate the average graduation mark, it has been established that the mark 110/110 with honours corresponds to 113/110. For this reason there are some cases where the average graduation mark is higher than 110.

Duration of studies

Starting with the 2019 graduates, the duration of studies is the length of time elapsed between 1st October of the year of enrolment (not anymore 5th November as for the previous surveys) and the date of graduation. For second-level degree courses, we consider the period between the 1st October of the same year of enrolment in the final two-year period (not anymore 5th November as for the previous

surveys) and the graduation date. Given the different calculation method, the duration of studies observed starting with the year 2019 graduates is not comparable with that observed in previous cohorts.

Please note that for the particular case of the single-cycle second-level degree in Dentistry and orthodontics, when analysing the graduates of courses D.M. no. 509/1999 and D.M. no. 270/2004 at the same time the different durations of the courses (5 years for the first one and 6 years for the second one) must be considered.

Graduation delay index

The delay index is the ratio between the graduation delay and the prescribed duration of the programme. 'Graduation delay' is defined as the 'irregular' part (outside the prescribed duration) of university studies (second-level degrees, the 'irregular' part of the final two years). Starting with the 2019 graduates, it is therefore equal to the difference between the duration of studies (total time spent to earn the degree) and the prescribed duration of studies (unlike what happens for the previous cohorts, takes into account the number of months and days between the end of the academic year - 30 April - and the graduation date). Furthermore, starting with the 2019 graduates, the graduation delay can assume negative values both in the case of careers concluded before the prescribed duration of studies (therefore in academic years preceding that of the natural achievement of the degree based on the prescribed duration of studies) and in the case in which the student graduated in the first academic year available to conclude studies (based on the prescribed duration of studies), but before the date of the 1st October. The prescribed duration is conventionally equal to 3 years for first-level degree programmes, 2 years for second-level degree programmes, 5 or 6 years for single-cycle second-level degree programmes, except for the rare cases of extension/abbreviation of programmes established by the universities.

Given the different calculation method, the delay index observed starting with the 2019 graduates is not comparable with that observed in previous cohorts.

Enrolment in another degree programme after first-level degree

It should be considered that:

- "Enrolled in a 2nd-level degree programme" includes those graduates who enrolled in a two-year master's or single-cycle programme, or a second-level programme at a fine arts, music and dancing school;
- "Enrolled in a 1st-level degree programme" includes those graduates who enrolled in a first-level degree programme, or a first-level programme at a fine arts, music and dancing school.

Reasons for not enrolling in another degree programme

It should be considered that:

- "Working reasons" includes the answers given by graduates who work/had already been working at the time of graduation or who have subsequently found a job which led to their decision to not register for the second-level degree or who decided to immediately enter the labour market.
- "Other reasons" includes the following options: "the degree programme applied selective entry and the student was not admitted", "the student had problems with the attribution of educational credits", "other reasons".

Reasons for enrolling in a second-level degree programme

The information refers to all the students who enrolled in a second-level degree programme or in the Primary Education Sciences degree programme after having earned a first-level degree. It does not take into account the fact that the students may or may not still be enrolled one year after completion of the degree.

Time-to-entry into the labour market

The time-to-entry into the labour market is calculated just for the graduates who have started the work activity that they currently hold after earning their degree. Therefore, all the graduates who continue in the job held before completion of their studies have been

excluded. The time elapsed between graduation and the beginning of the search for employment and also the time elapsed between the beginning of the search for employment and the finding of the first job were calculated by excluding those stating that they haven't ever sought a job.

Current profession

The questionnaire at five years after graduation collect the information relating the current profession by adopting ISTAT's Nomenclature and Classification of Professional Units (CP2011). The one and three-year questionnaires, on the other hand, collect the information relating the current profession with fewer responses, gotten by grouping the professions starting from CP2011.

The elaboration was carried out excluding the non-response to the question concerning the current profession, which is equal to 0.5% among graduates one year out, 0.3% after three years and 2.0% among graduates after five years. It should be borne in mind that the "Other professions" response includes qualified professions in commercial activities and services, artisan, skilled workers and farmers, plant operators, fixed and mobile machinery workers and vehicle drivers, as well as non-qualified professions and armed forces.

In the case of a data sheet referring to the most restrictive definition of "employed", the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of "employed".

The "Other" modality is reported in the data sheet referring to the less restrictive definition of "employed", which includes those who stated that they were performing a paid training activity between internship, PhD, postgraduate school, first or second level academic master, other type of academic master, internship in a company, vocational training course or activity financed by a scholarship.

Type of work activity

It should be noted that:

- “Self-employment” includes other self-employment activities like freelance professionals, entrepreneurs, individual company owners, shopkeepers, but also joint partnership contracts.
- “Permanent contract” includes also a type of contract “a tutele crescenti” introduced by Italy's Jobs Act and available from 7 March 2015. Despite the fact that the regulatory measures (Italian Law no. 183/2014 and the relative stability laws and legislative decrees) have changed the characteristics of permanent employment - making it easier to terminate employment relationships - it was decided to merge the two items for reasons of comparability with previous surveys.
- “Scholarship or study or research grant”, in the data sheet referred to the most restrictive definition of “employed”, includes activities financed by grants, research allowance; also includes PhD, as long as it is paid.
- “Training contract” includes apprenticeship, training contracts, contracts made available under a special 'on-the-job training plan', and, in the data sheet referred to the less restrictive definition of “employed”, also internship, postgraduate school, first or second level academic master, other type of academic master, internship in a company or vocational training course, as long as it is paid.
- “Other type of contract” includes occasional collaboration contracts, service contracts (in particular professional consulting), occasional work contracts (occasional work, with job vouchers), temporary work contracts, 'socially useful' and 'public usefulness' contracts, on-call contracts, coordinated collaboration contracts or collaborations organised by the employer.

In the case of a data sheet referring to the most restrictive definition of “employed”, the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of “employed”.

Smart working diffusion

Smart working, which in Italian legislation is called "agile work", was established with Law no. 81/2017. The data process includes, in a broad sense, all activities as employer or autonomous activities performed remotely.

In the case of a data sheet referring to the most restrictive definition of "employed", the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of "employed".

Weekly work hours

The question asks the hours worked habitually in a week, including any paid or unpaid overtime. It suggests brackets of 5 hours, with the exception of the first hourly bracket "less than 5 hours" and the last one "60 hours or more". The average has been calculated by excluding no-answers and by using the central value of the hourly bracket (except the first one, i.e. 3, and the last one, i.e. 63).

In the case of a data sheet referring to the most restrictive definition of "employed", the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of "employed".

Economic and business sector of activity

The 21 branches of activity have been aggregated on analogous sectors and the percentage of answers for each option.

It should be emphasised that:

- The item "building industry" also includes the "construction, planning, installation and maintenance of buildings and plants".
- The item "chemistry/energy" also includes "petrochemistry, gas, water and mining".
- "Manufacturing industry" also includes the following items: "press and publishing", "electronics and electrotechnics", "manufacturing" (i.e. food production, tobacco, textile, clothing, leather, footwear, wood, furniture, paper, gum and plastic).

- “Commerce” also includes “hotels and other public commercial concerns, i.e. chemist's shops”.
- “Transport, advertising and communications” includes the following items: “postal service, transport, travel” and “advertising, communications and telecommunications”.
- “Consulting” also includes the following items: “legal advice, administrative advice, accountancy” and “other professional and guidance activities”.
- “Education and research” includes schools, universities, training institutes, research institutes both public and private.
- “Other services” includes the items “cultural and recreational services and sports” and “other social and personal services”.

In the case of a data sheet referring to the most restrictive definition of “employed”, the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of “employed”.

Net monthly earnings

As for the question on net monthly earnings, there are several earning brackets in Euros: “up to €250”, “251-500”, “501-750”, “751-1,000”, “1,001-1,250”, “1,251-1,500”, “1,501-1,750”, “1,751-2,000”, “2,001-2,250”, “2,251-2,500”, “2,501-2,750”, “2,751-3,000”, “3,001-3,250”, “3,251-3,500”, “3,501-3,750”, “3,751-4,000”, “oltre €4,000”. Self-employed workers must reset their earnings to the single month of service. The average has been calculated by excluding no-answers and by using the central value of the earning bracket (except the first one, i.e. 200, and the last one, i.e. 4,250).

In the case of a data sheet referring to the most restrictive definition of “employed”, the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of “employed”.

Kind of improvement observed in the job

This data processing regards only those graduates who continue in the job held before graduation. The percentages related to the various aspects in which graduates have observed any kind of

improvement refer obviously only to the share of employed graduates who have experienced a job enhancement.

In the case of a data sheet referring to the most restrictive definition of “employed”, the information is available only for those graduates who have chosen to report the answers on the work performed, following the most restrictive definition of “employed”.