

STRUCTURE OF EARNINGS IN ITALY | YEAR 2022

Earnings differences by gender, generation, educational attainment and type of contract

In 2022, average hourly earnings in economic units with 10 or more employees are 15.9 euro for women (0.5 euro below the overall average) and 16.8 euro for men (0.4 euro above).

The Gender pay gap is more pronounced for employees with at least a tertiary education (16.6%, around three times the average) and for managers (30.8%).

Young people under 30 earn 36.4% less than those over 50 (38.5% for men, 33.3% for women), and workers on fixed-term contracts earn 24.6% less than those on indefinite duration contracts.

Higher average earnings characterise the Financial and insurance activities (25.9 euro per hour), while the lowest are to be found in the Accommodation and food services activities (10.9 euro).

Among employees, the lowest-earning 10% earn a maximum of 8.8 euro per hour, while the highest-earning 10% receive more than 26.6 euro per hour.

16.4euro

Average hourly earnings

12 euro for part-timers and 17.3 euro for full-timers.

37,302euro

Average annual earnings

5.6%

Gender Pay Gap

15.9% in the private economic and financial control sector, 5.2% in the public economic and financial control sector.

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The data comes from the Structure of Earnings Survey (RCL-SES) for the year 2022. As required by EU regulations, the survey covers employees in economic units (enterprises and public institutions) with 10 or more employees, who received remuneration for the whole month of October 2022.

Average annual earnings higher in Industry (except construction)

In 2022, gross annual earnings per employee, reconciled on a full-year and full-time basisⁱ, average 37,302 euro.

Women earn 6,000 euro less than men (33,807 euro against 39,982 euro).

The highest annual earnings, at 38,760 euro are found in Industry (except construction) and the lowest, at 32,202 euro, in the Construction.

Average gross annual earnings are 39,670 euro in units on public control (i.e. predominantly under public economic and financial control) and 36,034 euro in units on private control (predominantly under private economic and financial control).

Also with regard to the mean hourly earnings (referring to Octoberⁱⁱ) of 16.4 euro, women are remunerated about one euro less than men (15.9 and 16.8 euro respectively).

The Gender Pay Gap (GPG), calculated as the percentage difference between men's and women's mean hourly earnings compared to men's hourly earningsⁱⁱⁱ, is 5.6% in 2022. The GPG reaches its peaks in Services of the business economy (14.1%) and Industry except construction (13.2%).

The highest hourly earnings (19.6 euro overall, 18.6 for women and 21.2 for men) are recorded in the macro-sector of Other Services (sections O to S). These values are due to the presence of the Education section, which employs about one third of the macro-sector's employees and to the fact that the number of (nominal) hours attributed to teachers by contract is particularly low^{iv}. On the other hand, Construction, is the section with the lowest hourly earnings (13.7 euro) for both women and men (13.1 euro and 13.8 euro respectively).

Lastly, the hourly earnings are 20.4 euro in public control units and 14.4 euro in those on private control.



EARNINGS AND GENDER PAY GAP

Year 2022, values in euro and percentage values

ECONOMIC ACTIVITIES	Mean annual earnings (€)			Mean hourly earnings (€)*			GPG (%)
	Female	Males	Total	Female	Males	Total	
Industry except construction (B-E)	34,117	40,370	38,760	13.8	16.0	15.4	13.2
Construction (F)	31,866	32,247	32,202	13.1	13.8	13.7	5.1
Services of the business economy (G-N)	33,375	39,380	36,891	13.3	15.5	14.6	14.1
Other Services (O-S)	34,085	42,532	37,356	18.6	21.2	19.6	12.2
Total (B-S)	33,807	39,982	37,302	15.9	16.8	16.4	5.6

*Referring to October 2022.

Earnings gaps by educational attainment more pronounced for men

Average annual earnings rise as the worker's educational attainment increases, in all sectors of economic activity and for both men and women (Figure 1).

Employees with upper secondary education earn 18.5% more than those with lower secondary education or less. The gap rises to 58.8% for those with a tertiary education (university degree or higher).

The highest average annual earnings are found among employees with at least a university degree in Industry except construction (56,404 euro), while the lowest earnings are found among employees with at most a lower secondary school in Services of the business economy (27,067 euro).

In the Service macro-sector, the most pronounced earnings gaps by educational attainment are observed in Services of the business economy: employees with a high school diploma earn 25.3% more than those with no more than lower secondary education and the gap rises to 87.9% for those with a university degree; on the other hand, the Other Services section is the one with the narrowest gaps, as the differences fall to 11.8% (for high school graduates) and 39.6% (for those with a university degree) respectively.

Considering gender, women with lower secondary education or less have the lowest average annual earnings (26,003 euro), while men with tertiary education have the highest (56,104 euro). At the same level of education, men always have higher average annual earnings than women, with the gap widening as the level of education increases: it stands at 19.9% for those with at most lower secondary education, rising to 20.5% for those with upper secondary education and reaching 39.9% for those with tertiary education.

The profitability of education in terms of earnings differs for men and women, especially for those with tertiary education. While the earnings of women with a high school diploma are 20.2% higher than those of women with at most lower secondary education (a gap very similar to that of men at 20.7%), the difference for women with a tertiary education is 54.2%, a much smaller gap than for men (79.9%).

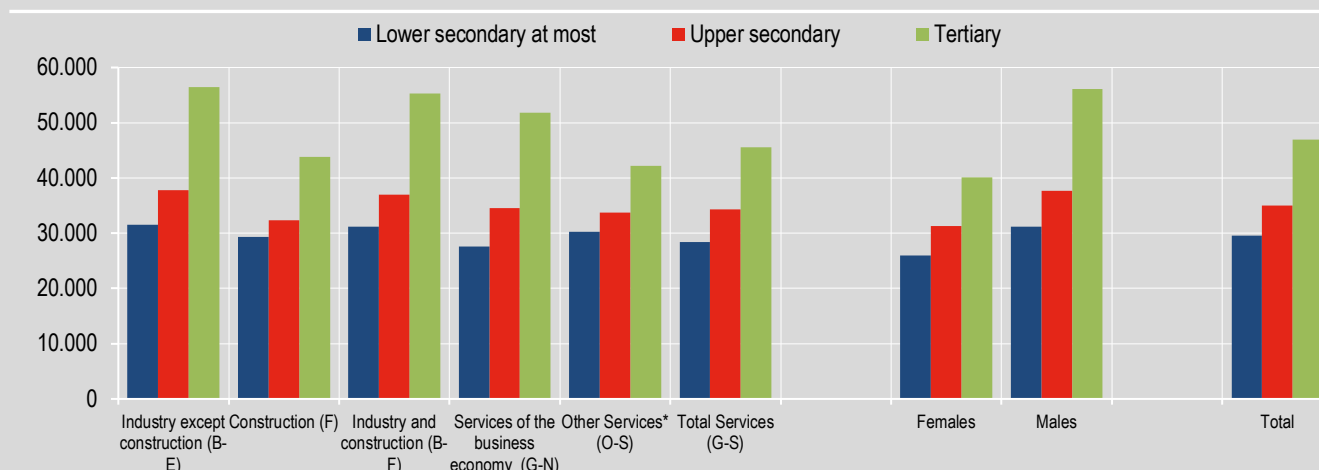
Annual earnings grow as the age of the employee increases, again to a greater extent for men. Compared to the earninging of younger employees (aged 14 to 29), those of the over-50s are 65.5% higher for men, a difference that stops at 38.6% for women.

The annual earnings of employees with a fixed-term contract are on average 31.8% lower than those of employees with an open-ended contract (26,392 and 38,692 euro respectively).

Taking gender into account, the pay gap between men and women widens at the transition from a fixed-term contract - more common among women - to an open-ended contract: in the former case, women's annual earnings are 6.3% lower than men's, a difference that rises to 15.6% in the case of an open-ended contract.

FIGURE 1. MEAN ANNUAL EARNINGS BY EDUCATIONAL ATTAINMENT, SEX AND ECONOMIC ACTIVITY

Year 2022, values in euro



Fewer paid hours in the year for women

In Italy, the mean number of paid hours per employee in 2022, which includes both regular and overtime hours, is 1,693. This figure rises to 1,732 in the North-east, 1,723 in the North-west, and 1,713 in the Centre, while it drops to 1,595 in the South and 1,581 in the Islands.

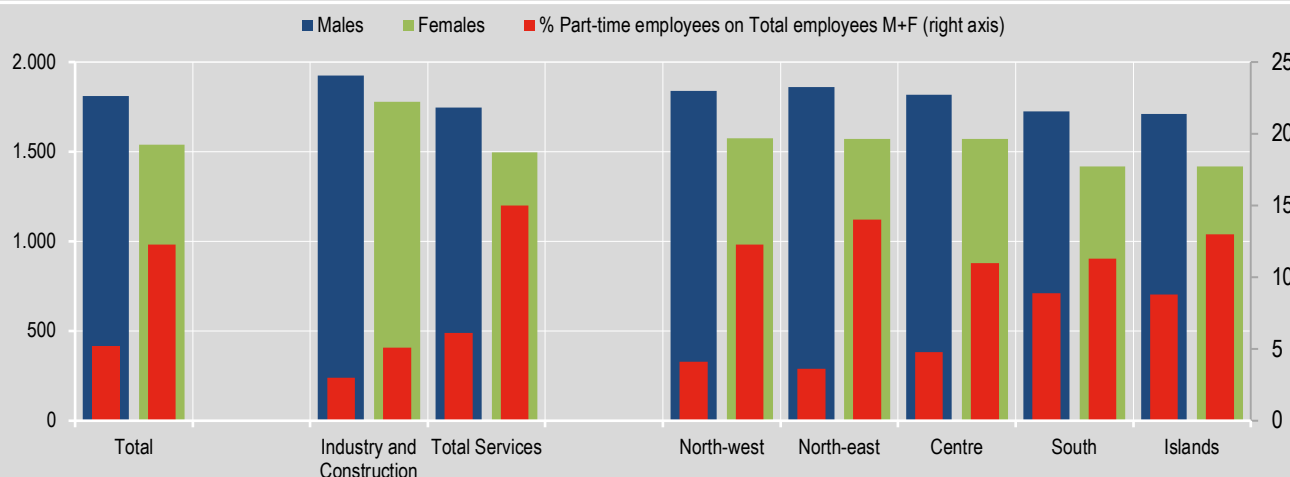
The number of paid hours for women is 15.1% lower than for men: on average, women work 1,539 hours compared with 1,812 hours for men. This is partly due to the higher prevalence of part-time contracts among women. In enterprises with 10 or more employees, the percentage of women part-timers, as a proportion of the total female workforce, is more than twice that of men (12.3% versus 5.2%) (Figure 2).

In the North, the average number of paid hours is also high for women, despite a considerable presence of part-time contracts among female employees (12.3% in the North-west, 14% in the North-east). The gender gap in paid hours is lower than the national average in the North-west and the Centre, while it is higher in the South and the Islands.

In the Services macro-sector, the mean paid hours (1,620) are about 300 less than in Industry (1,891), and the part-time component among women is much higher (15% versus 6.1% among men), contributing to the gender gap in average paid hours (14.2% in Services). Within the Industry, subsections Manufacture of textiles and wearing apparel, as well as the Manufacture of leather and related products, show the lowest average paid hours (1,802 hours), while the Manufacture of motor vehicles, trailers and semi-trailers, and other transport equipment subsections have the highest (1,971 hours). Within Services, Accommodation and food services activities section (1,374 hours) has about 450 hours less than the Information and communication services section (1,825 hours). Finally, the Education section has a low number of hours (1,266) and a strong female predominance, in contrast to the high value observed in the Public administration, Defence, and Compulsory social security section (1,822 hours), which has a predominantly male workforce.

Paid hours increase with age: compared to older workers (50 years and over), younger workers (aged 14 to 29) have 10.6% fewer paid hours (12.3% fewer for men, 10.7% fewer for women). The generation gap varies across macroeconomic sectors between 7.1% and 15.1% for women and between 9.7% and 15.6% for men. There are also significant differences at territorial level: the average number of paid hours is lower for employees under 30 than for those over 50, with the difference ranging from 7.7% (in the North-east) to 18.3% (in the Islands) for women and from 9.8% (in the North-east) to 17.8% (in the South) for men.

FIGURE 2. ANNUAL AVERAGE HOURS AND PERCENTAGE OF PART-TIME WORKERS BY SEX, ECONOMIC ACTIVITY, GEOGRAPHICAL AREA. Year 2022, absolute values in annual average and percentage values



Large differences in hourly earnings by age and education level.

The gross hourly earnings, at an average of 16.4 euro, show marked differences between generations and by educational attainment. For young people under 30, the mean hourly earnings (11.9 euro) are 36.4% lower than for employees over 50 (18.7 euro) and 24.7% lower than for those aged 30 to 49 (15.8 euro).

Less educated employees (with at most a lower secondary education) have a mean hourly earnings of 12.4 euro, which is 17.3% lower than that of employees with upper secondary education (15 euro) and 43.6% lower than that of employees with tertiary education (22 euro).

Employees on fixed-term contracts earn 24.6% less than those on indefinite duration contracts (the hourly earnings are 12.9 and 17.1 euro, respectively), and those on short-time contracts have mean hourly earnings that are 30.6% lower than full-time employees.

Looking at differences by length of service in the enterprise, the highest hourly earnings are recorded after 30 years of service (21.6 euro per hour), corresponding to 1.6 times the hourly earnings of those with less than 5 years of service. The most significant increase occurs between 0-4 and 5-9 years of service (+17%) and between 5-9 and 10-14 years of service (+16.5%).

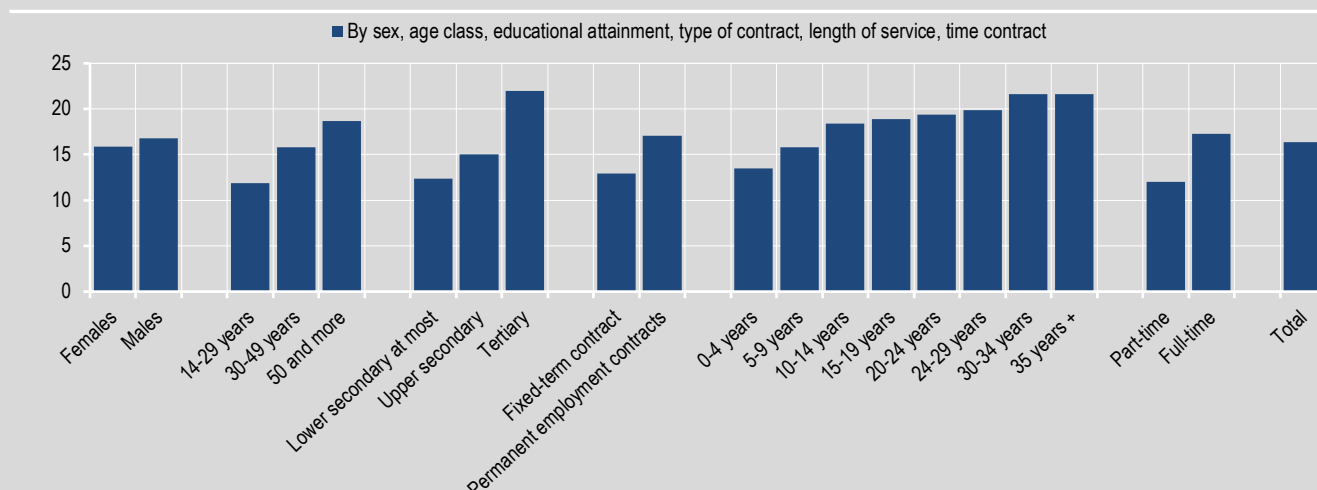
The lowest mean hourly earnings are in the South (15.7 euro), followed closely by the North-east (15.9 euro), while the highest earnings are in the Centre (17 euro).

Finally, the mean hourly earnings increase with the size of the enterprise: the smallest enterprises (with 10 to 49 employees) have the lowest mean hourly earnings (12.8 euro per hour), while the largest enterprises (with at least 1,000 employees) have the highest (19.2 euro per hour).



FIGURE 3. HOURLY EARNINGS IN OCTOBER BY SOME CHARACTERISTICS.

October 2022, values in euro



Women earn on average 5.6% less per hour than men.

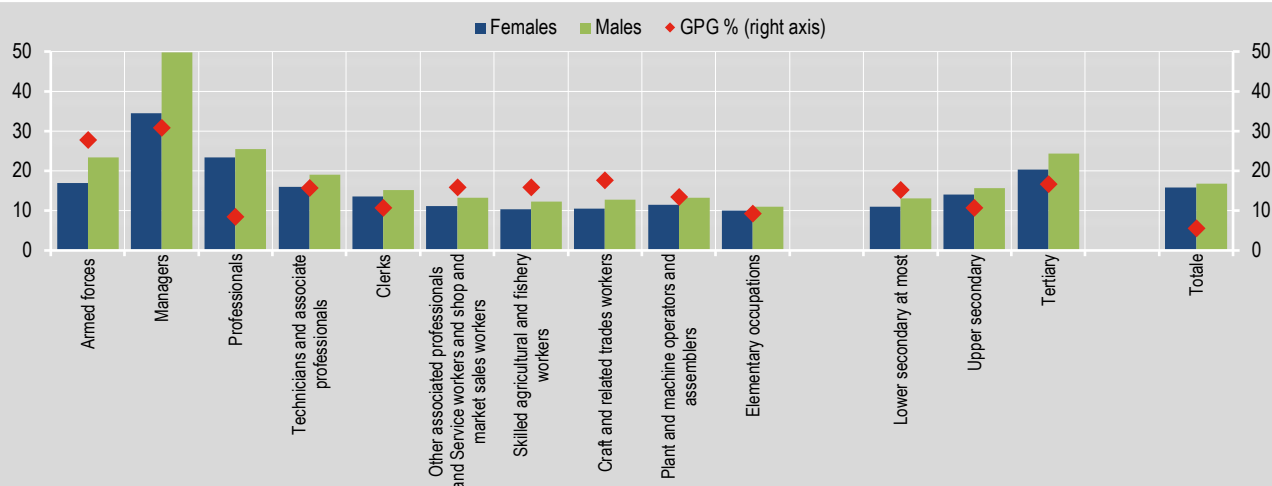
In Italy, the GPG, which refers to the difference in average hourly earnings between men and women, stands at 5.6% in 2022 (Figure 4): the mean hourly earnings are 16.8 euro for men and 15.9 euro for women. The gap tends to widen for those with tertiary education (16.6%), where the mean hourly earnings are 20.3 euro for women and 24.3 euro for men, but also for those with at most lower secondary education (15.2%), although at a much lower earnings level (11.1 euro for women and 13.1 euro for men). The lowest GPG (10.7%) is observed for those with upper secondary education, the most common qualification for both men and women, with hourly earnings of 14 euro for women and 15.7 euro for men.

The pay gap widens in occupations with a low female presence: among Managers, where hourly earnings are higher for both women (34.5 euro) and men (49.8 euro), it reaches a value of 30.8%. Then comes the group of Armed forces (27.7%), with hourly earnings of 16.9 euro and 23.4 euro respectively, and the group of Craft and related trades workers (17.6%), with hourly earnings of 10.6 euro for women and 12.8 euro for men.

Excluding Agricultural, forestry and fishery workers, under-represented in the survey, the lowest GPG is found in the Professionals (8.4%) and Elementary occupations (9.3%). The former group is characterised by the second-highest hourly earnings (23.4 euro for women and 25.5 euro for men), and a significant presence of female employee, the latter by particularly low hourly earnings (10 euro for women and 11 euro for men).

A combination of employee, economic unit and job characteristics (composition effect) influences the gender pay gap. One of the factors that strongly contributes to the GPG is the form of economic control of the unit (public or private). While the GPG is 15.9% in the units on private control, it drops to 5.2% in those on public control. In the latter, women are in the majority (55.6% of employees), have a high level of education and the highest hourly earnings: for graduates, the hourly earnings reach 23 euro, which is 6.9 euro higher than for female graduates in the private sector; among men, the difference decreases to 4.1 points, with hourly earnings of 26.6 euro in the public sector and 22.5 euro in the private sector.

FIGURE 4. HOURLY EARNINGS BY SEX AND GPG, BY OCCUPATION AND EDUCATIONAL ATTAINMENT.
October 2022, values in euro and percentage values



Financial and insurance activities characterised by high hourly earnings.

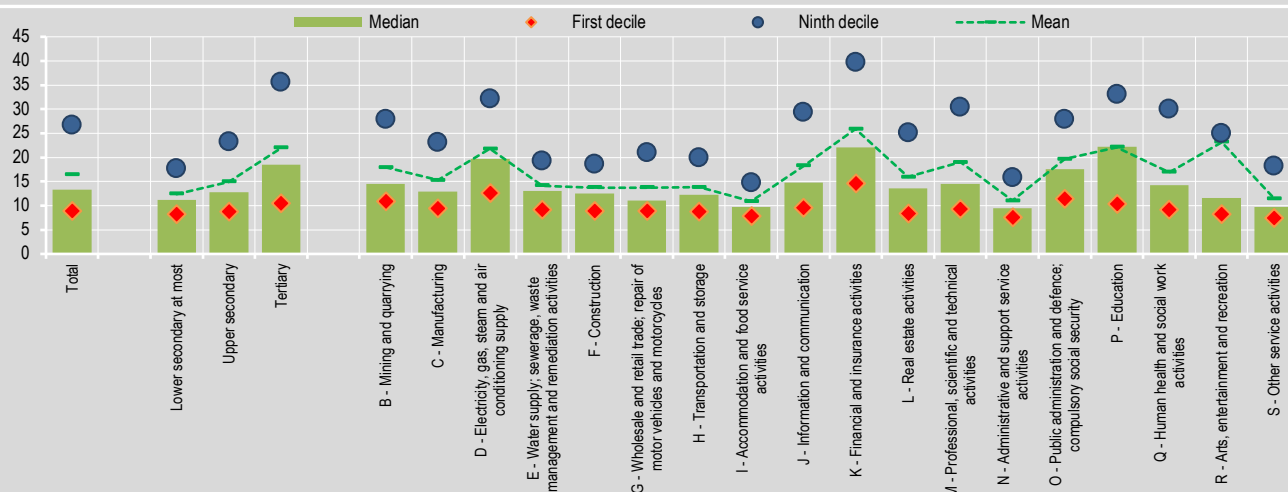
Hourly earnings show considerable variation and the median, at 13.4 euro per hour, is some 3 euro below the arithmetic mean. Among employees, the lowest 10% earn a maximum of 8.8 euro per hour (the value of the first decile), while the highest 10% earn more than 26.6 euro per hour (the value of the ninth decile). The ratio between these deciles shows considerable variability, with the ninth decile being more than three times higher than the first.

Particularly high earnings characterises the section of Financial and insurance activities, where the highest values are recorded for the ninth decile (39.6 euro), the mean (25.9 euro) and the first decile (14.6 euro), and the variability (2.7) is lower than the average.

High variability, associated with the presence of particularly high hourly earnings, characterises the sections of Education, Human health and social work activities, Professional, scientific and technical activities and Information and communication, where the value of the ninth decile is more than three times that of the first.

The variability of hourly earnings increases with the level of education: for employees with at most lower secondary education, the ratio between the ninth and the first decile is 2.2, rising to 2.7 for those with upper secondary education and reaching 3.4 for those with a university degree.

FIGURE 5. HOURLY EARNINGS, MEAN, MEDIAN FIRST AND NINTH DECILE BY SEX AND GPG, BY EDUCATIONAL ATTAINMENT AND ECONOMIC ACTIVITY. October 2022, values in euro



10.7% of employees are *low-wage earners*

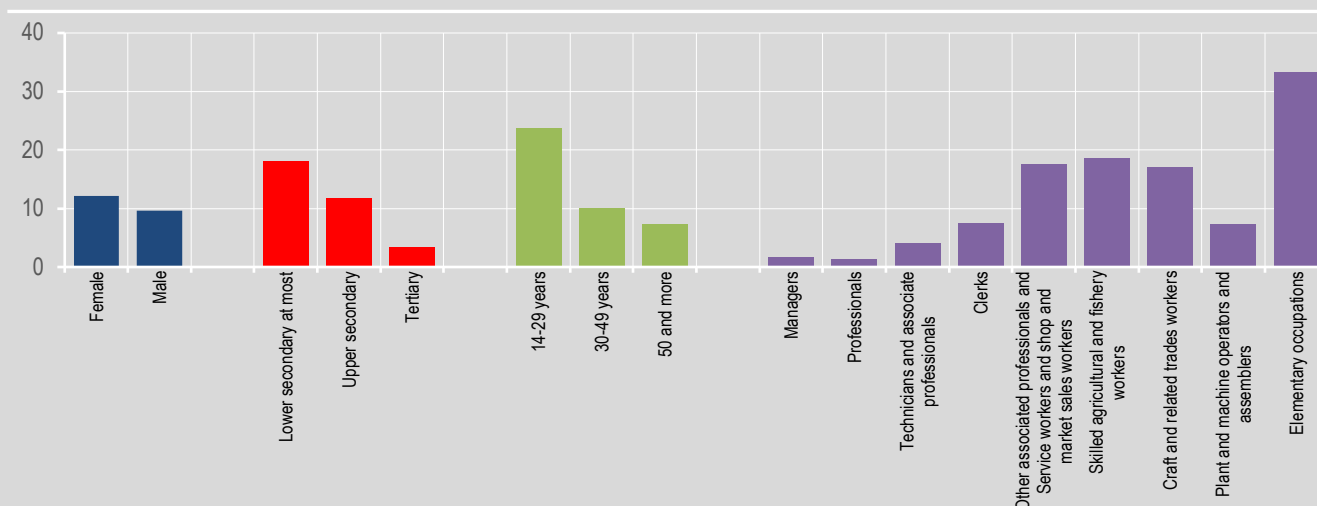
At European level, *low-wage earners* are defined as employees who earn two-thirds or less of national median gross hourly earnings. In 2022, this threshold will be 8.9 euro per hour in Italy.

The incidence of *low earners* is 10.7% and is higher among women (12.2% compared to 9.6% for men), young people (up to 29 years, 23.6%) and employees with at most lower secondary education (18%); it is also particularly high among those in unskilled occupations (33.3%) and those working in trade and services (17.5%).

The lowest proportions of low earners are found among Professionals (1.3%) and Managers (1.7%), those with a tertiary education (3.3%) and those aged over 50 (7.2%).



FIGURE 6. LOW-WAGE EARNERS, BY SEX EDUCATIONAL ATTAINMENT, AGE CLASS AND OCCUPATION.
Year 2022, percentage values



Glossary

Age: it is the age in completed years on 31 December 2022 (difference between the year of the survey and the year of birth). It is expressed in three classes (years 14-29, 30-49 and 50 and more).

Average annual earnings: it consists of the remuneration, in cash or in kind, received directly and regularly by the employee during the reference year, including tax and social security deductions; in line with what is done at EU level, for employees who did not work the full year and/or full-time due to fixed-term or part-time contracts, the remuneration is recalculated on the basis of the full-time equivalent (FTFY). The calculation, unless otherwise indicated, is based on the arithmetic mean.

Average hourly earnings for the reference month: these earnings refer to the month of October, which is conventionally used internationally as it is characterised by low seasonality (fewer absences or national holidays that reduce the number of days worked). They result from the ratio of the remuneration received by employees in October 2022 (excluding remuneration in kind and non-regular components, but including remuneration for overtime) to the hours paid by the employer (including ordinary or overtime hours worked, paid and unpaid hours for holidays, public holidays, and employer-paid sick leave). As the calculation is based on the arithmetic mean, it is also named "mean hourly earnings".

Contractual working time: it defines the employee's working time. It can be full-time or part-time. Full-time contracts establish the same working hours as the collective agreements or customary worked in the local unit under consideration, part-time contracts involves less time than full-time.

Economic activity: an activity that takes place when resources such as capital goods, labour, manufacturing techniques or intermediary products contribute to the production of goods or the provision of services. Thus, an economic activity is characterized by an input of resources, a production process and an output of products (goods or services). Within the European Union, the classification used of economic activities is the Statistical classification of economic activities in the European Community, abbreviated as NACE. The version used is NACE Rev.2.

Educational attainment: it is the level of successfully completed general, professional or higher education which the employee has received according to the International Standard Classification of Education, 2011 version. The level must be associated with obtaining a certificate or a diploma. It allows to classify the different educational and training areas enabling the international comparison. Here is summarized into three classes: Lower secondary at most (Less than primary, Primary and Lower secondary), Upper secondary (Upper secondary and Post-secondary non-tertiary), Tertiary (Short-cycle tertiary and above).

Employee: person linked to a business unit by a direct employment contract, on the basis of which they receive remuneration. The following are to be considered as employees: executives, managers, clerks, workers, apprentice, members (also of cooperatives) for whom social security contributions are paid as employees, home workers registered in the single book of work, seasonal workers, workers with insertion or with fixed-term contract. The number of employees also includes staff temporarily absent for various reasons such as vacations, leave, maternity leave, redundancy fund.

Gender Pay Gap (GPG): it is calculated as the percentage difference between the hourly earnings of men and women compared to men. The term refers to specific international standards. The hourly earnings used are defined in the Commission Implementing Regulation 1738/2005.

Hours paid: hours actually paid includes all normal and overtime hours worked and remunerated by the employer. Hours not worked but nevertheless paid (partially or totally) are counted as 'paid hours' (e.g. for annual leave, public holidays, paid sick leave, paid vocational training, paid special leave etc.). The hours paid in full by social security and assistance institutions (even if advanced by the employer) are excluded.

Length of service in enterprise: the seniority accrued since the date of entry into service in the economic unit in which the employee is currently employed, in completed years of service. It relates to the period since the employee joined the enterprise, which may have been in another local unit. It is grouped in eight seniority year classes (0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35 and more).

Low-wage earners: all the employees who earn two thirds or less of national median gross hourly earnings.

Macro sector: aggregation of sections of economic activity (NACE Rev.2 classification). They are: Industry except construction, sections B to E; Constructions, section F; Services of the business economy, sections G to N; Other Services, sections O to S; Industry, B to F; Services G to F.

Occupation: it is defined in Italy according the CP2021 classification, which takes into account both the previous classification (CP2011) and the International Standard Classification of Occupation (Isco-08). Occupations are organized into nine major groups based on the different level of competence required to be exercised. The nine

broad groups are in turn detailed, depending on the scope of skills, into 40 groups, 130 classes, 510 categories and 813 occupational units and more than 6,800 occupational headings.

Overtime hours: paid hours worked in addition to ordinary hours. Working hours on Sundays, nights or public holidays are considered as overtime only if they are not included in the working time under contract or stored overtime credit systems. They include supplementary hours from part-time workers that is for those hours worked beyond the hours originally agreed in the part-time contract.

Payment in kind: it includes the value of meal vouchers or canteen meals, excluding meal replacement allowances, as these are cash payments; remuneration based on stock options and the transfer of shares free of charge or at a price below the market price; compensation in goods and services provided to employees (fringe benefits). The last one includes: the value of goods and services produced by the company and provided free of charge or at discounted prices; buildings (accommodation) leased, used or loaned; company car for mixed use or exclusively personal use by the employee; cell phone for mixed use or exclusively personal use; goods and services purchased from third parties and given to employees free of charge at a price below the market price; transport services from home to work; granting of subsidized loans to employees; bonus trips; consultancy services to employees.

Size of the enterprise: it is defined on the basis of the annual average number of employees in the Statistical register of active enterprises (ASIA - Enterprises).

Territorial statistical units (NUTS): geographical areas defined for statistical purposes as an aggregation of Italian regions. According to the first level of the Unified Territorial Nomenclature for Statistical Purposes (NUTS1), they are: North-west (Piedmont, Valle d'Aosta, Lombardy and Liguria), North-east (Bolzano/Bozen, Trento, Friuli-Venezia Giulia, Emilia-Romagna and Veneto), Center (Tuscany, Lazio, Umbria and Marche), South (Abruzzo, Molise, Campania, Basilicata, Puglia and Calabria) and Islands (Sicily and Sardinia).

Type of employment contract: it distinguishes the employees under indefinite duration contract (where there is no end-date) and employees under a temporary/fixed-term contract (where there is an end-date).

Methodological note

Structure of Earnings Survey (RCL-SES 2022)

The Structure of earnings survey, abbreviated as SES, is conducted every four years in the Member States and it is based on the Council Regulation (EC) No 530/1999 concerning structural statistics on earnings and on labour costs. The SES allows to produce comparable information on relationships between the level of remuneration, individual characteristics of employees (sex, age, occupation, length of service, highest educational level attained, etc.) and of their employer (economic activity and geographic location of the local unit; size of the enterprise).

The target population is composed by all the enterprises and institutions belonging to the Private and Public sectors with at least 10 employees in the NACE Rev. 2 sections B to S. The employees covered are those who received remuneration for the reference month (October 2022). Since SES 2014 edition, Italy provided also data related to section O (even if the extension to this section is still considered optional).

The statistical processes for the Private and Public sectors are quite different. For the Private sector, since SES 2014 edition, data from a direct statistical survey were combined with administrative sources in all major phases of the survey production process. The statistical process of the Public sector, on the other hand, was completely based on an intensive use of administrative and register data. In what follows, brief explanations of both are reported. It should be noted that 2018 and 2022 editions are broadly comparable for what concerns large breakdowns on earnings variables. However, some estimates may face comparability issues due to methodological changes.

For further details:

<https://ec.europa.eu/eurostat/web/microdata/structure-of-earnings-survey>

The statistical process for the Private sector

The survey for the private sector is based on the RACLI (Italian acronym for Annual register on earnings, hours and labour cost for jobs and enterprises) wage register, an earlier version of the Labour Register (LR) on the private sector within the ISTAT Register System. Data from this register have been used in each stage of the survey: in the sampling stage, allowing the reduction of the sample size; in the design of the questionnaire, facilitating a significant simplification through the elimination of variables available from registers; during the editing and imputation phases, where administrative data have been used as benchmarks, in the reconstruction of non-response and finally in the production of final estimates.

The process, therefore, was designed also taking into account the timing of the availability of the register. Following the scheduled availability of Social Security data, the RACLI register is available as a provisional version in the autumn of year $t+1$ and, as a final version, in the spring of year $t+2$. So the provisional version was used for sampling, for prefilling the variables of the questionnaire and for checks during the data collection phase, while the final version was used for the post collection editing and imputation, including the imputation of non-responses, for calibration of the survey weights to known totals and for validation of the data.

For further details: <https://www.istat.it/it/archivio/204531>

The sampling design

The sampling design for the SES 2022 survey is a two-stage sampling, separately performed for the private sectors and for the public sector. In the following, the design for the private sector is described. The design for the public sector mimic it closely.

In the first stage, the enterprises are selected within strata obtained by crossing 2 digit NACE sectors, size classes and NUTS1 regions. The enterprises with at least 250 employees belong to *take all* strata and have been selected with certainty. For the remaining enterprises, the allocation has been performed using the Bethel multivariate technique that determines the optimal number of units per strata by minimizing the expected error of given target variables. In this case, the driving variables used for the allocation are the enterprise average of the hourly earnings and the total earnings paid to each worker respectively in October and in the Year.

In the second stage, a fixed number of employees was selected depending on the size of the enterprise. The number of employees extracted for each enterprise was predetermined according to the size of the enterprise, and the selection was stratified according to the geographical breakdown in which the employee works, the type of working time and the qualification.

The availability, from the register, of these variables very related to the target ones of the regulation, allows to calculate with good approximation the sampling errors of the estimates of the parameters of interest.

The sampled enterprises are 24,017 out of the 205,372 enterprises with at least 10 employees contained in the Business Register ASIA (provisional version available at July 2022). The overall second stage sample size has been of 248,971 sampled employees who were paid at least one hour in 2022. Of that number, about the 64% was paid in October. The final sample of employees paid for the entire month of October, resulting after the E&I stage, is 158,180 out of 8,327,018 in the population.

Questionnaire

The main purpose of the re-design of the SES 2022 questionnaire was to exploit the administrative sources to increase data quality and reduce the statistical burden on respondents. In this regard, variables derived from the registers, able to satisfy the regulatory requirements, were not included in the questionnaire, while the core variables were pre-filled. The respondents could correct the prefilled data if they noticed errors. They had also to compile the sub items to provide the information not available in the Register, e.g. occupation, detailed information on the components of remuneration and on overtime hours.

The survey form included a number of pages equal to the number of employees sampled. Each sheet of the questionnaire consisted of three sections. The first is related to employee's personal characteristics and job position, the second regards earnings and working hours for the month of October, and the third covered annual earnings and hours paid.

Data collection

For the private sector, data have been gathered mainly through a Web-based questionnaire (CAWI), developed with ISTAT's GINO++ software. The respondents could also choose to prepare a data file, using a predefined layout, to upload via the online application. In order to ensure the quality of data collected, consistency and compatibility checks have been included in the questionnaire and in the uploading application.

Enterprises involved in the survey had to access the questionnaire via portal through user ID and password. Respondents could request assistance in filling in the questionnaire through toll-free number and other asynchronous channels managed by the Contact Center. In order to allow the CC operators to properly manage the assistance, ISTAT experts gave them training on technical and thematic aspects of the survey. The most specific and complex requests that could not be solved by the CC were forwarded to ISTAT experts.

The collection of questionnaires ended on 25 March 2024.

Editing and Imputation procedures

The overall design of the survey (sample, questionnaire and data collection) allowed to reach one of the highest response rates for this type of survey. With reference to the sample of employees who received remuneration for the whole month of October 2022, the response rate is around 65% in terms of enterprises and 71% in terms of sampled employees.

Editing and imputation process has been carried out in several phases: an editing during data collection phase a post - data collection editing and finally the imputation of missing data. In the first stage, the input of data by employers is controlled by the rules in the survey questionnaire. The main rules, in addition to those of non-nullity and positivity, are related to the consistency between the main items, such as total remuneration and its components. The employer had the possibility to report exceptions through a special drop-down menu.

The post-collection check, with regard to quantitative variables, in addition to verifying compliance with the previous rules, added other deterministic ones by setting differentiated range for particular types of workers and distinguishing criteria for the editing of full-time workers from part-time ones. The main variables to be checked are monthly earnings, annual earnings and the number of working days. Records violating one or more of the above rules were checked with probabilistic procedures via minimal distance donor (BANFF system, Statistics Canada).

The qualitative variables are submitted to SCIA system for automated editing and imputation of data affected by errors that applies a generalization of the error localization method of Fellegly and Holt (1976). The variables undergone to the procedure consist of individual characteristic of each employee (age, managerial position, level of education, length of service in the enterprise, occupation according ISCO classification).

On 159,238 total observations of private sector, the share of 29% represents the non respondents. The availability of the set of core information (Gross earnings in the month, Gross earnings in the year, number of hours paid in the month) for the entire sample drawn from RACLI lets to perform a massive imputation on the non respondents to obtain the extra components.

The statistical process for the Public sector

With regard to the economic units of the public sector, the frame list is built starting from the Register of Public Institutions referred to 2022. The estimates of the target variables for public sector employees are obtained exclusively using data derived from registers and available sources, particularly from the module of the Public-Sector Labour Register (LR-Pubb).

LR-Pubb is based on several sources. The most important of these are: the archive of monthly declarations to Social Security Institute INPS UniEmens Lista PosPA (which covers the public sector) and the monthly declarations UniEmens Lista PosLav (which covers employees with fixed-term contracts in public administrations, for whom lower contributions are paid, as well as employees of economic units that, although privately owned, belong to the public sector); the monthly payroll records from the NOIPA system of the Ministry of Economy and Finance (MEF) (which mainly covers ministry employees); the annual CU declarations of the Revenue Agency (covering the entire economy); and the aggregated data of the Conto Annuale - MEF RGS (covering the public sector).

The target population of employees was drawn from those LR-Pubb units belonging to the Register of Public Institutions. A sample was extracted from this population with a design comparable to that of the private sector, for which further details are provided. The selected employees, who made up the final dataset, were 109,894 out of a total population of 3,370,921. The SES variables of interest were populated based on this sample..

Within LR-Pubb, the NOIPA flow is undoubtedly the most important source for estimating the main variables for the SES survey. This source, which covers more than half of the job positions in public institutions, consists of the pay slips of those employees whose employer has used the NOIPA system of the Ministry of Economy and Finance (MEF) for the transmission of all legal and economic data. For this sub-population of employees, the source provides detailed information on the composition of salaries (basic salary, overtime pay, salary type allowances, etc.).

The variables not available from all the sources present in LR-Pubb, for all employees or for a part of them, were estimated using imputation methods (e.g., overtime hours, overtime pay, shift compensation) or recoding methods based on available information (e.g., profession).

Gender Pay Gap (GPG)

The gender pay gap is the indicator produced annually by the EU Member States under the terms of a gentlemen's agreement to measure the pay gap between men and women. The indicator is calculated every four years on the basis of the Structure of Earnings Survey and updated between two SES survey periods using annual information.

It is important to note that the indicator published on the Eurostat website and available for all EU countries is the one calculated excluding earnings from the Public administration and defence and compulsory social security sector (Section O of the Ateco2007 classification). The inclusion of this section is optional according to European regulations and is therefore only available for certain countries. As Italy is one of the countries that report the GPG both excluding and including Section O earnings, the indicator considered in this statistical report is the one calculated including this section.

The Gender pay gap is the difference between the average gross hourly earnings of men and women expressed as a percentage of average gross hourly earnings of men. It is an indicator sensitive to composition effects (sector of economic activity, size of company, occupation, level of education, age of the employee, length of service in the company, etc.).

Calibration and sampling errors

The data resulting from the editing and imputation process on the sub-sample of paid jobs for the whole month of October were subjected to a calibration procedure. The aim of such procedures is to adjust sampling weights in order to better represent the reference universe.

Weighting reproduces the known totals of three variables on the universe obtained from the register: the number of employee jobs, the number of hours paid (net of hours per overtime) and earnings. All totals refer to jobs entirely paid in October. The calibration works on groups, which always involve economic activity and sex and in addition, alternatively, the size class, the geographical area where the worker is employed, the age class of the worker, the contractual working time and the level of education.

The coefficient of variation and the corresponding confidence interval for the estimates of both the mean hourly earnings in October and mean annual earnings are presented in Table 1^v and Table 2, respectively.

TABLE 1. MEAN HOURLY EARNINGS COEFFICIENT OF VARIATION AND CONFIDENCE INTERVALS

October Year 2022, percentage values

Mean hourly earnings	16.4
Coefficient of variation (CV)	0.000529
Margin of error	$(\text{Mean} \times \text{Cv}) \times 1.96 = 16.4 \times 0.000529 \times 1.96 = 0.017$
Lower limit	16.38
Upper limit	16.42

Source: Istat, RCL-SES Year 2022

TABLE 2. MEAN ANNUAL EARNINGS COEFFICIENT OF VARIATION AND CONFIDENCE INTERVALS

October Year 2022, percentage values

Mean hourly earnings	37,302
Coefficient of variation (CV)	0.001375
Margin of error	$(\text{Mean} \times \text{Cv}) \times 1.96 = 37302 \times 0.001375 \times 1.96 = 100.5$
Lower limit	37,201
Upper limit	37,402

Source: Istat, RCL-SES Year 2022

References

More detailed information about The Structure of Earnings Survey is available on

<https://ec.europa.eu/eurostat/web/microdata/structure-of-earnings-survey>

More detailed data are available in Eurostat data base <http://ec.europa.eu/eurostat/data/database>.

More detailed information on statistical process for the Private sector is available on <https://www.istat.it/it/archivio/204531>

Notes

ⁱ Annual earnings encompass the remuneration, in cash or in kind, received directly and regularly by the employee during the reference year, including tax and social security deductions; in line with the practice at European level, for employees who did not work the full year and/or full-time because of contracts with a variable duration or part-time contracts, the remuneration is recalculated to full-time full-year (FTFY).

ⁱⁱ The average hourly earnings refer to the month of October, which is conventionally used internationally as it is characterised by low seasonality due to a reduced number of absence events or national holidays (which reduce the number of days worked); the indicator is calculated as the ratio between the remuneration received by employees (excluding remuneration in kind and non-regular components, but including remuneration for overtime) and the hours paid by the employer (including hours worked - ordinary or overtime - and hours paid but not worked due to holidays, public holidays, sickness paid by the employer).

ⁱⁱⁱ The GPG calculation is based on average hourly earnings to two decimal places, so the value may be different if calculated using the value of average hourly earnings to one decimal place.

^{iv} In education, as in other sectors, the normal paid hours covered by the survey are determined by collective agreements. It should be noted, however, that teachers also work hours that are not defined in the contract: these are the hours worked outside school hours, for example, correcting homework, preparing lessons, etc..

^v The sample error is presented here on the total of the main parameter of the statistics of this survey. A greater analytical detail will be present in the Quality Report of the survey available on the Eurostat website during 2025.

For technical and methodological clarification

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