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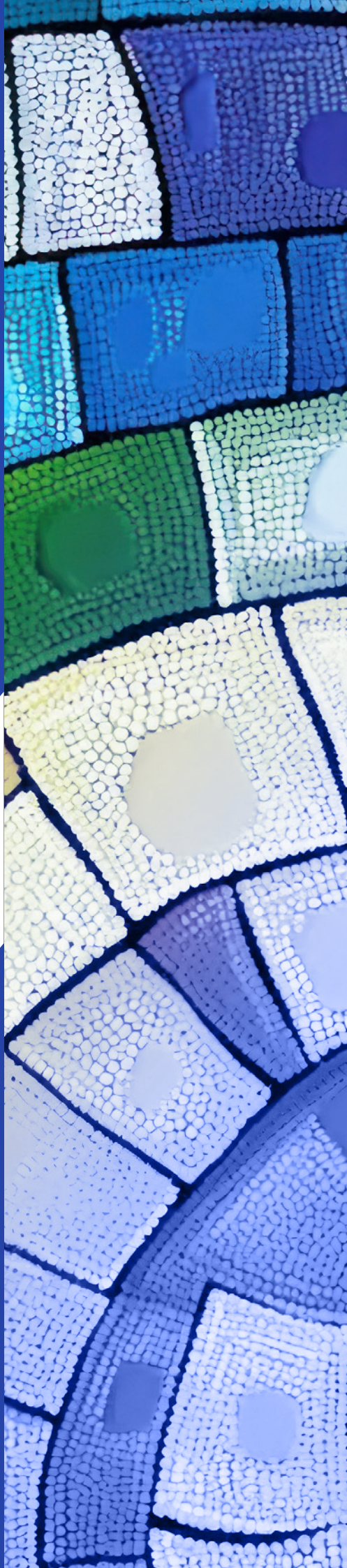
Wage determinants in the European Union

Updated results from Structure of Earnings Survey (SES 2022) data



STATISTICAL REPORTS

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Updated results from Structure of Earnings Survey (SES 2022) data

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Foreword

Since 2000, the European Commission (Eurostat) has been publishing detailed and harmonised information on the nominal wages paid by employers to their employees. This information, which is collected with the support of the European Statistical System, provides important insights into the labour market situation of the different Member States of the European Union. For employers, wages are an important part of production costs and to some extent determine their cost competitiveness. For most employees, wages make up the main part of their income.

Ensuring fair and transparent wages is a key objective of the European pillar of social rights (Commission, 2017) as well as EU directives on an adequate minimum wage (Commission, 2022) and pay transparency (Commission, 2023). It is therefore important to monitor the levels and developments of wages and total labour costs at a macroeconomic level. Eurostat does this with a complete set of annual and quarterly releases [1].

It is also useful to analyse how job profiles and characteristics determine wage patterns in the different EU Member States. This provides information on how labour markets reward the different characteristics of the job holder and how the different types of businesses compete in terms of wages offered to their employees. By combining job characteristics with sex, we can measure possible gaps between the effect of education, part-time work, etc. on wages offered to men versus women. We also analysed how wages in areas of economic activity that are generally dominated by the public sector (e.g. general administration, education and health) compare with those in the rest of the economy.

The study presented in this document updates the previous editions (Eurostat, 2020 and Eurostat, 2021) with information collected through the latest Structure of Earnings Survey (SES 2022), which records information on more than 500 000 enterprises and 20 million employees throughout the EU.

This statistical report should help users to better understand the determinants of wages in the different EU Member States. It should thus contribute to the public debate and policy actions in the labour market domain.

Keywords: labour market statistics, wages, structure and earnings.

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Eurostat, Unit F3: Labour market statistics and lifelong learning

(1) https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Labour_cost_structural_statistics_-_levels.
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Labour_cost_structural_statistics_-_changes.
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Labour_cost_index_-_recent_trends.

1 Introduction

1.1 Background

Every four years, Eurostat collects detailed information on the gross wages earned by a large sample of employees working in enterprises of different sizes and economic activities. This data collection, the 'Structure of Earnings Survey' (SES), is a unique source of comparable information regarding the level and determinants of wages in the European Union.

Eurostat has now validated the latest edition of the SES, for the 2022 reference year and the main aggregate results have been published online (dataset: *earn_ses2022*). In this study, we have used this information to update a previous publication that was based on SES 2018.

As in the previous study, the analytical framework was taken from the publication: 'Schooling, experience and earnings' (Mincer, 1974) in which Jacob Mincer modelled earnings as a function of schooling and experience. In Mincer's original work, the logarithm of earnings was described as a function of both the sum of years of education and a quadratic function of years of potential experience. The introduction of the 'experience' variable with both a linear and a quadratic factor was due to the typical concave shape that the actual data from earnings display as the age variable increases: a larger increase in earnings at the beginning of the working life followed by a flattened pattern towards the end of the working life.

The original Mincer equation has been adapted in this study because the Structure of Earnings Survey (SES) does not collect the years of potential experience but rather the age of the employee and their tenure (number of years) with the latest employer.

The model includes the same variables as in the previous edition, such as the effect of part-time work and of indefinite versus fixed-term contracts as well as the main characteristics of the employing firm (NACE activity, size). As in the study based on SES 2018, some individual characteristics of the employees have been combined with sex to estimate the interaction between gender and other wage determinants (e.g. age, education and part-time work).

We have also kept the regional dimension, so that it is possible to estimate and analyse earnings gaps between broad regions (NUTS 1 level), taking the capital region as the benchmark.

1.2 Aim of the study

The aim of the study is to explain how earnings are determined in the different Member States, using the same regression model across the Member States and applying it to a harmonised source (SES). By analysing gross earnings and comparing their determinants between Member States, we can better understand the functioning of labour markets in the EU. In addition, by combining the explanatory variables with the gender dimension, we can also identify, measure and possibly interpret any differences in the gross wages earned by men compared with women in EU labour markets.

The coefficients obtained from the regression represent the returns to a given characteristic (such as holding a bachelor's degree or equivalent) to the expected earnings of the job holder.

When the returns significantly differ for a category of employees (e.g. employees working part-time or under fixed-term contracts), this can indicate a possible segmentation in the labour market concerned.

Comparing returns across Member States makes it possible in some cases to isolate groups of Member States with similar outcomes with respect to the variable studied.

In Part 2.1 of this document, we will first introduce the data source used in this study, namely the Structure of Earnings Survey.

In Part 2.2, we will describe the regression model used and detail the explanatory (exogenous) variables.

The coefficients obtained from the regression are interpreted, with a cross-Member States perspective, in Part 3.

Part 4 sets out the main conclusions.

2 Data source and methodology

2.1 The Structure of Earnings Survey

The Structure of Earnings Survey (SES) is a large business survey that provides comparable microdata on the link between the level of earnings and the individual characteristics of employees (sex, age, occupation, educational level, etc.) and their employer (economic activity, size of the enterprise, etc.).

The European Statistical System runs this survey every four years, in accordance with Council Regulation 530/1999. The data analysed in this study refer to the 2022 reference year (SES 2022).

The gross hourly earnings collected by the SES refer to the wages and salaries earned by full-time and part-time employees, per hour paid, in the reference month (generally October 2022 for the SES 2022 exercise) before any tax and social security contributions are deducted. Wages and salaries include any overtime pay, shift premiums, allowances, bonuses, commission, etc.

In all Member States, SES data are collected for enterprises with at least 10 employees operating in almost all areas of the economy. The main exceptions are: 'Agriculture, forestry and fishing' (Section A of the statistical classification of economic activities in the European Community - NACE Rev. 2) as well as 'Public administration and defence; compulsory social security' (NACE Rev. 2 Section O). Some Member States also voluntarily provide information on public administration and/or enterprises with fewer than 10 employees.

The national statistical institutes are responsible for selecting the sample, preparing the questionnaires, conducting the survey and sending the results to Eurostat in accordance with the common coding scheme stipulated by the implementing arrangements prepared by Eurostat. Eurostat processes the data centrally.

The SES is also used to compile other structural indicators, such as the gender pay gap or the proportion of low wage earners.

2.2 Method

We carried out a regression on gross earnings collected from the SES with the explanatory variables collected through the same survey. The regression coefficients are estimated using the SES's detailed information on individual earnings (endogenous variable), which are matched with the individual characteristics of the employee and their employer (exogenous variables). An enterprise-level random effect is also included in order to take into account unobserved characteristics at the enterprise level.

The regression model is the following:

$$y_{ij} = x'_{ij}\beta + \mu_j + \varepsilon_{ij}$$

where:

- y_{ij} is the natural logarithm of hourly (gross) wages of an individual i working in enterprise j. Wages do not include bonuses or irregular payments;
- the vector x_{ij} of explanatory variables consists of personal characteristics, job characteristics and enterprise characteristics (see table 1); interactions of several variables with the gender dummy were used where statistically significant;
- μ_j is the enterprise-level random effect, modelled through a cluster variable, which allows for different earnings within a given enterprise, irrespective of the characteristics of its labour force; and
- ε_{ij} is the error term for individual employee *i* working in enterprise *j*.

The analysis is constrained by the different effects that personal and job characteristics may have on wages in the different Member States, as well as the differences in sample sizes and coverage. In line with the relevant scientific literature, persons below the age of 23, above the age of 65, working less than 16 hours per week or more than 60 hours, as well as apprentices, were excluded from the analysis, as well as any cases of incomplete information in the variables of interest. The individuals with the lowest and highest 0.5% of hourly wages were also excluded in order to avoid a bias in the results due to outliers. Some industries and occupations (e.g. the fishing industry and armed forces) are not included in SES data, so no indication for the average salary for these particular industries and occupations can be given.

Regression models

It was decided to use four ISCED categories, splitting tertiary education into lower tertiary (ISCED levels 5 and 6) and upper tertiary levels (ISCED levels 7 and 8). The two-digit level of the ISCO-08 classification has been used. A binary variable for part-time/full-time work has been used. The relationship between earnings and the number of hours worked is generally not linear, with part-time workers' earnings being generally less per hour worked than full-timers'. We selected in the regression model those SES variables that had a significant effect on wages in a majority of Member States, as listed in Table 1.

TABLE 1

List of SES variables selected in the regression model

VARIABLE	VALUES	NOTES
Gross hourly wages	Natural logarithm	Dependent variable; the lowest and highest 0.5% of wages were excluded from the sample.
Personal and job characteristics:		
Gender	Male (reference category) / female	Interactions between female and age, age squared and education are included.
Age	Age, age squared	Individuals aged 23-65 are included. Proxy for experience; the 'age squared' term is necessary in order to capture changing returns to experience.
Education	ISCED level 1+2 (basic education up to lower secondary), 3+4 (upper secondary), 5+6 (lower tertiary up to bachelor's and equivalent), 7+8 (upper tertiary up to master's and doctoral)	The category used for reference (coefficient = 0) is ISCED level 1+2.

VARIABLE	VALUES	NOTES
Occupation	Two-digit ISCO-08 code	The category used for reference (coefficient = 0) is ISCO code 9.3 (Elementary occupations – subgroup 'Labourers in Mining, Construction, Manufacturing and Transport'). ISCO code 6 (skilled agricultural and fishery workers) is not available for all Member States.
Job experience ('tenure')	Number of years with the current employer (in years)	Only experience in the current job is taken into account in this variable.
Type of contract	Permanent (reference category) / fixed-term	Apprentices were excluded.
Working time	Full-time (reference category) / part-time	
Enterprise characteristics:		
Industry	NACE rev. 2 sections	The category used for reference (coefficient = 0) is NACE Rev. 2 Section F ('Construction'). Information for 'public administration and defence; compulsory social security' is not available for all Member States.
Enterprise size	1-9; 10-49; 50-249; 250-499; 500-999; 1 000+	Information for enterprises with fewer than 10 employees is not available for all Member States.
Region	NUTS 1 regions in the EU	Some Member States consist of one single NUTS 1 region. For Member States with several NUTS 1 regions, the reference category (coefficient = 0) is the NUTS 1 region where the capital city is located.

Source: Eurostat, Structure of Earnings Survey 2022

There are no cut-offs for the 'tenure in the current firm' variable, but the amount of years that is entered will not be accepted if it exceeds 'age-14' because that would imply that the individual started to work at the age of 13 or younger. Individuals working fewer than 16 hours or more than 60 hours per week were excluded from the regression analysis.

Plausibility checks

The plausibility of the earnings estimated according to the above-described model was tested through a large number of cases. The simulation generated plausible results except for some Member States. The exceptions were Czechia, Germany, Spain, Italy and Poland, where the coefficients for one of the variables (age × sex) or (age^2 × sex) were not significant. In those cases, it was necessary to withdraw both variables from the model in order to obtain plausible results, particularly for older employees.

Coefficient of determination

The coefficient of determination (R^2) indicates the share of the variation in earnings (as measured by the variance) that is explained by the model and the share that remains unexplained.

The results for the coefficient of determination of the regression are displayed in Table 2.

TABLE 2

Coefficient of determination (%)

BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
89%	58%	55%	50%	58%	51%	53%	40%	57%	56%	51%	59%	60%	44%
LT	**LU**	**HU**	**MT**	**NL**	**AT**	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	
47%	71%	61%	46%	58%	62%	53%	68%	58%	51%	46%	62%	55%	

Source: Eurostat, Structure of Earnings Survey 2022

The share of the variance in the logarithm of the earnings which is determined by the SES-based model described in Part 2.2 varies between 40% in Greece and 89% in Belgium. This means that earnings are largely explained in Belgium by the characteristics of the employer and the employees. This is less the case in Greece where a large part of the earnings is left unexplained, either due to other variables (e.g. total work experience) that are not collected in SES or due to the individual performance of each employee (irrespective of their objective characteristics).

3

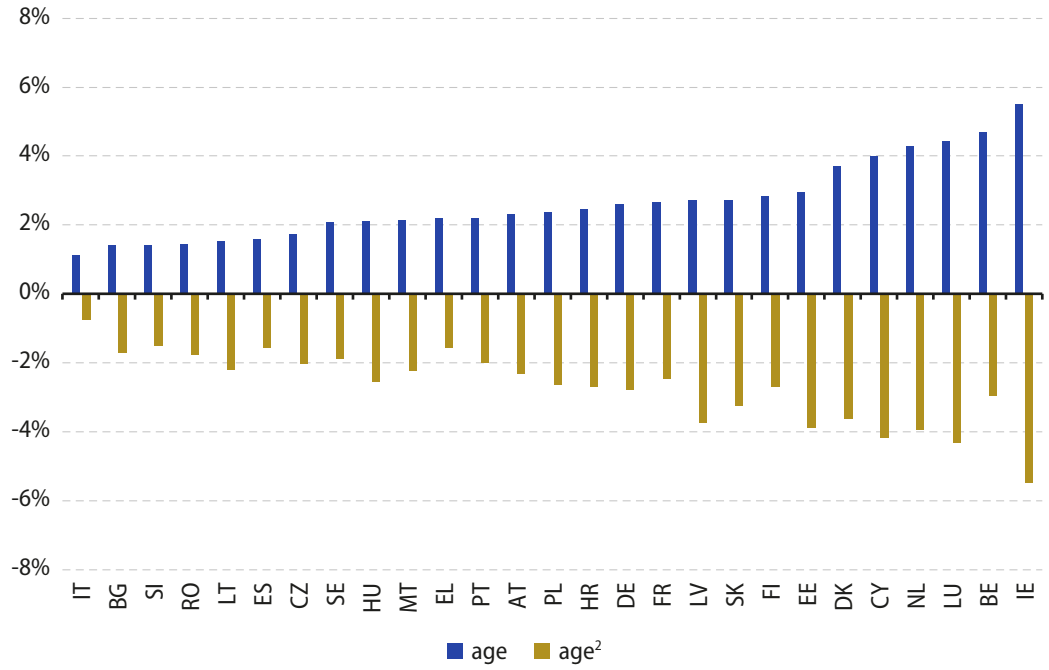
Results and analysis

In this part of the document, we present the regression coefficients obtained for each explanatory variable, across the EU Member States, and discuss possible interpretations. These coefficients can be interpreted, for categorical variables, as the percentage difference in the average wages of a given class of workers compared with a reference category (all other SES variables being equal). For continuous variables such as age, the regression measures the marginal wage increase (in per cent) when the explanatory variable increases by one unit (e.g. for an employee becoming one year older).

3.1 Age

FIGURE 1

Effect of age on earnings



Source: Eurostat, Structure of Earnings Survey 2022

Figure 1 shows that salaries increase with age (positive coefficient for variable 'age') with the highest marginal return observed for Ireland (+5.5%). This relationship is generally non-linear because, if there is a cap on average salaries, that translates into a negative coefficient for age squared (age^2).

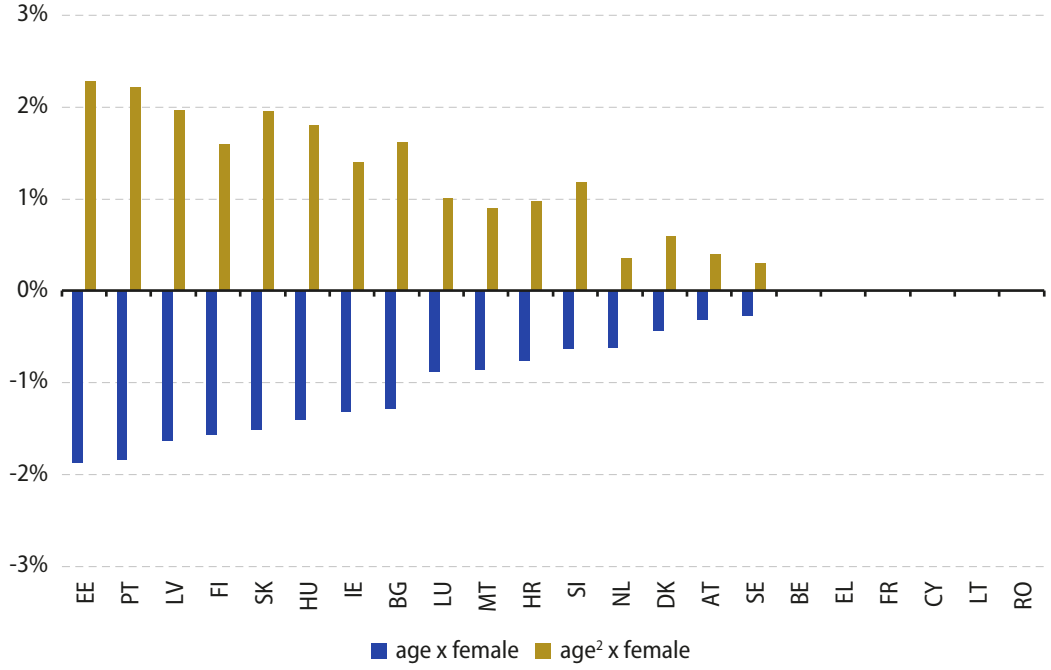
The following chart shows the effect of age on the earnings of women compared with men, except for Member States where only one of the variables (i.e. (age × sex) or (age^2 × sex)) was found to be significant (an implausible result, so both variables were excluded from the model). This was the case for Czechia, Germany, Spain, Italy and Poland.

When significant, the coefficient for the variable (age × female) is generally negative and this shows that the return on age is smaller for women than for men. This could be because some women are penalised in the first stage of their careers when they stop working (or work part-time) (for instance to bring up their children) and this slows down their professional development and accumulation of work experience. The fact that the correlation coefficient for age-squared is generally positive could be because women who were penalised at the start of their careers later catch up by receiving wage increases until the salary cap has been reached

Member States with a large negative coefficient for age × female generally have another equally large coefficient for (age^2 × female) that mitigates the impact of the first coefficient for older workers. It should be noted that Belgium, Greece, France, Cyprus, Lithuania and Romania have equal returns to age for men and women.

FIGURE 2

Effect of age and sex on earnings



Czechia (CZ), Germany (DE), Spain (ES), Italy (IT) and Poland (PL) are not included as only one of the variables: (age × sex) or (age^2 × sex) was found significant.

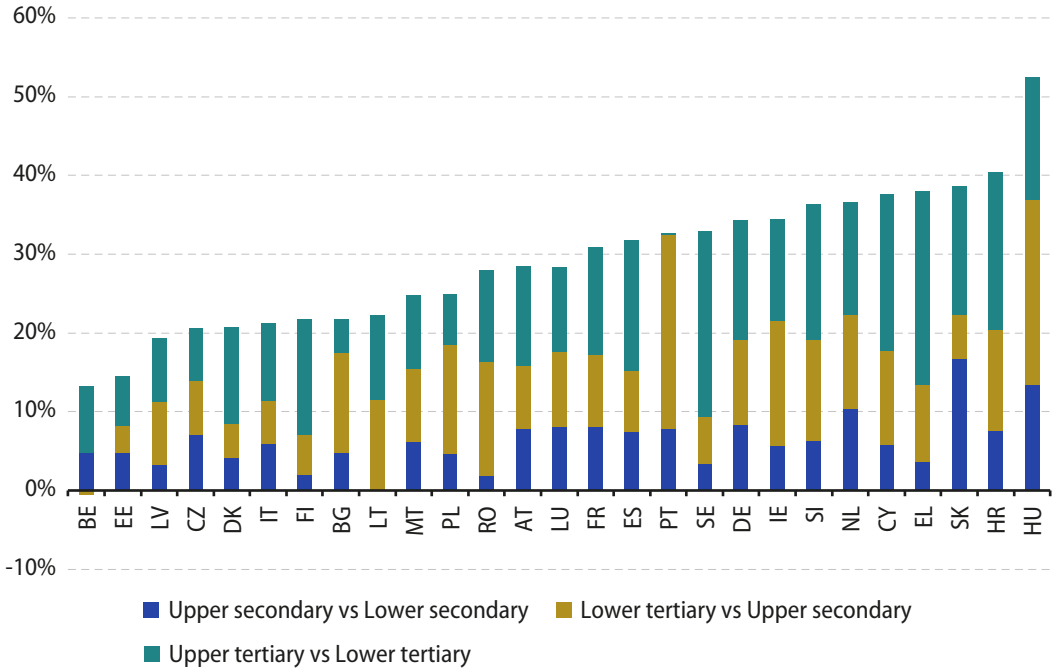
Source: Eurostat, Structure of Earnings Survey 2022

3.2 Education

Figure 3 shows the effect of education on earnings. In each column, the (blue) section closest to the horizontal axis reflects the impact on earnings of completing upper secondary education compared with completing lower secondary education (school-leaving certificate). The second stack reflects the impact on earnings of completing lower tertiary education (bachelor's degrees and other lower tertiary qualifications) compared with completing upper secondary education. The third stack reflects the impact of completing upper tertiary education (master's and doctoral degrees) compared with completing lower tertiary education.

FIGURE 3

Effect of education on earnings



Source: Eurostat, Structure of Earnings Survey 2022

All stacks are positive, except for Belgium (where lower tertiary education has no significant impact compared with upper secondary) and Lithuania (as regards upper versus lower secondary). In all other cases, higher levels of education always yield higher average earnings than the education level immediately below.

The impact of education (all levels combined) on earnings is highest in Hungary, Croatia, Slovakia, Greece and Cyprus.

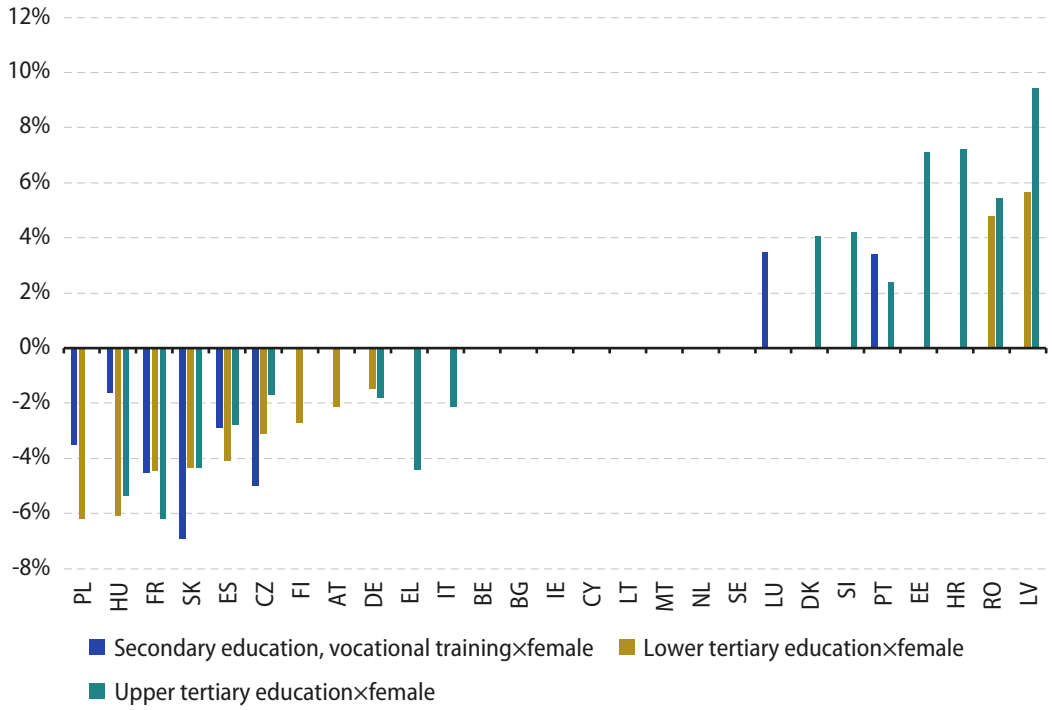
Completing upper secondary is rewarded the most in Slovakia (+16.7%) and the least in Lithuania, where average wages are the same as for employees with lower secondary level. In all but six Member States (Slovakia, Belgium, Estonia, Italy, Denmark and Czechia), completing lower tertiary (compared with upper secondary) brings a larger increase in average earnings than completing upper tertiary (compared with lower secondary).

In 17 of the 27 Member States, completing upper tertiary (compared with lower tertiary) brings a larger increase in average earnings than completing lower tertiary (compared with upper secondary). This is most noticeable in Sweden and Greece. In the other 10 Member States, the increase in earnings is higher or equal, when moving from upper secondary to lower tertiary, than from lower tertiary to upper tertiary. This is most noticeable in Portugal, where the extra return on completing upper tertiary is only +0.1%, compared with +24% for completing lower tertiary.

Figure 4 shows the return of education levels for women, compared with men, ranked according to the results obtained for lower tertiary education. Three groups can be distinguished. A first group (Poland, Hungary, France, Slovakia, Spain, Czechia, Finland, Austria, Germany, Greece and Italy) is made up of Member States where women receive lower returns to education than men, at least for some education levels. A second group (Latvia, Romania, Croatia, Estonia, Portugal, Slovenia, Denmark and Luxembourg) comprises Member States where women receive higher returns to education than men. A third and middle group (Belgium, Bulgaria, Ireland, Cyprus, Lithuania, Malta, the Netherlands and Sweden) is made up Member States with limited or no impact of gender on returns to education.

FIGURE 4

Effect of education and sex on earnings



Source: Eurostat, Structure of Earnings Survey 2022

3.3 Other characteristics of the employee

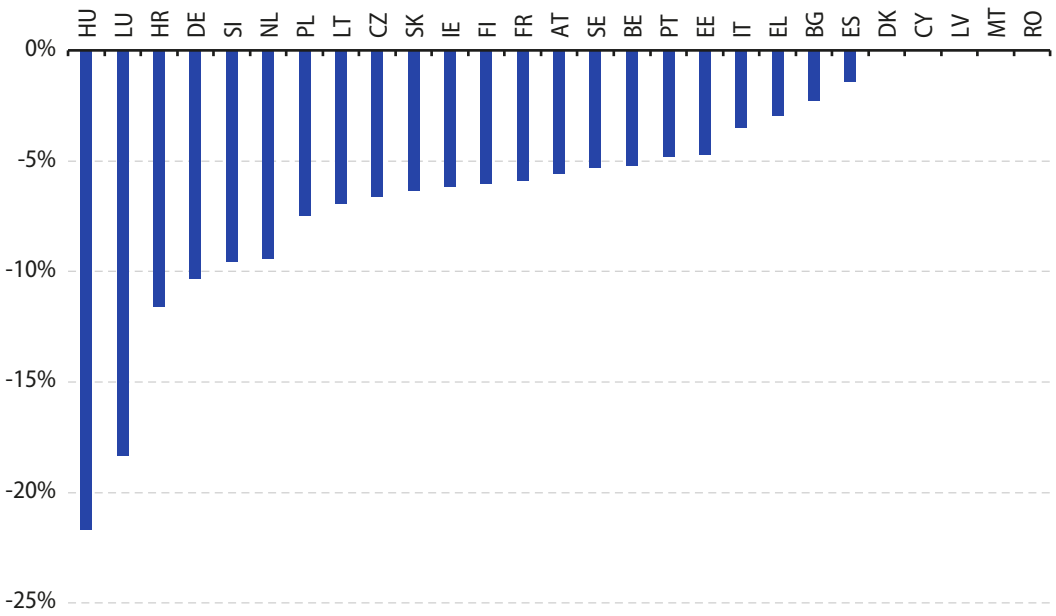
Duration of the contract

Figure 5 shows that average salaries are generally lower for fixed-term workers than for the reference category which consists of employees with indefinite contracts. This is especially the case in Hungary and Luxembourg.

This could reflect a dual labour market, with a marked difference in the wages offered under indefinite versus fixed-term contracts. However, this is not systematic and some Member States (Denmark, Cyprus, Latvia, Malta and Romania) do not exhibit significant differences according to the duration of the contract.

FIGURE 5

Effect of fixed-term contracts on earnings



Source: Eurostat, Structure of Earnings Survey 2022

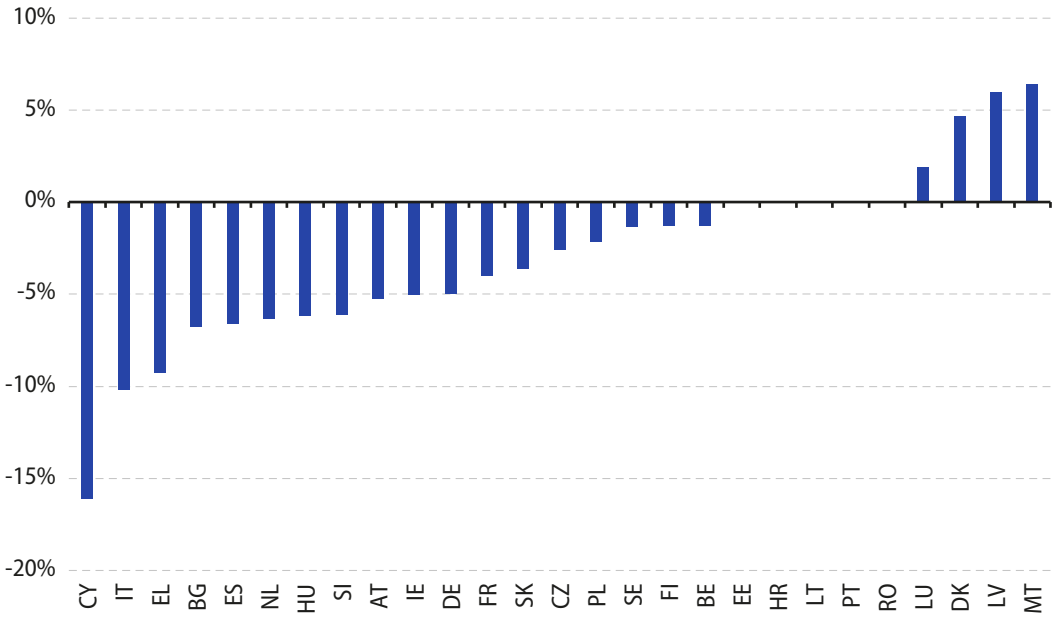
Part-time work

The reference level is full-time workers, so working part-time has a negative impact on hourly wages in most EU Member States and particularly in Cyprus, Italy and Greece (see Figure 6). The reverse situation is observed in Malta, Latvia, Denmark and Luxembourg.

Some Member States do not record significant differences between the average earnings of full-time and those of part-time workers. This is the case for Estonia, Croatia, Lithuania, Portugal and Romania.

FIGURE 6

Effect of part-time work on earnings



Source: Eurostat, Structure of Earnings Survey 2022

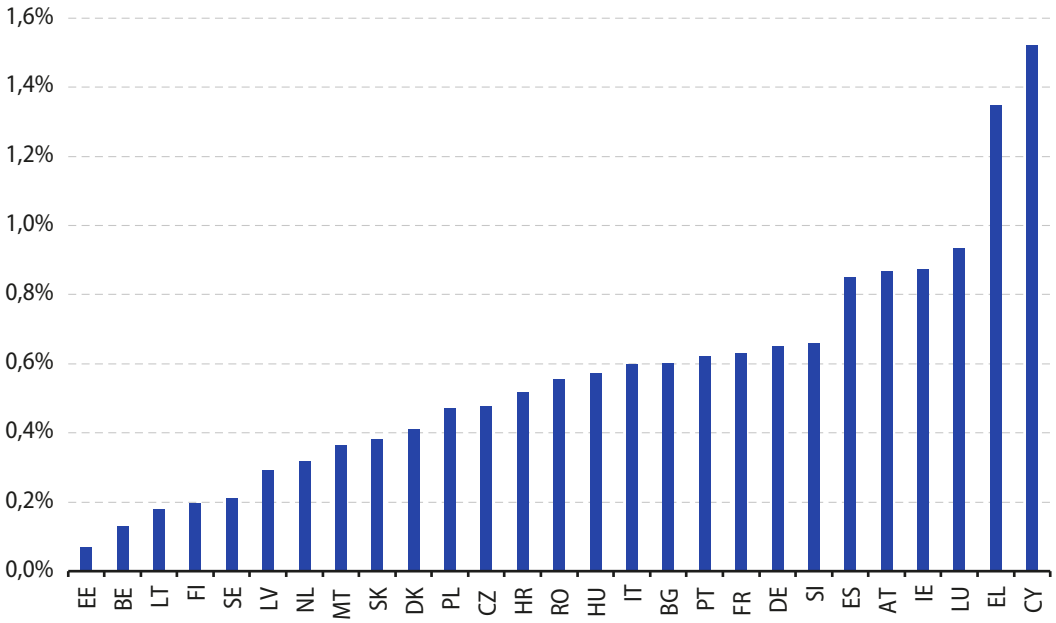
Job tenure

Figure 7 shows that salaries increase with the number of years spent in the firm (positive coefficient for variable 'tenure'). The number of years spent in the firm is used as a proxy for the 'total number of years of employment', which is not collected in the Structure of Earnings Survey. It should be noted that these returns to experience in the same firm cumulate with the effect of age analysed in Part 3.1.

The effect of tenure is highest in Cyprus, Greece, Luxembourg, Ireland, Austria and Spain. This means that workers in those Member States have higher incentives to stay longer in the same firm. They are lowest in Estonia, Belgium, Lithuania, Finland and Sweden, where firms are less keen to retain their employees by means of wage increases.

FIGURE 7

Effect of job tenure on earnings



Source: Eurostat, Structure of Earnings Survey 2022

Occupation

There are a large number of occupations used in the regression, so the results are displayed in Table A2 in the Appendix followed by a short analysis.

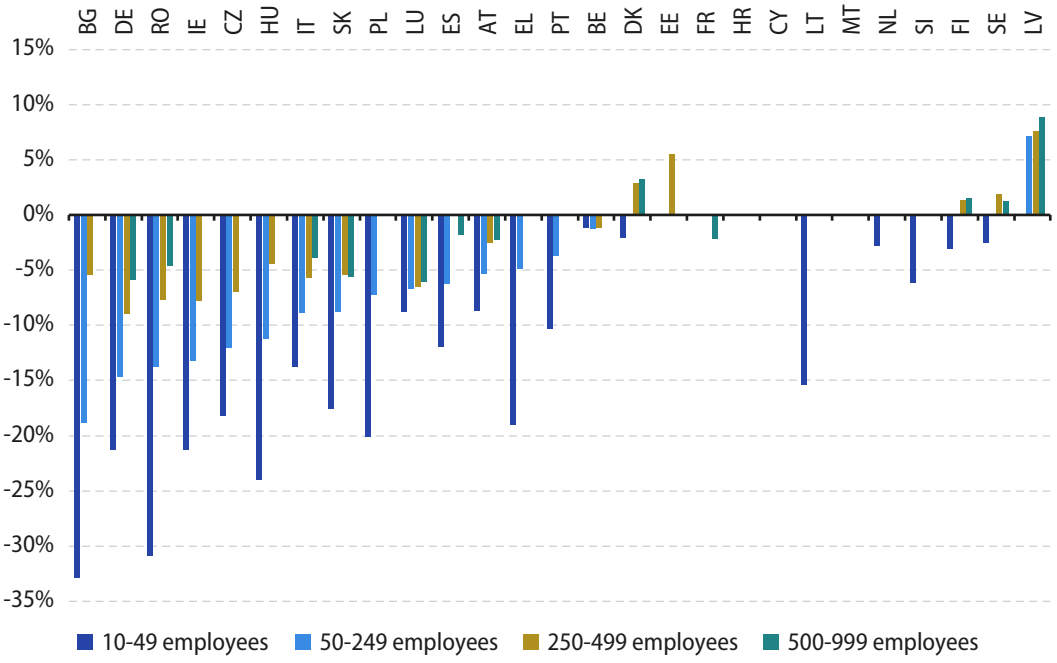
3.4 Size of the enterprise

Figure 8 shows the effect of enterprise size on hourly wages. The reference category is employees working in very large enterprises with more than 1 000 employees. Member States are ranked according to the results obtained for enterprises with 50 to 249 employees.

In general, the smaller the enterprise, the lower the average hourly salary. This could point to higher competitive pressure on smaller firms due to a higher number of market players, and to the higher productivity of larger companies. This difference is most visible in Bulgaria, Germany and Romania. The only exceptions are Latvia (all size classes except 10-49 employees), Sweden, Finland and Denmark (10-49 and 50-249 employees in all those cases) as well as Estonia (size class: 250-499 employees).

FIGURE 8

Effect of enterprise size on earnings



Source: Eurostat, Structure of Earnings Survey 2022

3.5 NACE activity

There are a large number of NACE activities, so the results are displayed in the Appendix (Table A1) followed by a short analysis. All the results are considered against the benchmark of the 'construction' sector.

In addition to the general overview of all NACE activities, three activities have been analysed separately because they are often dominated by public or quasi-public entities and may not be regulated by market forces. These include NACE sections O ('public administration and defence, compulsory social security'), P ('education') and Q ('health').

For each of them, the standard model used in this study has been adapted to compare the average earnings in the activity concerned with those in the economy as a whole.

Public administration

The analysis has been performed for the Member States that collect SES information on NACE Rev. 2 Section O: 'public administration and defence, compulsory social security' – i.e. all Member States except Belgium, Greece, Austria and Portugal.

For most Member States, average wages earned in public administration are lower than in the rest of the economy. This is particularly noticeable in Germany (-28%) and Bulgaria (-18%). By contrast, employees in public administration are better paid than in other sectors (all other SES variables being equal) in seven Member States, particularly in Spain and Romania (+9% for both), Cyprus (+10%) and Luxembourg (+39%).

TABLE 3

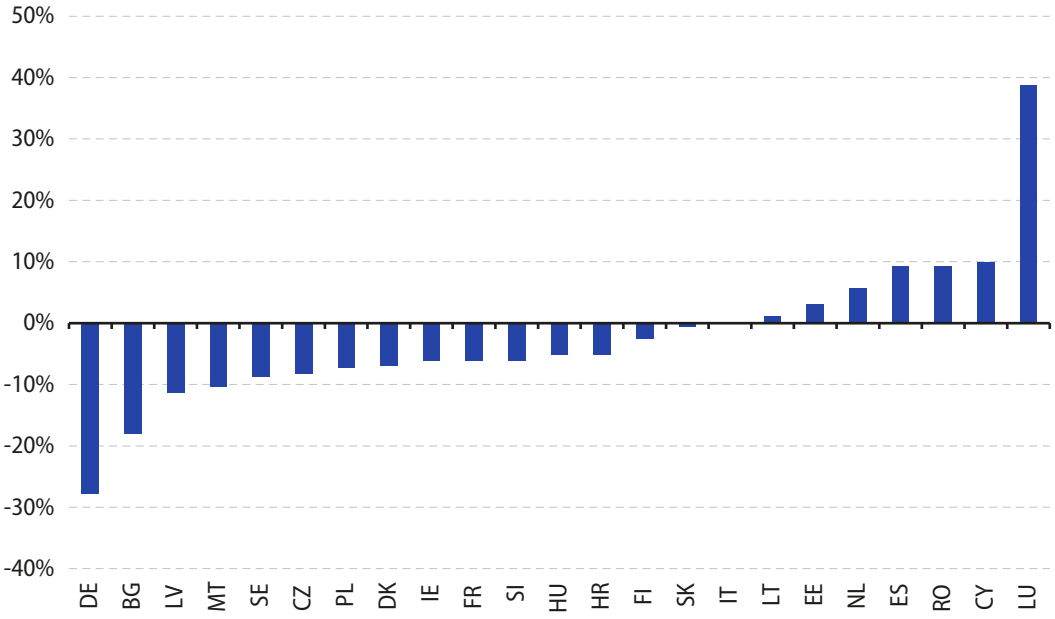
Public administration–earnings compared with other activities

BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
n.a.	-18%	-8%	-7%	-28%	3%	-6%	n.a.	9%	-6%	-5%	0%	10%	-11%
LT	**LU**	**HU**	**MT**	**NL**	**AT**	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	
1%	39%	-5%	-10%	6%	n.a.	-7%	n.a.	9%	-6%	0%	-2%	-9%	

Source: Eurostat, Structure of Earnings Survey 2022

FIGURE 9

Public administration–earnings compared with other activities ([2])



Source: Eurostat, Structure of Earnings Survey 2022

Education

As shown in the chart, average salaries in education are generally lower than those in the rest of the economy. This is particularly visible in Latvia (-22%), Estonia (-18%), Romania (-15%), Hungary and Slovenia (both -13%).

In nine Member States, working in education sector pays better than in other sectors of the economy: The highest spreads compared with other sectors are in Luxembourg (+20%), Cyprus, Bulgaria and Ireland (all +6%).

([2]) For BE, AT, EL and PT: information for NACE Rev. 2 Section O is not available

TABLE 4

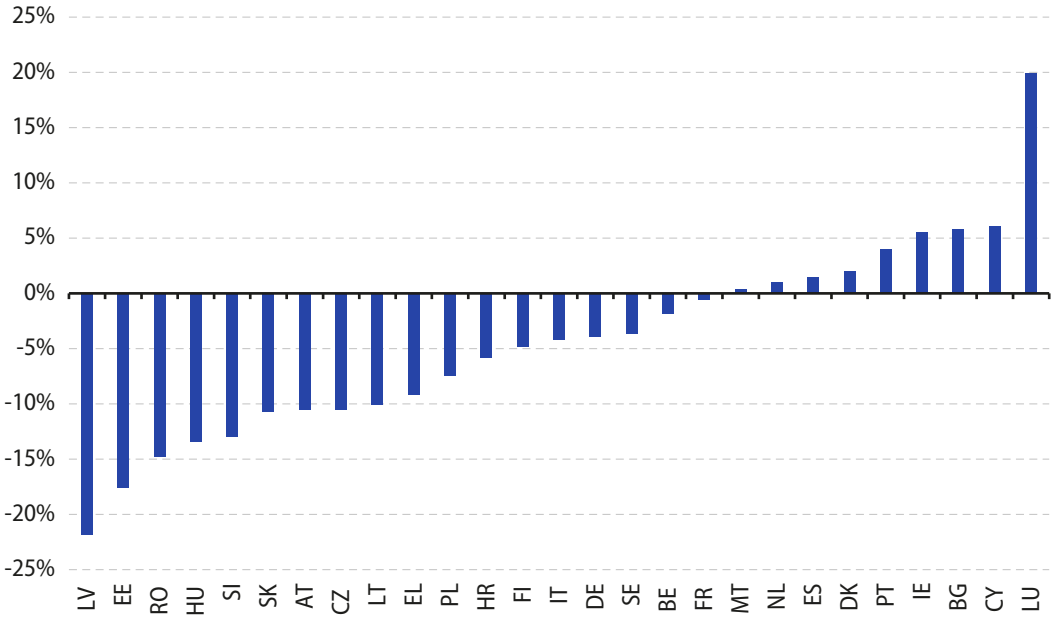
Education–earnings compared with other activities

BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
-2%	6%	-11%	2%	-4%	-18%	6%	-9%	1%	-1%	-6%	-4%	6%	-22%
LT	**LU**	**HU**	**MT**	**NL**	**AT**	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	
-10%	20%	-13%	0%	1%	-11%	-7%	4%	-15%	-13%	-11%	-5%	-4%	

Source: Eurostat, Structure of Earnings Survey 2022

FIGURE 10

Education–earnings compared with other activities



Source: Eurostat, Structure of Earnings Survey 2022

Health

In 15 of the 27 Member States, average salaries are lower in the health sector than in the rest of the economy. This is particularly the case in Greece (-16%), Hungary, Portugal and Malta (all -14%) followed by Denmark (-9%) Ireland and Belgium (both -8%).

The highest average salaries recorded in the health sector, compared with the rest of the economy, can be found in Luxembourg (+16%) and Romania (+10%).

TABLE 5

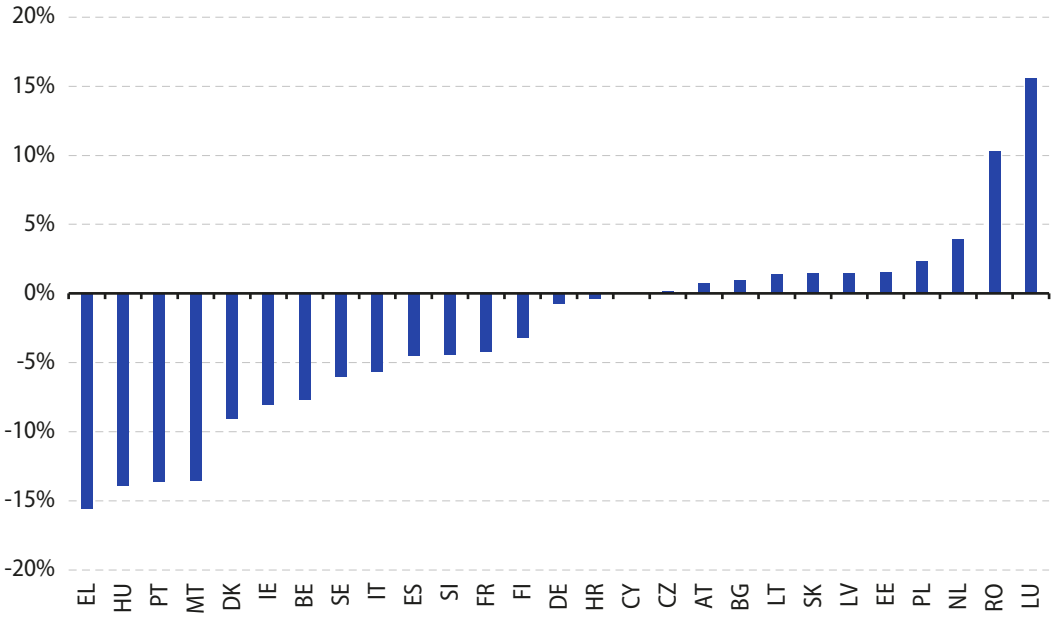
Health–earnings compared with other activities

BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
-8%	1%	0%	-9%	-1%	2%	-8%	-16%	-5%	-4%	0%	-6%	0%	2%
LT	**LU**	**HU**	**MT**	**NL**	**AT**	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	
1%	16%	-14%	-14%	4%	1%	2%	-14%	10%	-4%	1%	-3%	-6%	

Source: Eurostat, Structure of Earnings Survey 2022

FIGURE 11

Health–earnings compared with other activities



Source: Eurostat, Structure of Earnings Survey 2022

3.6 Region

In this section we analyse the impact of the region (NUTS 1) where the enterprise / local unit is located on the expected earnings of its employees. There are a large number of NUTS 1 regions, so the results are displayed in the Appendix (Table A3). The analysis was performed on EU Member States that consist of several NUTS 1 regions, taking the region with the capital city as the reference.

Among the analysed Member States, Portugal and Finland record no significant differences among NUTS 1 regions. In other Member States, employees generally earn as much or more in the capital region than in other parts of the country, with the largest gap (-15%) recorded in the macro regions of 'Wschodni', in Poland and 'Alföld és Észak' in Hungary. There are a few exceptions though, such as Austria (where 'Westösterreich' records higher average wages (+4%) than 'Ostösterreich', where Vienna is located), Germany and Italy (see further analysis below).

In France, higher average wages are paid in 'Ile de France' whereas most other regions record a negative gap ranging from -10% in 'Centre-Val de Loire', 'Normandie', 'Grand Est' and 'Provence-Alpes-Côte d'Azur' to -13% in 'Bourgogne-Franche-Comté'. The exceptions are 'Corse' and 'Régions Ultrapériphériques Françaises' (no gap).

The situation is more contrasted in Germany, Spain and Italy.

In Germany, average wages in the NUTS 1 regions of 'Hamburg' and 'Baden-Württemberg' are 6% and 7% higher than in the capital region of Berlin. 'Bayern' and 'Hessen' also record sizeable positive gaps (+5%), followed by 'Bremen' (+4%), 'Nordrhein-Westfalien' (+3%) and 'Rheinland-Pfalz' (+2%). Conversely, several 'Länder' in eastern Germany have lower average earnings than the capital region. This is particularly the case for 'Sachsen' (-12%), 'Mecklenburg-Vorpommern', 'Thüringen' and 'Sachsen-Anhalt' (all -10%) and 'Brandenburg' (-7%).

In Spain, the 'Noreste' region has a positive gap of +4% compared with the capital region. The largest negative gaps are in the NUTS 1 regions of 'Noroeste' and 'Canarias' (both -8%) followed by 'Centro' (-7%) and 'Sur' (-5%).

In Italy, the northern regions have higher average wages than the capital region: 'Nord-Ovest' and 'Nord-Est' (both +3%). The 'Sud' region has a negative gap (-4%), as does 'Isole' (-2%).

4

Conclusions

In this study, we have used the latest Structure of Earning Survey data (SES2022) to examine the relationship between the individual characteristics of the employees and their employers and their gross wages. We have estimated the impact of each variable collected in SES on the expected earnings of employees and compared them across Member States, highlighting those with similar patterns.

SES does not include all relevant variables that would explain earnings (particularly the total working experience), but the regression model selected for this analysis could generally explain more than 50% of the total variance and up to 89% in one case.

As in the previous study of wage determinants in the European Union [Eurostat, 2021], the main drivers of earnings are: the age of the employee (a cumulative factor for every year of age), their level of education and their occupation. The characteristics of the employer (i.e. their size and sector of activity) also have a major influence on the expected earnings of employees.

The study confirmed the generally negative impact of working part-time or having a fixed-term contract (as opposed to an indefinite contract) on employees' expected wages. However, this is not systematic and some Member States (e.g. Romania) do not have such a segmentation between higher-paid jobs (with full-time and permanent contracts) and lower-paid jobs (with more precarious conditions).

In most cases, different returns to age were observed for men versus women. Women are generally less rewarded for the factor age at the beginning of their careers, but this effect is partly mitigated by more positive returns than for men in later years.

The returns to education are smaller for women than for men in some Member States, but the reverse might be true in other Member States. For most Member States, the difference was found negligible or limited to specific education levels.

The above findings confirm the conclusions of the previous study based on SES2018 data.

Comparing 'public administration, defence and social security' with the rest of the economy, the study showed very large negative gaps in Germany and Bulgaria and sizeable positive ones in Luxembourg, Cyprus, Romania and Spain.

As regards the 'education' sector, Latvia, Estonia, Romania, Hungary and Slovenia recorded large negative gaps. By contrast, Luxembourg recorded a positive spread, albeit lower than for 'public administration, defence and social security'.

In the 'health' sector, large negative gaps were observed in Greece, Hungary, Portugal and Malta. By contrast, average wages were notably higher in this sector in Luxembourg and Romania.

Turning to regional disparities, the analysis could quantify the impact of the (NUTS 1) region of location of the employer on the average earnings of its employees. This confirmed geoeconomic features such as the 'Paris / Ile de France' exception in France, the East-West divide in Germany and the North-South divide in Italy.

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Appendix: Impact of the economic sector, occupation and region

The following tables show the impact of the employer's sector of activity (Table A1) and the impact of the employee's occupation on expected salaries (Table A2).

Table A1 shows the impact of the employer's sector of activity on its employees' expected wages (all other SES variables being equal) compared with the 'construction' sector. According to their regression coefficients, the high-paying sectors are: 'mining and quarrying', 'electricity and gas', 'information and communication' and 'financial insurance activities'.

Sectors that generally pay lower than construction are: 'accommodation and food services', 'administrative and support services activities', 'public administration and defence; social security', 'education', 'human health and social work', 'arts, entertainment and recreation' and 'other service activities'. The most notable exceptions are Luxembourg (particularly for 'public administration and defence; social security', 'education' and 'human health and social work'), Bulgaria (for 'education'), Cyprus (for 'public administration and defence; social security' and 'education') and Romania (for 'public administration and defence; social security' and 'human health and social work').

Table A2 shows the impact of the employees' occupation on their expected salaries compared with ISCO code 9.3 (elementary occupations – subgroup 'labourers in mining, construction, manufacturing and transport').

The well-paying occupations are, as expected, 'managers' then 'professionals' followed by 'technicians and associate professionals'. The occupations that pay less well can be found in 'elementary occupations'.

Table A3 records, for each NUTS 1 region, the difference between the expected earnings in that region and the reference value measured in the region where the capital city is located.

TABLE A1

Impact of the sector of activity (NACE section) on expected wages

Parameter/ Country	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
Mining and quarrying	0,0%	42,6%	4,8%	13,2%	6,8%	16,8%	0,0%	24,9%	13,8%	0,0%	0,0%	15,4%	0,0%	14,9%	15,3%	0,0%	18,1%	0,0%	15,6%	0,0%	25,1%	25,3%	23,9%	25,0%	0,0%	0,0%	13,2%
Manufacturing	0,0%	5,2%	4,5%	-3,8%	1,9%	0,0%	-5,3%	0,0%	0,0%	-3,7%	0,0%	0,0%	-9,9%	0,0%	6,9%	0,0%	8,8%	0,0%	-8,0%	-3,2%	0,0%	0,0%	0,0%	3,8%	0,0%	-4,9%	-7,1%
Electricity, gas, steam and air-conditioning supply	12,5%	29,9%	17,6%	0,0%	13,2%	10,7%	13,9%	25,7%	24,0%	0,0%	20,5%	16,8%	0,0%	0,0%	7,4%	26,0%	19,9%	13,7%	0,0%	4,7%	14,0%	43,9%	19,9%	11,8%	13,6%	3,5%	-4,1%
Water supply, sewerage, waste management and remediation	5,0%	0,0%	0,0%	-4,5%	-2,2%	9,8%	0,0%	0,0%	0,0%	0,0%	0,0%	-2,8%	0,0%	-13,9%	0,0%	17,7%	0,0%	0,0%	-7,6%	-10,1%	-3,5%	-5,2%	-7,6%	0,0%	-6,6%	-5,6%	-4,7%
Construction	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Wholesale and retail trade, repair of motor vehicles and motorcycles	1,3%	10,1%	4,7%	-11,0%	-6,6%	4,4%	-16,1%	-6,1%	-7,7%	-8,9%	9,7%	-5,0%	-8,9%	0,0%	0,0%	-5,0%	0,0%	-7,9%	-16,5%	-11,2%	0,0%	4,1%	0,0%	4,3%	5,3%	-5,6%	-5,5%
Transportation and storage	3,4%	0,0%	0,0%	-5,4%	-12,7%	0,0%	-7,9%	0,0%	0,0%	-9,9%	7,4%	-5,5%	0,0%	0,0%	0,0%	14,5%	-4,0%	0,0%	-7,5%	-14,4%	0,0%	11,1%	0,0%	0,0%	0,0%	-2,7%	-9,3%
Accommodation and food service activities	-3,9%	5,1%	-6,8%	-14,9%	-14,6%	0,0%	-22,6%	0,0%	-4,0%	-13,5%	13,2%	-8,9%	0,0%	-13,0%	0,0%	-13,8%	-7,3%	0,0%	-22,2%	-25,4%	-4,8%	0,0%	-9,6%	0,0%	0,0%	-12,1%	-12,2%
Information and communication	0,0%	37,1%	13,9%	-5,2%	3,3%	14,9%	19,5%	0,0%	-5,5%	-5,5%	27,9%	-3,8%	18,5%	16,9%	28,1%	9,0%	11,1%	7,8%	-8,4%	-2,5%	18,6%	11,2%	24,3%	7,3%	6,8%	-4,5%	0,0%
Financial and insurance activities	0,0%	0,0%	7,1%	0,0%	11,0%	24,6%	11,2%	17,0%	4,3%	-4,7%	21,6%	20,1%	16,1%	16,8%	26,2%	21,0%	12,9%	8,0%	0,0%	0,0%	16,1%	29,8%	0,0%	8,4%	11,9%	0,0%	5,5%
Real estate activities	15,4%	7,5%	9,2%	-9,8%	-4,1%	0,0%	-8,7%	13,3%	-5,8%	-13,1%	0,0%	0,0%	-16,2%	0,0%	0,0%	11,8%	0,0%	0,0%	0,0%	-3,9%	0,0%	0,0%	0,0%	0,0%	0,0%	-6,6%	-8,3%
Professional, scientific and technical activities	15,2%	14,2%	8,8%	-3,9%	0,0%	0,0%	0,0%	0,0%	-10,5%	-9,0%	13,2%	-3,2%	0,0%	0,0%	13,8%	7,2%	11,3%	7,6%	-8,4%	-6,0%	13,2%	5,0%	10,4%	0,0%	6,8%	-9,3%	-4,3%

Parameter/ Country	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
Administrative and support service activities	8,7%	0,0%	-6,8%	-12,3%	-12,9%	0,0%	-13,8%	-9,8%	-17,0%	-15,5%	0,0%	-18,9%	0,0%	0,0%	0,0%	-5,8%	-4,7%	-7,5%	-16,6%	-13,5%	-7,5%	-5,7%	-5,8%	-6,4%	0,0%	-18,0%	-13,7%
Public administration and defence; compulsory social security		-7,5%	-6,0%	-18,5%	-31,7%	5,8%	-10,1%		0,0%	-16,8%	0,0%	-5,8%	10,9%	-17,9%	5,4%	48,7%	-6,5%	-13,3%	-3,0%		-5,1%		12,7%	-6,0%	0,0%	-12,3%	-19,2%
Education	0,0%	11,9%	-11,1%	-14,8%	-15,9%	-16,8%	0,0%	-15,0%	0,0%	-14,5%	0,0%	-13,0%	11,7%	-31,5%	-6,9%	35,7%	-17,8%	-8,8%	-7,5%	-20,7%	-7,8%	0,0%	-10,4%	-14,8%	-10,2%	-18,1%	-20,3%
Human health and social work activities	-5,0%	7,7%	0,0%	-21,6%	-9,9%	0,0%	-15,2%	-19,8%	-9,0%	-17,0%	5,9%	-12,5%	0,0%	-12,2%	0,0%	23,9%	-17,9%	-19,9%	-6,0%	-12,4%	0,0%	-9,9%	13,4%	-6,4%	0,0%	-16,6%	-20,4%
Arts, entertainment and recreation	-6,4%	0,0%	-5,2%	-20,9%	-16,6%	-15,6%	-12,0%	-10,5%	-8,7%	-12,5%	0,0%	-9,0%	0,0%	-27,6%	-12,2%	14,4%	-7,3%	0,0%	-16,4%	-18,2%	-8,0%	0,0%	0,0%	0,0%	0,0%	-21,7%	-17,1%
Other service activities	-10,3%	0,0%	0,0%	-12,2%	-8,0%	0,0%	-12,7%	-10,8%	-16,4%	-19,9%	0,0%	-13,7%	0,0%	0,0%	0,0%	9,6%	-12,7%	0,0%	-11,5%	-18,2%	-10,5%	0,0%	0,0%	0,0%	0,0%	-19,2%	-13,5%

TABLE A2

Impact of occupation on expected wages

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
1. Managers																											
Chief Executives, Senior Officials and Legislators	97,5%	84,9%	77,1%	48,7%	74,1%	70,8%	58,6%	68,6%	71,8%	105,1%	64,7%	91,1%	136,2%	32,4%	60,3%	73,9%	66,1%	75,0%	58,3%	81,2%	79,1%	76,6%	69,6%	62,5%	62,2%	85,0%	62,4%
Administrative and Commercial Managers	80,8%	95,1%	80,3%	47,2%	67,3%	65,0%	29,2%	67,8%	64,6%	71,1%	40,9%	107,8%	105,4%	60,9%	72,0%	71,5%	75,1%	70,2%	59,6%	67,0%	61,4%	74,9%	70,8%	47,3%	54,5%	81,0%	55,0%
Production and Specialized Services Managers	78,8%	77,7%	75,3%	39,4%	54,4%	62,1%	n.a.	55,7%	55,4%	62,7%	49,8%	93,9%	79,3%	60,1%	63,1%	64,7%	60,3%	69,8%	52,1%	60,5%	50,6%	69,6%	60,8%	42,0%	51,7%	69,9%	51,2%
Hospitality, Retail and Other Services Managers	77,7%	72,4%	54,1%	19,2%	31,2%	43,2%	n.a.	33,0%	53,1%	57,8%	51,4%	35,4%	66,7%	37,4%	42,7%	68,7%	41,1%	65,9%	38,8%	40,6%	23,2%	57,5%	45,7%	32,2%	34,8%	71,7%	27,1%
2. Professionals																											
Science and Engineering Professionals	74,3%	54,4%	49,0%	28,2%	36,9%	47,4%	41,6%	41,5%	38,3%	59,6%	40,6%	35,3%	33,5%	40,8%	45,8%	38,2%	41,9%	40,9%	32,2%	40,4%	29,3%	45,6%	46,5%	31,7%	29,5%	41,3%	29,3%
Health Professionals	76,8%	51,6%	64,0%	28,4%	53,4%	68,0%	49,7%	38,9%	58,7%	63,6%	55,8%	89,8%	44,4%	65,9%	57,7%	62,8%	85,6%	53,9%	42,5%	59,5%	53,3%	54,8%	61,0%	51,6%	44,6%	69,5%	42,7%
Teaching Professionals	97,3%	55,6%	49,3%	15,5%	31,7%	57,8%	47,8%	28,0%	38,3%	33,6%	24,4%	61,5%	51,6%	46,5%	49,8%	49,4%	23,6%	45,6%	36,4%	41,0%	61,5%	58,7%	48,0%	36,1%	30,2%	32,7%	20,8%
Business and Administration Professionals	73,7%	57,1%	60,7%	29,6%	46,3%	57,7%	41,7%	36,0%	38,6%	59,5%	41,5%	30,4%	42,0%	49,9%	46,9%	40,9%	47,9%	42,1%	39,2%	44,4%	30,8%	44,2%	51,8%	37,4%	42,7%	48,0%	34,5%
Information and Communications Technology Professionals	72,7%	89,6%	65,5%	31,8%	38,7%	72,6%	n.a.	49,5%	43,0%	60,1%	45,0%	30,4%	56,8%	69,1%	65,8%	37,5%	54,3%	54,9%	38,9%	43,6%	55,4%	50,8%	87,5%	43,0%	49,7%	45,5%	30,8%
Legal, Social and Cultural Professionals	70,6%	47,9%	35,4%	22,6%	34,2%	39,9%	50,8%	19,3%	29,6%	47,9%	28,7%	43,8%	31,3%	34,7%	38,9%	56,9%	34,2%	34,1%	34,9%	39,2%	37,4%	38,0%	43,5%	30,7%	16,2%	41,0%	26,6%

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
3. Technicians and associate professionals																											
Science and Engineering Associate Professionals	51,6%	36,0%	32,2%	18,1%	26,5%	37,2%	18,9%	32,1%	25,4%	29,1%	21,8%	20,9%	29,8%	31,7%	34,6%	26,9%	34,5%	32,3%	30,0%	33,3%	21,1%	28,5%	36,2%	25,0%	27,8%	28,4%	21,9%
Health Associate Professionals	49,6%	35,0%	51,3%	15,5%	30,1%	42,1%	26,0%	17,3%	13,7%	41,9%	39,2%	24,2%	18,9%	48,3%	38,3%	52,9%	52,3%	40,6%	28,4%	35,2%	28,0%	25,5%	32,6%	33,8%	28,0%	30,3%	11,5%
Business and Administration Associate Professionals	47,7%	37,8%	35,7%	20,1%	32,5%	40,1%	23,5%	24,3%	25,2%	31,5%	29,9%	25,0%	28,8%	28,1%	33,0%	34,0%	30,4%	32,6%	30,1%	33,1%	23,2%	31,5%	26,7%	24,1%	27,1%	30,6%	17,9%
Legal, Social, Cultural and Related Associate Professionals	46,4%	29,1%	26,4%	14,2%	31,2%	27,7%	13,0%	12,1%	14,4%	27,8%	17,6%	15,2%	0,0%	19,5%	29,2%	32,0%	36,3%	31,9%	22,2%	29,2%	8,0%	28,6%	33,2%	13,8%	14,2%	21,0%	11,7%
Information and Communications Technicians	48,2%	28,7%	35,9%	18,4%	33,4%	47,0%	32,2%	28,3%	28,2%	29,8%	25,4%	20,7%	28,5%	29,2%	21,1%	29,5%	36,8%	30,8%	22,1%	34,4%	19,8%	27,2%	37,0%	26,4%	20,9%	28,2%	12,9%
4. Clerical support workers																											
General and Keyboard Clerks	14,5%	14,2%	20,2%	9,8%	19,7%	21,6%	9,7%	16,9%	6,4%	18,4%	16,9%	8,4%	14,1%	7,7%	17,7%	25,7%	16,6%	11,7%	14,9%	21,9%	9,4%	11,6%	14,8%	11,4%	20,8%	15,2%	6,5%
Customer Services Clerks	21,6%	15,8%	19,2%	0,0%	13,1%	21,0%	13,5%	16,2%	6,6%	14,1%	13,1%	12,1%	17,4%	16,8%	15,9%	21,0%	20,8%	28,6%	14,4%	22,9%	0,0%	0,0%	16,7%	11,5%	14,4%	10,8%	0,0%
Numerical and Material Recording Clerks	36,0%	18,2%	25,4%	4,0%	11,8%	23,0%	n.a.	6,5%	15,9%	12,0%	20,2%	10,3%	16,7%	18,3%	25,6%	10,9%	29,5%	19,9%	18,7%	19,7%	6,5%	3,9%	19,2%	9,8%	16,4%	15,1%	3,9%
Other Clerical Support Workers	0,0%	17,0%	16,2%	0,0%	11,6%	18,4%	n.a.	12,7%	0,0%	16,9%	18,2%	10,8%	0,0%	0,0%	0,0%	17,4%	21,1%	0,0%	11,7%	6,7%	0,0%	12,4%	0,0%	6,4%	0,0%	3,6%	0,0%
5. Service and sales workers																											
Personal Services Workers	15,5%	9,0%	12,1%	2,1%	2,9%	6,8%	0,0%	13,9%	7,5%	14,3%	9,6%	6,9%	0,0%	5,4%	16,9%	14,0%	14,9%	15,0%	11,2%	7,8%	0,0%	4,7%	7,8%	11,5%	9,3%	7,6%	0,0%
Sales Workers	7,6%	0,0%	8,4%	-3,6%	0,0%	0,0%	23,5%	2,3%	0,0%	11,7%	0,0%	2,8%	7,9%	0,0%	0,0%	9,8%	16,5%	18,6%	9,9%	7,2%	0,0%	4,3%	2,8%	0,0%	7,1%	5,7%	0,0%
Personal Care Workers	14,6%	7,1%	28,0%	3,8%	19,6%	4,9%	10,6%	13,3%	0,0%	30,1%	14,5%	5,6%	0,0%	0,0%	10,5%	12,4%	20,7%	15,7%	19,5%	17,5%	7,7%	3,4%	-11,3%	15,3%	7,3%	13,0%	8,7%
Protective Services Workers	57,8%	-12,4%	13,6%	17,0%	14,9%	0,0%	9,6%	0,0%	20,7%	30,5%	0,0%	18,1%	0,0%	0,0%	0,0%	17,0%	16,0%	16,6%	18,5%	0,0%	-19,2%	0,0%	-13,5%	11,2%	17,0%	17,4%	5,4%

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
6. Skilled agricultural, forestry and fishery workers																											
Market-oriented Skilled Agricultural Workers	n.a.	0,0%	0,0%	0,0%	15,7%	0,0%	7,3%	5,0%	0,0%	0,0%	0,0%	7,4%	0,0%	12,9%	0,0%	0,0%	0,0%	0,0%	4,3%	n.a.	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Market-oriented Skilled Forestry, Fishery and Hunting Workers	n.a.	0,0%	0,0%	7,6%	10,9%	11,3%	6,9%	0,0%	15,8%	45,4%	12,9%	0,0%	n.a.	0,0%	n.a.	47,1%	0,0%	0,0%	0,0%	n.a.	-17,4%	0,0%	-9,9%	0,0%	0,0%	0,0%	0,0%
Subsistence Farmers, Fishers, Hunters and Gatherers	n.a.	0,0%	25,6%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-23,0%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7. Craft and related trades workers																											
Building and Related Trades Workers (excluding Electricians)	2,9%	11,1%	13,0%	11,0%	12,3%	20,7%	0,0%	15,7%	7,1%	14,6%	0,0%	8,1%	14,2%	22,3%	17,6%	9,5%	13,8%	0,0%	13,0%	13,7%	0,0%	4,4%	15,1%	5,4%	10,6%	8,7%	7,0%
Metal, Machinery and Related Trades Workers	28,3%	23,6%	18,5%	9,6%	12,1%	25,7%	-8,0%	23,0%	16,8%	16,0%	10,9%	7,1%	25,9%	16,7%	23,5%	15,0%	25,8%	18,6%	17,4%	19,1%	12,4%	11,8%	22,4%	9,0%	19,2%	9,5%	5,6%
Handicraft and Printing Workers	14,4%	15,8%	6,3%	6,1%	6,4%	17,2%	n.a.	11,8%	0,0%	0,0%	9,1%	0,0%	22,5%	13,6%	15,7%	17,5%	11,6%	29,8%	9,8%	16,3%	6,9%	0,0%	11,1%	6,3%	10,9%	0,0%	0,0%
Electrical and Electronic Trades Workers	31,1%	19,4%	22,3%	13,9%	15,4%	22,4%	n.a.	24,1%	12,3%	23,7%	20,1%	4,8%	19,0%	16,1%	19,0%	10,9%	27,7%	0,0%	15,7%	21,0%	13,7%	12,8%	14,6%	12,3%	18,3%	12,5%	9,9%
Food Processing, Woodworking, Garment and Other Craft and Related Trades Workers	3,3%	5,3%	6,7%	3,4%	0,0%	6,4%	n.a.	3,9%	0,0%	9,8%	0,0%	-4,6%	0,0%	0,0%	10,4%	15,2%	10,7%	12,0%	7,4%	6,2%	-2,6%	0,0%	5,7%	0,0%	3,3%	6,5%	0,0%
8. Plant and machine operators and assemblers																											
Stationary Plant and Machine Operators	22,5%	10,1%	12,2%	6,7%	5,6%	13,5%	9,8%	16,4%	11,6%	10,2%	14,4%	5,9%	21,7%	0,0%	19,9%	20,7%	19,4%	0,0%	14,9%	10,1%	8,2%	0,0%	11,7%	7,8%	13,0%	10,4%	9,9%
Assemblers	22,2%	9,1%	10,3%	0,0%	8,2%	0,0%	0,0%	11,6%	9,6%	15,9%	0,0%	0,0%	40,9%	0,0%	0,0%	0,0%	14,8%	0,0%	0,0%	10,2%	4,3%	0,0%	5,2%	-4,6%	10,1%	0,0%	0,0%
Drivers and Mobile Plant Operators	6,2%	9,4%	11,5%	0,0%	0,0%	14,6%	n.a.	9,5%	7,8%	12,8%	9,5%	8,2%	17,1%	10,3%	12,4%	0,0%	14,3%	11,7%	6,1%	6,1%	14,8%	2,8%	10,9%	8,1%	12,0%	8,1%	0,0%

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
9. Elementary occupations																											
Cleaners and Helpers	1,5%	0,0%	-5,9%	-5,8%	-6,3%	-13,6%	0,0%	12,0%	0,0%	12,8%	-5,0%	-8,5%	0,0%	-18,1%	-10,9%	-5,8%	0,0%	0,0%	0,0%	-8,3%	-4,1%	0,0%	-5,5%	0,0%	-5,5%	-5,9%	-12,3%
Agricultural, Forestry and Fishery Labourers	n.a.	-7,5%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	20,3%	0,0%	-3,8%	0,0%	-14,6%	0,0%	0,0%	-27,9%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	-17,7%	0,0%
Labourers in Mining, Construction, Manufacturing and Transport	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	n.a.	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Food Preparation Assistants	9,3%	0,0%	0,0%	-8,2%	-5,4%	-9,3%	n.a.	0,0%	4,3%	19,5%	0,0%	0,0%	0,0%	-18,5%	0,0%	0,0%	5,0%	0,0%	0,0%	-5,5%	0,0%	0,0%	4,6%	0,0%	0,0%	-8,1%	-7,9%
Street and Related Sales and Services Workers	n.a.	0,0%	0,0%	0,0%	-26,1%	n.a.	n.a.	16,0%	0,0%	n.a.	0,0%	0,0%	0,0%	0,0%	n.a.	-6,7%	0,0%	-16,6%	19,6%	n.a.	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	n.a.
Refuse Workers and Other Elementary Workers	0,0%	-3,9%	0,0%	0,0%	3,9%	-11,7%	n.a.	4,9%	0,0%	-14,8%	0,0%	-3,8%	0,0%	-18,1%	-10,0%	0,0%	-20,9%	0,0%	0,0%	-4,1%	0,0%	2,5%	-7,6%	0,0%	0,0%	-10,9%	-12,5%

Source: Eurostat, Structure of Earnings Survey 2022

TABLE A3

Impact of the location of the employer (NUTS 1 region) on expected wages

(The reference region is indicated in red fonts)

NUTS1	Name of the NUTS1 Region	Coefficient
BE1	Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest	0%
BE2	Vlaams Gewest	0%
BE3	Région wallonne	-2%
BG3	Severna i Yugoiztochna Bulgaria	-6%
BG4	Yugozapadna i Yuzhna tsentralna Bulgaria	0%
DE1	Baden-Württemberg	7%
DE2	Bayern	5%
DE3	Berlin	0%
DE4	Brandenburg	-7%
DE5	Bremen	4%
DE6	Hamburg	6%
DE7	Hessen	5%
DE8	Mecklenburg-Vorpommern	-10%
DE9	Niedersachsen	0%
DEA	Nordrhein-Westfalen	3%
DEB	Rheinland-Pfalz	2%
DEC	Saarland	0%
DED	Sachsen	-12%
DEE	Sachsen-Anhalt	-10%
DEF	Schleswig-Holstein	0%
DEG	Thüringen	-10%
EL3	Attiki	0%
EL4	Nisia Aigaiou, Kriti	9%
EL5	Voreia Ellada	-7%
EL6	Kentriki Ellada	-4%
ES1	Noroeste	-8%
ES2	Noreste	4%
ES3	Comunidad de Madrid	0%
ES4	Centro (ES)	-7%
ES5	Este	0%
ES6	Sur	-5%
ES7	Canarias	-8%
FR1	Ile-de-France	0%
FRB	Centre - Val de Loire	-10%
FRC	Bourgogne-Franche-Comté	-13%

NUTS1	Name of the NUTS1 Region	Coefficient
FRD	Normandie	-10%
FRE	Hauts-de-France	-11%
FRF	Grand Est	-10%
FRG	Pays de la Loire	-11%
FRH	Bretagne	-12%
FRI	Nouvelle-Aquitaine	-12%
FRJ	Occitanie	-11%
FRK	Auvergne-Rhône-Alpes	-11%
FRL	Provence-Alpes-Côte d'Azur	-10%
FRM	Corse	0%
FRY	RUP FR - Régions Ultrapériphériques Françaises	0%
ITC	Nord-Ovest	3%
ITF	Sud	-4%
ITG	Isole	-2%
ITH	Nord-Est	3%
ITI	Centro (IT)	0%
HU1	Közép-Magyarország	0%
HU2	Dunántúl	-7%
HU3	Alföld és Észak	-15%
NL1	Noord-Nederland	-6%
NL2	Oost-Nederland	-4%
NL3	West-Nederland	0%
NL4	Zuid-Nederland	-3%
AT1	Ostösterreich	0%
AT2	Südösterreich	0%
AT3	Westösterreich	4%
PL2	Makroregion południowy	-7%
PL4	Makroregion północno-zachodni	-6%
PL5	Makroregion południowo-zachodni	-4%
PL6	Makroregion północny	-8%
PL7	Makroregion centralny	-11%
PL8	Makroregion wschodni	-15%
PL9	Makroregion województwo mazowieckie	0%
PT1	Continente	0%
PT2	Região Autónoma dos Açores	0%
PT3	Região Autónoma da Madeira	0%
RO1	Macroregiunea Unu	-6%
RO2	Macroregiunea Doi	-11%
RO3	Macroregiunea Trei	0%

NUTS1	Name of the NUTS1 Region	Coefficient
RO4	Macroregiunea Patru	-8%
FI1	Manner-Suomi	0%
FI2	Åland	0%
SE1	Östra Sverige	0%
SE2	Södra Sverige	-2%
SE3	Norra Sverige	-5%

Source: Eurostat, Structure of Earnings Survey 2022.

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Wage determinants in the European Union

This publication analyses the impact of the different characteristics of the employee (age, occupation, etc.) and of its employer (industry, size, region) on wages, throughout the European Union.

The study is based on regression techniques applied on microdata taken from the Structure of Earnings Survey 2022.

Regression coefficients provide information on how the different labour markets reward the different characteristics of the job tenant and how the different types of businesses compete in terms of wages offered to their employees.

By crossing job characteristics with sex, this analysis also sheds light on possible gaps between the financial returns on education, part-time work etc. offered to men versus women.

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