

The wage gap among male and female top managers

RAQUEL VALE MENDES

ABSTRACT: *This paper studies gender wage differentials among top managers in the Portuguese economy. The objective is to investigate whether men and women within the same occupational group, with relatively high levels of human capital, and who are evaluated basically on their performance, are treated unequally in relation to pay. The Oaxaca wage decomposition method is used, relying on micro data from the Quadros de Pessoal (QP). The main findings indicate that a substantial portion of the wage gap between male and female top managers is potentially due to wage discrimination.*

Key words: Wage Inequality, Wage Discrimination, Wage Decomposition

TÍTULO: A desigualdade salarial entre os gestores de topo masculinos e femininos

RESUMO: *Este trabalho analisa a desigualdade salarial entre homens e mulheres que exercem cargos de chefia de topo em Portugal. O objectivo é investigar se homens e mulheres inseridos no mesmo grupo ocupacional, dotados de níveis de capital humano elevados, e que são avaliados com base no seu desempenho, são tratados de forma distinta em relação aos seus salários. Baseado em dados dos Quadros de Pessoal (QP), o presente estudo emprega a metodologia de decomposição salarial de Oaxaca. Os principais resultados revelam que uma porção substancial das disparidades salariais entre os dois grupos de gestores resulta potencialmente da discriminação salarial.*

Palavras-chave: Desigualdade Salarial, Discriminação Salarial, Decomposição Salarial

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Over the last decades, the Portuguese labor market has been marked by some dramatic changes. Perhaps the most striking aspect of these transformations has been the sharp increase of women's participation in the labor force. This increase has been such that Portugal's female employment rate ranks among the highest within the European Union. Despite the significant progress of women in relation to their integration into the labor market, gender wage differentials persist in the Portuguese economy. In fact, Portugal ranks as one of the European countries with what is considered a high gender wage gap (Santos and González, 2003).

Why do women earn lower wages than men? The traditional approach in analyzing the determinants of the gender wage gap is to consider both the effects of gender differences in employees' human capital endowments and labor market discrimination. Recently, scholars have focused on the role of gender segregation across occupations in explaining differences in earnings.

Alongside the theoretical discussion of the determinants of gender wage differentials is the formulation of wage decomposition methods aimed at identifying the sources of these differentials and their contributions. One of the most commonly used methods is using Oaxaca (1973). This method decomposes wage differentials into two components: a component explained by differences in male and female employees' labor market characteristics and a residual component interpreted as wage discrimination. Numerous empirical studies have based their investigation of the wage gap on the application of the Oaxaca (1973) method (e.g. Ashraf and Ashraf, 1993; Bertrand and Hallock, 2001; Kunze, 2005; Monk-Turner and Turner, 2001; Neuman and Weisberg, 1998; Plasman and Sissoko, 2004; Ward, 1999). For Portugal, several studies have used this standard approach to analyze gender wage differentials (e.g. Kiker and Santos, 1991; Santos and González, 2003; Vieira, Cardoso and Portela, 2005; Vieira and Pereira, 1993). However, there is no known study that has applied this procedure to the decomposition of gender wage disparities among top management jobs in Portugal.

The purpose of this paper is to study gender wage differentials among top managers in the Portuguese economy. Specifically, the objective is to investigate whether, in Portugal, wage inequality exists between men and women within the same occupational group, with relatively high levels of human capital, and who are evaluated basically on their performance. Empirical results on the decomposition of the wage gap may be considered an important tool in defining policy measures aimed at promoting labor market equality on a gender basis. Relying on micro data from the *Quadros de Pessoal* (QP) for the year 2005, this paper uses the Oaxaca (1973) wage decomposition methodology to conduct the empirical analysis.

This paper is organized as follows. Section 2 reviews the theoretical explanations for gender wage differentials. Sections 3 and 4 describe the wage decomposition methodology and the data set used, while section 5 presents and discusses the results. Concluding remarks are presented in section 6.

SOURCES OF THE GENDER WAGE GAP

The traditional approach for the analysis of the determinants of the wage gap is to consider both the role of gender differences in human capital endowments and labor market discrimination¹. The human capital theory (Mincer and Polachek, 1974) posits that the earnings of individual workers are a function of their past investment in human capital. The theory suggests that the gap can be explained by the fact that, when compared to men, women have fewer qualifications such as formal education, labor market experience and on-the-job training. The results of these differences in human capital are lower levels of productivity for women and, therefore, lower wages. This theory's explanation for gender differences in acquisitions of human capital is based upon the traditional role of women within the family. Because they tend to have shorter and more interrupted working lives than men, women invest less in labor market qualifications (Blau and Kahn, 1999).

In addition to differences in human capital endowments, labor market discrimination is often pointed out as a major source of gender wage differentials. Blau and Ferber (1986, p. 229) consider that labor market discrimination exists when “two equally qualified individuals are treated differently solely on the basis of their sex”. Thus, in accordance with the labor market discrimination theory, gender disparities in earnings arise from the unequal treatment of equally productive males and females². The two main theories of labor market discrimination are those referred to as theories of taste discrimination and theories of statistical discrimination (Stenzel, 2001). In Becker's (1957) model of taste discrimination, the unequal treatment of two groups arises from discriminatory tastes or personal prejudices against members of one of the groups. In models of statistical discrimination (e.g. Aigner and Cain, 1977), employers discriminate based on the average differences between two groups in the expected value of productivity or in the reliability with which this value can be predicted (Blau and Kahn, 1999).

Recently, scholars have focused on the role of occupational gender segregation in explaining the gender wage gap. This type of segregation exists when men and women are employed in different types of occupation (Preston, 1999). The segregation theory suggests that gender differences in pay stem from the fact that female-dominated occupations are generally paid more poorly than those dominated by

males (Boraas and Rodgers, 2003). To explain occupational segregation, Terrell (1992) distinguishes between labor supply and labor demand factors. On the labor supply side, the human capital approach views occupational distribution as a function of occupational choice. The basic idea is that, given their traditional role within the family, women tend to invest less in human capital than men and select occupations on the basis of this role and these investments. On the labor demand side, occupational segregation is explained by employers' discrimination of women in their hiring practices in certain occupations (employment discrimination).

It is important to note that most economists do not necessarily consider mutually exclusive sources of the gender wage gap. Many authors refer to the possibility of more than one factor contributing to the determination of the gap. In her analysis of Portuguese female labor force participation, Cardoso (1996) concludes that gender wage differentials do not result exclusively from lower levels of female human capital and from the concentration of female employment in less regarded occupations or economic sectors. This author considers that disparities between male and female wages are also due to the fact that, at each human capital level and in each occupation or economic sector, women with equal characteristics to those of men are paid less.

THE MODEL

The theoretical discussion of the determinants of the gender wage gap involves the formulation of mathematical and statistical methods aimed at decomposing wage differentials. These methods have become a popular and useful way to identify the sources of the wage gap and their contributions.

One of the most widely used decomposition methods is the traditional approach derived using Oaxaca (1973)³. This method decomposes the overall wage gap between gender groups into two components: one explained by differences in male and female employees' labor market characteristics⁴ and the other, residual, due to differences in the rates of return on those characteristics. The residual component of the gap is defined in Oaxaca (1973) as a measure of wage discrimination⁵. The basic idea of this method is that wage disparities between two groups can be partially explained by the fact that these groups have unequal levels of labor market endowments, whereas the remaining differential is attributable to wage discrimination.

Following the Oaxaca (1973) method, the first step to decomposing the differential in male and female wages is to run separate wage regressions by gender:

$$\ln W^m = \mu^m X^m + \beta^m \quad (1)$$

$$\ln W^f = \mu^f X^f + \beta^f \quad (2)$$

where superscripts m and f indicate the gender (male and female, respectively), $\ln W^m$ and $\ln W^f$ represent the natural logarithms of hourly wages, β^m and β^f are vectors of the coefficients to be estimated, X^m and X^f are matrices of the employees' characteristics, and μ^m and μ^f correspond to the error terms with mean values equal to zero and constant variances.

From the OLS estimation of equations (1) and (2), it results that:

$$\ln \bar{W}^m = \hat{\beta}^m \bar{X}^m \quad (3)$$

$$\ln \bar{W}^f = \hat{\beta}^f \bar{X}^f \quad (4)$$

where $\ln \bar{W}^m$ and $\ln \bar{W}^f$ are the average natural logarithms of hourly wages, $\hat{\beta}^m$ and $\hat{\beta}^f$ are vectors of the estimated regression coefficients, and \bar{X}^m and \bar{X}^f are the matrices of the average values of male and female characteristics, respectively. Given these results, the wage differential between the two groups may be written as:

$$(\ln \bar{W}^m - \ln \bar{W}^f) = \hat{\beta}^m \bar{X}^m - \hat{\beta}^f \bar{X}^f \quad (5)$$

By adding and subtracting $\hat{\beta}^m \bar{X}^f$ from the right-hand side of equation (5), it follows that:

$$(\ln \bar{W}^m - \ln \bar{W}^f) = \hat{\beta}^m (\bar{X}^m - \bar{X}^f) + \bar{X}^f (\hat{\beta}^m - \hat{\beta}^f) \quad (6)$$

Equation (6) corresponds to the standard Oaxaca (1973) wage decomposition based on the male wage structure. The first term on the right hand side corresponds to the explained component, which represents the portion of the wage differential due to differences in male and female labor market characteristics. Kunze (2000) also interprets this component as the wage gain female employees would obtain if they had the same average characteristics as their male colleagues. The second term on the right hand side of the equation is the unexplained (or residual) component, which corresponds to the portion of the wage gap that is not explained by gender differences in the levels of endowments. This component stems from differences in the two groups' coefficients, that is, from differences in the rates of return to male and female characteristics. The unexplained portion of the wage differential, interpreted as wage discrimination, measures the wage gain that, given their average characteristics, female employees would obtain if they were to be paid the same as male employees (Kunze, 2000).

The wage differential decomposition specified in equation (6) assumes that in the absence of wage discrimination females will have the same rates of return to characteristics as males. However, if it is assumed that the non-discriminatory wage structure is the female wage structure⁶ then the decomposition equation is equal to:

$$(\ln \bar{W}^m - \ln \bar{W}^f) = \hat{\beta}^f (\bar{X}^m - \bar{X}^f) + \bar{X}^m (\hat{\beta}^m - \hat{\beta}^f) \quad (7)$$

Since its formulation, the Oaxaca (1973) method has played an important role in decomposing wage differentials by source. Numerous studies have applied this conventional approach (e.g. Ashraf and Ashraf, 1993; Bertrand and Hallock, 2001; Kunze, 2005; Monk-Turner and Turner, 2001; Neuman and Weisberg, 1998; Plasman and Sissoko, 2004; Ward, 1999). For Portugal, a few studies aimed at analyzing the size and composition of the gap have relied on the Oaxaca technique in their empirical analysis. Kiker and Santos (1991), relying on micro data of the year 1985, conclude that 33% of Portuguese wage disparities is explained by gender differences in male and female characteristics, while the remaining 67% is attributed to differences in the rates of return on those characteristics (discrimination component)⁷. Vieira and Pereira (1993), who investigate wage differentials in the Azores islands for the year 1989, conclude that the wage gap stems primarily from differences in the rates of return on male and female characteristics. More recently, Santos and González (2003) and Vieira, Cardoso and Portela (2005), based on micro data for the periods 1985-1997 and 1985-1999, respectively, report results that suggest that the majority of the Portuguese wage gap is unexplained by gender differences in labor market attributes and is potentially due to the effects of wage discrimination.

THE DATA

The empirical analysis is performed for the year 2005⁸, based on micro data from the *Quadros de Pessoal (QP)*. The *QP* is an annual employment inquiry gathered by the Portuguese Ministry of Labor and Social Solidarity that every establishment with wage earners is legally obliged to fill in. Reported data covers information on each firm and establishment, such as location, economic activity, and employment, as well as information on each employee, for instance, gender, age, schooling, skill, occupation, tenure with the current firm, monthly wage, and hours worked.

The observations included in the analysis correspond to 89,269 non-self employed full-time top managers⁹ that represent about 5% of the total working force¹⁰. For the year under analysis, only 29% of top management jobs were held by female employees, indicating a disproportionate representation of women in Portuguese top corporate jobs. Table 1 provides descriptive statistics for male and female top managers.

The comparison of both groups' average gross hourly regular wages reveals that female top managers earn about 74% of the total amount earned by their male colleagues. Differences in the educational attainments of male and female top managers are small. In fact, these two groups have very similar distributions among the different levels of their formal education. The majority of male and female top managers (42% and 46%, respectively) have 15 or more years of schooling.

TABLE 1
Descriptive statistics for male and female top managers, 2005

Characteristics (N=89,269)	Males			Females		
	%	Mean	St. dev.	%	Mean	St. dev.
Share of top managers by gender	70.69			29.31		
Ln hourly wage		2.27	0.93		2.03	0.84
Education (years)						
≤ 4	11.04			10.00		
6	11.69			9.66		
9	14.87			13.28		
12	20.32			21.00		
≥ 15	42.08			46.06		
Age (years)	43.44			40.85		
Previous experience (years)	17.02			15.02		
Tenure (years)	8.86			7.86		
Ln firm size	3.43			3.34		
Region						
North Coast	26.10			24.92		
Center Coast	13.36			12.58		
Lisbon and Tagus Valley	49.14			51.59		
Inland	7.13			6.49		
Algarve	4.27			4.42		
Industry						
Food, beverages, and tobacco	2.61			2.09		
Textiles, clothing, and footwear	3.34			4.43		
Wood and cork	1.30			0.71		
Paper, printing, and publishing	1.95			1.77		
Chemical	2.83			2.67		
Non-metal mineral products	1.67			0.99		
Metal	2.62			1.33		
Machinery and equipment	3.15			1.46		
Other manufacturing industries	1.56			1.01		
Electricity, gas, and water	0.46			0.18		
Construction	10.68			5.45		
Trade	24.32			23.69		
Hotels and restaurants	6.81			7.79		
Transportation and communication	8.12			7.79		
Banking, insurance, and business services	22.76			25.94		
Social and personal services	5.82			12.70		

Notes: Average hourly wages are computed as $(bw+rs)/nh$, where bw is the base wage, rs are regular paid subsidies, and nh is the number of normal hours worked.

Source: Computations based on Portugal, Ministério do Trabalho e da Solidariedade Social (2005).

On average, male top managers are older than their female counterparts and have more work experience prior to their current job by about 2 years. Tenure with the current firm is also greater for men than for women. On average, male top managers have worked with the same firm for 9 years, while female top managers have dedicated 8 years to the same employer.

Both groups of employees are similarly characterized in relation to the firm's size and location. Differences in the two groups' distribution across economic sectors are also small. The two leading economic sectors for both male and female top managers are "banking, insurance, and business services" and "trade".

RESULTS OF THE OAXACA (1973) WAGE DECOMPOSITION METHOD

Following the Oaxaca (1973) method, the first step to decomposing the overall wage differential between male and female top managers is to estimate separate wage equations by gender. The OLS estimates of these equations are displayed in Table 2. The dependent variable is the natural logarithm of hourly wages, whereas the independent variables are: years of previous work experience (and its square), years of job tenure (and its square), the natural logarithm of firm size, and a sequence of dummy variables that reflect years of educational attainment, firm location and economic sector. (Table A1 of the Appendix provides the description of the independent variables used in the regression analysis). The majority of the regression coefficients are statistically significant at the 0.01 level. It appears, therefore, that the majority of the independent variables included in the regressions are very highly significant in explaining hourly wages for both male and female top managers.

The two sets of estimates reveal that, as expected, higher educational attainments raise earnings. For both groups of employees, the relationship between hourly wages and previous experience, as well as the relationship between hourly wages and tenure, take on a concave shape, i.e. previous work experience and tenure have diminishing marginal effects on hourly wages.

The wage regression results also show that the firm's size has a positive effect on hourly wages and that the firm's location in Lisbon leads to higher hourly wages when compared to the firm's location in other Portuguese regions. As for economic sector, the estimated results indicate that "banking, insurance, and business services", "electricity, gas, and water", "machinery and equipment", and "paper, printing, and publishing" are among the most highly remunerated economic sectors.

TABLE 2
OLS estimates for male and female employees, 2005

Independent variable	Males (N=63,101)	Females (N=26,168)
Constant	0.376** (19.10)	0.322** (11.03)
Education (Ed4 omitted)		
Ed6	0.109** (12.97)	0.083** (6.30)
Ed9	0.342** (37.63)	0.291** (20.17)
Ed12	0.642** (66.21)	0.580** (38.27)
Ed15	1.105** (107.52)	1.079** (64.91)
Prevevp	0.042** (55.50)	0.034** (32.52)
Prevevp ²	-0.001** (-32.84)	-0.001** (-18.82)
Tenure	0.025** (30.34)	0.030** (24.26)
Tenure ²	-0.00003 (-0.99)	-0.0002** (-4.58)
Lnfirmisz	0.159** (121.67)	0.140** (79.77)
Region (Northeast omitted)		
Centerest	-0.002 (-0.29)	-0.067** (-6.50)
LTV	0.123** (19.91)	0.059** (6.70)
Inland	-0.141** (-15.96)	-0.135** (-10.48)
Algarve	-0.056** (-4.41)	-0.087** (-5.28)
Industry (Foodbevtv omitted)		
Txclothfo	-0.060** (-3.18)	0.016 (0.62)
Woodcork	-0.030 (-1.27)	0.048 (1.06)
Paper	0.067** (3.09)	0.125** (3.80)
Chemical	0.009 (0.46)	0.088** (2.93)
Nonmetal	0.018 (0.81)	0.014 (0.36)
Metal	-0.028 (-1.43)	0.049 (1.39)
Machequip	0.129** (7.00)	0.147** (4.33)
Others	-0.212** (-9.69)	-0.078* (-1.97)
Elecgaswa	0.032 (0.91)	0.456** (5.66)
Construct	-0.079** (-4.98)	-0.026 (-0.99)
Trade	-0.037* (-2.42)	-0.003 (-0.14)
Resthot	-0.292** (-17.65)	-0.176** (-7.14)
Transcomm	-0.223** (-13.25)	-0.151** (-5.97)
Banksinsbs	0.065** (4.14)	0.109** (4.61)
Socialper	-0.048** (-2.72)	-0.014 (-0.58)
R ²	0.611	0.628
S _e	0.581	0.514

Notes: The values in brackets are t-statistics derived from robust standard errors; *statistically significant at the 0.05 level; **statistically significant at the 0.01 level.

Source: Computations based on Portugal, Ministério do Trabalho e da Solidariedade Social (2005).

Based on these results, the Oaxaca (1973) wage gap decomposition is performed, first assuming that the male wage structure is the prevailing one (equation 6) and then assuming the female wage structure as the benchmark (equation 7). The results summarized in Table 3 reveal that, when the male wage structure is used as the base, 19% of the total wage gap is explained by differences in male and female labor market characteristics, while 81% of the differential is residual. In the case where it is assumed that the non-discriminatory wage structure is the female wage structure, the estimates indicate that 16% of the gap results from differences in the levels of male and female characteristics, whereas the remaining 84% cannot be accounted for on the basis of those differences.

Hence, the estimated results indicate that for the year under analysis a significant portion of the wage gap between male and female top managers in the Portuguese economy is unexplained by gender differences in measured labor market endowments and is potentially due to wage discrimination¹¹.

TABLE 3
Oaxaca (1973) wage decomposition results, 2005

Decomposition	Total wage gap ($\ln \bar{W}^m - \ln \bar{W}^f$)	Explained component	Residual component
Male wage structure	0.238	0.045	0.193
Female wage structure	0.238	0.037	0.201

Source: Computations based on Portugal, Ministério do Trabalho e da Solidariedade Social (2005).

CONCLUSION

The purpose of this paper was to investigate gender wage differentials among top managers in the Portuguese economy. The main objective was to determine the sources of the observed gap and to measure their relative importance in explaining it.

The Oaxaca (1973) wage decomposition method was applied to micro data from *Quadros de Pessoal* (QP) for the year 2005. The results indicate that wage discrimination potentially underlies a substantial portion of the wage gap between male and female top managers in Portugal, whereas observed differences in the two groups' characteristics account for a small part of those differentials. That is, the results indicate that the majority of the observed gap arises from potential labor market discrimination rather from observed gender wage differences in the mean values of productive and job related characteristics. From a policy point of view, the

main findings of this chapter suggest a more effective role of anti-discrimination labor market policies aimed at reducing gender wage differentials in the Portuguese economy.

Future studies might involve an application of alternative decomposition procedures to the analysis of wage disparities among top managers in the Portuguese economy. On the other hand, and given the disproportionate representation of women in Portuguese top corporate jobs, one might also investigate gender differences in the mechanisms of access to higher level jobs.

NOTES

1. Blau and Kahn (1996) additionally consider the role of wage structure in determining the magnitude of the gender wage gap. Defined as “the array of prices set for various labour market skills (measured and unmeasured) and rents received for employment in particular sectors of the economy” (Blau and Kahn, 1996, p. 29), wage structure determines the wage penalty or reward related to an individual’s position in the wage distribution. For example, if female employees have less formal education than their male colleagues, the greater the return to formal education (regardless of gender), the larger the size of the wage gap. As another example, if males and females are distributed differently across occupations, the higher the premium received by workers employed in male-dominated occupations (regardless of gender), the larger the wage gap.

2. Dex and Sloane (1988) consider two distinct forms of labor market discrimination: wage discrimination and employment discrimination. Wage discrimination occurs when individuals with the same levels of productivity are paid different amounts, whereas employment discrimination occurs when individuals with the same levels of productivity are employed differently across occupations. These authors note that employment discrimination may or may not accompany wage discrimination.

3. This approach is also Blinder (1973).

4. These characteristics are usually referred to as human capital characteristics (e.g. education, experience, tenure), although researchers often also include characteristics related to jobs, sectors, and firms.

5. Cotton (1988) considers that caution should be taken when interpreting the residual component of the gap as wage discrimination. The residual gap may also be due to unmeasured or unobserved labor market characteristics that differ between male and female employees. To be an exact measure of wage discrimination, all factors that determine wages must be accounted for. If for some reason (e.g. dataset limitations) they are not, then the residual component will also reflect these omitted determinants, overstating the true effect of wage discrimination.

6. Oaxaca (1973) proposes the decomposition based on either the male wage structure or the female wage structure in his study of gender wage differentials in urban labor markets. He estimates both cases, suggesting that the results define the range within which the values of the components fall. Decompositions based on alternative non-discriminatory structures are found in Cotton (1988), Neumark (1988), and Oaxaca and Ransom (1988). Cotton (1988) defines the non-discriminatory wage structure as the weighted average of the male and female wage structures, using the proportion of males and females in the sample as weights. Neumark (1988) and Oaxaca and Ransom (1988) propose that the wage structure in the absence of discrimination can be estimated by using the coefficients from a pooled wage regression of males and females.

7. The analysis is based on the male wage structure.

8. The last year for which information is available is 2005.

9. The Portuguese Classification of Occupations (Portugal, Ministério do Emprego e da Segurança Social, 1994) defines nine major occupational groups: executive civil servants, industrial directors, and executives; professionals and scientists; middle management and technicians; administrative and related workers; service and sales workers; farmers and skilled agricultural and fisheries workers; skilled workers, craftsmen, and similar; machine operators and assembly workers; and unskilled workers. Each one of these major groups include occupations that are in some way related by virtue of training required and/or type of work performed. The empirical analysis is based on data for the major group: executive civil servants, industrial directors and executives.

10. Observations relative to the economic sectors of agriculture, forestry, fishery, mining, public administration, domestic service, and extra-territorial organizations are not included in the analysis. These sectors are not adequately covered by the inquiry since they either have a very low share of wage earners in total employment, or they are among the sectors explicitly excluded from the obligation to answer the inquiry. Employees with ages under 16 and over 65 are not included in the analysis. The analysis focuses on the Portuguese mainland, therefore excluding observations regarding the islands of Azores and Madeira. Observations with missing data are also excluded from the analysis.

11. As explained in section 3, the Oaxaca (1973) model defines the residual component of the gap as a measure of wage discrimination. In this view, once differences between male and female labor market characteristics are taken into account, any remaining differences in wages are attributable to discrimination. However, and to the extent that all the determinants of wages might not be adequately measured or observed using the available data set, there may be unmeasured or unobserved characteristics that differ between the two groups of employees. As a result, the contribution of these omitted variables to the wage gap may also be reflected in the residual component.

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APPENDIX

TABLE AI
Description of independent variables

Variable	Description
Ed4:	Dummy variable, 1 if years of education is ≤ 4 .
Ed6:	Dummy variable, 1 if years of education is $=6$.
Ed9:	Dummy variable, 1 if years of education is $=9$.
Ed12:	Dummy variable, 1 if years of education is $=12$.
Ed15:	Dummy variable, 1 if years of education is ≥ 15 .
Prevexp:	Number of years of labor market experience prior to current job ($age - education - 6 - tenure$).
Prevexp ² :	Previous experience squared.
Tenure:	Number of years of tenure in the current job.
Tenure ² :	Tenure squared.
Lnfirmesz:	Natural logarithm of firm size.
Northest:	Dummy variable, 1 if firm location is in the North Coast region.
Centerest:	Dummy variable, 1 if firm location is in the Center Coast region.
LTV :	Dummy variable, 1 if firm location is in the Lisbon and Tagus Valley region.
Inland:	Dummy variable, 1 if firm location is in the Inland region.
Algarve:	Dummy variable, 1 if firm location is in the Algarve region.
Foodbevtto:	Dummy variable, 1 if industry is Food, beverages, and tobacco.
Txclothfo:	Dummy variable, 1 if industry is Textile, clothing, and footwear.
Woodcork:	Dummy variable, 1 if industry is Wood and cork.
Paper:	Dummy variable, 1 if industry is Paper, printing, and publishing.
Chemical:	Dummy variable, 1 if industry is Chemical.
Nonmetal:	Dummy variable, 1 if industry is Non-metal mineral products.
Metal:	Dummy variable, 1 if industry is Metal.
Machequip:	Dummy variable, 1 if industry is Machinery and equipment.
Others:	Dummy variable, 1 if industry is Other manufacturing industries.
Elecgaswa:	Dummy variable, 1 if industry is Electricity, gas, and water.
Construct:	Dummy variable, 1 if industry is Construction.
Trade:	Dummy variable, 1 if industry is Trade.
Resthot:	Dummy variable, 1 if industry is Hotels and restaurants.
Transcomm:	Dummy variable, 1 if industry is Transportation and communication.
Bankinsbs:	Dummy variable, 1 if industry is Banking, insurance, and business services.
Socialper:	Dummy variable, 1 if industry is Social and personal services.