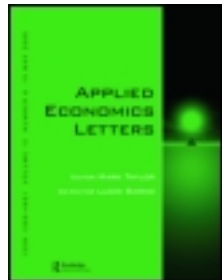


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Inter-regional wage differentials in Spain

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The paper analyses the wage differentials among different Spanish regions. Hedonic wage equations are first formulated for those regions and then the wage decomposition method is applied, which allows separation of the effects due to characteristics from those due to returns. The results show that in the Centre and South, half of the wage differential corresponds to each concept, whereas in the North and East the difference is due more to the different remuneration than to the different characteristics. The variables that exert greatest influence on the characteristic differences are seniority, possessing a university degree, the command of a second language, the sector of activity, the supervisory tasks undertaken and the occupation. With respect to the different returns, the largest differences correspond to remuneration for seniority, a second language, the sector of activity, the working hours and discrimination by gender.

I. INTRODUCTION

Differences in average wages have been observed among the workers of the different Spanish regions. These differences may be due, in part, to the composition of the labour force, or the price levels that correspond to each region. Furthermore, they may be the motivation for migratory movements in the interior of the country. The theory of compensating differences indicates that if the real wage paid to each class of worker is inter-regionally different, then the wage is compensating for other characteristics that are different between these regions. Wage differentials between the regions of a country are usually due to two fundamental reasons: first, differences in the average levels of the market value of the labour characteristics, such as education and work experience (see, for example, Coelho and Ghali, 1971; Bellante, 1979; Gerking and Weirick, 1983); and, secondly, differences in the rates of return of those characteristics (see, among others, Gallaway, 1963; Goldarb and Yezer, 1976; Hanusek, 1973; Sahling and Smith, 1983; Krum, 1984).

This paper considers these two interpretations when studying why inter-regional wage differentials exist in Spain. Hedonic real wage equations are estimated using the decomposition proposed by Oaxaca (1973). This

method is then applied to five Spanish regions using observations on full-time workers.

The paper is organized as follows. In Section II, the theoretical and empirical model which allows analysis of the wage differentials is explained, and the data is described. Section III is devoted to the empirical results and, finally, in Section IV the most important conclusions are summarized.

II. THE WAGE DECOMPOSITION AND DATA

The hedonic wages theory (Rosen, 1986) states that the wage differentials between two occupations are given by the wage compensation due to the different job characteristics, which themselves depend on different human capital requirements or on different working conditions. Thus, the hedonic method allows one to detect the particular remuneration that the labour market assigns to each job characteristic. Similarly, the Oaxaca (1973) method uses these kinds of hedonic wages in order to distinguish the differences due either to the characteristics, or to the remuneration of these characteristics.

This procedure requires the specification of a wage equation, with that proposed by Mincer (1974) being selected,

that is to say, $\log \omega_i = X_i \beta + e_i$, where ω_i is the hourly wage of the individual i , X_i is a vector which includes both human capital and job characteristics, β is the vector of parameters and e_i is an error term with the usual properties.

After estimating the wage equations for the different Spanish regions, the Oaxaca method results in the following decomposition, $\overline{\log \omega_j} - \overline{\log \omega_k} = \beta_j(\bar{X}_j - \bar{X}_k) + (\hat{\beta}_j - \hat{\beta}_k)\bar{X}_k$; the left-hand-term indicates the difference between the observed mean wages in the regions j and k ; the first term of the right-hand-side reflects the part of this wage difference due to the different employee characteristics, whilst the second term indicates that part of the difference that is due to the different remunerations of these characteristics.

In order to estimate the wage equation, the most recent Spanish cross-section corresponding to 1994 is used, which provides the necessary statistical information on the behaviour of Spanish people, that is to say, the 'European Community Household Panel' (PHOGUE), published by the National Statistical Institute (INE). This statistical information is completed with the regional prices and population obtained from the National Statistical Institute Year Book.

From the PHOGUE, those wage-earning employees have been selected who responded to all the variables, thus obtaining a representative sample made-up of 4450 feasible observations. In order to satisfy the objective of this paper, the total sample has been divided into five subsamples corresponding to the five Spanish regions: North (1128), East (1227), Centre (446), South (1077) and Madrid (572).

Table 1 shows the average and standard deviation of the representative variables for the total sample, as well as for each of the five regional subsamples. Thus, one has socio-demographic variables on gender, education level, whether the employee is over-qualified for the position, seniority, the working hours per week, if he/she uses a second language, if he/she carries out supervisory tasks, the occupation, the sector of activity, the nominal wage per hour, the regional price index and, finally, the real wage per hour.

With respect to gender, it is found that the female proportion is higher in Madrid and in the East, whilst the highest proportion corresponds to males in the North and in the Centre. The distribution by educational levels is very similar in all the regions, save for Madrid, with the proportion of university level education being higher in Madrid than in the rest of the regions, 22% and, with the South region having the lowest value, 6%. Moreover, in Madrid, the proportion of employees with both low or intermediate education levels is much lower than in the rest of the Spanish regions. The highest levels of over-qualification are found in Madrid, whereas the lowest appear in the North. The highest values of the seniority variable appear in the North, followed by Madrid, with more than half the

employees occupying the same job for more than ten years. There are no important differences in the number of hours worked, with this variable being around 42 hours per week in each region. The highest proportion of employees who speak a second language is in the East, almost 50%, whilst in the Centre and South this proportion decreases to 10%. Moreover, the highest proportion of employees who carry out supervisory tasks is found in Madrid and East. With respect to occupations, the first five correspond to non-manual occupations, and the last five to manual ones. There, the high percentage of non-manual employees in Madrid, 68%, and of manual employees in the Centre, 56% is noted. As regards the sector of activity, the most important in all regions is that of services, specifically in Madrid, with this being followed by industry, fundamental in the Centre, North and East and, finally, by construction and agriculture, which have low percentages in the national sample, and with the South having the highest proportion. Finally, it can be observed that both the highest nominal and real wages appear in Madrid, followed by the East, the Centre and the South.

III. EMPIRICAL RESULTS

Table 2 contains the wage equation estimation for every region, considering the logarithmic of the real wage as the dependent variable. The value of the intercept is important, given that it indicates that part of the wage which is not affected by the independent variables. However, this component depends on other non-included variables, such as the unemployment rate of the region, the way of life, the climate, etc., that is to say, all other factors that exert an important influence on the wage. Thus, it can be seen that the higher intercept corresponds to Madrid, followed by the Centre, the East, the North and, finally, the South. It can be further observed that in the intercept the highest wage is in Madrid, with that corresponding to the South being the lowest.

As regards gender, it is found that this is individually significant at the 5% level and positive in all cases, which indicates the presence of wage discrimination in Spain. With respect to the education variables, the expected sign appears in the North and East, indicating that the returns of education, that is to say, that the wage increases with the education level of the employee. This kind of return can also be observed in the South and in Madrid, but now corresponding to the intermediate level in the first case, and to higher education in Madrid. The overqualification variable has a negative effect on the wage in the East.

Seniority in the current job is another compensation factor in all those cases where this variable is greater than two years, with the compensation increasing with seniority. By contrast, when the seniority is between one and two years,

Table 1. Mean and standard deviations of variables

	North		East		Centre		South		Madrid	
	Mean	Stand. dev.	Mean	Stand. dev.	Mean	Stand. dev.	Mean	Stand. dev.	Mean	Stand. dev.
Gender (1 = male, 0 = female)	0.72	0.45	0.67	0.47	0.72	0.45	0.70	0.46	0.67	0.47
Primary education	0.34	0.48	0.34	0.47	0.35	0.48	0.40	0.49	0.24	0.43
Secondary education 1 st level	0.23	0.42	0.26	0.44	0.25	0.43	0.26	0.44	0.18	0.39
Secondary education 2 nd level	0.12	0.32	0.15	0.36	0.13	0.33	0.10	0.31	0.22	0.42
University diploma	0.10	0.30	0.09	0.28	0.11	0.32	0.11	0.32	0.08	0.26
University degree	0.08	0.27	0.09	0.29	0.09	0.28	0.06	0.24	0.21	0.41
Other higher studies	0.13	0.34	0.08	0.27	0.07	0.26	0.06	0.24	0.08	0.27
Overeducation	0.43	0.50	0.52	0.50	0.51	0.50	0.49	0.50	0.54	0.50
Seniority < 1 year	0.06	0.24	0.09	0.29	0.13	0.33	0.15	0.36	0.07	0.26
Seniority between 1 and 2 years	0.05	0.22	0.07	0.25	0.06	0.24	0.07	0.26	0.07	0.25
Seniority between 2 and 5 years	0.19	0.39	0.18	0.39	0.21	0.41	0.18	0.39	0.17	0.38
Seniority between 5 and 10 years	0.17	0.38	0.18	0.38	0.17	0.37	0.18	0.38	0.18	0.39
Seniority > 10 years	0.53	0.50	0.48	0.50	0.44	0.50	0.42	0.49	0.51	0.50
Hours worked by week	42.13	8.04	42.65	8.20	42.74	8.93	42.69	8.49	42.84	8.24
Second language	0.28	0.45	0.49	0.50	0.06	0.23	0.08	0.27	0.20	0.40
Supervisory tasks	0.21	0.41	0.32	0.47	0.27	0.45	0.28	0.45	0.39	0.49
Technical and scientific professionals, and academics	0.11	0.31	0.12	0.33	0.14	0.34	0.11	0.32	0.18	0.39
Private and public sector management	0.02	0.13	0.03	0.17	0.01	0.08	0.02	0.13	0.04	0.19
Technical and professional staff	0.10	0.30	0.13	0.34	0.09	0.28	0.09	0.29	0.17	0.37
Administrative staff	0.12	0.32	0.12	0.33	0.13	0.33	0.11	0.31	0.15	0.35
Service sector and sales staff	0.14	0.35	0.13	0.34	0.11	0.31	0.17	0.37	0.14	0.35
Members of the Armed Forces	0.01	0.07	0.01	0.08	0.01	0.08	0.01	0.11	0.00	0.04
Agriculture and fishing technicians	0.03	0.16	0.01	0.12	0.01	0.11	0.02	0.15	0.004	0.06
Craftsmen and qualified staff in the manufacturing, construction and mining sectors	0.25	0.43	0.20	0.40	0.23	0.42	0.21	0.41	0.15	0.36
Semi-skilled installation, machinery and assembly workers	0.12	0.32	0.10	0.30	0.11	0.31	0.09	0.28	0.07	0.25
Unskilled workers	0.12	0.33	0.15	0.35	0.18	0.39	0.18	0.39	0.10	0.30
Agriculture	0.03	0.18	0.03	0.17	0.02	0.14	0.08	0.27	0.004	0.06
Industry	0.41	0.49	0.36	0.48	0.39	0.49	0.27	0.44	0.24	0.43
Construction	0.02	0.14	0.02	0.13	0.03	0.17	0.03	0.17	0.03	0.18
Services	0.54	0.50	0.59	0.49	0.56	0.50	0.62	0.49	0.72	0.45
Wage by hour	867.21	502.63	888.53	556.28	818.31	481.97	767.77	529.01	1084.6	611.65
Price*	100.79	0.00	100.00	0.00	100.44	0.00	100.53	0.00	100.35	0.00
Real wage by hour	860.39	498.68	888.51	556.27	814.74	479.86	763.76	526.25	1080.8	609.53

Source: PHOGUE, 1994 and INE yearbook, 1996.

*Price index corresponding to the Autonomous Regions within which the five regions fall, weighted by the population.

in the case of Madrid it is found that the wage is lower when the time spent in the same job is less than one year.

The working hours exhibit a negative effect on the wage, without differences by regions. Knowledge of a second language has a clear compensation factor in Madrid, and reduces the wage in the North. The supervisory task is a compensation variable in all the regions, save in the Centre.

With respect to the occupational variables, technical and scientific professionals and academics are considered the reference group, with private and public sector management obtaining a higher remuneration than this group in

the South and in Madrid. The rest of the occupations generally present negative parameters, indicating a lower remuneration with respect to the reference group, and with the lowest corresponding to the category which includes unskilled workers. However, the lowest remuneration in the Centre and in Madrid does not correspond to this occupation, but rather to employees in the agriculture and fisheries sectors.

Finally, the activity sector has a clear effect on the remuneration of employees in all regions, save in the Centre and Madrid. In the East and the South, the highest remunera-

Table 2. *Estimated coefficients*

	North		East		Centre		South		Madrid	
	coeff.	t-rate	coeff.	t-rate	coeff.	t-rate	coeff.	t-rate	coeff.	t-rate
Constant	6.36*	36.13	6.38*	42.71	6.62*	24.97	6.07*	40.50	7.21*	23.45
Gender (1 = male, 0 = female)	0.30*	8.72	0.26*	8.38	0.18*	3.00	0.29*	7.21	0.18*	4.67
Secondary education 1 st level	0.13*	3.39	0.11*	3.05	-0.02	-0.38	0.01	0.18	0.06	1.08
Secondary education 2 nd level	0.18*	3.46	0.16*	3.32	-0.02	-0.24	0.14*	2.17	0.05	0.91
University diploma	0.21*	3.09	0.28*	4.16	0.19	1.63	0.33*	4.03	0.03	0.41
University degree	0.27*	3.40	0.36*	4.75	0.25	1.77	0.40*	3.84	0.23*	2.94
Other higher studies	0.16*	3.37	0.22*	3.80	-0.03	-0.35	0.14	1.79	0.01	0.10
Overeducation	0.00	0.01	-0.05*	-1.98	0.05	1.10	0.00	-0.11	-0.04	-0.99
Seniority between 1 and 2 years	0.10	1.23	-0.11	-1.60	-0.18	-1.57	0.12	1.55	-0.42*	-4.81
Seniority between 2 and 5 years	0.75*	11.98	0.54*	10.07	0.68*	7.96	0.73*	12.20	0.25*	3.44
Seniority between 5 and 10 years	0.79*	12.32	0.63*	11.52	0.76*	8.50	0.83*	13.82	0.33*	4.56
Seniority > 10 years	1.01*	17.24	0.79*	16.06	0.91*	11.68	1.00*	18.56	0.47*	7.19
Hours worked by week	-0.02*	-10.72	-0.02*	-11.28	-0.02*	-7.42	-0.02*	-9.71	-0.02*	-8.88
Second language	-0.08*	-2.54	-0.02*	-0.55	-0.03	-0.27	0.01	0.16	0.17*	3.84
Supervisory tasks	0.15*	4.07	0.17*	5.31	0.11	1.88	0.12*	2.96	0.19*	5.02
Private and public sector management	0.16	1.39	0.13	1.38	0.55	1.86	0.31*	2.15	0.21*	2.21
Technical and professional staff	-0.25*	-3.56	-0.18*	-2.65	-0.17	-1.55	-0.05	-0.60	-0.20*	-3.10
Administrative staff	-0.33	-4.60	-0.35*	-4.89	-0.35*	-2.85	-0.16	-1.75	-0.32*	-4.45
Service sector and sales staff	-0.44*	-5.69	-0.46*	-6.09	-0.34*	-2.61	-0.33*	-3.64	-0.44*	-5.78
Members of the Armed Forces	-0.22	-1.15	-0.40*	-2.12	-0.42	-1.41	-0.15	-0.88	-0.17	-0.45
Agriculture and fishing technicians	-0.42*	-2.83	-0.34*	-2.12	-0.82*	-3.00	-0.28	-1.81	-0.61*	-2.17
Craftsmen and qualified staff in the manufacturing, construction and mining sectors	-0.50*	-6.39	-0.48*	-6.19	-0.50*	-3.70	-0.37*	-3.90	-0.41*	-5.04
Semi-skilled installation, machinery and assembly workers	-0.38*	-4.62	-0.34*	-4.21	-0.42*	-3.02	-0.30*	-2.87	-0.30*	-3.27
Unskilled workers	-0.63*	-7.80	-0.55*	-7.08	-0.68*	-5.16	-0.47*	-4.84	-0.54*	-6.23
Industry	0.28*	2.18	0.54*	5.23	0.36	1.85	0.45*	5.51	0.10	0.35
Construction	0.21	1.36	0.36*	2.51	-0.09	-0.38	0.36*	2.95	0.18	0.63
Services	0.29*	2.34	0.48*	4.79	0.24	1.21	0.44*	5.61	0.11	0.41
N ^o observations	1128		1227		446		1077		572	
R ² adjusted	0.52		0.55		0.57		0.57		0.58	
F	48.27		58.88		23.80		55.12		31.90	

* Indicates that the coefficient is significant at the 5% level.

tion corresponds to the industry sector, whereas in the North the difference is lower and now corresponds to the services sector.

The econometric indicators of fit and joint significance of parameters indicate an excellent degree of fit and the acceptance of such a joint significance at the usual 5% level.

Table 3 shows the results of the decomposition of the wage differentials by regions, expressed as percentages of the total wage differential, with Madrid being taken as the reference region. For every region, the first column shows the percentage of the wage differential explained by the

model that is due to the different employee characteristics. The second column shows the wage differential due to the different remuneration characteristics. Next, is the total wage differential which, therefore, totals one hundred. The positive sign of these values must be interpreted as a positive contribution to the wage differential in favour of Madrid, whilst the negative sign indicates a negative contribution to this wage differential.

When analysing the table, note that the percentages indicate how the wage differential explained by the model is assigned to the different characteristics and remunerations.

Table 3. *Decomposition of the wage differentials*

	North			East			Centre			South		
	$\hat{\beta}_m(\bar{x}_n - \bar{x}_n)$	$(\hat{\beta}_m - \hat{\beta}_n)\bar{x}_n$	Total	$\hat{\beta}_m(\bar{x}_e - \bar{x}_e)$	$(\hat{\beta}_m - \hat{\beta}_e)\bar{x}_e$	Total	$\hat{\beta}_m(\bar{x}_c - \bar{x}_c)$	$(\hat{\beta}_m - \hat{\beta}_c)\bar{x}_c$	Total	$\hat{\beta}_m(\bar{x}_s - \bar{x}_s)$	$(\hat{\beta}_m - \hat{\beta}_s)\bar{x}_s$	Total
Constant	0.00	338.53	338.53	0.00	360.80	360.80	0.00	158.38	158.38	0.00	256.58	256.58
Gender	-5.02	-33.93	-38.95	-0.79	-24.06	-24.85	-3.39	-0.37	-3.77	-1.63	-16.99	-18.61
Secondary education 1 st level	-0.67	-5.82	-6.49	-1.73	-5.74	-7.47	-1.06	5.38	4.32	-1.15	2.97	1.82
Secondary education 2 nd level	2.24	-5.91	-3.67	1.57	-7.47	-5.89	1.52	2.36	3.88	1.39	-2.28	-0.89
University diploma	-0.14	-6.26	-6.40	-0.15	-9.64	-9.79	-0.18	-4.16	-4.34	-0.23	-7.17	-7.40
University degree	11.79	-1.48	10.31	11.97	-5.57	6.39	8.59	-0.41	8.18	8.23	-2.24	5.99
Other higher studies	-0.17	-8.63	-8.80	0.00	-7.35	-7.35	0.00	0.90	0.90	0.03	-1.78	-1.74
Overeducation	-1.68	-6.07	-7.75	-0.46	2.20	1.74	-0.28	-12.57	-12.85	-0.40	-3.53	-3.93
Seniority between 1 and 2 years	-3.34	-10.34	-13.68	0.00	-9.59	-9.59	-1.13	-3.86	-4.99	0.00	-8.48	-8.48
Seniority between 2 and 5 years	-0.99	-37.85	-38.84	-1.09	-24.33	-25.42	-2.01	-24.02	-26.03	-0.56	-20.48	-21.04
Seniority between 5 and 10 years	0.00	-34.39	-34.39	0.00	-24.93	-24.93	1.77	-19.51	-17.74	0.74	-20.19	-19.45
Seniority > 10 years	-5.60	-107.55	-113.16	6.16	-62.59	-56.43	8.84	-48.49	-39.65	7.42	-48.30	-40.89
Hours worked by week	-3.03	5.11	2.08	-2.58	14.26	11.68	0.00	18.21	18.21	-1.03	8.10	7.07
Second language	-10.92	36.63	25.71	-23.28	42.53	19.25	7.39	2.70	10.09	5.03	2.91	7.95
Supervisory tasks	12.93	3.70	16.63	4.18	3.46	7.64	7.21	5.74	12.94	5.18	4.22	9.40
Private and public sector manag.	1.66	0.39	2.05	0.91	1.09	2.00	1.68	-0.92	0.76	0.94	-0.46	0.48
Technical and professional staff	-5.55	2.03	-3.51	-2.61	-1.48	-4.09	-4.82	-0.61	-5.43	-3.60	-2.98	-6.57
Administrative staff	-3.82	0.55	-3.27	-4.20	1.40	-2.80	-2.58	0.84	-1.74	-2.89	-4.04	-6.93
Service sector and sales staff	0.00	-0.16	-0.16	-3.84	0.96	-2.89	-4.73	-2.67	-7.39	1.98	-3.89	-1.91
Members of the Armed Forces	0.55	0.19	0.74	0.61	0.96	1.57	0.37	0.66	1.03	0.70	-0.12	0.58
Agriculture and fishing techn.	7.23	-2.22	5.01	2.65	-1.18	1.48	1.63	0.56	2.19	2.74	-1.47	1.26
Craftsmen and qual. staff in the man., const. and mining sectors	18.04	8.63	26.67	10.82	5.59	16.42	11.09	5.39	16.48	6.51	-1.94	4.57
Semi-skilled installation, machinery and assembly w.	6.02	3.57	9.59	3.97	1.55	5.52	3.26	3.49	6.75	1.37	-0.14	1.23
Unskilled workers	2.12	4.06	6.18	9.32	0.83	10.15	14.33	7.69	22.02	8.41	-2.60	5.81
Industry	-6.19	-27.49	-33.68	-6.81	-74.79	-81.60	-4.45	-27.92	-32.37	-1.10	-22.27	-23.37
Construction	0.72	-0.33	0.39	1.59	-1.51	0.08	0.49	2.20	2.69	0.41	-1.20	-0.79
Services	8.16	-39.16	-31.00	8.48	-89.96	-81.48	5.52	-17.90	-12.38	3.09	-43.84	-40.76
Total	24.35	75.80	100.14	14.70	85.43	100.14	49.05	51.08	100.13	41.60	58.38	99.98

However, these percentages cannot be interpreted as the dimension of such wage differentials, which were observed in Table 1.

The first column of Table 3 indicates the component of the wage differential that is attributable to the differences in the characteristics of both employees and jobs, and the part that can be allocated to the various remunerations of such characteristics. Thus, it can be seen that in the Centre and South regions, one half of the wage differential corresponds to each of these two concepts, whereas in the North and East, the difference is due in a higher proportion to the different remuneration than to the different characteristics.

The second column exhibits the effect of the intercept, that is to say, the part not explained by the wage differential model. In all cases, this effect is higher than 100, which indicates that the majority of the wage differential is not explained by the model and, therefore, is due to other reasons. Moreover, it indicates that the rest of the differences are negative, given that the total sum was positive, and, therefore, the remuneration for the characteristics is higher in all regions with respect to the value in Madrid.

If the table is analysed in more detail, some important results can be found when differentiating by variables. Thus, in the gender variable it is found that the wage differential is due, in most part, to discrimination, and that such discrimination is higher in the North, East and South than in the Centre and Madrid.

The education level is not very important in the total wage differential. First, note the large number of employees with a higher level of education in Madrid compared to the rest of the regions and, second, note that the remuneration in every level is lower in Madrid than in the rest of the regions, save for the lower education levels in the Centre and the secondary level in the South. Overqualification is not very important in the wages, with the remuneration corresponding to this variable being higher in the Centre and North than in Madrid.

However, the seniority variable does have a significant effect on the wage differentials. Thus, Madrid has a higher proportion of employees with seniority greater than 10 years than the East, the Centre and the South and, by contrast, this proportion is lower than in the North. However, the highest difference corresponds to the returns specifically if these correspond to the highest seniority levels, which receive lower remuneration in Madrid than in the other regions.

The number of working hours per week are very similar among the different regions, but the remuneration per hour is higher in Madrid than in the rest of regions, specifically with respect to the Centre and the East.

The use of a second language is more usual in Madrid than in the Centre and the South, but less usual than in the North and East. However, the remuneration is higher in Madrid, specifically with respect to the North and East.

Carrying out supervisory tasks is more usual among employees in Madrid than in the rest of the regions, specifically, than in the North, with the remuneration for this task also being the reason for the wage differential in favour of employees in Madrid.

The majority of the occupation groups do not present important wage differences. However, in Madrid there is a smaller proportion of employees working as craftsmen and qualified staff in the manufacturing, construction and mining sectors, as well as of unskilled employees, than in the rest of the regions. The remuneration of both sectors is higher in Madrid than in the North, East and Centre, and it is lower than in the South.

Finally, with respect to the sectors of activity, it can be observed that Madrid has a higher proportion of employees in the services sector than the rest of the regions. Moreover, remuneration by sector is lower in Madrid than in the other regions.

IV. SUMMARY AND CONCLUSIONS

In this paper, the wage differentials among the different Spanish regions have been analysed, the objective being to explain the reasons for such differentials. To that end, hedonic wage equations have first been formulated for the different regions, and then the wage decomposition method has been applied, which allows separation of the effects due to characteristics from those due to returns. The statistical information has been obtained from the PHOGUE and the INE, both dating from 1994, with the total national sample being divided into five subsamples corresponding to the following regions: North, East, Centre, South and Madrid.

The results of the wage decomposition reveal that in the Centre and the South, half of the wage differential corresponds to each concept, whereas in the North and the East the difference is due in higher proportion to the different remuneration for characteristics.

The variables which exert the greatest influence over the characteristic differences are seniority, university level education, the use of a second language, the sector of activity, supervisory tasks and occupation.

With respect to the different returns, it is found that the highest differences in all regions correspond to remuneration for seniority, a second language, the sector of activity, the working hours and discrimination by gender, save, with respect to this last variable, for the Centre.

In summary, it can be concluded that the majority of the wage differential among Spanish regions is not explained either by the employee characteristics, or by the job conditions or by the different remuneration for such characteristics and conditions. Secondly, the highest differences in characteristics, when compared to Madrid, correspond to the Centre and the South. Thirdly, the differences in returns for both seniority and the use of a second language

are higher than those corresponding to education. Finally, wage discrimination by gender is higher in the North, East and South, again compared to Madrid, with this difference not being so important as between the Centre and Madrid.

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