

# A Comparative Analysis of the Evolution of Gender Wage Discrimination: Spain vs. Galicia.

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## Abstract

The aim of this paper is to analyze the degree of female wage discrimination in the Spanish region of Galicia relative to the rest of Spain. The analysis starts from an established fact: women's average earnings are lower than men's. First, we try to show the causes behind this wage differential. Next, we discuss the evolution of the wage gap between 1995 and 2002, in order to bring some light on the factors potentially accounting for wage discrimination persistence in Galicia and in Spain. We will analyze the distribution of the degree of discrimination using the Discrimination Curve and Discrimination Indexes proposed by Del Río *et al.* (2003). These indicators have the advantage of being decomposable, allowing a more exhaustive rendering of the factors characterizing wage discrimination, as well as the quantification of the incidence of discrimination for different social groups. Thus we can determine, not only if the degree of discrimination has had a similar evolution in both regions, but also if discrimination is more strongly exerted against the same social groups both in Galicia and in Spain.

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**Key words:** wage discrimination, labour market, regional economy.

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# 1. Introduction.

Women's incorporation to active population and to employment is a feature of labour markets in developed countries for the last 50 years. Nevertheless, although the presence of women is extended to all economic sectors and all occupations, empirical research about women's position in labour markets shows important differences relative to that of men. Spain is not an exception to this general rule.

Spain is a country constituted by 17 different regions, one of which is the north-western one called Galicia. Some economic characteristics of this particular region are that it has only 74.9% of average European Union (EU) GDP, and female unemployment rate doubles the male one. In 1995, an average woman's wage in Galicia was 80.80% of an average man's wage (i.e., the so-called "wage gap" was 19.20%). This fact is common to all European countries, only with differences in its magnitude. In this particular point, Galicia seemed to be in a privileged position, far from countries like Ireland and Great Britain where wage differences between men and women were higher (amounting to wage gaps of 34.3 and 35.2 percentage points, respectively), and closer to Belgium or Denmark (Gannon et al. 2004 and Simón 2004). In fact in 1995, Galicia was the Spanish region with the smallest gender wage gap, far away from the Spanish average showing a wage gap of 31.64%. However, the evolution of this gap was negative in the following years. With 2002 data, Galician women's average wage was 77.77% of men's wage.

There is a general consensus regarding gender discrimination in labour markets both in Galicia and in the rest of Spain. All the usual indicators measuring workers' situation are negative for women: they have a smaller presence in labour market, they suffer higher unemployment rates, they are over-represented in fixed term jobs, they are excluded totally or partly from some type of occupations (those of greater responsibility) and they receive lower wages. Our work is focused on this last particular aspect.

Gender wage gap may be explained by different arguments, supporting significantly different interpretations. In neoclassical economic literature, wage discrimination is defined as the part of the wage gap which cannot be explained by "objective" differences, like levels of education, industrial sector, type of occupation, etc. Instead, non-neoclassical researchers take wage inequalities as a reflection of different types of female discrimination in labour market that cannot be independently measured.

It is usual in the neoclassical approach to do a decomposition exercise of the wage differentials, trying to estimate which part is explained by women's different position in the labour market, the remaining being taken as "pure discrimination". Lower female wages could be justified because women as a group show smaller experience levels, work in lower-wage sectors (textile, manufacturing of wearing apparel, hotels and restaurants, trade), occupy smaller responsibility jobs within companies, have a lower tenure, etc. But these differences only explain approximately 50% of the total differential and therefore, simple and pure wage discrimination would continue being of the sort of 10- 15%.

The alternative approach departs from a different consideration of discrimination. This is not limited to different wages for the same job, but to locate men and women in different labour spaces. First, women suffer from greater unemployment (unemployment rates twice as large as men's rates). Moreover, the lower wages paid in some sectors would depend more on the female predominance in their workforce than on a strict productivity basis. In general, low wages sectors have a predominantly female workforce (Fernandez et al. 2004). Women's lower presence in senior occupations, or upper professional levels, is explained more by a persistent limitation of women promotion by men than women's will. In fact, women are over-represented in groups of high educational levels and nevertheless they reach high responsibility positions in a much smaller proportion<sup>1</sup>. The greater female presence in fixed term jobs (consequently, with a shorter tenure) and in part-time jobs shows an overall situation of discrimination with respect to men<sup>2</sup>.

In this paper we will focus on wage discrimination analysis following the first or neoclassical approach. That is, we are going to concentrate in pure wage discrimination, but this should not be interpreted as a dismissal of the importance of other dimensions of gender discrimination.

In technical terms, wage discrimination exists when the gender wage gap cannot be attributed to differences in productivity<sup>3</sup>. The aims of this paper are to analyse if gender wage discrimination exists in the Galician labour market, to measure it if the answer to

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<sup>1</sup> This fact can explain wage inequalities persistence in the public sector, occupied most of women with superior education.

<sup>2</sup> Although most of part-time jobs are female, the *Encuesta de Población Activa* (Labour Force Survey) shows that in Spain this is not a result determined by women's own choice, but due to the characteristics of the occupation or to not being able to find a full time job.

<sup>3</sup> We must take into consideration that productivity is not directly observable by the researcher. Consequently, we are forced to estimate the level of productivity from a set of observable characteristics. Selection of the characteristics to be included in this set is transcendental for the analysis of discrimination, since the omission of significant ones would lead to a biased result overvaluing discrimination.

the first question is affirmative, to determine the magnitude of gender wage discrimination in Galicia relative to the rest of Spain, and finally to describe how this relative magnitude has evolved through time.

There are few studies presenting comparative analysis about the regional distribution of gender wage discrimination in Spain. Aláez and Ullibarri (2000) located Galicia as one of the Spanish regions with higher percentage of gender wage gap due to discrimination, only exceeded by Murcia. This points to the importance of a deeper analysis of the Galician situation relative to the rest of Spain. Recently, Gradín, Arévalo and Otero (2003) produced a detailed analysis of income distribution with a significant focus on wage discrimination. Nevertheless this study deals only with Galician 1995 data and does not include any comparative analysis.

The structure of the paper is the following. Section 2 describes the usual methodology for measuring the degree of wage discrimination. Section 3 describes the data source. In Section 4 we decompose the gender wage gap, following the traditional Oaxaca (1973) decomposition, in order to compare the degree of wage discrimination in Galicia relative to the rest of Spain. In Section 5, we incorporate the distributive dimension to wage discrimination analysis, taking in consideration new indicators like the Discrimination Curve and the Discrimination Indexes proposed in Del Río, Gradín and Cantó (2004). These indicators have the advantage of being decomposable, which allow us to calculate the degree of discrimination for different social groups. Section 6 offers some brief conclusions.

## **2. Methodology.**

One of the techniques most used in order to estimate the degree of gender wage discrimination is Oaxaca (1973) and Blinder (1973) decomposition. This technique consists of decomposing the wage gap in two elements; one reflects the part of the wage differential due to differences in characteristics between men and women, and other the part of the wage differential which isn't explained by differences in characteristics, also called "discrimination". Many authors have applied this method for different periods and regions of the Spanish economy, and every paper confirm the existence of an important degree of wage discrimination. Among them we may refer to Ugidos (1997a), De la Rica and Ugidos (1995), Hernández (1995), and Pérez and Hidalgo (2000). Other authors focused their attention on specific Spanish regions, like Aláez and Ullibarri

(1999) for Basque Country or Gradín, Arevalo and Otero (2003) for Galicia. Even Aláez and Ullibarri (2000) have done a comparison between all the Spanish regions.

Nevertheless, this method presents some disadvantages. Its results differ according to the payment scheme used as non discriminatory reference, and also according to the composition of the set of characteristics included to estimate productivity. Consequently, the studies mentioned in the previous paragraph offered different values for the estimated degree of discrimination depending on their choice of reference payment scheme and set of characteristics. While this problem is well-known in the literature, none of the usual techniques employed can avoid it.

Another problem, this time one specific of this method, is that it takes into account only the “average” man and the “average” woman for the estimation of the degree of discrimination. This is equivalent to assume that the discrimination is distributed homogeneously, so discarding an important amount of information.

Recently, new methods have been developed in order to improve the wage gap decomposition by taking into account information about wage distribution. One of them was proposed by Juhn-Murphy-Pierce (1991), and then used by authors like Blau and Khan (1996, 1997) or Simón (2004). This technique maintains the component of Oaxaca’s decomposition which captures the wage differential due to the differences in characteristics (productivity). The difference with Oaxaca’s decomposition is in the other component (called discrimination). In this case, that measure of discrimination is divided in two, one part reflects the wage differential attributable to their mean percentile ranks (interpreted as the level of unobserved ability) and the second one captures the wage differential due to the wage dispersion (interpreted as abilities prices or individual characteristics prices), which in this case we could interpret as “discrimination”.

Nevertheless, this method is not free from problems. First, the interpretation of one of its components as an indicator of the level of unobserved abilities is bold. This value could be due as much to unobserved characteristics as to the simple explanatory variables omission. Second, as we are making reference to gender discrimination, this component could be reflecting the unobservable part of discrimination itself. Moreover, as Suen (1997) demonstrates this decomposition gives biased results as long as the position in the distribution is not independent of its standard deviation.

Another technique -recently developed and enjoying high rates of acceptance- that try not to focus only on average values is that of quantilic regressions. This method allows to estimate the degree of discrimination in different points of the distribution. Authors

like Gardeazabal and Ugidos (2003) or Dolado and Llorens (2004), have estimated the degree of discrimination at different quantiles for the Spanish economy in order to see how it evolves throughout the distribution.

Several authors have pointed to the necessity of paying attention to the distribution of the degree of discrimination. Jenkins (1994), starting from the poverty and inequality literature, did an application of the Generalized Lorenz Inverse for the estimation of discrimination. In the same line, Del Río, Gradín and Cantó (2004) built a Discrimination Curve. This curve reflects the discrimination *per capita* accumulated for the total of discriminated women. Discrimination curves are graphic tools which can show us what it is happening in an economy at a first glance. Nevertheless, they can be of little use in comparative analysis, because if they cross they cannot be compared. For this reason, in order to sum up all the information a Discrimination Curve provides in a single comparable value, Del Río, Gradín and Cantó (2004) presented discrimination indexes adapting the poverty indexes of Foster, Greer and Thorbecke (1984). These indexes show very desirable properties like continuity, dominion, symmetry, invariance in population replications, weak monotonicity and the weak principle of transferences. Moreover, these indexes also have other important characteristic for the objectives of our paper, i.e. decomposability. This property allows to compute the indexes for subpopulations, allowing the estimation of degrees of discrimination for socioeconomic groups. Note, however, that this property makes the indexes subject to the critique exposed by Sen (1976), who indicated that the poverty of a particular group (discrimination in our case) may not be independent of that of another different group.

### **3. Data.**

The source used in this paper is the *Encuesta de Estructura Salarial* (EES, Wage Structure Survey), elaborated by the *Instituto Nacional de Estadística* (INE, National Statistics Institute) for the years 1995 and 2002. It is a survey with a large number of observations, although it does not represent the whole employed population. Actually, the reference population is formed by employees<sup>4</sup> working in establishments with ten or more workers, involved in any economic activity except agriculture, farming, fishing, Public Administration, Defence, Social Security, private households and extra-territorial organizations and bodies. The 1995 EES does not include the following activity groups:

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<sup>4</sup> CEO, Board members, and all other personnel whose earnings consist mainly in fees or profits instead of wages are excluded.

M (education), N (health and social work) and O (other community, social and personal service activities). All these groups have been excluded from the analysis to maintain homogeneity between both periods used in this work.

The use of this survey for the analysis of wage discrimination presents two main disadvantages. The first one is the lack of data about significant variables potentially important to explain the gender wage differential, like working experience or marital status. However, the inclusion of marital status as a determinant of wage differentials is not widely accepted. Regarding working experience, we have calculated a proxy variable through age and education. The second disadvantage of the EES consists in being limited to private sector wage-earners employed by medium and large size companies, and so excluding agriculture, fishing, and several services sectors. The potential influence of these characteristics on the degree of wage discrimination is unclear. Not including public sector employees could overestimate the degree of the wage discrimination<sup>5</sup>. Nevertheless, the lack of small-firm data and the inclusion of some private services sectors where discrimination can be higher than the average, could work in the opposite direction, undervaluing the estimation of the degree of wage discrimination<sup>6</sup>. Both facts can be very important in the Galician economy, where 30% of the wage-earners are employed in sectors not covered by the Survey. The incidence by sex of the excluded group is also quite diverse (22% of male wage-earning workers and 41% of female ones).

These disadvantages are somewhat countered by the advantage of working with a sample of the dimensions of the EES, which includes a wealth of information about wage-earners and the establishments where they are employed. This richness of information allows us to analyse the wage-determination process both from the demand as well as from the supply side of the labour market.

The degree of gender wage discrimination has been estimated from the computation of a “normal” hourly wage, obtained as the monthly earnings divided by the number of hours worked (normal and extraordinary) in the reference month (October). This month does not feature payments nor periods of absence of a seasonal character (payments due beyond the month or holiday periods), making it possible to obtain “normal” or “ordinary” monthly earnings, minimizing the incidences in questionnaire answers due to the beginning or conclusion of labour activity during this month. The resulting hourly

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<sup>5</sup> Negative differential treatment in women’s wages appears to be concentrated in the private sector (Ugidos 1997 and García et. al. 1998).

<sup>6</sup> Many female earners work in small companies in trade and services sectors where average wages are lower.

wage is lower than what would be obtained if annual data were used, because in that case extraordinary prizes and payments that are made in random periods or with regularity superior to the month would be added. The reason for using this method is that the estimation of the hours worked in the reference month is more precise than that of annual hours worked. Nevertheless, this choice can lead to undervaluation of the degree of gender wage discrimination, since it obviates the potential discrimination due to higher extra payments to male workers, not linked to their productivity. Finally, to allow for comparisons between workers, the monthly earnings of those who did not get a complete monthly wage due to unrewarded absences has been adjusted considering the days of complete wage<sup>7</sup>.

#### **4. Estimation of aggregate discrimination through Oaxaca's decomposition.**

Next we offer an estimation of the degree of aggregate discrimination in Galicia and the rest of Spain for 1995 and 2002, through Oaxaca (1973) and Blinder (1973) decomposition. This method is based on Becker (1957). According to him, in the absence of discrimination the ratio of wages between two groups (in this case men and women) must be equal to the ratio of their respective productivities. In order to calculate productivities, we estimate two ordinary Mincer wage equations by OLS, one for each sex:

$$\ln w_i = Z_i' \hat{\beta} + u_i$$

where  $w_i$  is the individual hourly wage,  $Z_i'$  is an individual characteristics vector,  $\beta$  is the estimated coefficients vector and,  $u_i$  is the error term.

The degree of discrimination has been calculated assuming men's prices as the non-discriminatory wage structure, i.e. in absence of discrimination male and female characteristics would be paid at men's prices. Although this non-discriminatory wage structure is the most usual, some authors have proposed other alternatives. For example, Oaxaca (1973) also proposed to use as non-discriminatory prices women's payments. In this case we would obtain a measure of nepotism, which is favouritism towards men, with men receiving payments over their productivity. Neumark (1988) proposed a non-

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<sup>7</sup> The aim of these adjustments is to estimate the normal degree of discrimination, i.e. what we could call "base discrimination" as different from discrimination caused by other factors, like prizes which have a more discretionary character. Moreover, several filters have been applied (worker's age lower than years of tenure in the company, negative wages...) to eliminate atypical observations.



discriminatory structure intermediate between female and male prices. Thus, the unexplained part of the wage differentials would be divided in two, one representing discrimination and the other nepotism.

The measure of gender wage discrimination using men's prices as non discriminatory would be obtained from the following expression:

$$\overline{\ln w_h} - \overline{\ln w_m} = (\overline{Z'_h} - \overline{Z'_m}) \hat{\beta}_h + (\hat{\beta}_h - \hat{\beta}_m) \overline{Z'_m}$$

where the upper bar indicates the mean of the variable and subscripts *h* and *m* represent man and woman respectively. In this equation, the differential of average wages is obtained as the sum of one part that is explained by the vector of characteristics<sup>8</sup> (first term), plus another that it is not, and it is interpreted as explained by discrimination (second term).

Table 1 shows the results obtained for Galicia and the rest of Spain in 1995 and 2002. In 1995, the Galician gender wage gap was near to 20%. But, in absence of discrimination, this gap would be reduced to 6.42% (the degree of discrimination was 10.25%). In 2002, the Galician gender wage gap reached 23%. This increase is explained partly by a rise in the part of the wage differential due to differences in characteristics, but mainly by a considerable increase in the degree of discrimination (in 2002 it reached 14.01%). The rest of Spain showed a higher gender wage gap than Galicia in 1995, arriving at 25%. This was explained both by higher gender differences in characteristics (10.69%) as well as a higher degree of discrimination (13.60%). But between 1995 and 2002 the situation remained quite stable, resulting in the approximation of the Galician degree of discrimination to that already existing in the rest of Spain.

Table 1: Discrimination though Oaxaca's decomposition						
	$W_m / W_h$	% wage gap due to characteristics.	% wage gap due to discrimination	$W_m / W_h$ (in absence of discrimination)	Wage gap due to differences in characteristics.	Discrimination
Galicia 1995	83,32%	38,52%	61,48%	93,58%	6,42%	10,25%
Galicia 2002	77,92%	36,51%	63,49%	91,94%	8,06%	14,01%
Spain 1995	75,71%	44,01%	55,99%	89,31%	10,69%	13,60%
Spain 2002	75,87%	39,17%	60,83%	90,53%	9,47%	14,71%

<sup>8</sup> We have included variables related to individual worker's characteristics (potential experience, tenure, or level of studies reached), as well as variables related to job characterization (occupation, type of contract, working time status, firm size, agreement type, and activity sector).

## 5. Analysis of the distribution of the degree of wage discrimination.

The calculation of individual discrimination offers the possibility of analysing the degree of discrimination for all points in the wage distribution and for different socioeconomic groups. In order to obtain a measure of individual discrimination we must calculate for each woman  $i$  the difference between the estimated wage if their characteristics are paid to the male medium prices ( $\hat{r}_{mi}$ ) and the estimate wage if their characteristics are paid to the female medium prices ( $\hat{y}_{mi}$ )<sup>9</sup>. Instead of using absolute values, we calculate for each woman her degree of discrimination relative to her retribution in absence of discrimination (i.e. male prices). Thus, we define  $v_{mi}$  such that:

$$v_{mi} = \left( \frac{\hat{r}_{mi} - \hat{y}_{mi}}{\hat{r}_{mi}} \right)$$

This individual information about the degree of discrimination allows to calculate a Discrimination Curve. This curve shows the degree of discrimination per capita accumulated for the total of discriminated women in decreasing order from the most discriminated women. Analytically, we must calculate for each  $p = k/n$  ( $0 \leq p \leq 1$ ),

$$D(g; p) = \sum_{i=1}^k \frac{g_i}{n}$$

Being:  $g_i(v_m) = \max\{v_{mi}, 0\}$  vector of individual wage discrimination,  $n$  total number of employees and  $k$  some number so that  $k \leq n$ . We can define  $q = k/n$ <sup>10</sup> as women percentage who suffers discrimination. Moreover, the degree of convexity of the curve would show how discrimination is distributed.

Table 2 displays the discrimination curves. The two graphs in the higher part of the table combine the discrimination curves for Galicia and the rest of Spain, the one on the left for 1995 data and the other one for 2002 data. These graphs represent the evolution of the degree of discrimination both in Galicia and in the rest of Spain. On the other hand, the two graphs in the lower part combine the curves for both years, the left one

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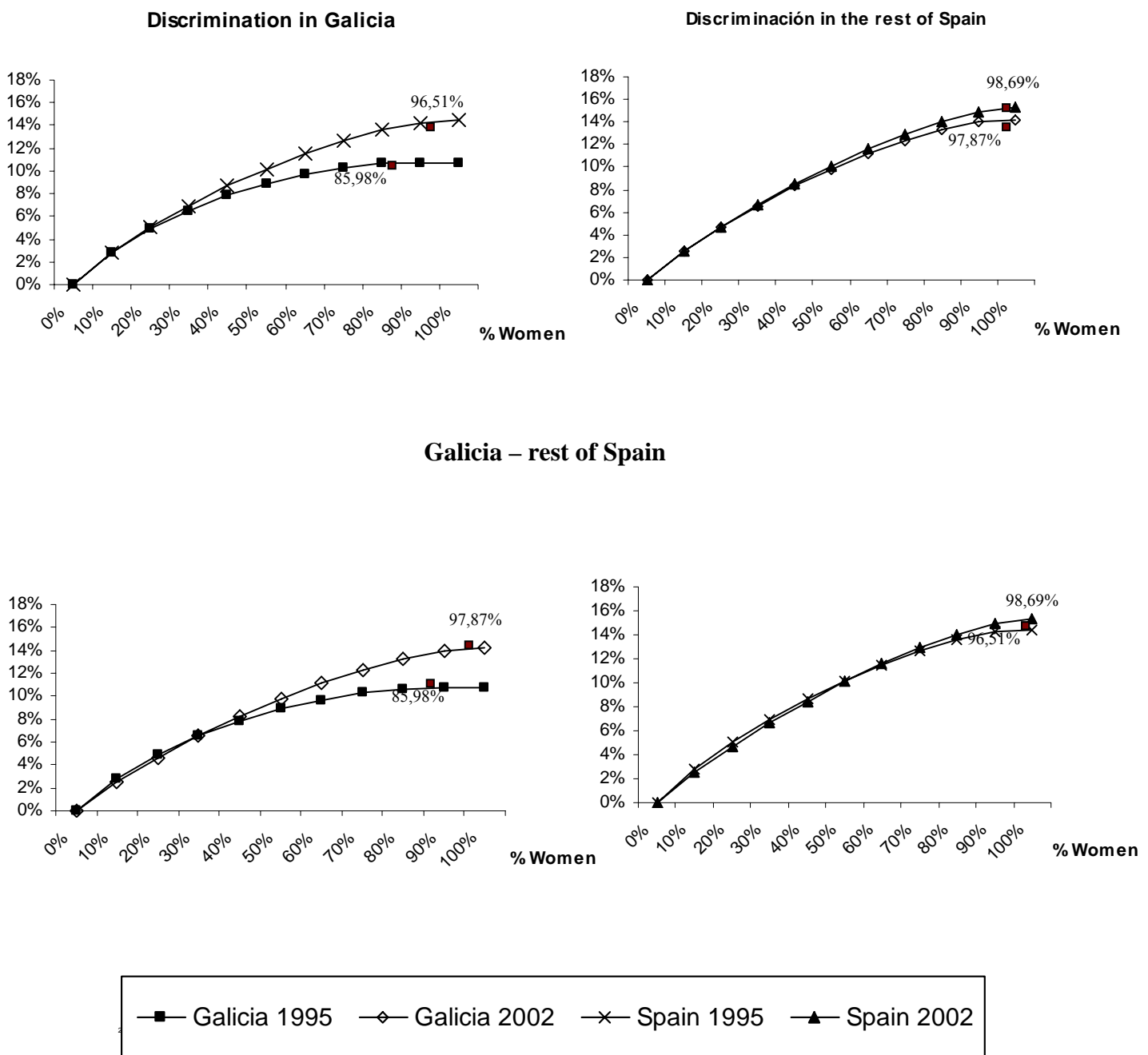
<sup>9</sup> Both wages are obtained according to the following expressions:  $\hat{y}_{mi} = \exp(Z_{mi} \hat{\beta}_m)$  and

$\hat{r}_{mi} = \exp(Z_{mi} \hat{\beta}_h)$

<sup>10</sup> being  $k^*$  the number of discriminated women

corresponding to Galicia and the other one to the rest of Spain. Looking first at the Galician curves, we can see an upward shift from 1995 to 2002, clearly representing an increase in the degree of discrimination. Furthermore, the percentage of discriminated women has risen from 86% in 1995 to 97% in 2002. In the case of the rest of Spain, on the contrary, the curves for 1995 and 2002 are very similar, and so are the percentages of discriminated women.

**Table 2:** Discrimination curves



In order to sum up all information provided by discrimination curves in a single comparable value, we can make use of the following discrimination indexes:

$$dr_{\alpha}(v_{mi}) = \left(\frac{1}{n}\right) \sum_{i=1}^{k^*} (v_{mi})^{\alpha}, \alpha > 1$$

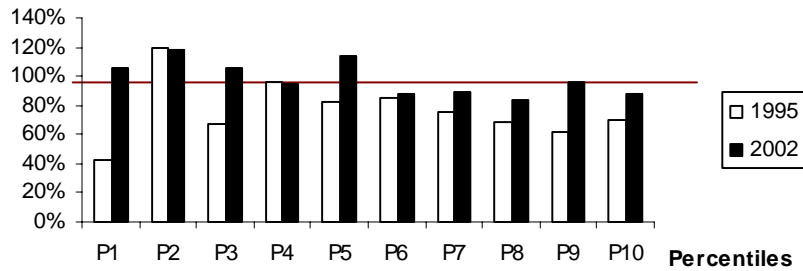
Where  $\alpha$  would be a coefficient of “aversion to discrimination” and  $k^*$  the number of discriminated women. In this paper we will use  $\alpha = 2$  in order not to give too much weight to discriminated women.

Table 3 presents the values of discrimination indexes in Galicia and in the rest of Spain, both in 1995 and in 2002. It is clear that the degree of discrimination in Galicia has increased strongly, getting much closer to the value corresponding to the rest of Spain.

Table 3: Discrimination indexes ( $\alpha=2$ )			
Galicia 1995	Galicia 2002	Spain 1995	Spain 2002
0.0190	0.0264	0.0246	0.0272

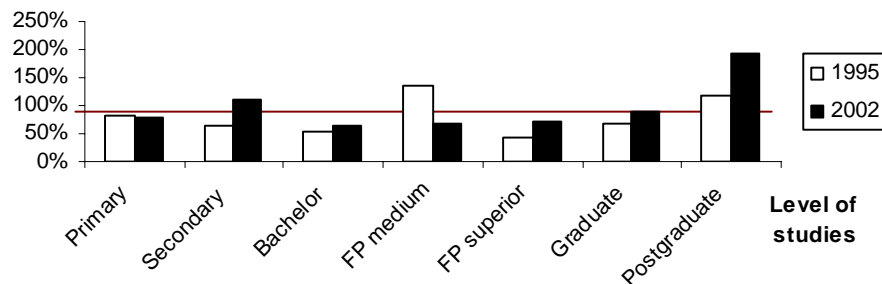
Now, we will use the decomposability property in order to analyse the degree of discrimination for different socioeconomic groups. First, we take a look at the values corresponding to deciles of income. In Galicia, from 1995 to 2002, the increase in the degree of discrimination was more pronounced for the higher income sections. As in 1995 the degree of discrimination was higher in medium-lower income sections, this means that the degree of discrimination became more homogeneous throughout deciles. In the rest of Spain the discrimination increased for the higher income sections and decreased for the lower ones. As the 1995 was fairly homogeneous, this means that the degree of discrimination became slightly increasing with levels of income throughout deciles. Graph 1 shows the degree of discrimination in Galicia relative to the rest of Spain for deciles of income. As we can see the degree of discrimination in Galicia increased towards the values present in the rest of Spain for all deciles, even surpassing them for the medium-lower income sections.

**Gráfico 1:** Level of discrimination in Galicia relative to the rest of Spain, for percentiles of income.



Next, we take a look at distribution according to educational levels. In 1995 the distribution of the Galician degree of discrimination was similar to that of the rest of Spain. Discrimination was concentrated in the lower and higher educational levels (remember, although, that the overall level of discrimination in Galicia was lower). This polarization was much reduced in 2002 for the rest the Spain, because the increase in the degree of discrimination took place at medium levels of education. The opposite happened in Galicia, where the increase in the degree of discrimination between 1995 and 2002 was more intense for the lower and higher levels of education. Graph 2 illustrates these trends. The graph shows Galician degree of discrimination levels catching up those of the rest of Spain except in the group of FP<sup>11</sup> medium. Another feature of this graph calling for attention is the relatively high degree of discrimination postgraduate women suffer in Galicia.

**Graph 2 :** Level of discrimination in Galica relative to the rest of Spain, for level of studies



<sup>11</sup> This Spanish education level is an alternative to bachelor (FP medium degree) or graduate (FP superior degree) studies.

Table 4 displays the degree of discrimination for type of occupation. In 1995, the occupations with a higher value of the discrimination index in Galicia were craft works, jointly with managers and operators. Minimum values corresponded to service workers, instead. Looking at the results for 2002, we can detect qualitative and quantitative changes, with managers and professionals showing the strongest increase in the degree of discrimination. These results agree with the results obtained for educational levels, because employees with a higher level of studies (usually professionals and managers) show the highest degree of discrimination.

While in 1995 Galicia showed lower values for the degree of discrimination than the rest of Spain in all occupations except for managers, in 2002 not only managers, but professionals, services, craft work and garbage collectors (services) presented higher values of discrimination indexes in Galicia than in the rest of Spain.

As we mentioned in the Introduction, wage discrimination is not the only kind of significant discrimination in labour markets. Occupational discrimination is usually regarded as, at least, of equal importance. The existing literature points to the existence of a stabilising effect when both kinds of discrimination are considered together. It seems that those occupations where there is a higher percentage of women show a lower average hourly wage. Is there, then, a relationship linking occupational discrimination and wage discrimination? The results we obtained show an important correlation between the degree of discrimination and the percentage of women occupied in Galicia (the coefficient of correlation is -0.61 in 1995 and -0.47 in 2002), while for the rest of Spain the results are even stronger. However, in both cases, this correlation has decreased significantly from 1995 to 2002.

<b>Table 4: Discrimination indexes for occupation</b>								
	Galicia				Spain			
	1995		2002		1995		2002	
	Discrimination Indexes	% women	Discrimination Indexes	% women	Discrimination Indexes	% women	Discrimination Indexes	% women
Legislators, senior Officials and Managers	0.048	7.69%	0.0797	11.17%	0.0345	7.22%	0.0232	14.36%
Professionals	0.0111	22.66%	0.0743	26.97%	0.0187	18.29%	0.0304	26.80%
Technicians and Associate Professionals	0.0178	15.59%	0.0250	28.96%	0.0237	21.15%	0.0377	33.84%
Clerks	0.0131	45.55%	0.0244	58.25%	0.0192	49.07%	0.0264	55.00%
Service Workers and Shop and Market sales workers	0.0086	37.66%	0.0227	55.14%	0.0157	37.73%	0.0194	52.91%
Craft and related trade Workers	0.0327	16.37%	0.0374	8.30%	0.0378	9.71%	0.0369	8.46%
Plant and Machine operators and assemblers	0.0215	19.29%	0.0280	23.09%	0.0317	15.32%	0.0355	17.33%
Garbage Collectors (service workers)	0.0126	68.22%	0.0184	73.33%	0.0201	57.46%	0.0164	75.99%
Garbage Collectors (other activities)	0.0205	13.83%	0.0094	22.87%	0.0412	18.26%	0.0211	23.50%
Coefficient of correlation	-0.61		-0.47		-0.69		-0.62	

Finally, Table 5 displays the values of discrimination indexes for activity branches. The results show again the same pattern: a clear increase of discrimination indexes in Galicia. Nevertheless, these results must be taken with caution because in some cases significance problems exist.

Just as in the previous case we could analyse if some relation between the percentage of women for activity branch and the degree of discrimination exists. The data in Table 5 shows a correlation coefficient near to zero between these two variables, both for Galicia and the rest of Spain<sup>12</sup>. The logical interpretation is that these two kinds of discrimination do not necessarily go together.

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<sup>12</sup> Except for Spain in 2002

<b>Table 5: Discrimination indexes for activities branches</b>								
Galicia					Spain			
	1995		2002		1995		2002	
	Discrimination Indexes	% women	Discrimination Indexes	% women	Discrimination Indexes	% women	Discrimination Indexes	% women
Manufacture of food products and beverages	0.0607	49.48%	0.0548	52.69%	0.0435	27.77%	0.0433	34.42%
Manufacture of textiles	0.0034	83.67%	0.0157	89.82%	0.0445	57.33%	0.0431	60.22%
Manufacture of leather and leather products	0.0114	34.29%			0.0047	33.38%	0.0111	38.57%
Manufacture of wood and wood products	0.0222	6.97%	0.0049	13.79%	0.0095	11.91%	0.0153	15.15%
Manufacture of pulp, paper and paper products	0.0095	28.44%	0.0413	33.95%	0.0339	20.2%	0.033	27.02%
Manufacture of chemicals, chemical products and man-made fibres	0.0211	23.32%	0.0627	34.4%	0.0147	24.82%	0.0326	29.09%
Manufacture of rubber and plastic products	0.0097	20.66%	0.0289	24.59%	0.0208	16.73%	0.0341	22.85%
Manufacture of other non-metallic mineral products	0.0017	4.4%	0.047	8.33%	0.022	9.83%	0.0375	11.66%
Manufacture of basic metals	0.0115	3.41%	0.0223	8.92%	0.0221	8.93%	0.0304	10.53%
Manufacture of fabricated metal products, except machinery and equipment	0.0166	8.43%	0.0384	10.04%	0.0142	10.92%	0.0272	12.68%
Manufacture of electrical machinery and apparatus n,e,c,	0.0044	7.11%	0.0441	8.33%	0.0126	21.79%	0.0228	23.67%
Manufacture of motor vehicles, trailers and semitrailers	0.0006	6.12%	0.034	11.18%	0.0144	11.49%	0.0273	17.75%
Electricity, gas, steam and hot water supply	0.074	8.67%	0.0075	6.14%	0.0378	10.91%	0.0452	15.45%
Construction	0.0004	2.52%	0.0308	4.66%	0.0303	6.34%	0.0493	6.88%
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	0.0166	38.54%	0.0244	49.25%	0.0363	38.06%	0.0302	47.28%
Hotels and restaurants	0.0127	44.09%	0.0134	59.42%	0.011	43.2%	0.0083	55.48%
Land transport; transport via pipelines	0.0055	12.94%	0.0198	14.7%	0.0182	19.9%	0.0382	23.47%
Financial intermediation, except insurance and pension funding	0.0066	18.92%	0.0065	26.22%	0.0051	24.92%	0.0189	35.69%
Rent activities	0.0091	35.73%	0.0262	55.04%	0.0206	34.12%	0.022	53.32%
Coefficient of correlation	0.08		-0.05		0.14		-0.32	



## 6. Conclusions.

Since the restoration of democracy in Spain in 1975, important advances in the recognition of women social and labour rights have taken place. Nevertheless, the situation of the female Galician worker at the beginning of the 21st century is far from the equality levels that the laws recognize. In this work we have analysed one of the main identifiers of this lack of equality of opportunities: the existence of discriminatory criteria in the valuation of female work.

The analysis started from a stylised fact: women's average gain is inferior to men's one. Therefore, our immediate goal was to find the causes of this differential, analysing the possible existence of wage discrimination against women in Galicia with respect to the rest of the Spain (used as reference). Moreover, the utilization of discrimination indexes allowed us to calculate the degree of discrimination for different social groups, as well as in the aggregate. And the data availability for two different years, 1995 and 2002, defined our second objective: to compare the evolution of discrimination in Galicia with that in the rest of Spain, trying to shed some light on which factors can affect wage discrimination persistence in Galicia.

The results obtained show that in Galicia between 1995 and 2002 the degree of gender wage discrimination has increased significantly, affecting mainly those women that are more educated, have better jobs and are present in the higher income deciles. These are similar to Dolado and Llorens (2004) findings.

The evolution in the rest of Spain, instead, was qualitatively and quantitatively different. The degree of gender wage discrimination increased only slightly, affecting mainly the groups with higher income, medium educational level, and high-medium occupational level. The combination of these differences in evolution with the differences present at the starting point in 1995 tended on the whole to make the picture of gender wage discrimination in Galicia much more similar to its counterpart in the rest of Spain.

Although in our calculations we are not analysing the whole of the Galician economy - neither the small firms, nor the agrarian sector, nor some sector services activities, nor the public sector are considered- these results are troubling. In fact, they show that for a big part of the Galician economy discrimination has increased. This happened in a context where a host of public agencies are carrying out policies intended to facilitate the incorporation of women to the labour market and to make effective the equality of opportunities between men and women. But what still could be worse news is that the

discrimination has increased more in the groups of women with highest education levels and those who hold jobs with greater responsibilities. This supposes a clear disincentive for women and is a signal of serious inefficiencies in the labour market.

The strong change detected in the degree of discrimination in Galicia relative to the higher stability showed by data regarding the rest of Spain is a surprising result, difficult to explain. For this reason, we will have to continue our research on this topic, using other data sources and extending the comparisons to individual Spanish regions, with the aim of finding out if the results we have reported in this paper are robust.

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