Inter-Industry Wage Differentials and the Gender Wage Gap in Belgium: Evidence from Matched Employer-Employee Data*

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Résumé

Cet article analyse conjointement l'écart salarial de genre et les différentiels salariaux inter-sectoriels dans le secteur privé belge. A partir de l'*Enquête sur la Structure et la Répartition des Salaires* de 1995, nous estimons les différentiels salariaux inter-sectoriels par genre et l'écart salarial de genre par secteur. Notre analyse met en évidence l'existence d'écarts salariaux intersectoriels significatifs pour les hommes et les femmes, même après la prise en compte d'un grand nombre de caractéristiques productives. Ces différentiels sont fortement corrélés bien que significativement différents. Une décomposition de type Oaxaca (1973) et Blinder (1973), réalisée en Nace 3-digit, montre qu'environ un dixième de l'écart salarial total de genre (en moyenne les femmes gagnent 22% de moins que les hommes) est dû à des effets sectoriels.

Mots Clés : Ecart salarial de genre, différentiels salariaux inter-sectoriels, Belgique.

Abstract

This paper simultaneously analyses the gender wage gap and the inter-industry wage differentials in the Belgian private sector. On the basis of the 1995 *Structure of Earnings Survey*, we estimate the inter-industry wage differentials by gender and the gender wage gap by industry. We find significant inter-industry wage differentials for men and women, even when controlling for a large number of productivity-related factors. These differentials are highly correlated but significantly different. An Oaxaca (1973) and Blinder (1973) decomposition, realised at the Nace three-digit level, shows that around one-tenth of the overall gender wage gap (on average women earn 22% less than men) is due to industry effects.

Keywords: Gender wage gap, inter-industry wage differentials, Belgium.
JEL-Classification: J16, J31.

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1. Introduction

The empirical debate about the causes of earnings inequalities was reopened at the end of the 1980s by an article by Krueger and Summers (1988). The authors highlighted the fact that the structure of wages in the USA was not compatible with the neo-classical model, according to which wage differentials in equilibrium are explained either through differences in the quality of the labour force – measured in terms of productive capacity – or by so-called compensating differences. In other words, they showed that wage disparities persisted between agents with identical *observed* individual characteristics and working conditions, employed in different sectors. Since then, similar results have been obtained for numerous industrialised countries (e.g. Araï et al., 1996; Ferro-Luzzi, 1994; Hartog et al., 1997; Lucifora, 1993; Vainiomäki and Laaksonen, 1995). Accordingly, the existence of sectoral effects has become an accepted fact in the economic literature. There is, moreover, general agreement on the fact that these effects are persistent, strongly correlated between countries (e.g. Helwege, 1992) and on a variable scale among the industrialised countries. Certain studies (e.g. Edin and Zetterberg, 1992; Hartog et al., 1997; Teulings and Hartog, 1998; Zanchi, 1992; Zweimüller and Barth, 1994) suggest in addition that sectoral effects are significantly weaker in strongly corporatist countries.

Various reasons may explain these inter-industry wage differentials. They may, of course, reflect the fact that the non-observed individual characteristics of the employees are not distributed randomly among industries. In this case, the most well paid sectors would simply be those in which the non-observed quality of the labour force is the highest. However, they may equally stem from the specific characteristics of the employers in each sector. Gibbons and Katz (1992) support the existence of significant sectoral effects on workers' wages. Their study, relating to the USA, in fact indicates that workers changing industry claw back a significant part of the inter-industry wage differential after their move. Conversely, Goux and Maurin (1999) and Abowd et al. (1999) show that in the case of France, the non-observed productive capacities of workers account for a substantial part of the inter-industry wage differentials. In sum, there is a consensus on the existence of sectoral effects on workers' wages but their exact scale is still highly questionable. Furthermore, although alternative explanations based on efficiency wage mechanisms or rent-sharing have been put forward, "the existence of these differentials is still not clearly understood and remains an intricate and unresolved puzzle" (Hartog et al. (1999: 1)).

Since Becker's (1957) seminal paper on the economics of discrimination, studies on the magnitude and sources of the gender wage gap have proliferated (e.g. Blau and Kahn, 2000). Numerous studies have in particular focused on the relationship between labour market segregation and the gender wage differential (e.g. Groshen, 1991; MacPherson and Hirsh, 1995; Fields and Wolff, 1995; Carrington and Troske, 1998; Bayard et al., 1999). These papers examine basically to what extent the observed sex wage gap can be explained by occupational and sectoral segregation. Although the evidence is still inconclusive, recent findings show that a large fraction of the gender wage gap is accounted for by segregation of women in lower-paying occupations, industries, and occupations within establishments. Nevertheless, in contrast to previous research (in particular Groshen, 1991), Bayard et al. (1999) suggest, on the basis of a large matched employer-employee data set covering all industries and occupations across all regions of the USA in 1990, that a substantial part of the sex wage gap remains attributable to the individual's sex.

The purpose of this paper is to examine the interaction between inter-industry wage differentials and the gender wage gap in the Belgian private sector. The existence of inter-industry wage differentials in the Belgian private sector has been recently highlighted by Rycx (2002, 2003). The author shows *inter alia* that their structure is comparable to that observed in the other industrialised countries and that they result in part from the characteristics of the employers in each sector. Moreover, results fit in with findings from earlier studies on the existence of a negative relation between the dispersion of inter-industry wage differentials and the degree of corporatism that characterises a country. The analysis by gender of the structure of inter-industry wage differentials, however, is yet to be done. What is more, the current evidence regarding the level and sources of the gender wage gap in Belgium is still far incomplete. Jepsen (2001) shows, on the basis of the 1994 and 1995 *Panel Study of Belgian Households* (PSBH), that the sex wage gap between full-time workers stands at around 15% and that only a very small part of it can be explained by gender differences in endowments. In contrast, using the 1995 *Structure of Earnings Survey*, Plasman et al. (2001) suggest that the wage gap between (all) men and women working in the Belgian private sector reaches almost 22% and that half of it is attributable to gender differences in working conditions, individual and firm characteristics. As far as we are aware, little is known about the effect of industry segregation on the gender wage differential.

The present paper aims to partially fill this gap by investigating, on the basis of the 1995 *Structure of Earnings Survey*, how inter-industry wage differentials interact with the gender wage gap in the Belgian private sector. The following questions are addressed: (i) Can we observe inter-industry wage differentials for male and female workers, even when controlling for productivity-related factors ? (ii) Is the magnitude and dispersion in inter-industry wage differentials alike for men and women ? (iii) Are male and female industry differentials highly correlated ? That is, are the same sectors offering high or low wages to male and female workers ? (iv) Even if industry wage differentials are highly correlated, are there significant differences between them ? To put it differently, what is the magnitude of the wage gap between male and female workers within sectors ? (v) Of the overall gender wage gap, what proportion can be attributed to: (a) differences in the distribution of male and female workers across sectors, (b) differences by gender in the structure of industry wage premia, and (c) differences by gender in all other factors, i.e. intercepts, working conditions, individual and firm characteristics ?

Our empirical findings are compared with those obtained by Fields and Wolff (1995) for the USA. Although results are not 'strictly' comparable, we believe that they provide an interesting reference framework.

The organisation of the paper is as follows. In section 2, the data set is described. In sections 3−5, we present the methodology and the empirical results. The last section summarises our main findings.

2. Description of the Data

The present study is based upon the 1995 *Structure of Earnings Survey*, carried out by Statistics Belgium. This survey was conducted using a representative sample of 145107 individuals working for 6015 establishments. It covers the Belgian establishments employing at least ten workers and whose economic activities fall within sections C to K of the Nace Rev. 1 nomenclature. The survey contains a wealth of information, provided by the management of the establishments, both on the characteristics of the latter (e.g. sector of activity, region, size of the establishment, level of wage bargaining) and on the individuals working there (e.g. education, experience, seniority, earnings, number of working hours paid, gender, occupation).

The simultaneous use of data relating to wages and levels of education yields a representative sub-sample of 81562 individuals working for 4092 establishments (cf. Demunter, 2000). After the exclusion of individuals for whom one of the variables used entailed an incorrect or missing observation[1], the number of individuals in the sample falls by approximately 2.1% to 79835 units. Finally, the exclusive selection of establishments that are at least 50% owned by the private sector brings the definitive sample to 67023 individuals. This selection is justified by the fact that the wages are determined in very different ways in the public and private sectors. Taking into account establishments where economic and financial control is primarily in public hands would in fact be liable to skew our results.

[1] Observations in which tenure was greater than worker's age were deleted. This reduces the sample size by 1.4%. Records with missing values for the level of wage bargaining or the variable showing whether the individual supervises the work of his co-workers were suppressed. However, it can be shown that results presented in this article would not have been significantly different if these observations had been taken into account.

3. Inter-Industry Wage Differentials by Gender

The methodology adopted to estimate inter-industry wage differentials by gender is consistent with that of Krueger and Summers (1998). It rests upon the estimation by OLS of the following semi-logarithmic wage equation separately for male and female workers:

$$\ln w_i = \alpha + \sum_{j=1}^{J} \beta_j X_{j,i} + \sum_{k=1}^{K} \psi_k Y_{k,i} + \sum_{l=1}^{L} \delta_l Z_{l,i} + \varepsilon_i \quad (1)$$

where w_i represents the gross hourly wage of the individual i $(i=1, ..., N)$; X is the vector of the individual characteristics of the workers and their working conditions. It includes 7 indicators showing the highest completed level of education; seniority within the current company and its square; a dummy variable controlling for entrants, i.e. individuals with no seniority; prior potential experience, its square and its cube; number of hours paid; a dummy for extra paid hours; 22 occupational dummies; 2 regional dummies indicating where the establishment is located; 3 dummies for the type of contract; an indicator showing whether the individual is paid a bonus for shift work, night-time and/or weekend work and a dummy variable indicating whether the individual supervises other workers. Y comprises dummy variables relating to the sectoral affiliation of the individuals (nomenclature with 9, 42 and 174 branches); Z contains employer's characteristics (the size of the establishment and the level of wage bargaining); α is the intercept; ψ, β and δ are the parameters to be estimated and ε_i is an error term (see Appendix 1 for a detailed description of the variables and the results of the regressions by gender).

Technically, the computation of inter-industry wage differentials first of all involves calculating the average wage differential of all the sectors compared to the reference:

$$\pi = \sum_{k=1}^{K} s_k \hat{\psi}_k \qquad \text{(for } k = 1,\ldots, K\text{)} \tag{2}$$

and then applying the formulae below :

$$d_k = \hat{\psi}_k - \pi \qquad \text{(for } k = 1,\ldots, K\text{)} \tag{3}$$

$$d_{K+1} = -\pi$$

where $\hat{\psi}_k$ is the regression coefficient estimated for the industry dummy k and s_k is the proportion of the sample employed in industry k.

Table 1 presents the main results of our econometric analysis realised respectively for one, two and three-digit industry codes. It records for both sexes the maximum and minimum values for d_k , as well as the range and the standard deviation of the inter-industry wage differentials, adjusted for sampling error and weighted by the sectoral employment shares (further referred in the text as WASD, i.e. weighted adjusted standard deviation). The WASD of the differentials is computed as follows:

$$WASD(d_k) = \sqrt{\sum_{k=1}^{K+1} s_k \left(d_k - \frac{\sum_{k=1}^{K+1} d_k}{K+1} \right)^2 - \frac{\sum_{k=1}^{K+1} \operatorname{var}(\hat{d}_k)}{K+1} + \frac{\sum_{k=1}^{K+1} \sum_{l=1}^{K+1} \operatorname{cov}\left(\hat{d}_k, \hat{d}_l\right)}{(K+1)^2}} \tag{4}$$

Table 1: Inter-Industry Wage Differentials by Gender: Summary[+]

	Max	Min	Range	WASD	R^2	F-test[1]	Obs.[2]	Sectors
One-digit Industries								
Female	0.218	-0.059	0.277	0.051	0.651	1592**	18609	9
	(Nace E)	(Nace H)						
Male	0.208	-0.133	0.341	0.046	0.666	2886**	48414	9
	(Nace E)	(Nace H)						
Two-digit Industries								
Female	0.331	-0.091	0.422	0.078	0.669	753**	18609	42
	(Nace 64)	(Nace 18)						
Male	0.223	-0.131	0.354	0.073	0.684	1529**	48414	42
	(Nace 64)	(Nace 55)						
Three-digit Industries								
Female	0.434	-0.430	0.864	0.088	0.687	293**	18609	174
	(Nace 642)	(Nace 455)						
Male	0.314	-0.309	0.623	0.094	0.698	573**	48414	174
	(Nace 642)	(Nace 362)						

[+] Results are based on equation (1). [1] F-test relative to the sectoral dummies. [2] Number of observations. */** Statistically significant at the 5 and 1% level.

Several lessons can be drawn from Table 1. Firstly, the F-statistics reveal that the industry dummy variables are jointly significant at the level of 1%, independently of the sex and the sectoral nomenclature considered. Secondly, at the one-digit level, we find that the inter-industry wage differentials for women (controlling for working conditions, individual and firm characteristics) oscillate between +23.1%[2] in the electricity, gas and water supply sector and –12.5% in the hotels and restaurants sector. Unsurprisingly, the dispersion in inter-industry wage differentials goes up when the number of sectors being considered increases. The range of the differentials for female workers rises by around 50% from one to two-digit industries and almost doubles from two to three-digit industries. The WASD of the differentials also grows significantly when the industry classification becomes more disaggregated. The same pattern is found for men. Noteworthy is also that the dispersion in

[2] In order to get the difference in percentage between the wage (in BEF) of the average worker in sector *k* and the employment-share weighted mean wage (in BEF) in the economy, the following expressions have been computed: $V_k = [(\exp(\hat{\psi}_k) - 1) - G]$ for $k = 1,\dots, K$ and $V_{K+1} = -G$; where $G = \sum_{k=1}^{K} s_k [\exp(\hat{\psi}_k) - 1]$.

d_k*'s* is similar for both sexes. Indeed, at the two-digit level, the range and WASD are larger for women than for men, but at the three-digit level, the range is greater for female workers while the WASD is larger for men.

Finally, if we compare our results with those obtained for the USA by Fields and Wolff (1995), we can note that both countries present the same pattern of inter-industry wage differentials for male and female workers. However, the range and the WASD of the differentials are significantly higher in the case of the USA. Of course, it is clear that such a comparison needs to be carried out with the greatest of care. The point is that the scale of the estimated wage disparities between different industries depends heavily upon the specification of the wage equation, the number of sector considered, the field covered by the data, the period under investigation and the position of the country in the business cycle. Therefore results are not 'strictly' comparable. Nevertheless, they are in line with findings from earlier studies, which suggest that the dispersion of inter-industry wage differentials is larger in non-corporatist countries (e.g. Teulings and Hartog, 1998).

Table 2 : Inter-Industry Wage Differentials by Gender for Two-Digit Industries[+]

Industry (Nace code)	Female Rank	Female wage differential	Male Rank	Male wage differential	t-statistics for $(\psi_m-\psi_f)^1$
Post and telecommunications (64)	(1)	+0.331	(1)	+0.223	-9,91**
Production and distribution of electricity, gas, steam and hot water (40)	(2)	+0.242	(2)	+0.223	3,71**
Water-based transport (61)	(3)	+0.232	(4)	+0.15	-3,23**
Air transport (62)	(4)	+0.214	(5)	+0.116	-4,43**
Coking, refining and nuclear industries (23)	(5)	+0.13	(3)	+0.186	8,11**
Financial intermediaries (65)	(6)	+0.128	(8)	+0.103	5,25**
Metallurgy (27)	(7)	+0.071	(19)	+0.016	-3,41
Insurance (66)	(8)	+0.067	(11)	+0.041	3,847**
Dry hire (71)	(9)	+0.067	(38)	-0.073	-12,06**
Manufacture of office machinery and computer hardware (30)	(10)	+0.063	(23)	+0.002	-0,39
Chemical industry (24)	(11)	+0.06	(6)	+0.114	32,22**
Transport auxiliary services (63)	(12)	+0.048	(16)	+0.02	2,923**
Publishing, printing and reproduction (22)	(13)	+0.046	(7)	+0.106	26,26**
Manufacture of other transport materials (35)	(14)	+0.043	(21)	+0.01	0,61
Research and development (73)	(15)	+0.038	(10)	+0.062	6,42**

Tobacco industry (16)	(16)	+0.038	(20)	+0.01	1,41
Other services to businesses (74)	(17)	+0.036	(25)	-0.002	0,04
Rubber and plastic industry (25)	(18)	+0.031	(28)	-0.013	-1,55
Wholesale and intermediaries in trade, excluding the motor trade (51)	(19)	+0.03	(29)	-0.018	-5,28**
Other extractive industries (14)	(20)	+0.025	(18)	+0.017	2,56**
Computer activities (72)	(21)	+0.015	(24)	0.000	5,46**
Financial auxiliaries (67)	(22)	+0.008	(15)	+0.021	7,05**
Manufacture of medical, precision, optical and watch making instruments (33)	(23)	+0.006	(14)	+0.027	8,19**
Food industries (15)	(24)	+0.006	(30)	-0.021	4,41**
Leather and footwear industry (19)	(25)	-0.001	(32)	-0.037	0,24
Metal work (28)	(26)	-0.005	(27)	-0.012	8,45**
Dealing in and repairing motor vehicles and motorcycles; retail fuel trade (50)	(27)	-0.012	(33)	-0.037	3,68**
Property activities (70)	(28)	-0.014	(17)	+0.018	7,15**
Land-based transport (60)	(29)	-0.014	(39)	-0.074	-5,64**
Manufacture of other non-metallic mineral products (26)	(30)	-0.017	(13)	+0.029	19,37**
Manufacture of furniture; sundry industries (36)	(31)	-0.017	(41)	-0.096	-10,16**
Paper and cardboard industry (21)	(32)	-0.026	(9)	+0.089	33,88**
Manufacture of electrical machinery and appliances (31)	(33)	-0.027	(22)	+0.005	15,92**
Construction (45)	(34)	-0.027	(26)	-0.005	15,57**
Manufacture of radio, television and communications equipment (32)	(35)	-0.028	(12)	+0.034	25,29**
Construction and assembly of motor vehicles, trailers and semi-trailers (34)	(36)	-0.028	(34)	-0.041	5,78**
Woodwork and manufacture of articles in wood, cork, basketwork or esparto (20)	(37)	-0.03	(35)	-0.044	4,10**
Manufacture of machinery and plant (29)	(38)	-0.045	(36)	-0.047	9,38**
Hotels and restaurants (55)	(39)	-0.057	(42)	-0.131	-10,04**
Recovery of recyclable materials (37)	(40)	-0.072	(31)	-0.025	8,63**
Textile industry (17)	(41)	-0.074	(37)	-0.068	15,21**
Clothing and fur industry (18)	(42)	-0.091	(40)	-0.074	11,09**
Correlation coefficient between male and female wage differentials:				0.82**	
F-statistic for Chow test on industry dummy variables:				68**	

[+] Results are based on equation (1). [1] t-statistics for the difference between male and female estimated industry dummy coefficients. */** Statistically significant at the 5 and 1% level.

Tables 2 and 3 report the estimates of the inter-industry wage differentials for female and male workers in rank order, respectively for two and three-digit industries.[3] At the two-digit industry level, the best-paying industry is post and telecommunications. The average female worker earns there 39% more than the average female worker in the economy, whereas the average male worker earns there 25% more than the average male worker in the economy. The top-three is completed by the electricity, gas, steam and hot water

[3] Results for one-digit industries are presented in Appendix 2.

industry (+27.1%) and the water-based transport industry (+25,8%) for female workers and by the electricity, gas, steam and hot water industry (+25%) and the coking, refining and nuclear industries (+20.5%) for male workers. At the bottom of the scale, we find the clothing and fur industry (-8.9%) for female workers and the hotels and restaurants industry (-12.2%) for male workers.

Table 3 : Inter-industry Wage Differentials by Gender for Three-Digit Industries (Top 20, Bottom 20)+

Industry (Nace code)	Female Rank	Female wage differential	Male Rank	Male wage differential	t-statistics for $(\psi_m - \psi_f)^1$
Top 20					
Telecommunications (642)	(1)	0,434	(1)	0.31	-12.40**
Manufacture of gas; distribution of gaseous fuels through mains (402)	(2)	0.339	(2)	0.31	-0.28
Research and experimental development on social sciences and humanities (732)	(3)	0.289	(12)	0.15	-2.65**
Sea and coastal water transport (611)	(4)	0.259	(21)	0.10	-8.48**
Scheduled air transport (621)	(5)	0.250	(13)	0.14	-5.64**
Production and distribution of electricity (401)	(6)	0.241	(5)	0.23	2.97**
Manufacture of basic iron and steel and of ferro-alloys (ECSC) (271)	(7)	0.230	(76)	0	-23.17**
Manufacture of cement. Lime and plaster (265)	(8)	0.184	(8)	0.17	0.86
Processing of nuclear fuel (233)	(9)	0.177	(48)	0.03	-4.06**
Inland water transport (612)	(10)	0.176	(4)	0.25	3.98**
Forging. Pressing. Stamping and roll forming of metal; powder metallurgy (284)	(11)	0.150	(38)	0.05	-2.43**
Manufacture of refined petroleum products (232)	(12)	0.145	(3)	0.26	10.60**
Quarrying of sand and clay (142)	(13)	0.142	(43)	0.04	-2.73**
Monetary intermediation (651)	(14)	0.136	(18)	0.11	0.70
Manufacture of instruments and appliances for measuring. Checking. Testing. Navigating and other purposes. Except industrial process control equipment (332)	(15)	0.134	(31)	0.07	-3.76**
Wholesale on a fee or contract basis (511)	(16)	0.131	(9)	0.17	4.05**
Data processing (723)	(17)	0.128	(16)	0.12	0.77
Manufacture of weapons and ammunition (296)	(18)	0.127	(22)	0.09	-0.95
Cargo handling and storage (631)	(19)	0.124	(28)	0.08	-1.90
Real estate activities with own property (701)	(20)	0.116	(44)	0.04	-1.12
Bottom 20					
Mining of chemical and fertiliser minerals (143)	(155)	-0.119	(47)	0.04	1.48
Manufacture of cutlery. Tools and general hardware (286)	(156)	-0.124	(83)	0.00	16.29**
Retail sale of food. Beverages and tobacco in specialised stores (522)	(157)	-0.125	(171)	-0.24	-13.29**

Finishing of textiles (173)	(158)	-0.127	(156)	-0.14	1.57
Manufacture of games and toys (365)	(159)	-0.129	(58)	0.03	12.15**
Dressing and dyeing of fur; manufacture of articles of fur (183)	(160)	-0.137	(166)	-0.18	-0.30
Sale. Maintenance and repair of motorcycles and related parts and accessories (504)	(161)	-0.140	(105)	-0.04	1.87
Other mining and quarrying n.e.c. (145)	(162)	-0.145	(163)	-0.17	-0.03
Other supporting transport activities (632)	(163)	-0.147	(146)	-0.10	2.87**
Manufacture of domestic appliance n.e.c. (297)	(164)	-0.149	(154)	-0.13	4.96**
Manufacture of electrical equipment n.e.c. (316)	(165)	-0.150	(116)	-0.05	12.40**
Manufacture of musical instruments (363)	(166)	-0.179	(75)	0.01	1.17
Manufacture of other transport equipment n.e.c. (355)	(167)	-0.185	(131)	-0.07	0.77
Manufacture of knitted and crocheted fabrics (176)	(168)	-0.187	(139)	-0.08	2.04**
Renting of personal and household goods n.e.c. (714)	(169)	-0.192	(172)	-0.24	-0.48
Retail sale of second-hand goods in stores (525)	(170)	-0.194	(168)	-0.21	0.258
Manufacture of optical instruments and photographic equipment (334)	(171)	-0.195	(157)	-0.14	3.87**
Manufacture of machine-tools (294)	(172)	-0.200	(106)	-0.04	7.54**
Manufacture of knitted and crocheted articles (177)	(173)	-0.218	(169)	-0.21	3.27**
Renting of construction or demolition equipment with operator (455)	(174)	-0.430	(10)	0.17	3.37**
Correlation coefficient between male and female wage differentials:				0.60**	
F-statistic for Chow test on industry dummy variables:				385**	

[+] Results are based on equation (1). [1] t-statistics for the difference between male and female estimated industry dummy coefficients. */** Statistically significant at the 5 and 1% level.

Overall, it appears that the rank order of the wage differentials is quite similar for male and female workers. Indeed, simple correlation coefficients are significant at the level of 1% and they vary between 0.82 for two-digit industries and 0.60 for three-digit industries. However, it should be noted that this apparent similarity is challenged by standard statistical tests. For instance, if we analyse the difference between male and female industry coefficients on the basis of a standard t-test, we find that the latter are significantly different at the level of 1% in 35 out of the 42 two-digit industries and in 60% of the three-digit industries. Moreover, a Chow test indicates that the sectoral wage differentials are significantly different as a group for male and female workers, independently of the level of industry aggregation.

4. Gender Wage Gaps by Industry

In this section, we estimate the gender wage gaps by industry. Therefore, we rely on two different types of estimators. The first one, developed by Fields and Wolff (1995), is defined as follows:

$$FW_k = (\hat{\psi}_k^f - \hat{\psi}_k^m) + (\hat{\alpha}^f - \hat{\alpha}^m) \qquad \text{(for } k = 1,\ldots,K+1\text{)} \qquad (5)$$

where $(\hat{\alpha}^f - \hat{\alpha}^m)$ is the difference between the estimates of the intercepts in the female and male wage regressions and $(\hat{\psi}_k^f - \hat{\psi}_k^m)$ is the difference between the estimates of the industry dummy variables for women and men.

This estimator measures the gender wage gap in a particular sector by subtracting the female industry coefficient from that of men, "after netting out the adjusted wage difference between the average female and male worker in the omitted industry" (Fields and Wolff, 1995: 114). Since, after controlling for working conditions, individual and firm characteristics, women are paid less than men ($\hat{\alpha}^f < \hat{\alpha}^m$), by construction most of FW_k's will be negative.[4]

Following Horrace and Oaxaca (2001) the estimator developed by Fields and Wolff (1995) suffers from an identification problem. The point is that the FW_k's are biased because the intercepts capture all the omitted categories of the dummy variables included in the wage

[4] The estimated intercepts at the three-digit industry level equal respectively 5.40 (221 BEF) and 5.54 (255 BEF) for women and men.

equations and set therefore the FW_k's dependent upon the left-out reference groups. In order to control for these intercept changes, they suggest to compute the gender wage gap by industry as follows:

$$HO_k = FW_k + \overline{X}^f(\hat{\beta}^f - \hat{\beta}^m) + \overline{Z}^f\left(\hat{\delta}^f - \hat{\delta}^m\right) \quad \text{(for } k = 1,\ldots,K+1\text{)} \qquad (6)$$

where, $\overline{X}$ is the vector of the average values of the individual characteristics of the workers and their working conditions and $\overline{Z}$ contains the mean employer's characteristics (see equation (1)). β and δ are the vectors of regression coefficients. Superscripts f and m identify female and male workers respectively. FW_k is the Fields and Wolff (1995) sectoral gender wage gap estimator.

Horrace and Oaxaca (2001) demonstrate that the inclusion of the mean characteristics of female workers and the difference between the female and male coefficients evades the identification problem and allows us to see how a randomly selected female worker would do if she were treated as a man with the same characteristics. Therefore, HO_k is also referred to as the identified wage gap evaluated at the mean characteristics of all women in the sample.

Tables 4 and 5 report the Fields and Wolff (FW_k) and the Horrace and Oaxaca (HO_k) estimators for two and three-digit industries respectively.[5] We find that both types of estimators have the same ranking. This is not surprising since HO_k's are obtained by adding

[5] Results for one-digit industries are presented in Appendix 3.

a constant term to FW_k's. Also noteworthy is that more than 80% of the estimators are statistically significant at the 1% level, independently of the sectoral nomenclature used.

Table 4 : Identified Wage Gaps Evaluated at Women Sample Mean Characteristics (HO_k) vs. Non-Identified Wage Gap Estimates (FW_k) for Two-Digit Industries[+]

Ranked Industries (Nace Code)	FW_k	s.e.(FW_k)	HO_k	s.e.(HO_k)
Dry hire (71)	-0.068	0.011**	-0.003	0.005
Post and telecommunications (64)	-0.099	0.010**	-0.034	0.006**
Air transport (62)	-0.109	0.015**	-0.044	0.009**
Water-based transport (61)	-0.125	0.015**	-0.060	0.010**
Manufacture of furniture; sundry industries (36)	-0.129	0.008**	-0.063	0.039
Hotels and restaurants (55)	-0.134	0.007**	-0.069	0.002**
Manufacture of office machinery and computer hardware (30)	-0.147	0.059**	-0.081	0.047
Land-based transport (60)	-0.147	0.008**	-0.082	0.005**
Metallurgy (27)	-0.153	0.009**	-0.088	0.005**
Wholesale and intermediaries in trade, excluding the motor trade (51)	-0.159	0.007**	-0.093	0.003**
Rubber and plastic industry (25)	-0.164	0.008**	-0.098	0.006**
Other services to businesses (74)	-0.170	0.007**	-0.104	0.004**
Leather and footwear industry (19)	-0.172	0.012**	-0.107	0.014**
Manufacture of other transport materials (35)	-0.175	0.011**	-0.109	0.023**
Tobacco industry (16)	-0.180	0.010**	-0.114	0.011**
Food industries (15)	-0.180	0.008**	-0.115	0.005**
Transport auxiliary services (63)	-0.181	0.008**	-0.115	0.004**
Dealing in and repairing motor vehicles and motorcycles; retail fuel trade (50)	-0.182	0.008**	-0.117	0.003**
Financial intermediaries (65)	-0.182	0.007**	-0.117	0.004**
Insurance (66)	-0.182	0.008**	-0.117	0.004**
Production and distribution of electricity, gas, steam and hot water (40)	-0.189	0.009**	-0.123	0.006**
Woodwork and manufacture of articles in wood, cork, basketwork or esparto (20)	-0.193	0.008**	-0.128	0.006**
Construction and assembly of motor vehicles, trailers and semi-trailers (34)	-0.194	0.009**	-0.128	0.006**
Computer activities (72)	-0.194	0.008**	-0.128	0.005**
Other extractive industries (14)	-0.200	0.014**	-0.134	0.004**
Metal work (28)	-0.201	0.008**	-0.136	0.005**
Manufacture of machinery and plant (29)	-0.206	0.008**	-0.141	0.005**
Textile industry (17)	-0.214	0.008**	-0.148	0.009**
Financial auxiliaries (67)	-0.220	0.010**	-0.155	0.007**
Clothing and fur industry (18)	-0.225	0.009**	-0.159	0.010**
Manufacture of medical, precision, optical and watch making instruments (33)	-0.228	0.010**	-0.163	0.007**
Construction (45)	-0.229	0.008**	-0.163	0.005**
Research and development (73)	-0.231	0.012**	-0.166	0.007**
Manufacture of electrical machinery and appliances (31)	-0.239	0.009**	-0.174	0.007**
Property activities (70)	-0.240	0.012**	-0.174	0.008**
Manufacture of other non-metallic mineral products (26)	-0.254	0.008**	-0.189	0.008**
Recovery of recyclable materials (37)	-0.255	0.012**	-0.189	0.012**
Chemical industry (24)	-0.261	0.008**	-0.196	0.005**

Coking, refining and nuclear industries (23)	-0.264	0.014**	-0.199	0.007**
Publishing, printing and reproduction (22)	-0.268	0.008**	-0.202	0.010**
Manufacture of radio, television and communications equipment (32)	-0.270	0.008**	-0.205	0.006**
Paper and cardboard industry (21)	-0.323	0.009**	-0.258	0.008**
Average wage gap:	-0.193		-0.128	
Range:	0.255		0.255	
Standard deviation of wage gaps:	0.051		0.051	

+ Results are based on equation (1). */** Statistically significant at the 5 and 1% level.

From Table 4, we can see that, at the two-digit industry level, the dry hire industry has the smallest non-identified wage gap (-0.068). This sector is followed by the post and telecommunication industry (-0.099). These figures mean that the inter-industry wage differentials in these sectors are smaller for women than for men by respectively 6.8% and 9.9%. At the bottom of the scale, the paper and cardboard industry shows the largest negative gap (-0.323). At the three-digit level, the maintenance and repair of office, accounting and computing machinery industry has the highest *positive* gender wage gap (0.081), while the renting of construction or demolition equipment with operator industry brings up the rear with a gender wag gap of -0.763. Unsurprisingly, we find also that the range and variation of the gender wage gaps by industry increase substantially as the degree of sectoral disaggregation goes up. Finally, comparing our results with those of Fields and Wolff (1995), it appears that the variation in industry gender wage gaps is smaller in Belgium than in the USA (0.05 vs. 0.08 for Nace two-digit industries). However, as stated previously, any interpretation must be prudent.

Table 5 : Identified Wage Gaps Evaluated at Women Sample Mean Characteristics (HO_k) vs. Non-Identified Wage Gap Estimates (FW_k) for Three-Digit Industries (Top 20, Bottom 20)+

Ranked Industries (Nace Code)		FW_k	s.e.(FW_k)	HO_k	s.e.(HO_k)
Top 20	Maintenance and repair of office, accounting and computing machinery (725)	0.081	0.023**	0.099	0.024**
	Manufacture of basic iron and steel and of ferro-alloys (ECSC) (271)	0.063	0.011**	0.081	0.012**
	Investigation and security activities (746)	0.046	0.010**	0.064	0.010**
	Other computer related activities (726)	0.046	0.089	0.063	0.089

	Manufacture of sports goods (364)	0.038	0.097	0.055	0.097
	Manufacture of jewellery and related articles (362)	0.029	0.012**	0.046	0.013**
	Restaurants (553)	0.018	0.008**	0.035	0.009**
	Renting of other machinery and equipment (713)	0.000	0.016	0.017	0.017
	Preparation and spinning of textile fibres (171)	-0.002	0.009	0.016	0.010
	Sea and coastal water transport (611)	-0.004	0.018	0.014	0.018
	Processing of nuclear fuel (233)	-0.020	0.031	-0.003	0.031
	Research and experimental development on social sciences and humanities (732)	-0.023	0.045	-0.005	0.045
	Processing and preserving of fish and fish products (152)	-0.031	0.015**	-0.014	0.016
	Renting of automobiles (711)	-0.032	0.013**	-0.015	0.014
	Renting of other transport equipment (712)	-0.036	0.030	-0.018	0.030
	Manufacture of electric motors, generators and transformers (311)	-0.037	0.015**	-0.020	0.016
	Canteens and catering (555)	-0.037	0.009**	-0.020	0.011**
	Tanning and dressing of leather (191)	-0.042	0.021**	-0.025	0.021
	Hotels (551)	-0.043	0.009**	-0.026	0.010**
	Manufacture of motorcycles and bicycles (354)	-0.044	0.023**	-0.0262	0.024
Bottom 20	Manufacture of man-made fibres (247)	-0.240	0.015**	-0.222	0.016**
	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy (322)	-0.249	0.009**	-0.231	0.009**
	Manufacture of articles of paper and paperboard (212)	-0.256	0.009**	-0.238	0.009**
	Manufacture of electrical equipment n.e.c. (316)	-0.263	0.012**	-0.245	0.013**
	Sale, maintenance and repair of motorcycles and related parts and accessories (504)	-0.264	0.066**	-0.246	0.066**
	Manufacture of lighting equipment and electric lamps (315)	-0.268	0.013**	-0.251	0.014**
	Manufacture of knitted and crocheted fabrics (176)	-0.269	0.063**	-0.251	0.063**
	Real estate activities on a fee or contract basis (703)	-0.280	0.015**	-0.262	0.016**
	Manufacture of refined petroleum products (232)	-0.282	0.015**	-0.265	0.015**
	Manufacture of other transport equipment n.e.c. (355)	-0.284	0.187	-0.267	0.188
	Cutting, shaping and finishing of stone (267)	-0.288	0.041**	-0.271	0.041**
	Manufacture of pulp, paper and paperboard (211)	-0.292	0.012**	-0.275	0.013**
	Manufacture of cutlery, tools and general hardware (286)	-0.294	0.012**	-0.277	0.012**
	Activities auxiliary to financial intermediation, except insurance and pension funding (671)	-0.315	0.025**	-0.297	0.025
	Mining of chemical and fertiliser minerals (143)	-0.323	0.123**	-0.305	0.123**
	Manufacture of games and toys (365)	-0.326	0.017**	-0.308	0.017**
	Manufacture of machine-tools (294)	-0.329	0.026**	-0.312	0.026**
	Manufacture of musical instruments (363)	-0.351	0.180**	-0.333	0.180**
	Manufacture of pesticides and other agro-chemical products (242)	-0.362	0.023**	-0.344	0.023**
	Renting of construction or demolition equipment with operator (455)	-0.763	0.185**	-0.745	0.185**
Average wage gap:		-0.150		-0.133	
Range:		0.844		0.844	
Standard deviation of wage gaps:		0.096		0.096	

$^{+}$ Results are based on equation (1). */** Statistically significant at the 5 and 1% level.

5. Decomposition of the Overall Gender Wage Gap

To complete our analysis, we decompose the overall gender wage gap in order to assess what proportion is due to: (a) differences in the distribution of male and female workers across sectors, (b) differences by gender in the structure of industry wage premia, and (c) differences by gender in all other factors, i.e. intercepts, working conditions, individual and firm characteristics. Therefore, we apply the Oaxaca (1973) and Blinder (1973) decomposition technique as follows:

$$\overline{\ln W^{m}} - \overline{\ln W^{f}} = \left(\hat{\alpha}^{m} - \hat{\alpha}^{f}\right) + \bar{\delta}\left(Z^{m} - Z^{f}\right) + \bar{Z}\left(\hat{\delta}^{m} - \hat{\delta}^{f}\right) + \bar{\beta}\left(X^{m} - X^{f}\right) + \bar{X}\left(\hat{\beta}^{m} - \hat{\beta}^{f}\right) + \sum_{k}\bar{\psi}_{k}\left(s_{k}^{m} - s_{k}^{f}\right) + \sum_{k}\bar{s}_{k}\left(\hat{\psi}_{k}^{m} - \hat{\psi}_{k}^{f}\right) \qquad (5)$$

where, as in equation (1), X is the vector of the individual characteristics of the workers and their working conditions; Z contains employer's characteristics; and s_k is the proportion of the sample employed in industry k.[6] α is the intercept; ψ, β and δ are the vectors of regression coefficients. Superscripts f and m identify female and male workers respectively.

As shown in Table 6, the overall gender wage gap, measured as the difference between mean log wages of male and female workers, stands at 0.23. In other words, we find that the average female worker earns 78% of the mean male wage. Moreover, depending on the sectoral nomenclature used, results indicate that between 2.3 and 12.6% of the overall gender wage gap can be explained by differences in the distribution of male and female workers across sectors. The contribution of sectoral segregation to the sex wage gap goes up when the number of sectors being considered increases. At the three-digit industry level,

[6] A variable with a bar stands for the gender average.

around one-eighth of the gender wage gap is accounted for by segregation of women in lower-paying industries. What is more, findings show that differences by gender in the industry wage premia explain respectively 3.4 and 8.2% of the overall sex wage gap at the one and two-digit industry level. At the three-digit industry level, this proportion becomes almost equal to zero (-1.7%).

Table 6 : Decomposition of the Overall Gender Wage Gap[+]

		Percentage of overall wage gap due to difference in:		
	Overall Gender Wage Gap	Employment Distribution	Industry Coefficients	All Other Factors
Industry nomenclature:	$\left[\overline{\ln w^m} - \overline{\ln w^f}\right]$	$\left[\sum \overline{\psi}_k\left(s_k^m - s_k^f\right)\right]$	$\left[\sum \overline{s}_k\left(\hat{\psi}_k^m - \hat{\psi}_k^f\right)\right]$	
One-digit industry level	0.23[1]	2.3%	3.4%	94.3%
Two-digit industry level	0.23[1]	8.7%	8.2%	83.2%
Three-digit industry level	0.23[1]	12.6%	-1.7%	89.1%

[+] Results are based on equation (1). [1] The mean wages of male and female workers reach respectively 517 and 403 BEF.

If we compare our findings with those obtained for the USA by Fields and Wolff (1995), we observe that the gender wage gap is significantly higher on the other side of the Atlantic (0.23 vs. 0.34). This result is in line with the evidence reported in the literature (e.g. Blau and Kahn, 2000). Moreover, we find that sectoral segregation explains a larger fraction of the gender wage gap in the USA (12.6 vs. 19.2% for Nace three-digit industries). This derives at least partly from the fact that the dispersion of inter-industry wage differentials is less pronounced in Belgium (e.g. Rycx, 2002). Finally, at the three-digit industry level, it is interesting to note that the proportion of the overall gender wage gap accounted for by differences in industry wage coefficients reaches around 12% in the USA, while it is almost equal to zero in Belgium. This finding may find its source in the fact that our analysis contains more control variables. For instance, notice that our wage equation includes 22 occupational dummies, compared to a set of 13 dummy variables for the USA. Not to mention that we also checked for the establishment size, the level of wage bargaining, and for monitoring, which is not the case for the USA.

6. Conclusion

In this paper, we simultaneously analysed the gender wage gap and the inter-industry wage differentials in the Belgian private sector. On the basis of the 1995 *Structure of Earnings Survey*, we estimated the inter-industry wage differentials by gender and the gender wage gap by industry. Moreover, we decomposed the overall gender wage gap in order to assess what proportion is due to: (a) differences in the distribution of male and female workers across sectors, (b) differences by gender in the structure of industry wage premia, and (c) differences by gender in other productivity-related factors. Finally, our findings were compared with those obtained for the USA by Fields and Wolff (1995). Although results are not 'strictly' comparable, we believe that they provide an interesting reference framework.

The empirical evidence reported in this paper emphasises the existence of inter-industry wage differentials for both male and female workers, even when controlling for working conditions, individual and firm characteristics. Moreover, we find that *ceteris paribus* sectors offering high or low wages are similar for men and women. Findings also indicate that the dispersion of inter-industry wage differentials is of the same order of magnitude for both sexes. Nevertheless, this apparent similarity is challenged by standard statistical tests. Indeed, if we analyse the difference between male and female industry coefficients on the basis of a standard t-test, we find that the latter are significantly different at the level of 1% in 35 out of the 42 two-digit industries and in 60% of the three-digit industries. What is more, a Chow test indicates that the sectoral wage differentials are significantly different as a group for male and female workers, independently of the level of industry aggregation. If we compare our results with those obtained for the USA by Fields and Wolff (1995), we note that both countries present the same pattern of inter-industry wage differentials for male and female workers. However, the dispersion of the differentials is significantly higher in the case of the USA. This result is in line with findings from earlier studies, which suggest that the dispersion of inter-industry wage differentials is larger in non-corporatist countries (e.g. Teulings and Hartog, 1998).

Furthermore, our results indicate that the overall gender gap, measured as the difference between mean log wages of male and female workers, stands at 0.23 in the Belgian private sector. This means that the average female worker earns 78% of the average male wage. An Oaxaca (1973) and Blinder (1973) decomposition shows that 10.9% of the overall gender wage gap is due to industry effects. Indeed, at the three-digit industry level, the differences in the distribution of men and women across sectors explain 12.6% of the overall gender wage gap, while the proportion due to differences by gender in the industry wage premia is almost equal to zero (-1.7%). Returning to the results presented by Fields and Wolff (1995), we find that the part of the overall gender wage gap explained by sectoral segregation is smaller in Belgium than in the USA. This can be, at least, partially enlightened by the fact that the inter-industry wage differentials are less pronounced in Belgium (e.g. Rycx, 2002). Also noteworthy is that the percentage of the overall wage gap due to differences in industry coefficients stands at around 19% in the USA and at almost “0” in Belgium. Nevertheless, the larger number of control variables included in the analysis for Belgium might be at the root of this finding.

In conclusion, results for the Belgian private sector show that: (i) even when controlling for working conditions, individual and firm characteristics, statistically significant wage gaps persist between men and women working in the same sectors, and (ii) around one-eighth of the overall gender wage gap is accounted for by segregation of women in lower-paying industries. A straightforward policy implication is that closing the human capital gap between men and women (in particular, with respect to the level of education, training and work experience) is likely to be insufficient to suppress the gender wage gap. Indeed, findings suggest that a substantial part of the gender wage gap is attributable to sectoral segregation but also to the individual's sex.

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Appendix 1: Mean (Standard Deviation) of Selected Variables & Results of the Wage Equations for Three-Digit Industries

	Women		**Men**	
	Mean (Std. Deviation)[1]	Regression Coefficients[2]	Mean (Std. Deviation)[1]	Regression Coefficients[2]
Explanatory variable:				
Ln of the gross hourly wage in BEF (1 EUR = 40.3399 BEF). It includes overtime paid and bonuses for shift work, night work and or weekend work. Pay for holiday, 13th month, arrears, advances, travelling expenses, etc. are excluded.	402.9 (148.9)		516.8 (242.8)	
Explanatory variables:				
Intercept		5.40** (1101.6)		5.54** (971.7)
Education				
Primary or no degree : 0-6 years	8.5	Reference	10.2	Reference

Lower secondary : 9 years	24.8	0.037** (28.7)	24	0.060** (65.1)
General upper secondary : 12 years	26.1	0.136** (93.1)	14.8	0.140** (127.0)
Technical/Artistic/Prof. upper secondary : 12 years	17.6	0.125** (85.0)	28.2	0.128** (130.4)
Higher non-university short type, higher artistic training : 14 years	16.6	0.236** (140.4)	12.6	0.211** (170.0)
University and non-university higher education, long type : 16 years	6.0	0.376** (179.4)	9.5	0.383** (269.6)
Post-graduate : 17 years or more	0.4	0.473** (88.1)	0.6	0.511** (150.0)
Prior potential experience (experience accumulated on the labour market before the last job, years)				
Simple	8.9 (8.6)	0.021** (99.7)	9.8 (8.5)	0.014** (83.2)
Squared/10^2		-0.074** (-52.5)		-0.022** (-19.5)
Cubed/10^3		-0.087** (33.1)		-0.004 (-1.7)
Seniority in the company (years)				
Simple	8.7 (8.3)	0.016** (127.9)	10.4 (9.3)	0.016** (176.5)
Squared/10^2		-0.010** (-23.0)		-0.018** (-62.3)
Dummy=1 if the ind. has no seniority	1.1	-0.024** (-8.1)	0.7	-0.002 (-0.6)
Region (location of the establishment)				
Brussels	21.7	Reference	15.8	Reference
Wallonia	19.2	-0.038** (-34.5)	19.5	-0.035** (-37.7)
Flanders	59.1	-0.065** (-72.7)	64.8	-0.021** (-27.3)
Supervises the work of co-workers: Yes	9.2	0.107** (89.1)	19.5	0.113** (156.0)
Hours (ln of number of hours paid, including overtime paid)	143.2 (38.5)	0.004** (4.6)	165.5 (22.8)	-0.003** (-3.4)
Type of contract				
Permanent employment contract	95.7	Reference		Reference
Fixed-term employment contract	3.5	-0.018** (-10.4)		-0.031** (-16.7)
Apprentice/trainee contract	0.2	-0.449** (-60.9)		-0.754** (-111.6)
Other employment contract	0.6	-0.007 (-1.8)		-0.033** (-8.7)
Bonus for shift work, night work and/or weekend work: Yes	6.5	0.031** (22.0)	19.1	0.060** (80.6)
Overtime paid: Yes	2.3	0.031** (15.1)	9.6	0.022** (25.7)
Size of the establishment (ln of number of workers)	323.6 (761.1)	0.026** (96.1)	582.1 (1274.9)	0.030** (133.5)
Level of wage bargaining				
CA only at the national/sectoral level[3]	55.3	Reference	50.04	Reference
CA at company level[3]	34.4	0.048** (57.1)	41.64	0.010** (14.5)
Other	10.3	-0.012** (-11.1)	8.32	-0.014** (-15.3)
Adjusted R^2		0.687		0.698
F-test		3294**		7541**
Number of observations		18609		48414

[1] The descriptive statistics refer to the weighted sample. [2] Model estimated by ordinary least squares. t-statistics between brackets. 22 occupational dummies and 173 indicators of sectoral affiliation of the workers have also been included in the regression. [3] CA stands for collective labour agreement. */** Statistically significant at the 5 and 1% level.

Appendix 2 : Inter-Industry Wage Differentials by Gender for One-Digit Industries[+]

Industry (Nace code)	Female Rank	Female wage differential	Male Rank	Male wage differential	t-statistics for (ψ_m-ψ_f)[1]
Electricity, gas and water supply (E)	(1)	0.218	(1)	0.208	0.68
Financial intermediation (J)	(2)	0.088	(2)	0.073	-1.07
Transport, storage and communication (I)	(3)	0.052	(6)	-0.011	-21.72**
Real estate, renting and business activities (K)	(4)	0.021	(7)	-0.013	-12.72**
Mining and quarrying (C)	(5)	0.009	(3)	0.019	1.88

Manufacturing (D)	(6)	-0.015	(4)	0.005	24.47**
Wholesale and retail trade, repair of motor vehicles (G)	(7)	-0.029	(8)	-0.042	
Construction (F)	(8)	-0.039	(5)	0.004	15.46**
Hotels and restaurants (H)	(9)	-0.059	(9)	-0.133	-18.27
Correlation coefficient between male and female wage differentials:			0.91**		
F-statistic for Chow test on industry dummy variables:			208**		

+ Results are based on equation (1). [1] t-statistics for the difference between male and female estimated industry dummy coefficients. */** Statistically significant at the 5 and 1% level.

Appendix 3: Identified Wage Gaps Evaluated at Women Sample Mean Characteristics (HO_k) vs. Non-Identified Wage Gap Estimates (FW_k) for One-Digit Industries+

Ranked Industries (Nace Code)	FW_k	s.e.(FW_k)	HO_k	s.e.(HO_k)
Hotels and restaurants (H)	-0.122	0.008**	-0.066	0.003**
Transport, storage and communication (I)	-0.133	0.008**	-0.077	0.002**
Real estate, renting and business activities (K)	-0.162	0.008**	-0.105	0.001**
Financial intermediaries (J)	-0.181	0.008**	-0.125	0.002**
Wholesale and retail trade, repair of motor vehicles (G)	-0.183	0.007**	-0.127	0.001**
Electricity, gas and water supply (E)	-0.186	0.009**	0.130	0.005**
Mining and quarrying (C)	-0.205	0.014**	-0.149	0.012**
Manufacturing (D)	-0.216	0.008**	-0.159	0.001**
Construction (F)	-0.238	0.008**	-0.182	0.003**
Average wage gap:	-0.180		-0.120	
Range:	0.116		0.116	
Standard deviation of wage gaps:	0.037		0.037	

+ Results are based on equation (1). */** Statistically significant at the 5 and 1% level.