EGGE - EC's Expert Group on Gender and Employment

National Reports on the Unadjusted and Adjusted Gender Pay Gap

Belgium

Copyright Disclaimer: This report was produced as part of the work of the European Commission's Expert Group on Gender and Employment (EGGE) and was funded by the European Commission. The European Commission has granted permission for this report to be published in this website. The opinions and views expressed in this report remain the responsibility of the authors and authors alone, and should not be taken to be representative of the views of the European Commission.

The gender pay gap in Belgium Danièle MEULDERS – Salimata SISSOKO

DULBEA-ETE

Report to the Expert Group gender and employment DG5 September 2002

Danièle MEULDERS – Salimata SISSOKO DULBEA – ETE CP140 - 50 av ROOSEVELT B-1050 BRUSSELS - BELGIUM +32 2 650 4132 dmeulder@ulb.ac.be

Table of contents

<u>1.</u>	NATIONAL MEASURES OF UNADJUSTED GENDER PAY GAP	1
<u>1.2</u>	Review of pay trends over time	1
<u>1.2</u>	Low pay trends over time	3
<u>1.3</u>	Wage inequality trends over time	5
<u>2.</u>	REVIEW OF NATIONAL STUDIES ESTIMATING AN ADJUSTED GENDER PAY GAP AND COMPARISON WITH ESTIMATES OF UNADJUSTED PAY GAP.	6
<u>2.1</u>	M. Jepsen (2001): "Evaluation des différentiels salariaux en Belgique: homm femmes et temps partiel-temps plein"	<u>1es-</u> 6
<u>2.2</u>	The Ministry of Employment and Labour: "Indicateurs de genre en matière d'égalité salariale entre les femmes et les hommes Rapport de la Présidence belge"	10
<u>2.3</u>	The study of A. Plasman (2002) ''L'évolution de l'écart salarial de genre dans l'Union Européenne''	13
<u>2.4</u>	Gender Wage Gap in Belgium Evidence from Matched Employer-Employee	
	Data"	15
3	NATIONAL INSTITUTIONAL FACTORS AND GENDER PAY GAP	17
3	.1 National system of wage-setting	17
3	.1.1 The wage setting up in the private sector	17
3	.1.2 The wage setting in the public sector	21
3	1.3 Recent changes	21
<u>3.2</u>	How is low pay regulated?	22
3	.2.1 Description of the female employment	22
3	.2.2 Measures to regulate low pay	26
<u>3.3</u>	Regulation of pay for part-time workers	28
<u>3.4</u>	Recent change in childcare and parental leave infrastructure	28
	Recent change in childcare and parental leave infrastructure.4.1Childcare infrastructure and the framed child minders	28 29
3		

<u>3.5.1</u> <u>3.5.2</u>	The social sector The functions classification systems	32 34
BIBLIOGI	RAPHY	36
<u>ANNEX</u>		38

1. National measures of unadjusted gender pay gap

The statistics available on wages in Belgium are numerous even though they are somewhat limited, in particular regarding the coverage of certain economic sectors. The bi-annual surveys of the National Institute for Statistics (INS), regarding workmen's wage and employees' wage in the industry and that of employees in the services have provided, since 1953, information on gross wage. Net wage computed from gross wage, according to some assumptions, have been published by EUROSTAT since 1980.

The Social Security National Organisation (O.N.S.S) is also a major source of data on wages, but they were almost never used to compute the gender wage gap. Recent work have been done by the Ministry of Labour and Employment but are not yet published. The National Accounts also provide information on wage and labour costs based on the source quoted previously.

It should be noted that one major limitation to these data sources is the delay between the period to which they are related and the date of availability.

The European authorities call for information available more quickly. Consequently, it has been decided to make a larger use of administrative databases, such as those of the social security organisms, for statistical purposes.

1.2 Review of pay trends over time

The data used in this part are first those from the biannual survey carried out by the National Statistics Institute (I.N.S.), this survey has been replaced since 1999 by the annual survey on the wage structure (Structure of Earning Survey). We will also present data from the Social Security National Office (O.N.S.S.).

The biannual survey concerning blue collars takes only industry into account. For the employees not all service sectors are included. The blue-collar wage is expressed in average gross hourly wage and for that of employees it is the average monthly gross wage, including full-time and part-time.

	Employees			Workmen			
	Men	Women	Wage gap	Men	Women	Wage gap	
1980	1539.59	932.15	0.39	5.88	4.08	0.31	
1981	1680.57	998.47	0.40	6.44	4.67	0.27	
1982	1760.64	1060.74	0.40	6.78	4.99	0.26	
1983	1828.54	1119.44	0.39	7.12	5.3	0.26	
1984	1890.76	1165.69	0.38	7.41	5.54	0.25	
1985	1972.24	1222.44	0.38	7.72	5.76	0.25	
1986	1985.18	1239.37	0.38	7.75	5.77	0.26	
1987	2004.99	1269.98	0.37	7.92	5.95	0.25	
1988	2070.63	1326.97	0.36	8.11	6.08	0.25	
1989	2184.31	1402.21	0.36	8.57	6.39	0.25	
1990	2330.99	1487.01	0.36	8.95	6.73	0.25	
1991	2469.24	1584.24	0.36	9.47	7.13	0.25	
1992	2579.03	1667.43	0.35	9.9	7.44	0.25	
1993	2660.91	1742.34	0.35	10.31	7.77	0.25	
1994	2729.04	1806.5	0.34	10.73	8.06	0.25	
1995	2770.58	1941.08	0.30	10.03	7.95	0.21	
1996	2830.62	1990.86	0.30	10.25	8.21	0.20	
1997	2899.26	2060.74	0.29	10.46	8.33	0.20	

Trends of the gross monthly wage for white collars and gross hourly wage for blue collars (1980-1997)

Sources: INS

The gross wages and the gender pay gap trends reflect the evolution of salary scales but also the changes in the composition of the employed population. The female average wage for both female employees and female blue collar has strongly increased during the period and catches up that of men (female employees registered an increase of 120% against 88% for men and female blue collar an increase of 100% against 77% for female blue collar). The gender wage gap for white-collars is higher than that of blue-collars. This difference may be firstly attributed to the larger heterogeneity of this category that includes a large spectrum of occupations, from the salespersons to the managerial occupations. Secondly, since we used the gross monthly wage, the higher share of women working part-time compared to men tends to increase the wage differential. Globally, the wage gap for both employees and blue collars has decreased of 10 points.

The National Office of Social Security (O.N.S.S.) provides data that included overtime and all sectors of the economy. These data have thus the advantage as opposed to other surveys to include the public sector, which is a source of wage equality (it provides many highly paid jobs for women). Payroll data from the O.N.S.S. for the 1980 to 1998¹ period show, as the data for the private sector of the INS, that despite a certain improvement, the gender wage gap in Belgium is still significant.

Average nominal pay for men and women (FT and PT) and unadjusted gender pay gap, 1980-1998

¹ Data for 2000 and 2001 are not available.

	Men	Women	Wage gap
1980	2,045	1,406	0.31
1981	2,217	1,523	0.31
1982	2,378	1,642	0.31
1983	2,645	1,847	0.30
1984	2,748	1,935	0.30
1985	2,830	1,987	0.30
1986	2,905	2,029	0.30
1987	2,955	2,055	0.30
1988	2,986	2,065	0.31
1989	3,143	2,178	0.31
1990	3,319	2,319	0.30
1991	3,532	2,496	0.29
1992	3,677	2,628	0.29
1993	3,839	2,782	0.28
1994	3,935	2,882	0.27
1995	4,018	2,968	0.26
1996	4,087	3,036	0.26
1997	4,205	3,134	0.25
1998 Source: C	4,294 DNSS, own calcu	3,203	0.25

Source: ONSS, own calculations

In 1980, the female (FT and PT) average daily gross wage stands at 1,406 euros and that of men at 2,045 euros (Women earned, on average, 31% less than the daily male gross wage for 1980). These differences tend to decrease within the 1980-1999 period. Indeed, in 2001, the daily female average gross wage was only 25% of that of men.

Inequality indicators that show the male or female concentration, particularly at the bottom of the wage distribution are also very useful and may help us to identify the sources of gender wage gap.

Low pay trends over time 1.2

The ratio of the lowest decile (by sex) to the median for all male workers, gives us the ratio of the poorest male or female 10% wage to the median of male workers. This provides a measure of the differences in low pay concentration between men and women.

Low pay trends (1997-2001)

	1997	1998	1999	2000	2001
Lowest male decile wage to the median for male workers	0.54	0.54	0.56	0.57	0.57
Lowest female decile wage to the median for male workers	0.29	0.30	0.34	0.35	0.37
Source: ONSS					

Source: ONSS

We immediately observe a large difference between the two trends. In fact, the first ratio shows that the 10% lowest male wage makes up the male median (from 54% to 57%). On the other hand however the lowest 10% female wage seems to make up for its lateness compared to the male median, it is a fact that this ratio only represents 29% in 1997 and increased to 37% in 2001 (gap of 20% in comparison to men) in 2001. This reveals that women are largely more concentrated at the bottom of the wage distribution than men.

This concentration results, among other things, from the over-representation of women in low-pay sectors of activity, in low-qualified occupations, and from a system of occupation classification in Belgium, which disadvantages women working in highly feminised sectors or occupations.

An element that may particularly influence low wages is the system of protection for low paid workers. Such as many European countries Belgium have established a minimum wage, the R.M.M.M.G (since 1975) and a guaranteed income, the MINIMEX (since 1974). The R.M.M.M.G and the MINIMEX have traditionally a high level in Belgium, one of the highest of its surrounding countries. This high level has a positive influence on the wage inequality but may lead to disadvantages such as the employment or productivity trap or the development of informal sector working outside the formal regulation law. On this point the Belgium government does not want to reduce the minimum wage or the subsistence level but rather implements policies in order to reduce the labour cost and the net wage received by "less productive" workers (reduction of the employer's and personal social security contributions).

The evolution of the minimum wage relative to male median hourly wage² shows that

The trend in fatio of minimum to median male pay							
	1997	1998	1999	2000	2001		
Ratio of minimum to median male pay	0.52	0.51	0.50	0.45	0.45		

The trend in ratio of minimum to median male pay

Source: ONSS

We note that this ration has a little tendency to decrease and then that gap between the minimum wage and the median male wage is widening. This is due to the fact that the minimum wage has not been adjusted to the increase of the wage during the last years.

² The reference because men are more numerous than women on the labour market.

1.3 Wage inequality trends over time

Regarding the wage inequality, partial indicator used is the inter-decile ratio, which is the poorest 10% divided by that of the richest 10%.

The wage inequality, for the whole population as well as for both men and women, varies favourably during the period concerned, except in 2001. The wage dispersion for women has been significantly reduced, from 0.29 in 1997 to 0.35 in 2001.

	1997	1998	1999	2000	2001
The lowest to the highest decile for female workers	0.29	0.30	0.35	0.37	0.35
The lowest to the highest decile for male workers	0.35	0.35	0.37	0.38	0.36
The lowest to the highest decile for all workers	0.33	0.33	0.35	0.36	0.34

Wage inequality trends (1997-2001)

Source: ONSS

Variations in wage dispersion may be influenced both by the systems of collective bargaining, by the system of wage setting and by other social institutions such as the training and education systems.

Concerning the system of collective bargaining, many authors (Teulings et Hartog(1998, Calmfors and Driffill 1988, Blau and Kahn 1996) argued that centralized collective bargaining systems of pay determination (like in Nordic countries like Norway and Sweden) tends to narrower dispersion of earnings than, for example, decentralized systems (like in Canada or United States).

Belgium is in fact a country with a relatively centralised system of collective bargaining. The collective bargaining in Belgium occurs at the three levels: federal, sectoral and company. Traditionally negotiations took mostly place at the sectoral level but there is more and more tendency to the move of the negotiation to the federal level and reinforcing of the Authorities' influence on the direction of the negotiation. In fact since 1986 the wage growth has been limited either by law or by a general agreement between employers and employees at the federal level. Previously the general agreement, concluded every two years, only determines the minimum standards, such as the minimum wage, and the sectors and companies were free to negotiate the wage increase at these levels. In the last four general agreement, the maximum wage increase that could be negotiated in the sectors or companies has been fixed (for example 5.4 % within two years in the last agreement)

2. Review of national studies estimating an adjusted gender pay gap and comparison with estimates of unadjusted pay gap.

Very few studies have been made in Belgium regarding the wage gap and its decomposition. This is partly due to the fact that the necessary data were not available, but also to the underestimation of the relevance of this topic.

The main studies that have been implemented in Belgium are those of M. Jepsen (2001), "Evaluation des différentiels salariaux en Belgique: hommes-femmes et temps partieltemps plein", that of the Ministry of Employment and Labour in association with the DULBEA and the TEF-Free University of Brussels (2001), "Indicateurs de genre en matière d'égalité salariale entre les femmes et les hommes Rapport de la Présidence belge", the study of A. Plasman (2002) "L'évolution de l'écart salarial de genre dans l'Union européenne" and finally that of F.Rycx and I.Tojerow (2002), "Inter-Industry Wage Differentials and the Gender Wage Gap in Belgium Evidence from Matched Employer-Employee Data".

2.1 M. Jepsen (2001): "Evaluation des différentiels salariaux en Belgique: hommes-femmes et temps partiel-temps plein"

In her study on the gender wage gap M. Jepsen (2001) used the European Community Household Panel (ECHP). This survey is carried out on 59,474 households through 13 member States of the European Union. The data covers the years 94-95. Particularly, the Belgian sample is made up of 2,659 employees, aged between 20 and 60, with 1,435 (54%) men and 1,224 (46%) women.

• The adjusted and unadjusted wage gap

A direct observation of the sample reveals that male part-timers are very few (2%) against a quarter of women (25.5%) and that, on average, women earn 85% of the male hourly wage (unadjusted gender wage gap), 83% if part-timers are included.

• Variables used in the model

The variables used in the model are those that could influence the gender wage gap and the gap between full and part-timers. According to the literature on the subject, the first gap is either related to differences in characteristics between men and women (human capital or discrimination theory), either influenced by the wage structure.

Therefore, variables such as the level of education, the qualifications, the occupation, the professional experience and the seniority in the company can contribute to explain the gender wage gap and are related to the human capital theory. The variable in the survey that could take the discrimination into account is the type of contract.

The wage structure is determined by multiple factors; among them the wage bargaining structure has its importance (not provided by the survey).

Variables has been included describing the situation on the labour market, the sector, the size of the establishment, the occupational variables and to the type of contract.

M Jepsen (2001) specifies that the use of variables such as sectoral or occupational variables could be criticised because they could be viewed like endogenous to discrimination. But she still introduces them in the model in order to give greater importance to the assumption according to which these variables take part in explaining the gender and full/part-timers wage gap. We also have to note that the addition of the variables has an impact on the regression and decomposition results. According to Cain (1986), the variable choice has an arbitrary effect on the decomposition: the price effect has the tendency to decrease with the number of variables. The results of the study are thus to be interpreted with great care.

• The method of decomposition

The average hourly wage comparison between men and women reveals an unadjusted wage gap of 85% (83% when part-timers are included). This average comparison is not sufficient to confirm the existence of discrimination against women. Indeed, men and women are different in several points, for instance, they do not have the same level of education, the same qualifications, the same occupations, do not cover the same sectors of industry, etc. Men and women differ from the point of view of their structure of employment. It is therefore necessary to take it into account before reaching a conclusion on a possible discrimination.

Therefore, in her paper M. Jepsen (2001) has estimated three wage equations, by linear least squared using the weights in the sample. The result is a wage setting equation for men full-timers, women full-timers and women part-timers (men part-timers have been excluded of the econometric analysis because of their weak percentage).

The method of decomposition used is that developed by Oaxaca (1973) and Blinder (1973). These two authors show that the gap between the hourly wage logarithms could be decomposed as follows:

$$Ln\overline{W}_{ND} - Ln\overline{W}_{D} = \overline{X}_{D} (\hat{\boldsymbol{b}}_{ND} - \hat{\boldsymbol{b}}_{D}) + (\overline{X}_{ND} - \overline{X}_{D})\hat{\boldsymbol{b}}_{ND}$$

Where β_i is the estimated returns for the different factors and ND and D represent respectively the non-discriminatory and discriminatory wage structures index. The lefthand term represents the average value of the unadjusted gender wage gap (in logarithm). The first right-hand term of this decomposition constitutes the unexplained (wage gap) price effect, which would result from discrimination of women and part-timers in comparison with the non-discriminatory wage structure. The second term measures the explained wage gap, which is due to the profitability gap and differences in individual characteristics. The non-discriminatory wage structure chosen is the men's one because they represent the majority on the labour and the law on equal wage regards the average male wage like a norm. In addition, concerning the full and part-timers wage gap, the full-timers wage structure is logically taken as the norm.

The Fisher-test indicates that the wage setting between the male and female full-timers and the one between female full and part-timers is different.

• The effect of the variables on the wage setting and the results of the decomposition

The total professional experience return:

The obtained results show, as expected, that the total professional experience return for men and women full-timers is concave. Their wage increases first with the experience (related with the productivity), then decreases. On the other hand, the results show that female part-timers have negative experience returns. The author interprets this as the translation of the employer's feeling that female part-timers, after some years spent on the labour market, reach the age to bear children and use more energy for nonremunerated jobs and thus less on the labour market. This interpretation contradicts the theory according to which women direct themselves towards occupations and sectors that less penalise career breaks and maternity leaves. The author remarks that this reflection remains prone to guarantee because the role played by the years spent away from the labour market was not tested in the female part-timers wage equation (the information was not available in the survey).

The level of education:

An educational level higher than the secondary has a positive influence for the three groups. However an educational level lower than the secondary only penalizes full-timers. The female part-timers wage is not affected by a low educational level.

The seniority in the company:

According to the results, the seniority has only an effect on male wages. In other words, the human capital accumulated in the firm has no impact on female wages. Therefore, there is no incentive for women to follow training courses or to remain in the company for a long time. This could be the result of statistical discrimination: the employer cannot make the difference between the women that will remain in the firm and the ones that will leave relatively quickly; thus they are not ready to invest in training for women.

The size of the establishment and the sectors:

The size of the establishment has only an impact for full-timers and also show that there is no insider-outsider effect for part-timers. Concerning the sector, only few sectoral variables seem to be significant. For female full-timers only the financial sector seems to have a positive impact on wages among all the sectoral variables. Female part-timers seem to enjoy a higher wage in the public sector than in the hospital and social sector.

The occupation and the type of contract:

The occupational variables seem to have a larger impact than the sectoral ones. Finally, the limited length of time contract variable only has a significant impact on full-timers wage. This observation confirms that the part-timers' specific human capital is not remunerated.

The Oaxaca-Blinder's decomposition gives the effect of the differences in structure of wage setting between the different groups on the wage gap.

Oaxaca-Blinder's decomposition of the wage gaps

	Price effect	Gap dues to characteristics	Total wage gap
Male full-timers versus female full-timers	0.137	0.021	0.158
Female full-timers versus female part-timers	0.001	0.086	0.087

Source: M. Jepsen (2001), p.59 - ECHP 2nd wave

We note that the wage gap between male and female full-timers is twice as large as the one between female full and part-timers. Therefore, the gender wage gap seems to be higher than the type of work gap.

The second decomposition shows that the differences in characteristics explain almost all the wage gap between those two groups. This observation means that there is no wage discrimination but only in terms of type of available jobs for part-timers. Female parttimers generally having a lower human capital level than female full-timers, jobs supplied to part-timers generally offer lower working conditions and opportunities. The observation of non-wage discrimination proves that the legislation on the matter is effective.

The first decomposition reflects another phenomenon; the price effect plays a significant role, which is interpreted as pure discrimination against women. The lower female wages seem not to be explained by a lower level of human capital but by a lower remuneration of their human capital.

The author remarks that her results are different than expected. In fact, we could assume that the female sectoral and occupational choices would be the base of a large part of the wage gap, the estimations mean exactly the opposite. A part of the results is certainly imputable to the inaccuracy of the specification of the variables (those of the occupations and of the sectors). A part of the price effect could thus reflect the differences in terms of occupations and sectors that are not sufficiently taken into account by the variables.

However this price effect is certainly exaggerated, the scale of this effect forces to admit that there is indeed a discrimination against women on the labour market.

• Policy recommendation

M. Jepsen (2001) notes in her study that there is no wage discrimination against parttimers. The legislation for these workers seems therefore to be effective.

On the other hand, concerning the equal treatment between men and women, it has to be noted that the passed legislation in the field has not yet produced the expected results. New measures on the matter are necessary: the government should have, on the matter, as its priority to establish the equal opportunity, the possibility for women to reach all employment as well as a more equitable division of the domestic task and it should become easier to conciliate professional life and family life.

Two instruments are essential in the short term: on the one hand, the establishment of a structural and compulsory evaluation of all policies at all levels (federal, regional or community) which would estimate their impacts on gender and, on the other hand, a general reduction of the working time which would give women and men the possibility to spend more time in the family sphere. This would contribute to limit the amount of part-time employment.

2.2 The Ministry of Employment and Labour: "Indicateurs de genre en matière d'égalité salariale entre les femmes et les hommes Rapport de la Présidence belge"

Within the framework of the action plan resulting from the Peking world conference on women (1995), in the context of its presidency, Belgium decided to propose in partnership with Sweden a series of indicators on the wage inequality between men and women. The final report of the Belgian Presidency on the proposed wage gap indicators has used the two harmonised databases available at European level, the Structure of Earning Survey (SES) and the European Community Household Panel (ECHP). The report specifies that both are not fully satisfactory. Based on the ECHP data available in 2001, the report points out one of the major shortcoming of the data source, the fact that the wages were net wages. Since then, the ECHP also provides the gross wage. The first study using this gross wage in the ECHP is the paper of A. Plasman (2002) (see further). The tables below give some of the wage gap indicators for Belgium from the report of the Belgian Presidency.

The unadjusted wage gap

_ Onadjusted gender wage gap, SES 1995 (private sector) and ECTIF (all sectors)_							
	Female	Female	Female part-	Female part-	Male part-	Female	
	hourly	hourly	timers	timers	timers	monthly	
	wage/male	wage/male	hourly	hourly	hourly	wage/male	
	hourly wage	hourly wage	wage/female	wage/male	wage/male	monthly	
	(Full and	(Full-time) ¹	full-timers	full-timers	full-timers	wage (full-	
	part-time) ¹		hourly	hourly	hourly	time) ¹	
	_		wage ¹	wage ¹	wage ¹		
SES 1995	83.81%	85.72%	88.93%	98.65%	77.28%	84.30%	
ECHP 1995	91.34%	89.43%	108.12%	96.69%	_	81.86%	

I Inadjusted gender wage gap, SES 1995 (private sector) and ECHP (all sectors)

Source: MET: "indicateurs de genre en matière d'égalité salariale entre les femmes et les hommes Rapport de la Présidence belge" p. 6-7.

It is the gross wage for the SES and the net wage for the ECHP.

Firstly, the authors note that the unadjusted gender wage gap is very important, it varies from 22 to 11% for the gross wage. The generally longer working time for men, in particular via overtime, explains the larger gender gap for monthly wages. This is the case with gross and net wage.

Secondly, when we consider the gross wage, the part-time work widens the gender wage gap: female part-timers receive a lower wage than female full-timers (88.93%). The authors specify that this situation is certainly due to the cumulated effect of disadvantages related to part-time work: type of occupation, of branch of activity and statute of employment. On the other hand, with net wages the part-time wage disadvantage disappears and becomes an advantage (108.12%). Wage gaps are thus larger considering only full-timers. This way, the progressive increase in taxation tends to reabsorb the net wage gap.

A remark made is that the major interest of the ECHP resides in its dynamic aspect: at tax and special taxation policies unchanged, the evolution of the wage gap indicates if there is an improvement or a deterioration, but the absolute values are too strongly biased by the levy structure.

• Method of decomposition and adjusted gender wage gap

The decomposition method used in the report is a decomposition of the Oaxaca type (1973) from the data of the SES.

		Proportion of the wage gap:		
		Explained	Unexplained	
	Average gender wage gap:	≡	\equiv	
		$(\overline{X}_{ND} - \overline{X}_{D})\hat{b}_{ND}$	$\overline{X}_{D}\left(\hat{m{b}}_{ND}-\hat{m{b}}_{D} ight)$	
In logarithm	$\ln \overline{W}_{ND} - \ln \overline{W}_{D} = 0.226$	0.108	0.118	
in logarithin	[=0.6172-5.946]	(48%)	(52%)	
In BEF	$\frac{\overline{W}_{ND} - \overline{W}_{D}}{\overline{W}_{D}} = 0.254$	0.122 (48%)	0.132 (52%)	
	[= (479-382)/382]			

Oaxaca's decomposition of the gender wage gap

Source: MET: "indicateurs de genre en matière d'égalité salariale entre les femmes et les hommes Rapport de la Présidence belge" p.49 - SES

The adjusted gender wage gap in Belgium being of 25.4% in 1995, the decomposition highlights the fact that 48% of this gap is explained by the heterogeneity of male and female individual characteristics (level of human capital, type of employment contract, branch of activity, number of remunerated hours, size of the company, etc). Taking this into account, there remains a wage gap of 13%, which is related to "pure" wage discrimination.

• Variables introduced in the wage equations

The variables used in the separated wage equations (one for men and the other for women) are on the one hand the explained variable (the logarithm of hourly gross wage) and, on the other hand, the explanatory variables (the level of education, the past professional experience (number of years pasted on the labour market before obtaining the last job), the seniority in the company, the occupation (ISCO with 2 figures), the number of working hours paid, the type of contract (3 categories), the bonus for shift work, night and/or week-end work, the type of economic and financial control, the overtime paid, the sector of activity and the size of the establishment).

	igo moquunty		
Variables	In logarithm	In BEF	In % of the explained total
Human capita	0.031	0.035	28.7%
-Level of education -Professional experience -Seniority	0.004 0.009 0.018	0.005 0.010 0.020	3.7% 8.3% 16.7%
Occupation	0.019	0.019	15.7%
Sector of activity	0.038	0.038	31.5%
Total	0.002	0.092	75.0%

Contribution to the wage inequality

 Total
 0.092
 0.092
 75.9%

 Source:MET: "indicateurs de genre en matière d'égalité salariale entre les femmes et les hommes Rapport de la Présidence belge" p.
 49 1995 SES

The introduction of the human capital variables (level of education, professional experience and seniority), of occupation and the sectorial variables make possible to explain almost 76% of the explained gender wage gap. Indeed, these differences produce a wage gap of 9.2%

The authors also observe that:

- The sectoral affiliation and the human capital variables take a larger part of the explanation of the wage gaps than those of occupation.
- Among the human capital variables, the seniority in the company is the major source of wage inequality between men and women.

2.3 The study of A. Plasman (2002) "L'évolution de l'écart salarial de genre dans l'Union Européenne"

This study used the ECHP to compute the gender wage gap in the European Union on four consecutive years (1994-1998) and apply a decomposition of Oaxaca (1973) and Blinder (1973) type on this gender wage gap. The author has also taken in account the selection bias following the method of Heckman (1979). Wage data used here is the gross wage. Results are therefore different from that obtained in the two previous ones and should be more reliable.

The correction for the selection bias on the Oaxaca and Blinder's wage decomposition seems pertinent since it appears that some non observable factors that determine the probability to take part of a sub-sample of the employee population may be correlated with characteristics influencing wages. The results are the following:

Country	Avera	ge wage		Common structure				
				Decomposit	tion of thewage	Decompo	osition of the	
					gap	unexpl	ained part	
	Men	Women	Wage	Explained	Unexplained	Male	Female	
	IVICII	wonnen	gap	Explained	Unexplained	advantage	disadvantage	
UK	1838	1314	0.399	48.58%	51.42%	39.71%	60.29%	
Ireland	1813	1374	0.320	47.74%	52.26%	35.35%	64.65%	
Italy	1511	1238	0.221	31.79%	68.21%	33.56%	66.44%	
Greece	1116	876	0.277	36.19%	63.81%	34.47%	65.53%	
Spain	1381	1132	0.220	17.71%	82.29%	32.07%	67.93%	
Portugal	799	648	0.235	21.93%	78.07%	41.35%	58.65%	
Austria	1690	1221	0.384	51.55%	48.45%	35.87%	64.13%	
Germany	2024	1452	0.394	49.88%	50.12%	33.21%	66.79%	
Denmark	2153	1781	0.209	53.98%	46.02%	41.63%	58.37%	
Netherlands	2219	1695	0.309	65.63%	34.37%	23.68%	76.32%	
Belgium	1956	1619	0.210	37.00%	63.00%	35.27%	64.73%	
Luxembourg	2536	2019	0.257	57.84%	42.16%	31.53%	68.47%	
France	1519	1219	0.246	45.50%	54.50%	41.05%	58.95%	

Wage gap, decomposition of the wage gap in explained and unexplained part and decomposition of the unexplained part in wage advantage and disadvantage (means on the different waves)

ECHP (1994-1998)

The gender wage gap stand between 70 and 80%, in particular, on average Belgian women earn 85 % of the male wage. Germany, the United-Kingdom and Austria are the countries with the highest gender wage gap (around 38-40%) and countries where the gap is the lowest are Italy, Portugal, Spain, Belgium and finally Denmark.

The wage gap's decomposition reveals that this is in countries where the wage gap is the highest that the explained part is also the largest. In Italy, Greece and Belgium the explained part is largely higher than the unexplained part in percent (30-35%). It seems to mean that the non explained part is negatively correlated to the gender wage gap.

The decomposition of the unexplained part in male advantage and female disadvantage makes appear a similar picture for all countries: a female disadvantage always bigger than the male advantage. This disadvantage is the smallest for Portugal, Denmark, France and United-Kingdom (58-60%) and the most significant in the Netherlands (76% of the unexplained part). In Belgium this disadvantage stands at 64%.

Dynamic of the wage gap and of its decomposition

	Increase of the wage gap	Decrease of the wage gap
Decrease of the unexplained part	United-Kingdom	Ireland, Greece, Portugal, Belgium
Increase of the unexplained part	Spain	Italy, Austria, Germany, Denmark, Netherlands, Luxembourg, France

Source: A.Plasman, "Evolution de l'écart salarial de genre dans l'Union Européenne" p.27

The analysis of the wage gaps on the several waves highlights a certain dynamic: the comparison of the results of the first wave with the second shows a decrease of the wage gap for all countries. This decrease is relatively slight in Greece, Italy, Austria and Netherlands; relatively strong for Portugal, Belgium, France and Ireland (their annual growth rate is respectively –11.43%, -10.18%, -4.6% and –3.96%. The two exceptions are Spain and United –Kingdom (their annual growth is respectively of 1.46% and 0.46%). We note otherwise that countries in which the gender wage gap strongly decreases are country in which the wage gap decreases each year during the five years.

Whereas the trend concerning the dynamic of the explained part and unexplained is not clear for each country, we note that the unexplained part tends to increase in Italy, Spain, Austria, Germany, Denmark, Luxembourg, France and Netherlands and is more decreasing in Ireland, Greece; Portugal, Belgium et United-Kingdom. Countries with an increase of the male advantage are Spain, Germany, Prance, Denmark, Netherlands, United-Kingdom, Ireland, Greece, and Portugal. In Belgium, Austria and Italy, the distributions between male advantage and female disadvantage seem constant though time. Finally Luxembourg is the only country where the part of the male advantage decreases through time.

The author also remarks that among the four countries for which we observe a decrease of the wage gap and an increase of the explained part, three of them are those that have a constant decrease of the gender wage gap over time.

2.4 F.Rycx and I.Tojerow (2002): "Inter-Industry Wage Differentials and the Gender Wage Gap in Belgium Evidence from Matched Employer-Employee Data"

The study of F.Rycx and I. Tojerow aims to investigating, on the basis of the 1995 *Structure of Earning Survey*, how inter-industry wage differentials interact with the gender wage gap in the Belgian private sector.

Indeed several authors show (Krueger and Summers, 1988; Araï et al., 1996; Ferro-Luzzi, 1994; Hartog et al., 1997) that the structure of wage is 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 wages disparities persisted between agents with identical *observed* individual characteristics and working conditions, employed in different sectors.

Moreover, 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; Carrington and Troske, 1998). These papers examine basically to what extent the observed sex wage gap can be explained by occupation and sectoral segregation. Although the evidence is still inconclusive, recent findings show that a large fraction of gender wage gap is accounted for by segregation of women in lower-paying occupations, industries, and occupations within establishments.

• The gender wage gap by industry³

The authors find that inter-industry wage differentials by gender⁴ are, at the same time highly correlated and significantly different between female and male workers.

Indeed, the two best-paying industries are for both sexes the mail and telecommunications and electricity, gas, steam and hot water industry and in the lowest-paying sector we find for both sexes the clothing and fur industry and hotels and restaurants industry. Moreover, 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, this apparent similarity is contradicted by standard statistical tests, such as the standard t-test (the difference between male and female industry coefficients are significantly different by 1% for 35 out of 42 two-digit industries and by 60% of cases at the three-digit industries level) and the Chow test (which indicates that the sectoral wage differentials are significantly different as a group for male and female workers, independently of the level of industry aggregation).

Concerning the gender wage gap by industry⁵, the authors show that at the two-digit level, the dry hire industry has the smallest non- and identified wage gap, this sector is followed by the mail and telecommunications industry. Such findings mean that the interindustry wage differentials in these sectors are smaller for women than for men, these industries are therefore less profitable for women than for men. At the bottom of the scale, the paper and cardboard industry shows the largest negative gap.

The authors also find that the range and variation of the gender wage gap by industry increase substantially as the degree of sectorial desegregation goes up.

³ See Annex

⁴ See table 1 in Annex

⁵ See table 2 in Annex

- Decomposition of the overall gender wage gap

The decomposition of the overall gender wage gap used is an application of the Oaxaca (1973) and Blinder (1973) technique since it decomposes the wage gap in a part explained by the difference by gender in characteristics and the unexplained part, given by differences by gender in the structure of these characteristic remuneration.

But most particularly it gives a measure of the importance of the sectoral effect on the gender wage gap. Therefore, the **explained part** is divided in the part explained by industries and that explained by all other variables, the **unexplained part** is also divided in the part due to the difference by gender in the structure of industry wage premia and the part due to difference in structure of the remuneration of other factors.

The results of the decomposition are:

	_	Percentage of overall gap due to difference in:				
Industry nomenclature	Overall Gender Wage Gap	Employment distribution by industry	Industry Coefficients	All other Factors		
One-digit level	0.23^{1}	2.3%	3.4%	94.3%		
Two-digit level	0.23^{1}	8.7%	8.2%	83.2%		
Three-digit level	0.23^{1}	12.6%	-1.7%	89.1%		

Decomposition of the overall gender wage gap

¹The average wage for male and female workers reach respectively 479 and 382 BEF.

According to the results found by F.Rycx and I.Tojerow (2001), the overall gender wage gap (or unadjusted gap) stands at 0.23. Therefore, women earn in average 80% of the male wage.

Moreover the explained part due to sectoral segregation counts for, depending on the sectoral nomenclature, 2.3 to 12.6% of the gender wage gap. The unexplained part due to the difference by gender in the structure of industry wage premia explained 3.4 and 8.2% of the overall sex wage gap at the one and two-digit industry level and (-1.7) at the three.

3 National institutional factors and gender pay gap

3.1 National system of wage-setting

3.1.1 The wage setting up in the private sector

The setting of wage and employment conditions in the Belgian private sector is mainly determined within the collective bargaining system. The basis of this system has been clearly defined after WW2 with what has been later called the "Pacte de solidarité". The

"Pacte de solidarité" highlighted the notion of **joint structures**: trade-unions and employers bargain on an equal base and decide on consensus of the labour market policy. The two parts are representative of all workers and firms of the kingdom. Another important notion is that the **sector is the principal bargaining level**, this way the 'Pacte of solidarity' suggests creating a joint committees for each sector.

The role of the State is constrained. The representativeness of the trade unions and employers' associations guarantees that the collective agreements concluded at the different levels correspond to the will of the population. Therefore the order-law of 9 June 1945 gives the possibility of making compulsory any collective agreement on the demand of one of the two sides.

The creation of the joint commission has been completed by other structures, at the intersectoral level as well as at the firm level.

In 1952, one established The National Council of Labour (C.N.T.) that received in 1968 the power to conclude labour collective agreement, before that it mainly had an opinion role. The National Council of Economy (C.C.E.), more centred on the economics matters received a consultative power. This Council is composed of social partners and experts.

Even if the institutions are still the same, some major evolutions have occurred since that. Indeed, the Authorities' influence has increased and new preoccupations are henceforth at the setting up's agenda. Besides, the working condition, issues on the conciliation between private and family live or the insertion of risk groups are now treated. Moreover the Authorities proposed certain subjects that need a collective agreement for their application. One of the major change is the direct or indirect intervention of the State in the wage setting process. The wage growth is since 1986 under control : if the social partners do not reach an agreement on the maximum wage growth during the two years covered by the general agreement, the government has the possibility to intervene. The maximum wage growth allowed is determined within the National Council of Economy and based on the evolution of the labour costs and wages of the main trade partners of Belgium.

• Base principles of the setting up structure

The representativeness:

The employees and employer organism are *representative* of all workers of the kingdom and can legally negotiate. Since a multi-industry organism is representative for the whole country, it is represented in the National Council of the Economy (C.C.E.) and National Labour Council (C.N.T.). The trade-union have to count 50,000 members. All organisations affiliated to these multi-industry organisms (sectoral organisms or regional) are then representative.

- The labour collective agreement hierarchy:

We have to distinguish the collective agreement make compulsory and the others. The labour collective agreement that is made non-compulsory only bound parts that have signed. In others words, these non compulsory agreement bind all workers hold in the employers who have signed.

Moreover a labour collective agreement conclude at the intersectoral level prevails over a sectoral agreement, which also prevails o labour firm collective agreement. A labour collective agreement outdoes a work contract and a non-compulsory agreement has only an auxiliary character for the companies that are not affiliated to the organisations that have signed it.

• The setting up's institutions and their role in the wage setting

- The National Labour Council (C.N.T.):

At the intersectoral level, this is within the C.N.T. that takes place the formal (and informal) bargaining on working conditions. Each two year, the employers and tradeunions use to negotiate a multi-industry agreement, which contains arrangements concerning labour relation. The C.N.T. transposes them in labour collective agreements.

Besides the multi-industry joint setting, some tripartite setting up with the participation of the Authorities also take place in the C.N.T. These particular setting up are informal. This is the content of the multi-industry agreement which makes these collaborations necessary.

Within the National Labour Council, workers are represented by three representative organisations: The Christian trade-union confederacy (C.S.C.), the Work general union of Belgium (F.G.T.B) and the general Central of liberal trade-union of Belgium (C.G.S.L.B). Employers are represented by the F.E.B (Firm Union of Belgium). Moreover, this is the middle classes independent council that indicates the representativeness within the C.N.T. (the main organizations are the Middle classes Union and the Nationaal Christelijk Middenstandsverbond). Finally the farming sector is represented by the Boerenbond with also intervenes for the Belgian farming alliance, and the national Federal of the farming professional union.

Regarding the wage setting the C.N.T.'s role is mainly limited at the setting of the minimum wage (R.M.M.G.).

- The joint committees:

The wage setting takes place essentially in the joint committees and sub-committees. We count about 100 joint committees in the wages field. They are numbered: the committees only concerned to blue collar are numbered from 100, those for employees from 200 and those concerned to blue collar and employees as well as from 300.

This is the employer's activity which determines which committee is concerned to set the working conditions of the employees (whatever the occupation they concretely practice).

One can create sub-committee that are concerned for a sector share or a geographic zone. In that case the accent is often put at this level rather than at the joint committee's level. Indeed most of the cases we do not really negotiate in the two levels. The institution, the competence definition, as well as president and the vice-president of a committee or (sub) committee are made by royal order. The Ministry of Labour and Employment determines which are the represented organizations and their proportion. It takes in account the *social elections* which are held in companies to compose the worker delegation within the factory committee and within the committee for the prevention and the protection of workers.

The functions of the (sub-) committees go from the elaboration of collective agreement by sector to the formulation of opinion towards the parliament and the government, the CNT and the CCE, passing by the prevention of conflicts among employees and employers of the sector. Committees may also create subsistence security funds. These funds have as purpose of providing certain additional advantages to the sector employees. They are finance by sectoral employees' contributions.

Regarding the wage setting, we can distinguish 3 types of negotiation: that concerning the function classification, that concerning an indexation mechanism and the negotiation of salaries or the premiums.

1. Function classification and salary scales

On the base of the system of salary setting in joint committees, we find the function classification. This classification is fixed during negotiations. We connect then a salary scale to the function classification, fixing a minimum wage for each of the defined categories. The function definition is particularly important because it determines the salary of the workers. We also know that it is one of the major source of wage inequality between men and women.

2. Indexation mechanism

Besides function classification and salary scales, joint committees fix also mechanism of indexation. They determine how salaries are bound over four months to the "health index" or "health index smoothed" (consumer price index, from which someone products were removed).

The impact of the indexation differs from committee, in some, we only index wage minima, in others the real wages are also adapted. It's the same for the premiums which can be indexed or not or only partially.

3. Conventional wage increase

Periodic wage negotiations are especially centred on the increase of certain salary scales. It may involve an increase expressed in percent or in francs. Most of the time we grant the same increase in percent for various categories of employees. It may also be question of a differentiated treatment as, for instance, to favour the lowest wages. The premiums can be also raised.

- The social setting up

The company level plays an additional role during the wage negotiations. The joint organs at the company level are the factory committee and the committee for the prevention and the protection in work. These organs consist of elected representative fro employees and of delegates indicated by the employer. The employer negotiates salaries with one or several representative trade-unions.

3.1.2 The wage setting in the public sector

In the public sector the wage of most of the employees is determined in an administrative way. Wages are negotiated between the various authorities and the civil service unions but no real collective agreement is concluded on this subject as in the private sector. Every authority within the Belgian public service is relatively autonomous concerning the wage policy. The adopted system remains similar from a public authority to an other one. The pecuniary status of the federal civil servants is governed by the royal order of 29 June 1973. The federal civil servants are distributed in five levels, determined by the nature of the occupation. The various levels are, as a rule, only approachable to the holder of a definite diploma (but also by the success of an entry test in a superior level). Within a level it is the rank and, in certain cases, last evaluations, which determines in which salary scale we are situated. Within salary scale it is the seniority (and not the age) that plays then a role.

We grant to civil servants several premiums, generally according to the workers' personal or professional situation.

3.1.3 Recent changes

As we said previously, the subjects treated in the collective agreement have changed. More and more the Authorities intervenes to impose their priorities, it is mainly due, these last years, to the European targets and international competitiveness. Therefore Government exerting pressure to social partners to conclude collective agreements concerning issues such as, in particular, the conciliation between professional and private life (career break, leaves (maternity, parental, adoption, for family reasons, etc), measures to promote employment (for women, low skilled workers, old people, etc), measures that encourage the equal treatment between man and women (access to trainings, revising of the function classification).

In this context social partners have conclude numerous labour collective agreements that support the government policy. Moreover the interprofessional agreement, which takes place each two years, is the occasion for social partners to confirm their positions and to program their actions.

The last interprofessional agreement 2000-2002 concerns among others:

- the creation of more job opportunities;

- a good conciliation between professional and private life, combined with the safety of workers' right and the firms' working needs.
- a better working of the labour market thanks to a increase of the activity rate.
- the continuation of the training efforts.
- the encouragement of the use of analytical function classification or others neutral in gender term.

The recent labour collective agreements that may impact on the gender wage inequality are:

- The labour collective agreement n°64 concluded the 29 April 1997 related to the parental leave, which gives concrete to an agreement concluded in 1995 at the European level in the context of the social policy.
- In the extent to the interprofessional agreement of the 22 December 2000, the labour collective agreement n°77 concluded the 15 February 2001 grants to all workers of the private sector:
 - The right to a one year "credit temps", either by the total suspending of the working services, either by a part-time reduction of the working services;
 - The right to a 1/5 career break during five years;
 - The right for workers more than 50 to reduce their services of 1/5 or to part-time without time limitation.
- The labour collective agreement n°25 bis of the 19 December 2001 gives the role to the specialised joint committee to inform and sensitive social partners to initiatives in the matter of function evaluation systems neutral in gender term.
- The n°77 labour collective agreement has been replaced by the collective agreement n°77 bis and collective agreement 77 ter of the 10 July 2002 that make clearer and precise several points. (in particularly the prolongation, the passage from one system the an other, etc).

3.2 How is low pay regulated?

3.2.1 Description of the female employment

In 2000, 51.5% of women were in employment and 8.7% unemployed. In comparison the male employment rate was of 69.5% and that of unemployment of 5.8%. The direct observation is that the absolute gap between the male and female employment rate is of 18%, which is rather important. Women also seem to be more frequently unemployed than men. What can explain these differences?

1) The overrepresentation of women in low pay sectors and in low qualified occupations

As well as in many European countries, the Belgian labour market presents characteristics of segregation. In fact, women are concentrated within certain sectors and certain occupations. Moreover, they are generally less well remunerated and work under

worse conditions. From the point of view of the sectoral segregation, we can observe a female concentration in sectors that do not require specific education or only qualifications that are the continuation of the competence devolved to the women on base of the classic distribution of roles such as education, healthcare, domestic services and retail trade. Concerning the occupational segregation, women are usually numerous in intellectual, scientific, administrative and commercial occupations and seldom hold functions with high decisional capacity. This explains the concentration of female employment rates within a small number of sectors and occupations where they are overrepresented.

Occupations	Numbers		Percentage in line			Percentage in col.			
-	М	W	Total	Μ	W	Т	Μ	W	Т
Senior and corporate managers	294,383	134,804	429,186	69	31	100	12	8	10
Intellectual and scientific occ.	360,089	418,018	778,107	46	54	100	15	24	19
Intermediate occupations	290,970	168,033	459,003	63	37	100	12	10	11
Office clerks	244,674	401,626	644,300	38	62	100	10	23	16
Cust. service.clerks, salespersons	155,226	295,126	450,352	34	66	100	7	17	11
Skilled workmen on machines	286,375	58,438	344,812	83	17	100	12	3	8
Skilled workmen of artisanal type	459,921	38,979	498,900	92	8	100	19	2	12
Unskilled workmen and empl.	236,045	203,521	439,566	54	46	100	10	12	11
Total	2,327,6 83	1,718,5 45	4,044,2 26	60	40	100	100	100	100

Part of female and male employment by occupations ISCO, 2001

Sources: Labour Force Survey (2001) - INS

2) The minimum wage and the subsistence level

In Belgium the minimum wage (R.M.M.G.) is set, for the private sector, by a labour collective agreement, reached within the National Council of Labour (CNT). The last adaptation dates back to the labour collective agreement $n^{\circ}43$ of 13^{th} July 1993. The R.M.M.G in Belgium is high in international view and raises the question of the link between the productivity and the labour cost at the bottom of the salary scale. On this point, the continuing reduction of the employee's contributions on low wages seems to be a good political option.

On 1st February 2002, the monthly average minimum wage rose to: For workers aged 21 and more: €1,163.02; For workers aged 21 and a half with 6 months of seniority: €1,195.08; For workers aged 22 with 12 months of seniority: €1,209.33.

The subsistence level (MINIMEX), recently become the integration minimum income, is a social service founded by the law of 08/07/1974, which guarantees a minimum income to people who are unable to earn enough by themselves or thanks to other people.

The MINIMEX is a right; one must make the request and meet the conditions to be able to benefit from it.

Regions	Men	Women	Total
Brussels-capital	6,178	6,487	12,665
Flanders	8,878	12,999	21,877
Wallonia	12,918	19,110	32,028
Total	27.974	38,596	66,570

Beneficiaries of the MINIMEX, by gender and region in 2001

Sources: Ministry for Social Affairs, Public Health and the Environment

As we can see on the table in total 58% of the beneficiaries of the MINIMEX are women. This share is about 60% in Flanders and Wallonia and the distribution is almost equitable in the Brussels-capital region.

3) The differences between women's and men's education

Level of education by gender, 2000

Level achieved	Men	Women	Total
Primary and no education	10%	8%	9%
Lower general secondary education	23%	16%	20%
Upper general secondary education	38%	37%	37%
High non university, short type	13%	26%	19%
High non university, long type	5%	3%	4%
University	12%	10%	11%
Total	100,0	100,0	100,0

Sources: Labour Force Survey (2000) - INS

In Belgium people with low qualifications represents, for people between 25 to 49 years old, 33% of the total of men and 24% of that of women. On the other hand, the part of highly qualified people is respectively of 30% for men and 39% for women. This situation is particular to Belgium, in the same time, the part of the low qualified people is quite high and that of the highly qualified people is larger than in the surrounding countries. What differentiates Belgium from its neighbours is especially the relatively high educational level of women. The High Council of Employment (CSE, 2000) also notes that the low part taken by women on the labour market is particularly due to low-skilled women. In general, the chances to take part in the labor market increase with the level of education. This remark is more justified for women. Indeed, the difference in employment between highly qualified men and women is small, whereas this is not the case for low skills. The ratio of employment rate exceeds 0.9 for highly skilled people, whereas it only reaches 0.6 for low-skilled people.

As we have already seen, women in Belgium do not suffer from under-education, but from **sectoral and occupational segregation.** Another problem lies in the **initial education choice**. For this last problem especially, the government has to encourage a better integration of the equal opportunity in the whole of the educational system in order to avoid the stereotypes and to encourage more women to choose non-traditional professional options. Young girls should then be encouraged to choose a technical orientation so that they can also have access to technical professions.

Women would have to have access to vocation training as well as men. These training cannot reinforce the dualism of the society, or the imbalance between sexes on the labour market.

	1997	1998	1999	2000
Costs of the formations				
In percentage of the expenses of the staff	1.3	1.2	1.3	1.4
Average by beneficiary				
Total	1.43	1.38	141	1.49
Men	1.70	1.58	1.64	1.71
Women	1.07	1.05	1.04	1.10
Ratio women/men	0.63	0.66	0.63	0.65
Numbers of people beneficing from a training				
In percentage of the total strength of the staff				
Total	30.3	31.5	33.8	36.5
Men	28.7	31.5	34.2	36.4
Women	32.6	31.5	33.3	36.8
Ratio women/men	1.14	1.00	0.97	1.01
Number of training hours				
In percentage of the total of made hours	0.7	0.7	0.8	0.9
Average by beneficiary, in unit				
Total	32.9	31.2	31.8	33.4
Men	38.3	35.8	36.3	37.8
Women	25.8	23.8	24.3	25.9
Ratio women/men (%)	0.67	0.67	0.67	0.68

Vocation training in firms¹

Source: BNB, Social balances

¹ Data related to 1997,1998 and 1999 are computed from the total population, those of 2000 are established from a constant firms sample.

The table reveals that there exists a risk of reinforcement of the sex inequality in continuing vocational training. In fact, however the rate of male and female participation in training is similar, it is not the case regarding to the number of hours and the budget of trainings in which men and women take part respectively. The average budget devotes to female employee stands, in 2000 for instance to 65% of the budget devotes to her male colleague and the average duration of men's trainings rises at a mean of 38 hours whereas it is only of 26 hours for women.

3.2.2 Measures to regulate low pay

- Measures to fight the employment trap

The Belgian government carried out, especially since 2000, several initiatives to reduce the employment trap and to ease the transition to employment.

First of all monoparental families have from now the right to only one single compensation for child custody. For these families and the heads of household unemployed for a long duration, a mobility premium has been introduced and the payment of raised family benefit is maintained (during six months) in the event of transition towards work.

Moreover a single mobility premium and/or a premium for monoparental families (743.7 euros) grant to unemployed having been searching for more than one year and who accept a job which is not adequate being given the duration of displacement.

The gap between net remunerations of low paid workers and the social assistance is widened by the reduction of social security contributions for low paid workers, which is a fixed price that decreases as the wage increases (up to a gross salary of 1,339); thanks to this measure, the net wage for a determined gross wage increases (not proportionally because the taxable wage rises to). According to the National Action Plan (2001) these reduction correspond to a rise of 8% for the lowest labour incomes. From 2002, an individual tax credit of a maximum of 496 euros has been awarded to people earning between 3,718 euros and 12,395 euros, with decreasing advantages between 12,395 and $\vcenter{12,395}{113}$. This advantage takes the form of a negative tax on wage.

- The fiscal measures

The fiscal reform aims to reduce the tax and special taxation on wages. The target is to bring back, over one period of 6 months, the employees' burden to the average level of the three surrounding countries. The measures are of two kinds: some apply to all workers and some are selective.

The measures that apply to all workers regard :

- The redoubling of the effort aiming at reducing, since 2000, the employers' social security contributions from 1.5 to 3.5 billion in 2 years; an additional reduction would be considered in 2002.
- An effort aiming to simplify this measure at an administrative level by carrying out a single reduction.
- Progressive abolition of the crisis tax.

And the selective measures, which are aimed at low paid workers and the social sector:

- The fusion of the Maribel plan and measurements in favour of low wages since the 1st April 1999 is called the structural measure. It is applied via the attribution of a fixed reduction of the employers' social security

contributions, which will be identical for all workers (including the tertiary sector) - according to the duration of their activity – as well as by a new reduction of the profit of low wages.

- The reduction of personal contributions for low wage was introduced from 1st January 2000 to the 31 December 2003.

Regarding the tax reform of 2006, 1/5 of the budget will be devoted to a fixed tax credit repayable on the labour incomes, measures aimed at low wages.

Renewal of selective measurement "social Maribel", centred on the social, whose budget will pass from 0.0372 billion to 0.32. As well as the new measure which binds the reduction of the costs to the reduction of the working hours.

Measures for the reduction of employers' social security contributions and personal contributions, by reducing the cost of low wage employment (little qualified) may have an indirect effect of encouraging this type of work.

The second type of reduction (personal contributions) results in the increase of wage received by the low paid workers and can also have as a consequence to encourage the employment of these workers.

Since these fiscal measures encourage low wages or activities, it may have a negative effect on the gender wage gap. In fact, by encouraging that kind of employment (often practised by women), one confines them to lower incomes.

Moreover according to "the evaluation report of the European strategy for employment in Belgium" (DULBEA-HIVA, 2001), the simulations carried out on the micro-simulation model MISIM of the CSB (centre of studies of policy of the UFSIA), show that once their cruising speed has been reached, tax measures will reduce the tax pressure of all households from 19.4% to 16.8%, and will increase the available income by 3.3%. Even though 80% of households will benefit from this advantage, these measurements benefit relatively more to the average categories of incomes. Even the fixed tax credit, a special measure for low wages, only brings a profit of 1% to the inferior wage categories.

- Training courses

We have seen that, contrarily to many countries, women in Belgium are not generally less qualified than men, but suffer more from vertical and horizontal segregation. In this context, the Belgian authorities became aware of the importance of increasing the qualifications of women employed in sectors with weak qualifications by encouraging training for women in new technologies of information and the functions in which they are under-represented. Let us quote the initiatives related to the competence centres in TIC, to meet a bigger number of women in training for the more technical professions and by the professional training centers of the FOREM to form a minimum of 30 % of women of the number of female trainees in sections TIC. Moreover the French community is financing with the ESF a professional choices sensitisation action in professions connected to the new information technologies.

The report of the Independent Employment Committee (1999) stresses the importance of the continuation of feminisation in certain professions known as male one which show a

shortage of labour (for example engineers, data processing specialists and technicians at high level). Social partners also decided during the multi-industry agreement of 2000-2002 to increase the effort of companies as regards training. The part of the wage bill devoted to the expenditure for training must increase by 1.6% in 2002 and 1.9% in 2004. This effort should make possible for Belgium to make up its delay compared to its neighbours. They were also committed to breaking the segregation; at the concluding of agreements relating to training in the sectors, they will be concerned with the respect of the equal opportunity between men and women, particularly in the occupations in which they are under-represented.

3.3 Regulation of pay for part-time workers

In Belgium, the part-time employment represents 20% of the total employment. It concerns 40% of the female employment, more than 90% of part-timers are women. Regarding to men, although the male part-time employment is strongly increasing (63% between 1997 and 2000) it only reaches 6% in 2000.

Part-time workers' status requires reorganisation to grant their rights identical to those of full-timers. In this context, the extension of the *paid training-leave* in 1999 to part-timers contributes to the equality.

According to Jepsen (2001) part-timers in Belgium do not seem to suffer from wage discrimination. Indeed, her econometric analysis reveals that there exists a wage gap between full-timers and part-timers in disfavour with these last ones but it is due to type of job and qualification demanded for these jobs. Therefore, legislation protecting part-time seems to be efficient: with similar characteristics, one hour part-time has the same remuneration than one hour part-time.

The *Labour Force Survey* (INS, 2000) shows that less than a quarter of women work part-time because they do not find a full-time job. This percentage is of 35% to men. One women on three explains her part-time mainly by the education of young children, this part stands at 41% for high skilled women. Only 3% of men are part-timer in order to take care of their children. This observation highlights the task distribution imbalance in household.

3.4 Recent change in childcare and parental leave infrastructure

The government works to ease the conciliation between professional and private life. Two approaches allow this conciliation; it is the combination model and that of externalisation. In the first model, the working time is organised in function of the situation and the needs of the worker who bears in the various stage of their live a more or less big responsibility in the domestic tasks. In the second one, the full-time labour is the norm for both men and women. To make it possible, the domestic tasks are confided the most possible to other people during the working time. To encourage these two practices, the government implements on one hand measures concerning part-time employment, career break, parental leave and leave for family reasons. On the other hand, Communities take measures centred on the social infrastructure such as day care centres, helps to families and old persons and home cares (subsidisation of local services network, in particular day care centres). These measures do not only concern women but also attend to encourage the most possible men to reconciling professional and private activity.

3.4.1 Childcare infrastructure and the framed child minders

• Description of the child reception structure between

The reception infrastructure for 0-3 is organises in publicly funded infrastructure and those non-publicly funded, subjected to legal arrangements in quality of the National Childhood Office (ONE) in French community and Kind en Gezin in Flemish Community. The reception structures subsidised by the ONE and Kind en Gezin are mainly constituted of day care structures and framed child minders. The non-publicly funded reception structures are organised in children's homes and independent child minders.

The reception abilities of the reception structures in French Community can be assessed by the coverage rate⁶ which give an idea of the 0-3 child part who could be take into care by the reception structure.

Province	Publicly funded structures	Non-publicly funded structures	Total
Brussels	20.7	7	27.7
Walloon Brabant	28.3	9.4	37.7
Hainaut	13.1	3.1	16.2
Liège	13.3	4.6	17.9
Luxembourg	20.2	8.4	28.6
Namur	16.1	5.6	21.7
Total	17.1	5.4	22.5

Coverage rate by province by the ONE in French Community (2000)

Source: :"Lettre mensuelles économique" p.4 – Annual Report ONE

The coverage rate is low, only 22.5% of child number in age to frequent the reception structures is taken into care.

Concerning the Flemish Community the reception place number in percentage of the child number under 3 give us an idea of the reception structure in this Community.

⁶ It is the ration between he number of available places and the year birth number multiply by 2.5.

Province	Publicly funded structures	Non-publicly funded structures	Total
Antwerp	22	5.7	27.8
Flemish Brabant	22.5	8.8	31.3
Western Flanders	18.6	16	34.6
Eastern Flanders	21.2	10.4	31.6
Limbourg	22.2	2.2	24.4
Total	21.3	8.8	30.0

Source: "Lettre mensuelles économique" p.6 – Jaarverslag Kinderopvang 2000

We note that the childcare abilities of the Flemish Community are larger that those of the French one. In average, one child on three is taken into care by a childcare structure against one child on five in the French Community. The publicly funded childcare structures are also better divided up on the Flemish Community's territory than on that of the French Community.

The extra-curricula childcare is at present not well developed. Some publicly and nonpublicly funded childcare structures take care of children until 6 (private and municipal child minders and child's house). This system remains partial.

Since 2001, the French Community has granted financial means to Walloon and Brussels municipalities to support and develop the extra-curricula childcare.

Whereas the extra-curricula childcare structure in Flemish Community is better organized. There is on one hand, the 0-3 childcare structures that can take into care children of the fundamental education. Those structures are subsidised or not by Kind en Gezin. On the other hand, there are structures that are particularly centred on the extra-curricula structure of the basis school. Those structures are recognised but not subsidised by Kind and Gezin.

	Reception structures
Antwerp	1.9
Flemish Brabant	2.2
Western Flanders	2.4
Eastern Flanders	2.5
Limbourg	3.8
Region	2.6

Place number in the extra-curricula childcare structures (non-subsidized) in % of the 3-12 population (2000)

Source:"Lettre mensuelles économique" p.9 – Jaarverslag Kinderopvang 2000

The extra-curricula childcare system in Flanders is less well organised than that of 0-3 children. The child place number in these structures is, in fact, quite small. But underestimated because these figure do not included the available places in 0-3 child reception structures.

• Measures implemented

Several measures have been implemented to improve the possibilities of the childcare structures and to ease the childcare for families. In this view the Belgian government keeps increasing the numbers of places available in day care centres. The 100% tax-deductibility of the 0-3 years old child taking care expenses has been adopted in 2000. Moreover, regarding monoparental families, who have to combine slight wage and employment, measures are taken in Flanders and in French community to assure a bigger access and flexibility to day care centers, thanks particularly to advantageous rates.

According to the National Action Plan 2002, **the Flemish plan** for the reception of children proposes, for the period 2001-2004, an annual extension of 2,500 places for the reception of children, so 10,000 supplementary places in four years. In 2001, more than 1,500 new places have been created in child reception to private individuals. The target of 2,500 new places has been reached in 2001. The norm of 313 places for 1000 children under 3 was slightly exceeded as result of the double effect of the place number increase and the continuation of the decline of the birth rate.

The policy note "accueil extrascolaire" organizes a new-programmed extension of the extra-curricular children reception. In the future, one particular attention will be granted to extra-curricular children reception in fundamental schools.

Similar measures have been developed in French community: a decree pilot study related to the extra-curricula reception is in preparation and it finances since 2000, pilot research carried out by the ULB: "Maladies infantiles et garde d'enfants malades une source d'inégalité hommes-femmes", in order to assess the impact of the infant diseases on the equal opportunity between men and women.

The **Brussels-capital region** aims at doubling the number of reception places in term. In 2001, the increase was of 16.6% with a supplementary budget of 0.372 millions euros. An increase of the same order is planned in 2002. Moreover, the ORBEM *maison des enfants*, temporary solution for parents who begin to work, has kept in care 480 children in 2001.

In **Wallonia**, this system (combine with the 'contrat credit-formation" which gives a reparation nursery to trainees register for training) has for aim to allow men and women to follow training and access to a job they could not take part if these structures do not exist. In 2002, a supply of children reception database will be created in order to ease the demand orientation in function of the supply available.

Moreover the federal government as well as the Community and the Regions grant a particular attention to men and women who intent to reinstate the active life after an absence. Lets quote the effort of the French Community that supplies about forty reception structures asking only a minimal financial participation, a solution to children taking care problems meet by men and women who register to reinstate vocation training. This system is cofinanced by the European Union through the European Social Fund.

Child minders:

- The instauration of a social statute for child minders, which give them a specific social welfare.

3.4.2 Parental leave for farther and adoption leave

From the 1st July 2002, the new fathers employees in the private sector can set two weeks leave (10 working days) after their childbirth, instead of three days like in the old regulation. In the same way couples, father and mother, who adopt a child, have both the right to two weeks leave in order to completely enjoy this event. This is a new right, until now couple that adopted a child have no right to days of leave.

In the two cases (paternity and adoption leave), the employer would pay the complete salary for the three first days. For the seven others day the mutuality will intervene. This intervention is of 82% of the salary, which reached a maximum at 2,579.96 euros.

The worker is free to choose to take the ten days leave during the month following the childbirth or the registration in the child's register. These leaves could be taken in one time or separately.

The regulation is applicable to:

- fathers from whom the child will be born after the 30 June 2002.
- parents from whom the adoptive child is register, after the 30 June 2002, in the population register or in the foreigner register of the parent residence place.

3.5 Economic prospects for major low paying sectors

3.5.1 The social sector

A low paying sector that particularly interests the Belgian government is the **social sector**. This sector represents a source of employment and could help to reach the target of the employment rate of 70%. It is also interesting in the context of conciliation between professional and private life because this sector could allow the supply of local services passing off the domestic tasks and care (child reception structures, services and care at home and social accompaniment) to other remunerated people. In this case, it is important to supply these services at a reasonable price in other to make it available to every family and to develop these assistance, care and services activities in a regular work network.

The development of the social sector could help individual group at risk (women, low skilled people, old people) to find a relatively stable job of quality, particularly by reducing the informal network. A difficulty to take into account is the employment and productivity trap, which explain that at present most of these services are made in black.

Therefore, the continuation of the lightening of the burden weigh on little productive wage is necessary for both employer and employees.

• Initiative to stimulate the demand of new local services

The demand of local services is encouraged first, as mentioned previously, by reduction of burden weight on low salaries (reduction of employee and personal social security contributions). It is the *Maribel Social and structural measure*. In 1999, the system of *service-check* has been experimented; these checks could be used by user (with fiscal allowance in function of their profile) and by employer like a payment mean for services proposed by approved people. This initiative dropped because of the high budgetary cost and the dead weight effect). In 2001, the federal government approved a bill aiming to introduce *service-checks* in order to promote the local service demand.

The bill defines the activities that are concerned by the local services:

- help at home for domestic type works;
- childcare;
- home assistant to old person, sick or handicapped persons.

The government has however the choice to widen this to other activities.

• The ALE system and the employment in the social sector

The Local Agency for Employment (ALE) system is an activation measure aiming longterm unemployed insertion. On one hand, this system has the advantage to put back difficult unemployed in touch with the labour market, by offering them an employment to measure, flexible and relatively attractive from the financial point of view.

On the other hand, the system stands, in spite of some improvement of the system, at the origin of an important employment trap: very few people used of this regime to reach the regular labour market because of the quasi-absence of profit income during this passage.

• Initiatives to have an appropriate workforce and to structure the supply of local services

According to the Independent Employment Committee (1999), there exists for several services (such as childcare, medical care or assistance to old people) an imbalance between educations that these activities required and, on the other hand, the unsuited education level of the major part of unemployed susceptible to exercise these occupations. In this context, the Communities and Regions supply several training programs that give to low skilled unemployed a base education to be able to practice an activity in local services.

Concerning the supply structuring, the cooperation agreement between the federal government, regions and the German-speaker Community make possible the adoption of new measures.

In **Flanders**, the concept of local shop for employment has been introduced. This concept is centred around two axes, the first one is the modernisation of current system of the local counter for employment (PLOT), and the second consists in the development of new local services. The last axe is governed by local powers that are municipalities or an association of municipalities.

The **Wallonia** is more and more concerned by the creation of stimulants to the development of the local services. It already exist, at the municipality level, a wide structure network available to all, it is the *"maisons de l'emploi"*, which are base information centres.

• Working time reduction in the non-profit social sector

To make the working conditions more suitable and to stimulate the employment in the non-profit social sector, the federal agreement 2000-2005 has been concluded. This agreement organise the career end for this sector under the form of a working time progressive reduction for all nurses, care dispensers and comparable categories full-timers from 45 years old. These workers receive a bonus such as more free time with remaining of the wage or a supplementary bonus added to the normal wage for those who want to continue to work full-time (38 hours per week).

3.5.2 The functions classification systems

As we have seen previously several factors can explain the gender wage gap. First differences in term of education, experience and seniority between men and women partially justify the gap. But the discrimination on the labour market is also responsible of the gender wage gap. Therefore women suffer from horizontal and vertical segregation, we observe a female concentration in a restricted number of sector of the economy (in sector producing welfare, often the sector with the lowest wages) as well as different in occupation repartition within the same sector: women are numerous in subaltern occupations, which are here again the least well remunerated. Besides these discriminations, there exists discrimination in the function valuation. It mains that one grants less value to functions practiced in majority by women. The present function classification system in Belgium dates, in fact, from a period where women were little active, the discrimination in the function valuation could be a significant explicative factor of the gender wage gap.

To solve this problem for equity's sake since 1999 the Belgian government consider revising the function classification systems. A project cofinanced with the European Social Funds is in process and aims at the implementation of universal classification system, analytical and neutral in gender term. This project has three targets: to actualise training units and social partners'sensitisation, to study sector that apply analytical function classification system and to establish and to guarantee an objective remunerating system. The social partners have also agreed in the intersectoral agreement 1999-2000 and 2001-2002 to progress to a neutral in gender term classification function. Tax measures will encourage firms to adopt these systems. Moreover a brochure established by the social partners has been written to serve as a tool during the implementation of a neutral in gender term classification systems. In 2002, the gender impact of an analytical classification system in sector already using such a system (catering, alimentation, clothing and textile industry and international trade employees) will be studied. Finally a feasibility study will be implemented for the adoption of an analytical system concerning employees, managers as well as blue collar. To support this initiative the National Employment Council conclude in 2001 the labour collective agreement n°25bis, which charges a specialised committee to inform and to make the social partners sensitive on the initiatives taken in systems of neutral in genre term functions assessment as well as to return opinion and to carry assistance to joint committees.

Bibliography

Conseil de l'égalité des chances (1996), *Femmes et pauvreté*, Ministère de l'Emploi et du travail, Bruxelles.

Conseil supérieur de l'emploi (2001), *Rapport 1999*, Ministère fédéral de l'Emploi et du Travail, avril, Bruxelles.

Conseil supérieur de l'emploi (2001), *Rapport 2000*, Ministère fédéral de l'Emploi et du Travail, mai, Bruxelles.

Conseil supérieur de l'emploi (2001), *Rapport 2001*, Ministère fédéral de l'Emploi et du Travail, juin, Bruxelles.

Conseil supérieur de l'emploi (2001), *Rapport 2002*, Ministère fédéral de l'Emploi et du Travail, juin, Bruxelles.

Direction de l'égalité des chances, *Evaluation et classification de fonctions – Des outils pour l'égalité salariale*, Ministère fédéral de l'Emploi et du Travail, 2000, Bruxelles.

Grimshaw Damian and Rubery Jill, *The gender pay gap: a research review*, European Work and employment Research Centre, Manchester School of Management, UMIST, December 2000.

Hecq Christian et Meulders Danièle (1995), *The Belgian Labour market*, DULBEA, Discussion paper, août, Bruxelles.

Hecq Christian et Meulders Danièle, Fixation des salaires et ségrégation sexuelle dans l'emploi en Belgique, DULBEA, avril 1993.

HIVA – DULBEA, L'évaluation d'impact de la stratégie européenne pour l'emploi, janvier 2001.

Institut National de Statistique (2001), *Enquête sur les forces de travail 2000*, Emploi et chômage, juillet, Bruxelles.

Jepsen Maria, Evaluation des différentiels salariaux en Belgique hommes – femmes et temps partiel – temps plein, Reflets et Perspectives, XL, 2001/1-2.

Lettre mensuelle socio-économique (2002), Accueil de la petite enfance et marché du travail, n°73, mai, Bruxelles.

Ministère de l'Emploi et du Travail (1999), Salaires et durée du travail, Bruxelles.

Ministère fédéral de l'emploi et du travail, Indicateurs de genre en matière d'égalité salariale entre les femmes et les hommes, Rapport de la Présidence belge, 2001.

Ministère fédéral de l'emploi et du Travail, *Rapport d'évaluation 2000*, La politique fédérale de l'emploi, juin 2000, Bruxelles.

OCDE, (2002), Perspective de l'emploi de l'OCDE, OCDE, juillet.

Office National de Sécurité Sociale, *Emploi salarié (O.N.S.S.) du deuxième trimestre*. (les brochures allant de 1997 à 2001).

Office National de Sécurité Sociale, *Employeurs et travailleurs assujettis à la sécurité sociale au 30 juin*. (les brochures allant de 1980 à 2000).

Office National de Sécurité Sociale, *Rémunérations et journées déclarées*. (les brochures allant de 1980 à 2000).

Plan d'action national pour l'emploi 1998, Belgique.

Plan d'action national pour l'emploi 1999, Belgique.

Plan d'action national pour l'emploi 2000, Belgique.

Plan d'action national pour l'emploi 2001, Belgique.

Plan d'action national pour l'emploi 2002, Belgique.

Plasman Anne, L'évolution de l'écart salarial de genre dans l'Union Européenne, juin 2002.

Plasman Robert (1995), Formation des salaires et Politiques des Revenus en Belgique (1977-1994), DULBEA, Discussion paper, mai, Bruxelles.

Rycx François et Tojerow Ilan, Inter-Industry Wage Differentials and the Gender Wage Gap in Belgium – Evidence from Matched Employer-Employee Data, 2002.

Standaerts I. et Valenduc C. (1999), L'évolution de la distribution des revenus imposables au cours de la période 1990-1995, Ministère des Finances, Bulletin de documentation, n°4, juillet-août, Bruxelles, pp 105-211.

Annex

F.Rycx and I.Tojerow (2002): "Inter-Industry Wage Differentials and the Gender Wage Gap in Belgium Evidence from Matched Employer-Employee Data"

- Inter-Industry Wage Differentials by Gender

The table 1 report the estimates of inter-industry wage differentials for female and male workers in rank order.

Industry (Nace code)		Female wage	Male	Male wage	t-statistics
	Rank	differential	Rank	differential	for $(\mathbf{y}_m - \mathbf{y}_f)^1$
Post and telecommunications (64)	(1)	+0.331	(1)	+0.223	-9,91**
Production and distribution of electricity, gas,	(2)	+0.242	(2)	+0.223	3,71**
steam and hot water (40)					
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	(10)	+0.063	(23)	+0.002	-0,39
hardware (30)					
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	(14)	+0.043	(21)	+0.01	0,61
materials (35)					
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	(19)	+0.03	(29)	-0.018	-5,28**
the motor trade (51)					
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	(23)	+0.006	(14)	+0.027	8,19**
watch making instruments (33)					
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	(27)	-0.012	(33)	-0.037	3,68**
motorcycles; retail fuel trade (50)					
Property activities (70)	(28)	-0.014	(17)	+0.018	7,15**
Land-based transport (60)	(29)	-0.014	(39)	-0.074	-5,64**

Table 1: Inter-Industry Wage Differentials by gender for Two-Digit Industries

Manufacture of other non-metallic mineral	(30)	-0.017	(13)	+0.029	19,37**
products (26)					
Manufacture of furniture; sundry	(31)	-0.017	(41)	-0.096	-10,16**
industries (36)					
Paper and cardboard industry (21)	(32)	-0.026	(9)	+0.089	33,88**
Manufacture of electrical machinery and	(33)	-0.027	(22)	+0.005	15,92**
appliances (31)					
Construction (45)	(34)	-0.027	(26)	-0.005	15,57**
Manufacture of radio, television and	(35)	-0.028	(12)	+0.034	25,29**
communications equipment (32)					
Construction and assembly of motor vehicles,	(36)	-0.028	(34)	-0.041	5,78**
trailers and semi-trailers (34)					
Woodwork and manufacture of articles in wood,	(37)	-0.03	(35)	-0.044	4,10**
cork, basketwork or esparto (20)					
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.

-

Gender Wage Gap by Industry

The authors based themselves on two different types of indicators to estimate the gender wage gap by industry. The fist indicator was developed by Fields and Wolff (1995) and the second by Horrace and Oaxaca (2001).

In order to compute these indicators, the authors firstly estimated inter-industry wage differentials by gender, according to the methodology of Krueger and Summers (1998). It consists in the estimation of semi-logarithmic wage equation separately for female and male workers.

The results shows that, in appearance, the dispersion of the inter-industry wage differentials and their rank order seem to be quite similar. Indeed, the two best-paying industries are for both sexes the mail and telecommunications and electricity, gas, steam and hot water industry and in the lowest-paying sector we find for both sexes the clothing and fur industry and hotels and restaurants industry. Moreover, 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, this apparent similarity is contradicted by standard statistical tests, such as the standard t-test (the difference between male and female industry coefficients are significantly different by 1% for 35 out of 42 two-digit industries and by 60% of cases at the three-digit industries level) and the Chow test (which indicates that the sectoral wage differentials are significantly different as a group for male and female workers, independently of the level of industry aggregation).

The second stage consists in computations of the gender wage gap by industry on the basis of the regressions coefficients obtained with the inter-industry wage differentials. The Fields and Wolff (1995) indicator is the following:

$$FW_{K} = \left(\hat{\mathbf{y}}_{k}^{f} - \hat{\mathbf{y}}_{k}^{m} \right) + \left(\hat{\mathbf{a}}^{f} - \hat{\mathbf{a}}^{m} \right)$$

The first term measures the difference between the estimates of the industry variables for men and women and the second is the difference between the estimates of the intercepts in the female and male wage equations.

This indicator identifies the gender wage gap in a particular sector by subtracting the female industry coefficient from that of men. This indicator will, by construction, frequently be negative since women are in general paid less than men and this even after checking for working conditions, individual and firm characteristics.

According to Horrace and Oaxaca (2001), the Fields and Wolff (1995) indicator suffers from an identification problem, which causes a bias due to the fact that the intercepts capture all the omitted categories of the dummy variables included in the wage equations. Therefore, they propose the following estimator:

$$HO_{k} = FW_{k} + \overline{X}^{f} \left(\hat{\boldsymbol{b}}^{f} - \hat{\boldsymbol{b}}^{m} \right) + \overline{Z}^{f} \left(\hat{\boldsymbol{d}}^{f} - \hat{\boldsymbol{d}}^{m} \right)$$

where, \overline{X} is the vector of average values of individual characteristics of the workers and their working conditions and \overline{Z} contains the main employer's characteristics. **b** and **d** are the vectors of regression coefficients.

Expressed this way, Horrace and Oaxaca (2001) demonstrate that this estimator does not suffer any more from an 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. The HOk is also referred to as the identified wage gap.

The results for two and three-digit industries reveal that both types of estimators have the same ranking (this is not surprising since HOk's are obtained by adding a constant term to FWk's). At the two-digit level, the dry hire industry has the smallest non- and identified wage gap, this sector is followed by the mail and telecommunications industry. Such findings mean that the inter-industry wage differentials in these sectors are smaller for women than for men, these industries are therefore less profitable for women than for men. At the bottom of the scale, the paper and cardboard industry shows the largest negative gap.

The authors also find that the range and variation of the gender wage gap by industry increase substantially as the degree of sectorial desegregation goes up.

(HO _k) vs. Non -Identified Wage Gap Estimates (FW _k)				ies.
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	0.003
Dealing in and repairing motor vehicles and motorcycles; retail fuel	-0.182	0.008**	-0.117	0.004
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	-0.193	0.008**	-0.128	0.006**
esparto (20) Construction and assembly of motor vehicles, trailers and semi-trailers	-0 194	0.009**	-0.128	0.006**
(34)	0.171	0.007	0.120	0.000
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	-0.223	0.009	-0.163	0.010
instruments (33)	-0.228		-0.105	
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	
			-	

Table 2: Identified Wage Gap Evaluated at Women Sample Mean Characteristics
(HO_k) vs. Non -Identified Wage Gap Estimates (FW _k) for Two-Digit Industries.

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.