IS THE SIZE-WAGE DIFFERENTIAL ACTUALLY A GENDER WAGE DIFFERENTIAL?

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Abstract

There are hundreds of papers on gender wage gap but how the size of employer can alter the compensation structure of male and female wages is not studied in detail in size-wage literature. Heckman two step estimation procedures and standards Oaxaca (1973) Blinder (1973) wage decomposition method is used to decompose the gender wage difference across employer size in order to compare the patterns of gender wage gap in different sizes of employer. Higher rewards for females in observable characteristics in all size categories and higher rewards on unobservable characteristics for male workers in all size categories are found. Wage difference increases as size increases. Women are associated with low paying workplaces. Big size employers prefer male workers and pay them higher wage regardless of observable characteristics.

Key Words:
Gender wage differentials, Oaxaca-Blinder decomposition, selection, establishment size

JEL Classifications:

J16, J24, J31, J71, C24, C50

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1. Introduction

Why do women earn lower wages than men? What are the factors that determine gender wage differentials? These questions have been discussed many times in the literature of gender wage differential. This resulted in various theoretical and empirical explanations of this wage gap. The traditional approach in analyzing the determinants of the wage gap is to consider the role of gender differences in human capital characteristics and labor market discrimination. Key determinants of gender discrimination include gender segregation in organizational hierarchies, undervaluing of women's work, uneven division of domestic labor on the ability of women and men to devote time to labor market work, women's concentration in jobs where on one hard pay is lower and on the other hand career prospects are weaker (Smith 2010).

The gender pay gap is strongly related to the segregation of women into low-wage structures. Many studies found women segregation into low paying occupations as the main source of gender wage differentials. This is called the occupational sex segregation[1]. While another aspect of segregation is firm-segregation. The inter-firm wage differentials results in gender wage differentials. Such studies drawing on matched employer-employee data reveal that female segregation into low-wage workplaces play a particularly important negative impact on their relative wages[2]. The size of the gender pay gap is related to the global characteristics of the wage structure and, in particular, to the extent of wage dispersion. As women are usually concentrated in the lower part of the wage structure, the more dispersed the structure prevailing in a country the greater the penalty for female wages. Accordingly, empirical evidence shows that gender wage gaps are generally higher in those countries with comparatively more dispersed wage structures[3].

After the popularity of wage decomposition methodology by Blinder (1973) and Oaxaca (1973), many forms of discriminations have been evaluated using this wage decomposition method including gender discrimination, wage differentials based on ethnicity

[1] (Velling, Johannes 1995), (Groshen 1991), (Dolado et al. 2004), (Bayard et al. 2003), (Macpherson and Hirsch,1995) (Simon 2012).

[2] (Bayard et al., 2003), (Meng, 2004), (Amuedo-Dorantes and De la Rica, 2006) , (Groshen 1991) , (Carrington and Troske 1998), (Reilly and Wirjanto 1999)

[3] (Blau and Kahn, 1992, 1996, 2003), (Simón and Russell, 2007), (Simon, 2012).

or race etc. In the presence of non-random selected samples, OLS estimates are not consistent (sample selection bias). The most common methodology for the treatment of the sample selection bias is the Heckman correction. Sample selection has been shown to be a potential source of bias in several studies of earnings differentials. Wage decomposition with sample selectivity bias correction is done by many authors[4]. Moreover, quintile regression approach is largely adopted in recent studies to observe the distribution patterns at upper and lower tails. Several papers decompose the gender wage gap across the distribution for different Countries[5].

The gender wage gap for France was 18 percent in 2008 (European Structure of Earnings Survey). Based on 2011 European commission of justice report, gender wage difference in France is 17 percent. The wage differential between women and men for France narrows very slowly because of its key determinants which are kept stable over the years. Those may include activity profile and job status. 75% of this wage discrepancy is accounted for by differences in job characteristics, the duration of work and working hours. Without radical measures, further improvement is hardly expected (IRES 2012 draft). French labor law is not built around discrimination law. French provisions on discrimination are directly influenced by European Commission law. Discrimination between men and women traditionally constitutes the main issue of discrimination law.

There is a vast literature on the employer size and wage differential. This is also tested for French labor market. There are various theoretical explanations justifying the higher pay structures of large firms but the consensus is not present on the reasons of the size wage gap. There are studies using longitudinal dataset for France but using the cross sections of individual data, the problem of selection bias is not studied in detail for French labor market. In another paper by the author on "Non-random sorting and wage differentials in French establishments", the sources and magnitude of size wage gap is presented and the selection bias issue associated with non-random sorting of workers with cross section data is studied using FIML and switching regression models. This paper is in continuation of the previous papers where the results are extended. The objective is to study that whether the size wage

[4] **(**Neumark 1988), (Oaxaca and Ransom 1988), (Oaxaca and Ransom 1994) (Oaxaca & Neuman 2003), **(**Reimers 1983), (Boymond et.al 1994). (Dolton et all 1989)

[5] Badel A. & Pena X. (2010) for Columbia, Albrecht et al. (2003) for Sweden, de la Rica et al. (2007) for Spain, Hoyos, Ñopo and Peña (2010) for Colombia, Ganguli and Terrell (2005) for Ukraine, and Ñopo (2006) and Fernández, (2006) for Chile. Albrecht et all (2004) for Netherlands.

differential is actually a gender wage differential. The other objective of this study is to decompose the gender wage difference across employer size in order to compare the patterns of this difference in different size of employers. For this purpose characteristics of employers have also been included. The contribution of discrimination, human capital and selectivity in different sizes of establishments is examined.. The effect of differences in personal characteristics on gender wage gap is disentangled with the effect of selection into different establishments of women and men.. It is analyzed that whether it is a low paying occupation or a low paying workplace that cases gender wage discrimination in France. There are three type of selection. Selection on the decision to work, selection for occupation and third is selection for size categories. In this study the sample of employed workers is taken only. Here I will not talk about those two selections and will only take into account the selection bias for employer size categories.

The rest of the paper is as follows; section two presents data description, this will be followed by methodology in section three and ordered probit and marginal effects in section four. Section five presents wage equation estimates succeeded by wage decomposition results in section six while section seven concludes.

2. Data and Variables

ECMOSS (Enquête sur le coût de la main d'oeuvre et la structure des salaires) Survey for the year 1992 is used for this study. This is the data conducted by French Ministry of Labor. This is a very rich database consisting of socio economic characteristics of workers along with characteristics of establishments. There is no other data that provides information on size of the establishment, principal activity, geographic location, wage structures, composition of wages at the same time. Moreover, we can find detailed information on the education, profession, industrial distribution, age, nationality, and family situation of workers. This unique matched employer-employee dataset gives detail information on establishments and workers even later surveys in the same nature do not include the same type of questions. There were two types of data files one related to employer and other related to employees characteristics. Both are merged to get maximum information. The detailed information, on all the departments of France where the establishments are located, is only available for this survey while for other ECMO and ESS surveys conducted later on, we don't find this information.

There are two basic definitions of wages available; the gross hourly wage and Basic hourly wage: The gross hourly wage is composed of three elements, basic hourly wage, compensation or incentives packages (complements de salaire et indemnities) and overtime paid hours (heures supplementaires). So the gross hourly wage includes the basic hourly wage to which complements are added. For our estimations, we will use both measures of wages with preferences for the first. The gross hourly wage is very much relevant to size because as the size of establishment increases, incentive packages and compensations associated with pay packages increases because large employers give more incentives to retain workers and reduce quit rates and to invoke work effort because monitoring is more difficult in large establishments. Therefore there is a strong impact of compensation and pay practices associated with large establishments on individual hourly wages. Results are presented and compared for gross and basic hourly wage.

Heckman two step estimation procedure is followed for this study where in the first step an ordered probit model is estimated. Dependent variable is size of the establishment. There are three different levels of size including small (1/49 = 1), medium (50/249=2) and large (250/max=3).[6] The explanatory variables are gender, type of industry, region where establishment is based, the interaction of region with type of industry, educational levels of population, age and its square (working age is defined as 25-60 years) and type of profession.

The variable of interest that is used as instrument is interaction of region with industry. The interaction between the worker's industry and the region where the establishment is based is used for exclusion restrictions. Luckily, we have detailed information on the regions and departments. In France, there are around 95 departments. This information would tell us the exact prediction of worker's choice of establishment depending on the type of industry. The intuition behind this interaction is that as big firms and establishments are mostly found is large regions and people living in large regions would more likely to go in large firms but their choice will vary on the type of industry where they want to go. We can also say that interacting the region with the industry would predict the size of establishment. Lluis (2003) has provided this analysis and used dummy for big city depending on population. Whereas we have detailed information on all the departments in France and the administrative regions. This can provide more detail analysis of the effect of this interaction on the selection. The second equation is the wage equation where the dependent variable is log of hourly wage and explanatory variables are gender, type of industry, region, type of employment contract,

[6] In the appendices we present results for different threshold values to see the robustness of results.

educational levels of population, Tenure and its square and type of profession. Both equations are presented in the preceding section and methodology is presented in detail.

3. Methodology

For this study the gender wage differentials within a given size category is considered to be analyzed. A simple two equation model of wage determination and employer size selection among employed workers illustrates the application. The Heckman two step estimation procedures is used for identifying parameters and later standards Oaxaca (1973) wage decomposition is applied to the regression equations.

For the purpose of simplicity three size categories: small, medium and large are formed. The establishment size participation function for size category 1 is given by:

$$\boldsymbol{Y_i^* = Z_i \gamma_i + \varepsilon_i} \quad 1$$

If:

$Y_i^* < 0$ The individual works in small sized establishment

$0 \leq Y_i^* < \mu$ The individual works in medium sized establishment

$Y_i^* \geq \mu$ The individual works in large sized establishment

And the wage equation is given by:

$$W_{1i} = X_i\beta_1 + v_{1i} \quad 2$$

$$W_{2i} = X_i\beta_2 + v_{2i} \quad 3$$

$$W_{3i} = X_i\beta_3 + v_{3i} \quad 4$$

Where Y_{1i}^* is a latent variable associated with the being employed in size category 1, Z contains the set of determining variables of being in a size category, γ *is* the associated parameter vector. $\boldsymbol{W_{1i}}$ is the log hourly wage for small size category, X is a matrix of wage determining variables, β is a vector of unknown parameters and $\boldsymbol{\varepsilon_{1i}}$ and $\boldsymbol{v_{1i}}$ are the *i.i.d* error terms that follow a bivariate normal distribution (0,0, $\sigma_{\varepsilon 1}, \sigma_{v1}, \rho_1$)..

The probability of being employed in size category1 is given by:

$$pr(\varepsilon_{1i} \leq -Z_i\gamma) = \Phi(-Z_i\gamma) \quad 5$$

$$pr(-Z_i\gamma < \varepsilon_{2i} \leq \mu - Z_i\gamma) = \Phi(\mu - Z_i\gamma) - \Phi(-Z_i\gamma) \quad 6$$

$$pr(\varepsilon_{3i} \geq \mu - Z_i\gamma) = 1 - \Phi(\mu - Z_i\gamma) \quad 7$$

Where Φ (.) is the cumulative distribution function of a standard normal distribution. Wages are observed in size category 1 for those for whom $Y_i^* < 0$ so that the expected wages of a worker observed to be in small size establishment is given by:

$$E[W_1] = X'_1\beta_1 + E[v_1 | \varepsilon_{1i} < -Z\gamma]$$
$$= X'_1\beta_1 + \theta_1\lambda_{1i}$$

Where $\theta_1 = \sigma_{v1}, \rho_1$ and λ_{1i} is defined as the ratio of the probability density function to the cumulative distribution function of a distribution. It is written as:

$$\lambda_{1i} = -\emptyset(Z\gamma)/[1 - \Phi(Z\gamma)] \quad 8$$

The expected wages of a worker observed to be in medium size establishment is given by

$$E[W_2] = X'_2\beta_2 + E[v_2 | -Z\gamma \leq \varepsilon_{2i} < \mu - Z\gamma]$$
$$= X'_2\beta_2 + \theta_2\lambda_{2i}$$
$$\lambda_2 = \{[\emptyset(-Z\gamma) - \emptyset(\mu - Z\gamma)] / [\Phi(\mu - Z\gamma) - \Phi(-Z\gamma)]\} \quad 9$$

The expected wages of a worker observed to be in large size establishment is given by

$$E[W_3] = X'_3\beta_3 + E[v_3 | \varepsilon_{3i} \geq \mu - Z\gamma]$$
$$= X'_3\beta_3 + \theta_3\lambda_{3i}$$
$$\lambda_3 = \{ \emptyset(\mu - Z\gamma)/[1 - \Phi(\mu - Z\gamma)]\} \quad 10$$

The estimating equation for those who are working in small size category is given by

$$\boldsymbol{W_j = X'_j\beta_j + \theta_j\lambda_j + error_j} \quad 11$$

The parameters of 11 will be estimated through Heckman two step estimation procedures separately by males and females.

The standard Oaxaca (1973) wage decomposition is used where it is assumed that the non-discriminatory wage structure is the male wage structure and male is the dominant group.

If we assume that the non-discriminatory wage structure is the male wage structure the decomposition equation for the small size category of establishments will be the following:

$$\bar{w}_{1M} - \bar{w}_{1F} = [\,\overline{X_M}\,\widehat{\beta_{1M}} + \widehat{\theta_{1M}}\widehat{\lambda_{1M}}] - \overline{X_F}\,\widehat{\beta_{1F}} + \widehat{\theta_{1F}}\widehat{\lambda_{1F}}] \qquad 12$$

$$\overline{lnw_{1M}} - \overline{lnw_{1F}} = \underbrace{(\overline{X_{1M}} - \overline{X_{1F}})(\widehat{\beta_{1M}})}_{\text{Endowments}} + \underbrace{(\widehat{\beta_{1M}} - \widehat{\beta_{1F}})(\overline{X_{1F}})}_{\text{Discrimination}} + \underbrace{\theta_{1M}\overline{\lambda_{1M}} - \theta_{1F}\overline{\lambda_{1F}}}_{\text{Selectivity}} \qquad 13$$

$\mathbf{\overline{lnw_{1M}} - \overline{lnw_{1F}}}$ represents the wage gap of male and female workers working in small size category. Where M and F are for male and female. lnW is the log of gross hourly wage measured in francs. First term on the right hand side of equation 13 $\mathbf{(\overline{X_{1M}} - \overline{X_{1F}})(\widehat{\beta_{1M}})}$ show the wage differential attributable to Endowments. This is also called the explained component of the wage differential. $\bar{X}$ is the mean vector of wage determining variables. $\hat{\beta}$ is the estimated return to the wage determinants. The difference in the mean value of individual characteristics between male and female working in small sized category is weighted by the estimated coefficients of male group.

The second term on the right hand side of equation (13) $\mathbf{(\widehat{\beta_{1M}} - \widehat{\beta_{1F}})(\overline{X_{1F}})}$ show the wage differential attributable to coefficients. This is also called the unexplained or discrimination component of the size wage differential. The difference in the returns to individual characteristics between male and female working in small size category is weighted by the mean characteristics of female group. While the third term $\mathbf{\theta_{1M}\overline{\lambda_{1M}} - \theta_{1F}\overline{\lambda_{1F}}}$ captures the selection bias effect. λ is the selection term calculated in the above section.

The results for medium and large size category are estimated using equation 13 for medium and large size category separately.

Now, we will estimate the ordered probit model for whole population and for male and female along with marginal effects and next we will move to the wage equation for gender across size categories.

4. Ordered Probit and Marginal effects

Ordered Probit and Marginal effects (Whole population)

Table-1 reports results of ordered probit and marginal effects of each size category. Firstly, results are presented for the whole population and later in Table-2, results are presented for male and female. In the first column of Table-1, the coefficient of male against base category female is 0.132. This means that being male increases the predicted probability of going to large size of establishment (from zero to one and one to two) by 0.132. The coefficient of secondary education is 0.106. This means that secondary education compare to primary education increases the predicted probability of going to big size. Whereas the coefficient of higher education of 0.18 means that higher education compare to primary education increases the predicted probability of going to big size by 0.18.

Similarly, for professions, with respect to base category of management and high intellectual professionals, all the other categories show increase in the predicted probability for going to big size of establishments.

Among the regions, Ile de France is the biggest region of France. While haute-normandie, centre, Auvergne, Lorraine, Nord are among the other big regions. Rhone-alpes is also among the biggest region but as shown by INSEE the growth of this region increased from 1999 to 2009. Nowadays the first five big regions are Île-de-France Rhône-Alpes Provence-Alpes-Côte d'Azur Nord-Pas de Calais Pays de la Loire.

For interactions, only few interactions are not significant this shows that interaction of industry with region affects the predicted probability on the choice of the size. This means that people living in the Ile de France will have more chances of belonging to big size and this choice will depend and will vary on the type of industry where they work.

It is concluded that more age, better education, being male increases the predicted probability for belonging to big size

Experience and age both are not included in the ordered probit because more experience will show more age, so the age effect is already taken into account in experience. Personal information variables like number of kids and family situation are not significant in oprobit equation and they do not change results after their inclusion in the wage equation in the second step. Variable on Nationality is also dropped because of its highly significant nature as 97 percent sample is French. Its inclusion or exclusion does not change the results in wage equation.

From the second to fourth column in Table-1, the marginal effects for each outcome for size are presented. Marginal effect calculates the change in the probability of observing each category of size for a change in each of my explanatory variables. For example; the marginal effect for educational categories shows how Probability (s=1) changes as the secondary (or technical or higher) educational category changes from zero to one at the point of the first educational level. If we take marginal effect for higher education compare to primary education in large size category then we see that it leads to increase in the probability by 0.015 percentage points that size is big, while it leads to decrease in the probability by 0.037 percentage points that size is small. We see that medium and big size establishments attract better educated people more than small firms.

Starting from the blue collar workers among the professional categories, we see that marginal effects for one more blue collar worker compare to management and high intellectual professional leads to decrease in the probability by 0.022 percentage points that size is small or size==1. While marginal effects for the medium size category shows that one more blue collar worker compare to management leads to 0.014 percentage point increase in the probability that size==2. For other professions similar positive trend for preference for big size is attained which shows that big size is preferred across all professions. Or as the base category is management and high intellectual professional who may prefer small establishments due to independent work environment etc. this may cause for other professional categories to have a positive coefficient for big size.

As the base category is region Ile de France which is the largest region of France and most of the big industries are concentrated in this region. Therefore, almost all of the regions compare to the base category for marginal effects of large size show negative values. Or we can say that most of the regions compare to Ile de France leads to decrease in the probability that size is large. Big size establishments are also found in haute normandie, nord, Lorraine, Auvergne. Among industries, trade and services sector is composed of small size establishments. While manufacturing sector is composed of large firms. The medium size establishments are more in manufacturing sector compare to trade or service.

If we look at the interaction terms, then the base category is interaction of manufacturing sector with the region Ile de France. That means we will see the change in the probability of specific industry in particular region on the outcome (increase or decreases in the probability of being s=1, or s=2 or s=3) compare to base category of manufacturing sector in region Ile de France. The objective of using interactions is to predict the selection of size.

People living in big or small region would choose the available option in their region and their choice will vary on the type of industry where they work.

For establishments in the Champagne-Ardenne region and operating in the trade sector would lead to 0.098 increases in the probability that size is small. So the interaction predicts the size. While establishments in the services sector in the same region would have more probability of being in the medium size. So the choice of size varies on the type of industry in a region.

As large establishments are mostly composed in region Ile de France and in the manufacturing sector which is evident by the decrease in the probability of being in large establishments compare to base category. However in some region services sector establishments are large. People in these regions will choose to go to large establishments while working in the services sector. This includes Alsace, Bretagn, Poitou-Charentes, Limousin, corse. While for trade we see the regions like Provence-Alpes-Cote d'Azur, corse, Franche-Comite, Nord, have more tendency for large size. The interaction of these regions with trade sector predicts the selection for large establishments. Therefore, we can conclude that depending on the type of industry the interaction of industry and region predicts the selection.

The objective for introducing interaction terms is evident and we can see the change in probability. People who are living in the region Ile de France would more likely to go to large establishments. There are more chances for people who are working in the manufacturing sector and who are living in Ile de France to go to large establishments. However this is not only limited to manufacturing region. In some regions large scale services sector is operating so for people working in services sector would like to choose big establishments as they are working in the services sector while for trade one can see some concentration of trade sector in large establishments in few regions. Therefore, we conclude that interaction predicts the choice of size but it varies across industries.

Table-1 Ordered Probit and Marginal effects for different outcomes (whole population)

	Oprobit	Small	Medium	Large
Gender	0.132***	-0.026***	0.016***	0.010***
	(0.013)	(0.005)	(0.002)	(0.003)
Secondary (base category primary education)	0.106***	-0.021***	0.013***	0.008***
	(0.020)	(0.005)	(0.003)	(0.003)
Technical Short	0.056***	-0.011***	0.007***	0.004***
	(0.015)	(0.003)	(0.002)	(0.001)
Technical Long	0.097***	-0.019***	0.012***	0.007***
	(0.026)	(0.006)	(0.003)	(0.003)
Higher	0.181***	-0.037***	0.023***	0.015***
	(0.022)	(0.007)	(0.003)	(0.004)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	0.184***	-0.038***	0.023***	0.015***
	(0.020)	(0.007)	(0.003)	(0.004)
Low Skilled White Collar	0.124***	-0.025***	0.015***	0.010***
	(0.024)	(0.006)	(0.003)	(0.003)
Blue collar	0.110***	-0.022***	0.014***	0.008***
	(0.023)	(0.005)	(0.003)	(0.003)
Age	0.078***	-0.015***	0.009***	0.005***
	(0.007)	(0.001)	(0.000)	(0.001)
Age squared	-0.001***	0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.095	0.017	-0.011	-0.006
	(0.065)	(0.011)	(0.007)	(0.004)
Picardie (22)	0.181***	-0.037***	0.023***	0.015**
	(0.049)	(0.013)	(0.007)	(0.006)
Haute-Normandie (23)	0.104*	-0.021*	0.013*	0.008*
	(0.053)	(0.012)	(0.007)	(0.005)
Centre (24)	0.140***	-0.028**	0.017***	0.011**
	(0.048)	(0.011)	(0.006)	(0.005)
Basse-Normandie (25)	-0.143**	0.024**	-0.016**	-0.009**
	(0.062)	(0.011)	(0.007)	(0.004)
Bourgogne (26)	0.075	-0.015	0.009	0.006
	(0.058)	(0.012)	(0.007)	(0.005)
Nord (31)	0.247***	-0.053***	0.032***	0.021***
	(0.044)	(0.013)	(0.007)	(0.007)
Lorraine (41)	0.427***	-0.101***	0.058***	0.043***
	(0.050)	(0.020)	(0.008)	(0.012)
Alsace (42)	-0.011	0.002	-0.001	-0.001
	(0.051)	(0.009)	(0.006)	(0.003)
Franche-Comte (43)	-0.318***	0.048***	-0.032***	-0.016***
	(0.067)	(0.013)	(0.008)	(0.005)
Pays de la Loire (52)	-0.074*	0.013*	-0.008*	-0.005*
	(0.039)	(0.007)	(0.005)	(0.003)

Bretagne (53)	-0.498***	0.067***	-0.045***	-0.022***
	(0.056)	(0.015)	(0.008)	(0.007)
Poitou-Charentes (54)	-0.225***	0.036***	-0.024***	-0.013***
	(0.073)	(0.012)	(0.008)	(0.005)
Aquitaine (72)	-0.174***	0.029***	-0.019***	-0.010***
	(0.050)	(0.009)	(0.006)	(0.004)
Midi-Pyrenees (73)	-0.291***	0.045***	-0.030***	-0.015***
	(0.057)	(0.012)	(0.007)	(0.005)
Limousin (74)	-0.426***	0.060***	-0.040***	-0.020***
	(0.071)	(0.014)	(0.008)	(0.006)
Rhone-Alpes (82)	-0.157***	0.026***	-0.017***	-0.009***
	(0.035)	(0.008)	(0.004)	(0.003)
Auvergne (83)	0.175**	-0.036*	0.022**	0.014*
	(0.080)	(0.019)	(0.011)	(0.008)
Languedoc-Roussillon (91)	-0.395***	0.057***	-0.038***	-0.019***
	(0.103)	(0.016)	(0.010)	(0.006)
Provence-Alpes-Cote d'Azur (93)	-0.390***	0.056***	-0.038***	-0.019***
	(0.050)	(0.013)	(0.007)	(0.006)
(Base Industry Manufacturing) Trade	-0.973***	0.095***	-0.066***	-0.028***
	(0.049)	(0.022)	(0.013)	(0.009)
Services	-0.637***	0.078***	-0.053***	-0.024***
	(0.032)	(0.017)	(0.010)	(0.007)
Champagne-Ardenne(21), * Trade	-1.081***	0.098***	-0.069***	-0.029***
	(0.247)	(0.023)	(0.014)	(0.009)
Champagne-Ardenne(21), * Services	0.168**	-0.035*	0.021*	0.014
	(0.083)	(0.020)	(0.011)	(0.009)
Picardie (22) * Trade	-0.925***	0.093***	-0.065***	-0.028***
	(0.144)	(0.022)	(0.013)	(0.009)
Picardie (22) * Services	-0.281***	0.044***	-0.029***	-0.015***
	(0.068)	(0.012)	(0.007)	(0.005)
Haute-Normandie (23) * Trade	-0.630***	0.077***	-0.053***	-0.024***
	(0.119)	(0.018)	(0.011)	(0.008)
Haute-Normandie (23) * Services	-0.240***	0.038***	-0.025***	-0.013***
	(0.070)	(0.012)	(0.007)	(0.005)
Centre (24) * Trade	-0.799***	0.087***	-0.061***	-0.027***
	(0.132)	(0.020)	(0.012)	(0.008)
Centre (24) * Services	-0.190***	0.031***	-0.020***	-0.011***
	(0.063)	(0.011)	(0.007)	(0.004)
Basse-Normandie (25) * Trade	-0.202	0.033	-0.022	-0.012

	(0.142)	(0.021)	(0.014)	(0.007)
Basse-Normandie (25) * Services	-0.026	0.005	-0.003	-0.002
	(0.088)	(0.016)	(0.010)	(0.006)
Bourgogne (26) * Trade	-0.806***	0.088***	-0.061***	-0.027***
	(0.123)	(0.020)	(0.012)	(0.008)
Bourgogne (26) * Services	-0.223***	0.036***	-0.023***	-0.012***
	(0.070)	(0.011)	(0.007)	(0.005)
Nord (31) * Trade	0.241***	-0.052**	0.031**	0.021*
	(0.089)	(0.023)	(0.013)	(0.011)
Nord (31) * Services	-0.226***	0.036***	-0.024***	-0.013***
	(0.055)	(0.010)	(0.006)	(0.004)
Lorraine (41) * Trade	-1.128***	0.099***	-0.070***	-0.029***
	(0.122)	(0.023)	(0.014)	(0.009)
Lorraine (41) * Services	-0.310***	0.047***	-0.031***	-0.016***
	(0.064)	(0.012)	(0.007)	(0.005)
Alsace (42) * Trade	-0.508***	0.068***	-0.046***	-0.022***
	(0.103)	(0.016)	(0.010)	(0.007)
Alsace (42) * Services	0.119*	-0.024*	0.015*	0.009
	(0.061)	(0.014)	(0.008)	(0.006)
Franche-Comite (43) * Trade	1.105***	-0.340***	0.149***	0.190***
	(0.140)	(0.063)	(0.014)	(0.053)
Franche-Comite (43) * Services	-0.368***	0.054***	-0.036***	-0.018***
	(0.085)	(0.014)	(0.008)	(0.006)
Pays de la Loire (52) * Trade	-0.298***	0.046***	-0.030***	-0.016***
	(0.094)	(0.014)	(0.009)	(0.006)
Pays de la Loire (52) * Services	-0.124**	0.021**	-0.014**	-0.008**
	(0.057)	(0.010)	(0.006)	(0.004)
Bretagne (53) * Trade	-0.234*	0.037*	-0.025*	-0.013*
	(0.137)	(0.020)	(0.013)	(0.007)
Bretagne (53) * Services	0.619***	-0.160***	0.086***	0.074***
	(0.068)	(0.031)	(0.011)	(0.021)
Poitou-Charentes (54) * Trade	-0.160	0.027	-0.017	-0.009
	(0.174)	(0.027)	(0.018)	(0.009)
Poitou-Charentes (54) * Services	0.226***	-0.048**	0.029**	0.019*

	(0.084)	(0.022)	(0.012)	(0.010)
Aquitaine (72) * Trade	-0.402***	0.057***	-0.038***	-0.019***
	(0.099)	(0.015)	(0.009)	(0.006)
Aquitaine (72) * Services	0.020	-0.004	0.002	0.001
	(0.061)	(0.012)	(0.007)	(0.004)
Midi-Pyrenees (73) * Trade	-0.155	0.026	-0.017	-0.009
	(0.135)	(0.021)	(0.014)	(0.007)
Midi-Pyrenees (73) * Services	0.086	-0.017	0.010	0.006
	(0.071)	(0.015)	(0.009)	(0.006)
Limousin (74) * Trade	-0.191	0.031	-0.020	-0.011
	(0.167)	(0.025)	(0.016)	(0.008)
Limousin (74) * Services	0.495***	-0.121***	0.068***	0.053***
	(0.094)	(0.034)	(0.015)	(0.019)
Rhone-Alpes (82) * Trade	-0.219***	0.035***	-0.023***	-0.012**
	(0.082)	(0.013)	(0.008)	(0.005)
Rhone-Alpes (82) * Services	0.049	-0.009	0.006	0.004
	(0.046)	(0.009)	(0.006)	(0.004)
Auvergne (83) * Trade	-0.552***	0.071***	-0.049***	-0.023***
	(0.154)	(0.019)	(0.012)	(0.008)
Auvergne (83) * Services	-0.533***	0.070***	-0.047***	-0.022***
	(0.105)	(0.017)	(0.010)	(0.007)
Languedoc-Roussillon (91) * Trade	-0.284*	0.044*	-0.029*	-0.015*
	(0.171)	(0.023)	(0.015)	(0.008)
Languedoc-Roussillon (91) * Services	0.054	-0.010	0.006	0.004
	(0.118)	(0.023)	(0.014)	(0.009)
Provence-Alpes-Cote d'Azur (93) * Trade	0.274***	-0.060**	0.036***	0.024**
	(0.094)	(0.026)	(0.014)	(0.012)
Provence-Alpes-Cote d'Azur (93) * Services	0.150**	-0.030**	0.019**	0.012*
	(0.060)	(0.015)	(0.008)	(0.006)
Observations	45,084	45,084	45,084	45,084
cut1	1.236***			
	(0.143)			
cut2	1.875***			
	(0.143)			

Ordered Probit and Marginal effects (Male and Female)

Now we will see the gender patters of observed and unobserved characteristics that can cause selection into a size category. Results are presented in Table-2.

For gender we see that people with less education levels are more likely to be in the small size category. This pattern is clearer for male workers. Compare to medium and large, we see more preference for better educated males in medium size. For females only 4th and 5th educational category is significant. We see more preference for female workers with long technical education in small size category. For higher education the medium and large size coefficients are same. So, we may conclude that marginal effects on the size category of changing educational levels are more clear for males workers and as expected. For females workers with higher education there is increases in probability of being in medium and large size but with long technical education, they may be more desired by small size. This may be due to the fact that discontinuity of female workers in the employment may be absorbed by the small size establishments because of their flexible work structures compare to large size.

For industry, the base category is manufacturing. In the services sector, we see 0.16 percentage point increase in probability that size is small. Female workers work mostly in the services or trade sector and small scale establishments. These sectors may require public dealing and representations therefore they may prefer female workers more. It is largely discussed in the literature that female workers are employed in the low paying job that results in the overall wage gap among male and female. This is true for France as female are mostly in the small scale services and trade sector which is low paying compare to manufacturing sector.

As the interaction of manufacturing and Ile de France is the base category so overall there is positive and increase in the probability that size will be large for both male and female if they work in the manufacturing sector and are in the region Ile de France. For services sector, we see high magnitude of the coefficient of belonging to small size for female workers. There is higher probability that size is medium or large if the women are in the trade sector and in the Nord region. Similarly the interaction of Bretagne and services sector shows that there is 0.15 percentage points increase in the probability that size is large and 0.24 percentage point less probability that size is small. We see significant coefficients for regions interacted with regions for male workers and for females it is in the case of interaction of services sector with regions. Next sections presents estimates for wage equations.

Table-2 Oprobit and marginal effects by Gender

Variables	Males				Females			
	Oprobit	small	medium	large	Oprobit	small	medium	large
Secondary (base category primary education)	0.209***	-0.028***	0.019***	0.009**	-0.018	0.006	-0.003	-0.003
	(0.027)	(0.008)	(0.005)	(0.004)	(0.031)	(0.009)	(0.005)	(0.005)
Technical Short	0.129***	-0.016***	0.011***	0.005**	-0.028	0.009	-0.004	-0.004
	(0.019)	(0.005)	(0.003)	(0.002)	(0.026)	(0.008)	(0.004)	(0.004)
Technical Long	0.266***	-0.037***	0.025***	0.013**	-0.110***	0.033**	-0.017***	-0.015**
	(0.035)	(0.011)	(0.006)	(0.005)	(0.040)	(0.013)	(0.006)	(0.008)
Higher	0.272***	-0.038***	0.025***	0.013***	0.095***	-0.031***	0.015***	0.015**
	(0.029)	(0.011)	(0.006)	(0.005)	(0.035)	(0.012)	(0.006)	(0.007)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	0.202***	-0.027***	0.018***	0.009**	0.204***	-0.068***	0.032***	0.035***
	(0.025)	(0.008)	(0.004)	(0.004)	(0.039)	(0.016)	(0.006)	(0.012)
Low Skilled White Collar	0.272***	-0.038***	0.025***	0.013***	0.109***	-0.035**	0.017***	0.018**
	(0.035)	(0.011)	(0.006)	(0.005)	(0.041)	(0.014)	(0.007)	(0.008)
Blue collar	0.112***	-0.014***	0.010***	0.004**	0.252***	-0.085***	0.039***	0.045***
	(0.028)	(0.005)	(0.003)	(0.002)	(0.048)	(0.019)	(0.008)	(0.015)
Age	0.092***	-0.011***	0.007***	0.003***	0.067***	-0.021***	0.011***	0.010***
	(0.009)	(0.002)	(0.001)	(0.001)	(0.011)	(0.004)	(0.002)	(0.002)
Age squared	-0.001***	0.000***	-0.000***	-0.000***	-0.001***	0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.052	0.006	-0.004	-0.002	-0.168	0.049	-0.026	-0.023
	(0.074)	(0.008)	(0.006)	(0.002)	(0.130)	(0.037)	(0.020)	(0.017)
Picardie (22)	0.188***	-0.025**	0.017**	0.008*	0.185*	-0.061*	0.029*	0.032
	(0.056)	(0.011)	(0.007)	(0.004)	(0.100)	(0.035)	(0.016)	(0.021)
Haute-Normandie (23)	0.047	-0.006	0.004	0.002	0.257**	-0.086**	0.040**	0.046*
	(0.061)	(0.008)	(0.005)	(0.002)	(0.108)	(0.040)	(0.016)	(0.025)
Centre (24)	0.187***	-0.025**	0.017***	0.008*	-0.016	0.005	-0.003	-0.002
	(0.056)	(0.010)	(0.006)	(0.004)	(0.093)	(0.028)	(0.015)	(0.014)
Basse-Normandie (25)	-0.235***	0.022**	-0.016***	-0.006**	0.044	-0.014	0.007	0.007
	(0.073)	(0.009)	(0.006)	(0.003)	(0.116)	(0.037)	(0.018)	(0.019)
Bourgogne (26)	0.069	-0.008	0.006	0.003	0.029	-0.009	0.005	0.005
	(0.067)	(0.009)	(0.006)	(0.003)	(0.115)	(0.036)	(0.018)	(0.018)
Nord (31)	0.305***	-0.044***	0.029***	0.015**	0.042	-0.013	0.007	0.007
	(0.050)	(0.014)	(0.008)	(0.006)	(0.096)	(0.031)	(0.015)	(0.015)
Lorraine (41)	0.467***	-0.075***	0.048***	0.027**	0.321***	-0.110***	0.050***	0.060**
	(0.057)	(0.022)	(0.011)	(0.011)	(0.100)	(0.038)	(0.015)	(0.027)
Alsace (42)	0.068	-0.008	0.006	0.003	-0.266***	0.074***	-0.041***	-0.033**
	(0.060)	(0.008)	(0.005)	(0.003)	(0.093)	(0.028)	(0.014)	(0.016)
Franche-Comte (43)	-0.196**	0.019**	-0.014**	-0.006*	-0.641***	0.150***	-0.089***	-0.061**
	(0.084)	(0.009)	(0.006)	(0.003)	(0.110)	(0.040)	(0.017)	(0.024)
Pays de la Loire (52)	-0.093**	0.010*	-0.007*	-0.003	-0.053	0.016	-0.008	-0.008

	(0.047)	(0.006)	(0.004)	(0.002)	(0.073)	(0.022)	(0.012)	(0.011)
Bretagne (53)	-0.561***	0.041***	-0.030***	-0.011**	-0.366***	0.098***	-0.055***	-0.042**
	(0.065)	(0.014)	(0.009)	(0.005)	(0.102)	(0.031)	(0.015)	(0.018)
Poitou-Charentes (54)	-0.175**	0.017*	-0.012*	-0.005*	-0.426***	0.111***	-0.063***	-0.047**
	(0.088)	(0.009)	(0.006)	(0.003)	(0.132)	(0.037)	(0.019)	(0.020)
Aquitaine (72)	-0.118**	0.012*	-0.009*	-0.004*	-0.397***	0.104***	-0.059***	-0.045**
	(0.057)	(0.007)	(0.004)	(0.002)	(0.105)	(0.033)	(0.016)	(0.019)
Midi-Pyrenees (73)	-0.273***	0.025***	-0.018***	-0.007**	-0.335***	0.091***	-0.051***	-0.040**
	(0.065)	(0.009)	(0.006)	(0.003)	(0.114)	(0.033)	(0.017)	(0.018)
Limousin (74)	-0.370***	0.031***	-0.023***	-0.009**	-0.638***	0.150***	-0.089***	-0.061**
	(0.083)	(0.011)	(0.007)	(0.004)	(0.139)	(0.042)	(0.020)	(0.025)
Rhone-Alpes (82)	-0.064	0.007	-0.005	-0.002	-0.483***	0.122***	-0.071***	-0.051**
	(0.041)	(0.005)	(0.003)	(0.002)	(0.070)	(0.031)	(0.012)	(0.020)
Auvergne (83)	0.256***	-0.035**	0.024**	0.012*	-0.060	0.018	-0.010	-0.009
	(0.093)	(0.018)	(0.011)	(0.007)	(0.157)	(0.047)	(0.025)	(0.022)
Languedoc-Roussillon (91)	-0.309***	0.027**	-0.020**	-0.008**	-0.676***	0.156***	-0.093***	-0.062**
	(0.117)	(0.012)	(0.008)	(0.004)	(0.219)	(0.050)	(0.027)	(0.027)
Provence-Alpes-Cote d'Azur (93)	-0.345***	0.030***	-0.021***	-0.008**	-0.500***	0.126***	-0.073***	-0.053**
	(0.055)	(0.010)	(0.007)	(0.004)	(0.130)	(0.038)	(0.018)	(0.022)
(Base Industry Manufacturing) Trade	-0.970***	0.051***	-0.038***	-0.013**	-1.042***	0.199***	-0.124***	-0.074**
	(0.064)	(0.018)	(0.012)	(0.006)	(0.080)	(0.053)	(0.023)	(0.031)
Services	-0.579***	0.041***	-0.030***	-0.011**	-0.749***	0.166***	-0.101***	-0.066**
	(0.041)	(0.014)	(0.009)	(0.005)	(0.053)	(0.042)	(0.016)	(0.026)
Champagne-Ardenne(21), * Trade	-1.324***	0.055***	-0.041***	-0.014**	-0.785**	0.171***	-0.104***	-0.067**
	(0.356)	(0.020)	(0.014)	(0.006)	(0.358)	(0.062)	(0.036)	(0.029)
Champagne-Ardenne(21), * Services	0.306***	-0.044**	0.029**	0.015*	-0.088	0.026	-0.014	-0.013
	(0.100)	(0.021)	(0.013)	(0.009)	(0.155)	(0.045)	(0.024)	(0.021)
Picardie (22) * Trade	-0.978***	0.051***	-0.038***	-0.013**	-0.877***	0.182***	-0.112***	-0.070**
	(0.195)	(0.019)	(0.012)	(0.006)	(0.221)	(0.051)	(0.025)	(0.029)
Picardie (22) * Services	-0.253***	0.024**	-0.017***	-0.007**	-0.347***	0.093***	-0.053***	-0.041**
	(0.086)	(0.010)	(0.006)	(0.003)	(0.120)	(0.032)	(0.017)	(0.018)
Haute-Normandie (23) * Trade	-0.556***	0.040***	-0.030***	-0.011**	-0.808***	0.174***	-0.106***	-0.068**
	(0.155)	(0.015)	(0.010)	(0.005)	(0.193)	(0.048)	(0.023)	(0.028)
Haute-Normandie (23) * Services	-0.214**	0.021**	-0.015**	-0.006*	-0.369***	0.098***	-0.056***	-0.043**
	(0.091)	(0.010)	(0.006)	(0.003)	(0.124)	(0.033)	(0.018)	(0.018)
Centre (24) * Trade	-0.827***	0.049***	-0.036***	-0.013**	-0.655***	0.152***	-0.091***	-0.061**
	(0.181)	(0.017)	(0.012)	(0.006)	(0.200)	(0.047)	(0.024)	(0.025)
Centre (24) * Services	-0.035	0.004	-0.003	-0.001	-0.336***	0.091***	-0.051***	-0.040**
	(0.079)	(0.008)	(0.006)	(0.003)	(0.113)	(0.031)	(0.016)	(0.017)
Basse-Normandie (25) * Trade	0.078	-0.009	0.006	0.003	-0.637***	0.150***	-0.089***	-0.061**
	(0.197)	(0.026)	(0.017)	(0.008)	(0.213)	(0.048)	(0.026)	(0.025)
Basse-Normandie (25) * Services	-0.078	0.008	-0.006	-0.003	-0.114	0.034	-0.018	-0.016

	(0.115)	(0.012)	(0.008)	(0.003)	(0.144)	(0.041)	(0.022)	(0.019)
Bourgogne (26) * Trade	-0.710***	0.046***	-0.034***	-0.012**	-0.832***	0.177***	-0.108***	-0.069**
	(0.160)	(0.016)	(0.011)	(0.006)	(0.199)	(0.049)	(0.024)	(0.028)
Bourgogne (26) * Services	-0.053	0.006	-0.004	-0.002	-0.363***	0.097***	-0.055***	-0.042**
	(0.089)	(0.009)	(0.007)	(0.003)	(0.126)	(0.033)	(0.018)	(0.018)
Nord (31) * Trade	-0.117	0.012	-0.009	-0.004	0.683***	-0.250***	0.093***	0.157***
	(0.115)	(0.011)	(0.008)	(0.003)	(0.148)	(0.063)	(0.020)	(0.060)
Nord (31) * Services	-0.286***	0.026***	-0.019***	-0.007**	-0.033	0.010	-0.005	-0.005
	(0.067)	(0.009)	(0.006)	(0.003)	(0.109)	(0.033)	(0.017)	(0.016)
Lorraine (41) * Trade	-1.109***	0.053***	-0.040***	-0.013**	-1.126***	0.205***	-0.129***	-0.076**
	(0.154)	(0.019)	(0.013)	(0.006)	(0.204)	(0.056)	(0.026)	(0.031)
Lorraine (41) * Services	-0.306***	0.027***	-0.020***	-0.008**	-0.301**	0.083***	-0.046***	-0.037**
	(0.078)	(0.010)	(0.006)	(0.004)	(0.118)	(0.032)	(0.017)	(0.017)
Alsace (42) * Trade	-0.651***	0.044***	-0.032***	-0.012**	-0.172	0.050	-0.027	-0.023
	(0.136)	(0.016)	(0.010)	(0.005)	(0.163)	(0.044)	(0.025)	(0.020)
Alsace (42) * Services	-0.049	0.005	-0.004	-0.002	0.464***	-0.164***	0.069***	0.095**
	(0.077)	(0.008)	(0.006)	(0.002)	(0.106)	(0.046)	(0.015)	(0.039)
Franche-Comite (43) * Trade	0.953***	-0.208***	0.116***	0.092**	1.480***	-0.540***	0.088	0.453***
	(0.186)	(0.073)	(0.030)	(0.044)	(0.214)	(0.064)	(0.065)	(0.105)
Franche-Comite (43) * Services	-0.604***	0.042***	-0.031***	-0.011**	0.049	-0.015	0.008	0.008
	(0.112)	(0.015)	(0.010)	(0.005)	(0.133)	(0.043)	(0.021)	(0.022)
Pays de la Loire (52) * Trade	-0.525***	0.039***	-0.029***	-0.011**	-0.015	0.005	-0.002	-0.002
	(0.120)	(0.014)	(0.009)	(0.005)	(0.150)	(0.046)	(0.024)	(0.022)
Pays de la Loire (52) * Services	-0.008	0.001	-0.001	-0.000	-0.239***	0.067***	-0.037***	-0.030**
	(0.077)	(0.009)	(0.006)	(0.003)	(0.092)	(0.026)	(0.014)	(0.014)
Bretagne (53) * Trade	-0.370*	0.031*	-0.023*	-0.009*	-0.257	0.072	-0.040	-0.032
	(0.219)	(0.016)	(0.012)	(0.005)	(0.188)	(0.048)	(0.028)	(0.022)
Bretagne (53) * Services	0.507***	-0.084***	0.053***	0.031**	0.664***	-0.243***	0.092***	0.151***
	(0.084)	(0.028)	(0.015)	(0.014)	(0.116)	(0.052)	(0.018)	(0.052)
Poitou-Charentes (54) * Trade	-0.420*	0.034*	-0.025**	-0.009*	0.224	-0.075	0.035	0.039
	(0.255)	(0.018)	(0.013)	(0.005)	(0.250)	(0.089)	(0.038)	(0.052)
Poitou-Charentes (54) * Services	0.090	-0.011	0.008	0.004	0.528***	-0.189***	0.077***	0.112**
	(0.101)	(0.014)	(0.009)	(0.005)	(0.147)	(0.062)	(0.019)	(0.051)
Aquitaine (72) * Trade	-0.690***	0.045***	-0.033***	-0.012**	0.009	-0.003	0.001	0.001
	(0.139)	(0.016)	(0.011)	(0.005)	(0.157)	(0.049)	(0.025)	(0.024)
Aquitaine (72) * Services	-0.069	0.007	-0.005	-0.002	0.281**	-0.095**	0.044**	0.051*
	(0.077)	(0.008)	(0.006)	(0.002)	(0.117)	(0.045)	(0.017)	(0.030)
Midi-Pyrenees (73) * Trade	-0.184	0.018	-0.013	-0.005	-0.106	0.032	-0.017	-0.015
	(0.183)	(0.016)	(0.012)	(0.005)	(0.210)	(0.060)	(0.033)	(0.027)
Midi-Pyrenees (73) * Services	-0.105	0.011	-0.008	-0.003	0.252**	-0.085*	0.039**	0.045
	(0.089)	(0.009)	(0.006)	(0.003)	(0.127)	(0.048)	(0.019)	(0.030)
Limousin (74) * Trade	-0.291	0.026	-0.019	-0.007	0.044	-0.014	0.007	0.007
	(0.216)	(0.017)	(0.012)	(0.005)	(0.268)	(0.086)	(0.042)	(0.043)
Limousin (74) * Services	0.499***	-0.082**	0.052***	0.030*	0.617***	-0.224***	0.087***	0.137**
	(0.122)	(0.034)	(0.018)	(0.016)	(0.163)	(0.069)	(0.021)	(0.060)

Rhone-Alpes (82) * Trade	-0.198*	0.019*	-0.014*	-0.006*	-0.040	0.012	-0.006	-0.006
	(0.108)	(0.011)	(0.007)	(0.003)	(0.132)	(0.040)	(0.021)	(0.019)
Rhone-Alpes (82) * Services	0.014	-0.002	0.001	0.000	0.303***	-0.103***	0.047***	0.056**
	(0.059)	(0.007)	(0.005)	(0.002)	(0.082)	(0.034)	(0.012)	(0.025)
Auvergne (83) * Trade	-0.248	0.023	-0.017	-0.007	-0.814***	0.175***	-0.107***	-0.068**
	(0.190)	(0.016)	(0.011)	(0.005)	(0.284)	(0.056)	(0.030)	(0.029)
Auvergne (83) * Services	-0.554***	0.040***	-0.030***	-0.011**	-0.379**	0.101**	-0.057**	-0.044**
	(0.133)	(0.014)	(0.010)	(0.005)	(0.186)	(0.045)	(0.026)	(0.022)
Languedoc-Roussillon (91) * Trade	-0.538**	0.040**	-0.029***	-0.011**	0.193	-0.064	0.030	0.033
	(0.229)	(0.016)	(0.011)	(0.005)	(0.286)	(0.100)	(0.044)	(0.057)
Languedoc-Roussillon (91) * Services	-0.153	0.015	-0.011	-0.005	0.433*	-0.152*	0.065**	0.087
	(0.143)	(0.013)	(0.009)	(0.004)	(0.233)	(0.092)	(0.031)	(0.064)
Provence-Alpes-Cote d'Azur (93) * Trade	0.172	-0.022	0.015	0.007	0.459***	-0.162**	0.069***	0.093*
	(0.124)	(0.019)	(0.013)	(0.007)	(0.173)	(0.070)	(0.023)	(0.052)
Provence-Alpes-Cote d'Azur (93) * Services	0.056	-0.007	0.005	0.002	0.309**	-0.105**	0.048**	0.057
	(0.072)	(0.009)	(0.006)	(0.003)	(0.138)	(0.054)	(0.020)	(0.036)
Observations	27,384	27,384	27,384	27,384	17,7	17,7	17,7	17,7
cut1	1.583***				0.712***			
	(0.185)				(0.233)			
cut2	2.204***				1.394***			
	(0.185)				(0.233)			

5. Wage equations estimation

Tables 3-5 show the Heckman two step estimation procedure results across gender and across size categories for the measures of gross and basic hourly wage. Firstly, results for the whole population are presented for gross hourly wage (table-3), it is followed by results where the same wage equation is estimated by gender for gross hourly wage (table-4) and finally the similar wage equation across gender is estimated for basic hourly wage (table-5). The results for basic wage for whole population are not presented here.

The estimates of the oprobit equation in the last section are used to construct the inverse mills ratio for correcting selection bias in the wage equation for male and females for choosing to go to a size category of employer. This is to take into account the selection bias in the employer size and wage relationship.

Standard Mincer type equation is estimated keeping each category of size as reference. Three different equations by size are estimated. These results are then used to calculate the share of the human capital contribution, discrimination component and selectivity component in the wage differential by size and by gender. The log of individual hourly wage is regressed

against various control variables representing five educational dummy variables, four professional dummy variables, tenure and its square,(length of employment in current job in years) , type of employment contract, twenty one regional dummies and three industrial dummies.

The results of the wage equation are same as reported by many other studies. We see same sign and direction of the affect of observable individual characteristics on hourly wage. We see that education has a major positive effect on the wages for both male and female workers. As education increases, rewards increases and as size increases reward increases. Female workers get higher rewards by as educational level increases.

Tables 3-5 also report the average of the IMR variable λ, error variance of the wage equation σ and the correlation coefficient of the error terms in the both equations ρ. The coefficient of IMR is negative and significant in all of the cases except for female large size employer.

The selection term is the product of the truncated mean and the coefficient ($\sigma\rho$). The sign of the selection coefficient is dependent on the $\sigma\rho$ and the truncated mean and together they will determine the affect of selection on the wage differentials. As the truncated mean for small size category is negative (equation-8) and it becomes positive as size increases (equation 9-10). We see negative correlation coefficient and negative IMR for all size categories. This implies that if you have more propensity to work in the large establishments then there are unobservable factors that are correlated with lower wage. There is negative selection on unobservables in the large establishments. The correlation coefficient is negative meaning that the unobserved factors have negative effect on wages and positive effect on selection meaning that workers who self-selected into big establishments possessed unobserved traits that depressed wages. Positive selection on observables and negative selection on unobservable and both are negatively correlated with each other. Therefore, a negative coefficient of selection term for small would imply positive selection generating a higher wage for small size if selection matters. This means that the predicted wage in the non-random sorting is higher for small sized worker compare to average wage of the small sized worker. The unobservable characteristics would tend to yield a negative error terms in the selection equation and a positive error term in the wage equation thereby creating a uniform negative selection coefficients. People with unobserved characteristics will earn higher wages regardless of the size but they have lower probability of being observed in large size employers. The coefficients of lambda are higher for women which means that lower probabilities for women for going to large size compare to man.

The pattern of selection is same for both males and females. But the coefficient of selection term for the large size employer for females is not significant, suggesting that selection does not matter for women. Particularly, women will have more preference for routine services where changes occur slowly and the work does not demand innovative initiatives. Thus, we can see the large composition of women in the services sector or small trades. Further, because of career breaks they end up in accepting any job offer and may be underemployed in most of the cases or getting a wage lower then what they deserve compares to men in the same job. Therefore, the affect of unobservable characteristics on the error term of selection and wage for women is not clear.

Table-3 Heckman Estimation procedure, switching regression model (all population): Gross Hourly Wages

VARIABLES	(Small)	(Medium)	(Large)
Gender	0.137***	0.144***	0.163***
	(0.005)	(0.006)	(0.004)
Secondary (base category primary education)	0.080***	0.100***	0.110***
	(0.006)	(0.008)	(0.006)
Technical Short	0.049***	0.063***	0.082***
	(0.005)	(0.006)	(0.004)
Technical Long	0.107***	0.123***	0.146***
	(0.008)	(0.011)	(0.007)
Higher	0.163***	0.203***	0.228***
	(0.007)	(0.009)	(0.007)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	-0.452***	-0.425***	-0.420***
	(0.007)	(0.009)	(0.006)
Low Skilled White Collar	-0.679***	-0.639***	-0.578***
	(0.007)	(0.010)	(0.008)
Blue collar	-0.766***	-0.700***	-0.616***
	(0.007)	(0.009)	(0.007)
Tenure	0.015***	0.017***	0.015***
	(0.001)	(0.001)	(0.001)
Tenure2	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)
Type of job Contract	-0.004	0.002	-0.125***
	(0.009)	(0.010)	(0.013)
(Base Industry Manufacturing) Trade	0.072***	0.040**	0.016
	(0.013)	(0.017)	(0.014)
Services	0.057***	0.050***	0.056***
	(0.008)	(0.010)	(0.008)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.191***	-0.098***	-0.099***
	(0.013)	(0.016)	(0.012)
Picardie (22)	-0.168***	-0.142***	-0.066***
	(0.012)	(0.013)	(0.009)
Haute-Normandie (23)	-0.132***	-0.108***	-0.069***
	(0.010)	(0.014)	(0.009)
Centre (24)	-0.190***	-0.147***	-0.112***
	(0.010)	(0.013)	(0.009)
Basse-Normandie (25)	-0.192***	-0.172***	-0.082***
	(0.012)	(0.018)	(0.012)
Bourgogne (26)	-0.194***	-0.130***	-0.127***
	(0.011)	(0.013)	(0.010)
Nord (31)	-0.217***	-0.188***	-0.147***
	(0.009)	(0.011)	(0.007)
Lorraine (41)	-0.166***	-0.142***	-0.091***
	(0.011)	(0.013)	(0.008)
Alsace (42)	-0.159***	-0.084***	-0.050***
	(0.010)	(0.011)	(0.009)
Franche-Comte (43)	-0.146***	-0.204***	-0.147***
	(0.013)	(0.017)	(0.015)
Pays de la Loire (52)	-0.179***	-0.169***	-0.117***
	(0.009)	(0.011)	(0.008)
Bretagne (53)	-0.197***	-0.199***	-0.121***
	(0.009)	(0.013)	(0.009)
Poitou-Charentes (54)	-0.197***	-0.120***	-0.051***
	(0.012)	(0.014)	(0.011)
Aquitaine (72)	-0.180***	-0.119***	-0.025***
	(0.009)	(0.012)	(0.009)

Midi-Pyrenees (73)	-0.186***	-0.117***	-0.101***
	(0.010)	(0.015)	(0.010)
Limousin (74)	-0.222***	-0.217***	-0.171***
	(0.014)	(0.018)	(0.014)
Rhone-Alpes (82)	-0.147***	-0.108***	-0.051***
	(0.007)	(0.009)	(0.007)
Auvergne (83)	-0.239***	-0.135***	-0.102***
	(0.014)	(0.023)	(0.013)
Languedoc-Roussillon (91)	-0.159***	-0.133***	-0.076***
	(0.013)	(0.022)	(0.016)
Provence-Alpes-Cote d'Azur (93)	-0.092***	-0.075***	-0.015
	(0.008)	(0.011)	(0.009)
lambda	-0.154***	-0.087***	-0.125***
	(0.014)	(0.013)	(0.016)
Sigma	.23841	.22451	.21664
rho	-0.6459	-0.3875	-0.5769
Constant	4.411***	4.478***	4.699***
	(0.022)	(0.018)	(0.023)
Observations	17,612	10,177	17,295
R-squared	0.65	0.66	0.65
Adj. R-squared	0.65	0.66	0.65

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table-4 Heckman Estimation procedure, switching regression model (Males and Females): Gross hourly Wages

	Males			**Females**		
VARIABLES	**(Small)**	**(Medium)**	**(Large)**	**(Small)**	**(Medium)**	**(Large)**
Secondary (base category primary education)	0.054***	0.093***	0.086***	0.101***	0.091***	0.102***
	(0.010)	(0.011)	(0.008)	(0.009)	(0.011)	(0.009)
Technical Short	0.026***	0.051***	0.061***	0.066***	0.060***	0.073***
	(0.007)	(0.008)	(0.005)	(0.007)	(0.009)	(0.008)
Technical Long	0.092***	0.090***	0.103***	0.112***	0.134***	0.148***
	(0.012)	(0.015)	(0.010)	(0.011)	(0.015)	(0.012)
Higher	0.158***	0.186***	0.180***	0.167***	0.203***	0.249***
	(0.010)	(0.013)	(0.009)	(0.010)	(0.013)	(0.011)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	-0.454***	-0.434***	-0.455***	-0.440***	-0.419***	-0.357***
	(0.008)	(0.011)	(0.007)	(0.011)	(0.016)	(0.012)
Low Skilled White Collar	-0.733***	-0.706***	-0.677***	-0.661***	-0.631***	-0.517***
	(0.012)	(0.015)	(0.011)	(0.011)	(0.016)	(0.013)
Blue collar	-0.760***	-0.692***	-0.624***	-0.784***	-0.761***	-0.649***
	(0.009)	(0.011)	(0.008)	(0.014)	(0.019)	(0.015)
Tenure	0.014***	0.017***	0.012***	0.016***	0.017***	0.015***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tenure2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Type of job Contract	-0.020	-0.011	-0.199***	0.011	0.011	-0.061***
	(0.014)	(0.016)	(0.020)	(0.011)	(0.014)	(0.016)
(Base Industry Manufacturing) Trade	0.104***	0.075***	0.114***	-0.002	-0.020	-0.072***

	(0.017)	(0.023)	(0.020)	(0.018)	(0.024)	(0.017)
Services	0.053***	0.061***	0.115***	0.035***	0.017	-0.019
	(0.010)	(0.012)	(0.010)	(0.012)	(0.015)	(0.012)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.192***	-0.092***	-0.092***	-0.188***	-0.106***	-0.178***
	(0.018)	(0.021)	(0.014)	(0.020)	(0.026)	(0.023)
Picardie (22)	-0.165***	-0.129***	-0.061***	-0.172***	-0.165***	-0.074***
	(0.016)	(0.018)	(0.011)	(0.017)	(0.020)	(0.016)
Haute-Normandie (23)	-0.119***	-0.097***	-0.014	-0.150***	-0.132***	-0.140***
	(0.014)	(0.020)	(0.011)	(0.015)	(0.020)	(0.015)
Centre (24)	-0.196***	-0.127***	-0.101***	-0.187***	-0.193***	-0.164***
	(0.015)	(0.017)	(0.010)	(0.015)	(0.021)	(0.015)
Basse-Normandie (25)	-0.174***	-0.151***	-0.045***	-0.212***	-0.195***	-0.101***
	(0.018)	(0.024)	(0.017)	(0.017)	(0.027)	(0.016)
Bourgogne (26)	-0.212***	-0.109***	-0.104***	-0.188***	-0.163***	-0.177***
	(0.016)	(0.018)	(0.012)	(0.015)	(0.018)	(0.020)
Nord (31)	-0.202***	-0.171***	-0.140***	-0.228***	-0.213***	-0.161***
	(0.012)	(0.014)	(0.009)	(0.013)	(0.017)	(0.012)
Lorraine (41)	-0.150***	-0.118***	-0.093***	-0.185***	-0.178***	-0.136***
	(0.015)	(0.017)	(0.010)	(0.016)	(0.020)	(0.014)
Alsace (42)	-0.134***	-0.063***	-0.012	-0.187***	-0.114***	-0.124***
	(0.014)	(0.015)	(0.011)	(0.014)	(0.016)	(0.014)
Franche-Comte (43)	-0.142***	-0.190***	-0.117***	-0.163***	-0.222***	-0.183***
	(0.019)	(0.024)	(0.019)	(0.018)	(0.023)	(0.024)
Pays de la Loire (52)	-0.172***	-0.152***	-0.086***	-0.191***	-0.189***	-0.155***
	(0.013)	(0.015)	(0.010)	(0.013)	(0.016)	(0.013)
Bretagne (53)	-0.168***	-0.161***	-0.093***	-0.225***	-0.237***	-0.119***
	(0.014)	(0.018)	(0.013)	(0.014)	(0.018)	(0.013)
Poitou-Charentes (54)	-0.191***	-0.094***	-0.038**	-0.199***	-0.145***	-0.052***
	(0.017)	(0.018)	(0.015)	(0.016)	(0.022)	(0.016)
Aquitaine (72)	-0.167***	-0.090***	0.033***	-0.199***	-0.161***	-0.130***
	(0.013)	(0.016)	(0.011)	(0.012)	(0.016)	(0.015)
Midi-Pyrenees (73)	-0.169***	-0.076***	-0.020	-0.206***	-0.159***	-0.177***
	(0.014)	(0.020)	(0.013)	(0.013)	(0.021)	(0.014)
Limousin (74)	-0.241***	-0.177***	-0.136***	-0.190***	-0.261***	-0.217***
	(0.019)	(0.026)	(0.017)	(0.022)	(0.025)	(0.026)
Rhone-Alpes (82)	-0.143***	-0.091***	-0.021**	-0.156***	-0.134***	-0.116***
	(0.010)	(0.012)	(0.008)	(0.011)	(0.014)	(0.012)
Auvergne (83)	-0.258***	-0.135***	-0.103***	-0.226***	-0.149***	-0.109***
	(0.021)	(0.028)	(0.016)	(0.019)	(0.037)	(0.021)
Languedoc-Roussillon (91)	-0.138***	-0.100***	0.009	-0.196***	-0.168***	-0.176***
	(0.018)	(0.032)	(0.020)	(0.017)	(0.029)	(0.023)
Provence-Alpes-Cote d'Azur (93)	-0.079***	-0.052***	0.040***	-0.113***	-0.109***	-0.079***
	(0.012)	(0.015)	(0.012)	(0.012)	(0.016)	(0.014)
lambda	-0.162***	-0.108***	-0.269***	-0.086***	-0.053***	-0.011
	(0.018)	(0.017)	(0.022)	(0.021)	(0.018)	(0.021)
Constant	4.575***	4.627***	5.085***	4.457***	4.524***	4.545***
	(0.029)	(0.024)	(0.031)	(0.033)	(0.027)	(0.030)
Sigma	.24618	.23172	.22019	.22733	.21161	.19753
rho	-0,658	-0,466	-1,222	-0,378	-0,250	-0,056
Observations	9,568	5,973	11,843	8,044	4,204	5,452
R-squared	0.67	0.65	0.62	0.59	0.62	0.64
Adj. R-squared	0.67	0.65	0.62	0.59	0.62	0.63

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table-5 Heckman Estimation procedure, switching regression model (Males and Females): Basic hourly Wages

	Males			Females		
VARIABLES	**(Small)**	**(Medium)**	**(Large)**	**(Small)**	**(Medium)**	**(Large)**
Secondary (base category primary education)	0.043***	0.093***	0.096***	0.085***	0.072***	0.086***
	(0.010)	(0.011)	(0.008)	(0.008)	(0.011)	(0.009)
Technical Short	0.035***	0.065***	0.072***	0.056***	0.043***	0.060***
	(0.006)	(0.008)	(0.005)	(0.007)	(0.009)	(0.008)
Technical Long	0.082***	0.103***	0.114***	0.107***	0.102***	0.141***
	(0.012)	(0.015)	(0.009)	(0.010)	(0.015)	(0.012)
Higher	0.163***	0.200***	0.221***	0.171***	0.191***	0.222***
	(0.010)	(0.013)	(0.009)	(0.009)	(0.013)	(0.011)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	-0.469***	-0.451***	-0.510***	-0.450***	-0.427***	-0.394***
	(0.008)	(0.011)	(0.007)	(0.011)	(0.015)	(0.012)
Low Skilled White Collar	-0.739***	-0.735***	-0.741***	-0.665***	-0.648***	-0.556***
	(0.011)	(0.015)	(0.011)	(0.011)	(0.016)	(0.013)
Blue collar	-0.779***	-0.735***	-0.705***	-0.760***	-0.750***	-0.696***
	(0.009)	(0.011)	(0.008)	(0.014)	(0.018)	(0.014)
Tenure	0.007***	0.008***	0.005***	0.009***	0.010***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tenure2	-0.000*	-0.000	0.000	-0.000	-0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Type of job Contract	-0.021	-0.052***	-0.226***	-0.008	-0.012	-0.064***
	(0.014)	(0.016)	(0.019)	(0.011)	(0.013)	(0.016)
(Base Industry Manufacturing) Trade	0.088***	0.091***	0.120***	-0.023	-0.032	-0.076***
	(0.017)	(0.023)	(0.019)	(0.017)	(0.023)	(0.017)
Services	0.040***	0.062***	0.119***	0.008	0.010	-0.026**
	(0.010)	(0.012)	(0.009)	(0.012)	(0.014)	(0.011)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.194***	-0.125***	-0.129***	-0.184***	-0.139***	-0.141***
	(0.018)	(0.021)	(0.013)	(0.019)	(0.025)	(0.022)
Picardie (22)	-0.156***	-0.116***	-0.103***	-0.139***	-0.162***	-0.107***
	(0.016)	(0.018)	(0.011)	(0.016)	(0.019)	(0.016)
Haute-Normandie (23)	-0.161***	-0.090***	-0.077***	-0.145***	-0.153***	-0.119***
	(0.014)	(0.020)	(0.011)	(0.015)	(0.019)	(0.014)
Centre (24)	-0.163***	-0.149***	-0.084***	-0.158***	-0.203***	-0.158***
	(0.015)	(0.017)	(0.010)	(0.014)	(0.020)	(0.015)
Basse-Normandie (25)	-0.161***	-0.156***	-0.078***	-0.188***	-0.196***	-0.087***
	(0.018)	(0.024)	(0.016)	(0.016)	(0.026)	(0.016)
Bourgogne (26)	-0.185***	-0.069***	-0.133***	-0.170***	-0.187***	-0.182***
	(0.015)	(0.018)	(0.012)	(0.015)	(0.017)	(0.020)
Nord (31)	-0.216***	-0.162***	-0.166***	-0.193***	-0.216***	-0.151***
	(0.012)	(0.014)	(0.008)	(0.012)	(0.016)	(0.011)
Lorraine (41)	-0.178***	-0.121***	-0.145***	-0.156***	-0.201***	-0.112***
	(0.014)	(0.017)	(0.010)	(0.015)	(0.019)	(0.014)
Alsace (42)	-0.125***	-0.036**	-0.022**	-0.171***	-0.153***	-0.120***
	(0.014)	(0.015)	(0.010)	(0.014)	(0.015)	(0.013)
Franche-Comte (43)	-0.165***	-0.153***	-0.109***	-0.149***	-0.210***	-0.188***

	(0.018)	(0.024)	(0.018)	(0.017)	(0.022)	(0.024)
Pays de la Loire (52)	-0.168***	-0.136***	-0.065***	-0.179***	-0.222***	-0.167***
	(0.013)	(0.015)	(0.010)	(0.013)	(0.016)	(0.013)
Bretagne (53)	-0.143***	-0.152***	-0.122***	-0.201***	-0.242***	-0.143***
	(0.013)	(0.018)	(0.013)	(0.013)	(0.018)	(0.012)
Poitou-Charentes (54)	-0.191***	-0.126***	-0.054***	-0.184***	-0.174***	-0.043***
	(0.016)	(0.018)	(0.015)	(0.015)	(0.021)	(0.016)
Aquitaine (72)	-0.145***	-0.106***	-0.001	-0.196***	-0.191***	-0.129***
	(0.012)	(0.016)	(0.010)	(0.012)	(0.016)	(0.014)
Midi-Pyrenees (73)	-0.120***	-0.053***	0.004	-0.165***	-0.184***	-0.113***
	(0.014)	(0.020)	(0.013)	(0.013)	(0.020)	(0.014)
Limousin (74)	-0.192***	-0.166***	-0.109***	-0.167***	-0.257***	-0.207***
	(0.019)	(0.026)	(0.016)	(0.021)	(0.024)	(0.025)
Rhone-Alpes (82)	-0.136***	-0.086***	-0.019**	-0.143***	-0.161***	-0.101***
	(0.010)	(0.012)	(0.008)	(0.010)	(0.014)	(0.012)
Auvergne (83)	-0.212***	-0.086***	-0.097***	-0.212***	-0.171***	-0.101***
	(0.020)	(0.029)	(0.015)	(0.018)	(0.036)	(0.021)
Languedoc-Roussillon (91)	-0.166***	-0.128***	-0.057***	-0.169***	-0.179***	-0.184***
	(0.018)	(0.032)	(0.019)	(0.017)	(0.027)	(0.023)
Provence-Alpes-Cote d'Azur (93)	-0.084***	-0.059***	0.024**	-0.096***	-0.138***	-0.052***
	(0.012)	(0.015)	(0.011)	(0.011)	(0.015)	(0.014)
lambda	-0.154***	-0.103***	-0.226***	-0.062***	-0.034**	-0.036*
	(0.018)	(0.017)	(0.021)	(0.020)	(0.017)	(0.020)
Sigma	.24069	.23104	.20977	.21736	.20184	.19246
rho	-0.63982	-0.445810	-1.07737	-0.28524	-0.16845	-0.18705
Constant	4.482***	4.534***	4.921***	4.428***	4.477***	4.489***
	(0.029)	(0.024)	(0.030)	(0.032)	(0.026)	(0.030)
Observations	9,514	5,949	11,832	8,001	4,185	5,437
R-squared	0.68	0.67	0.70	0.58	0.63	0.64
Adj. R-squared	0.67	0.67	0.70	0.58	0.62	0.64

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

6. Decomposition of Gender Wage Differential across Size

We now come to the core of our illustration- the breakdown of gender wage differentials into the human capital, the discrimination and the selectivity components.

In the previous section, we have seen positive selection on unobservable in small establishments and negative selection on unobservable in large establishments with negative correlation of the error terms in the selection and wage equation. Moreover we see higher rewards on observable characteristics for females and found that the coefficient of selection term for the large size employer for females is not significant, suggesting that rewards on unobservable characteristics for female are not important or does not exists in the large size of establishments. Now in this section, the gender wage differentials are decomposed using OB standard wage decomposition to see the contribution of each component in the gender wage gap. It is done for each size category so that we are able to see affect of workplaces on the gender wage differentials. Decomposition of wage differentials has been studied by many authors in the context of gender, race etc. But decomposing wage differentials by employer size has not been explored in detail.

Table 6-9 shows results of gender wage decomposition across size group when the non-random selection of workers is taken into account. Here negative values will show high wages for females. The dominant group is male. The first part of the table 6 shows the exact values when we add up the mean values of all explanatory variables used in the wage equation (explained/endowment component), the estimated coefficients of the explanatory variables (unexplained /discrimination component), selection component and the difference of the constant terms. The total (R) adds up all components and the RS is the total net of selection. The second part of table 6 shows proportion of each contribution with respect to total differential. In the small sized establishments, the endowment proportion contributes to 39 percent of the wage difference but this is offset by the coefficients proportion as female workers gets more wage compare to male. The wage difference of 49 percent is explained by females being paid more than males. Selection contributes to 15 percent of the wage differential between male and female in small size category of establishments. Inclusion of selection components increases the wage difference as we can see the difference in the R and RS. For medium sized establishments, we can see that the difference in characteristics between males and females contributes to 31 percent wage difference. The wage discrimination is 14 percent of the total wage differential. Selectivity factors increases wage difference by 4 percent and unexplained proportion contribution is 49 percent. In large

establishments the entire wage differential is due to unexplained proportion. 13 percent is selectivity and 13 percent is endowment but both are offset by coefficient proportion.

Table-7 gives information on explanatory variables contributing to explained and unexplained component of the wage differential. Negative values show higher wages for females. The column on coefficients reveals that higher wages for male are offset by educational categories as rewards for education are higher for female as observed by the data. Table-8-9 present similar results with respect to basic hourly wage. We see the same patterns of results of the contribution of each component to the entire wage differential between male and female in each size category.

We see that the wage differential is positive. Males get higher wage compare to females. But the major proportion of this difference is not explained by the model. May be this is due to the firms' specific behaviors of rewarding the male workers. The intercept terms are increasing by size group meaning that without including any characteristics of workers and firms, the affect of size on wage is positive and increasing and higher for males. Big establishments prefer male workers compare to females regardless of their characteristics.

We may conclude that gender wage differentials are larger in large size employers. And in medium size establishments, gender wage differential is less compare to small size. In small establishments men earns 49 percent less than women. And in large men earns 29 percent less than women. The explained share of the wage differential is more in small size. Explained share contribute 39 percent of the wage differential in small, 31 percent in medium and 13 percent in large. We can also see the importance of taking into account the selectivity factors in explaining the wage differential. In small size the selection bias causes 15 percent of the wage differential. In medium the selectivity component is 4 percent and in large it is 13 percent. We also see from first part of the table that gender wage differential increases in all size groups after adding selectivity factors. That means selection disfavors the gender wage differential or increases the difference between male and female. The selection and net of selection difference is more in large size employers.

We see the major contribution of the gender wage differential in large size is not explained and it is the difference in the intercept. This implies that in the large establishments, workers with no education, no experience and with other observable characteristics earn more wage in the large compare to other size groups. Or if we exclude human capital effect then we observe higher wages for those workers. And they are potentially male workers. This is the pure size effect and preference for male workers. It may be regarded as efficiency wage. Big size establishments prefer male workers and one of the causes of gender gap is the association

of female workers with low paying workplaces. They may get higher rewards for observable characteristics in small size establishments but the rewards on the unobservable characteristics are significant for male workers as we saw in the wage equations.

Table-6 Gender Wage Decomposition with selectivity factor (Gross hourly wage)

	Endowments (E)	Coefficients (C)	Selectivity (S)	Intercepts (U)	Total (R)	Total net of selectivity (RS)
M-F (small)	0,0493	-0,0612	0,019	0,1180	0,1250	0,1061
M-F (medium)	0,0657	0,0300	0,009	0,1030	0,2076	0,1987
M-F (large)	0,0685	-0,1540	0,072	0,5398	0,5266	0,4543

	Endowment Proportion (E/R)	Coeficient Proportion (C/R)	Selectivity Proportion (S/R)	Unexplained Proportion (U/R)
M-F (small)	0,395	-0,490	0,151	0,944
M-F (medium)	0,317	0,145	0,043	0,496
M-F (large)	0,130	-0,292	0,137	1,025

Table-7 OB Decomposition (Gross hourly wage)

Variables	Small		Medium		Large	
	E Endowments	C Coefcients	E Endowments	C Coefcients	E Endowments	C Coefcients
Secondary (base category primary education)	-0,003	-0,008	-0,005	0,000	-0,004	-0,002
Technical Short	0,002	-0,013	0,004	-0,003	0,007	-0,004
Technical Long	-0,003	-0,002	-0,001	-0,003	0,000	-0,003
Higher	-0,005	-0,002	-0,009	-0,003	-0,007	-0,014
(Base Category Management and High Intellectual professionals)						
High Skilled White Collar	0,006	-0,004	0,003	-0,004	-0,004	-0,030
Low Skilled White Collar	0,323	-0,038	0,273	-0,035	0,219	-0,063
Blue collar	-0,265	0,003	-0,209	0,014	-0,138	0,006
Tenure	0,009	-0,014	0,019	0,003	0,027	-0,039
Type of job Contract	0,000	-0,032	0,000	-0,024	0,004	-0,143
(Base Industry Manufacturing) Trade Services	-0,002	0,019	-0,001	0,008	-0,004	0,011
	-0,011	0,013	-0,008	0,031	-0,025	0,068
Base regional category Ile de France (11)						
Champagne-Ardenne(21)	-0,001	0,000	-0,001	0,000	-0,001	0,001

Picardie (22)	-0,001	0,000	0,000	0,001	-0,001	0,000
Haute-Normandie (23)	-0,001	0,001	0,001	0,001	0,000	0,005
Centre (24)	0,001	0,000	-0,002	0,002	-0,001	0,002
Basse-Normandie (25)	0,001	0,001	0,000	0,001	0,001	0,002
Bourgogne (26)	0,001	-0,001	0,002	0,003	-0,001	0,001
Nord (31)	-0,002	0,001	-0,003	0,003	-0,003	0,002
Lorraine (41)	-0,001	0,001	-0,001	0,002	-0,003	0,002
Alsace (42)	-0,001	0,002	0,001	0,004	0,000	0,006
Franche-Comte (43)	0,000	0,001	0,001	0,001	0,000	0,001
Pays de la Loire (52)	0,000	0,001	0,000	0,002	0,000	0,004
Bretagne (53)	-0,001	0,003	0,000	0,003	0,003	0,002
Poitou-Charentes (54)	0,000	0,000	-0,001	0,001	0,001	0,000
Aquitaine (72)	0,001	0,002	0,001	0,005	0,000	0,007
Midi-Pyrenees (73)	0,000	0,002	0,000	0,003	0,000	0,008
Limousin (74)	-0,001	-0,001	0,001	0,002	-0,001	0,001
Rhone-Alpes (82)	0,001	0,001	-0,001	0,005	-0,001	0,007
Auvergne (83)	0,002	-0,001	0,000	0,000	0,000	0,000
Languedoc-Roussillon (91)	0,000	0,002	0,001	0,001	0,000	0,003
Provence-Alpes-Cote d'Azur (93)	-0,001	0,002	0,000	0,004	0,000	0,005

Table-8 Gender Wage Decomposition with selectivity factor (Basic Hourly Wage)

	Endowments (E)	Coefficients (C)	Selectivity (S)	Intercepts (U)	Total (R)	Total net of selectivity (RS)
M-F (small)	0,0456	-0,0435	0,020	0,0540	0,0760	0,0561
M-F (medium)	0,0527	0,0233	0,009	0,0574	0,1429	0,1334
M-F (large)	0,0527	-0,1458	0,050	0,4316	0,3884	0,3385

	Endowment Proportion (E/R)	Coeficient Proportion (C/R)	Selectivity Proportion (S/R)	Unexplained Proportion (U/R)
M-F (small)	0,601	-0,573	0,262	0,711
M-F (medium)	0,369	0,163	0,066	0,402
M-F (large)	0,136	-0,375	0,129	1,111

Table-9 OB Decomposition (Basic hourly wage)

Variables	Small		Medium		Large	
	E Endowments	C Coefcients	E Endowments	C Coefcients	E Endowments	C Coefcients
Secondary (base category primary education)	-0,003	-0,007	-0,005	0,003	-0,005	0,001
Technical Short	0,002	-0,007	0,005	0,007	0,008	0,004
Technical Long	-0,003	-0,002	-0,001	0,000	0,000	-0,002

Higher	-0,005	-0,001	-0,010	0,002	-0,008	0,000
(Base Category Management and High Intellectual professionals) High Skilled White Collar						
	0,006	-0,005	0,003	-0,006	-0,004	-0,036
Low Skilled White Collar	0,327	-0,040	0,285	-0,041	0,240	-0,072
Blue collar	-0,273	-0,002	-0,223	0,003	-0,157	-0,002
Tenure	0,004	-0,013	0,009	-0,019	0,012	0,004
Type of job Contract	0,001	-0,014	0,002	-0,043	0,005	-0,168
(Base Industry Manufacturing)						
Trade	-0,002	0,020	-0,001	0,011	-0,004	0,011
Services	-0,008	0,021	-0,008	0,037	-0,026	0,074
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0,001	0,000	-0,001	0,000	-0,002	0,000
Picardie (22)	-0,001	0,000	0,000	0,002	-0,001	0,000
Haute-Normandie (23)	-0,001	-0,001	0,001	0,002	0,000	0,002
Centre (24)	0,001	0,000	-0,002	0,002	-0,001	0,003
Basse-Normandie (25)	0,001	0,001	0,000	0,001	0,001	0,000
Bourgogne (26)	0,001	-0,001	0,001	0,007	-0,002	0,001
Nord (31)	-0,003	-0,001	-0,003	0,003	-0,003	-0,001
Lorraine (41)	-0,002	-0,001	-0,001	0,003	-0,004	-0,001
Alsace (42)	0,000	0,002	0,000	0,009	0,000	0,005
Franche-Comte (43)	0,000	0,000	0,001	0,002	0,000	0,001
Pays de la Loire (52)	0,000	0,001	0,000	0,006	0,000	0,005
Bretagne (53)	-0,001	0,003	0,000	0,004	0,004	0,001
Poitou-Charentes (54)	0,000	0,000	-0,002	0,001	0,001	0,000
Aquitaine (72)	0,001	0,003	0,002	0,006	0,000	0,006
Midi-Pyrenees (73)	0,000	0,002	0,000	0,004	0,000	0,006
Limousin (74)	-0,001	0,000	0,001	0,002	-0,001	0,001
Rhone-Alpes (82)	0,001	0,001	-0,001	0,009	-0,001	0,006
Auvergne (83)	0,001	0,000	0,000	0,001	0,000	0,000
Languedoc-Roussillon (91)	0,000	0,000	0,001	0,001	0,000	0,002
Provence-Alpes-Cote d'Azur (93)	-0,001	0,001	0,000	0,006	0,000	0,003

7. Conclusion

Decomposition of wage differentials has been studied by many authors in the context of gender, race, ethnicity etc. But decomposing wage differentials by employer size has not been explored in detail. The Heckman two step estimation procedures is used for identifying parameters and later standards Oaxaca (1973) Blinder (1973) wage decomposition was applied to the regression equations. The objective was to decompose the gender wage difference across employer size in order to compare the patterns of gender wage gap in different size of employers. The work place segregation is considered and the effect of differences in personal characteristics on the gender wage gap is disentangled with the effect of selection into different establishments of women and men. Higher rewards for females in observable characteristics in all size categories and higher rewards on unobservable characteristics for male workers in all size categories are found. that the gender wage difference increases as size increases. Women are associated with low paying workplaces. There is discrimination on the part of big size employers in preferring male workers and paying them higher wage regardless of observable characteristics. Males get higher wage compare to females. But the major proportion of this difference is not explained by the model. May be this is due to the firms' specific behaviors of rewarding the male workers. The intercept terms are increasing by size group meaning that the without including any characteristics of workers and firms, the affect of size on wage is positive and increasing and higher for males. Big establishments prefer male workers compare to females. Further work can be done to simultaneously take into account occupational segregation, work-place segregation and decompose gender wage differentials.

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APPENDIX-A: Descriptive Statistics

	Small Size				Medium Size				Large Size			
	Male		Female		Male		Female		Male		Female	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Age 25-30	1,573	16.44	1,64	20.39	837	14.01	784	18.65	1,099	9.28	791	14.51
Age 31-40	4,189	43.78	3,641	45.26	2,673	44.75	2,011	47.84	5,094	43.01	2,547	46.72
Age 41-50	3,073	32.12	2,359	29.33	1,962	32.85	1,236	29.40	4,503	38.02	1,823	33.44
Age 51-60	733	7.66	404	5.02	501	8.39	173	4.12	1,147	9.69	291	5.34
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00
Single	566	5.92	704	8.75	271	4.54	354	8.42	536	4.53	439	8.05
Married	8,498	88.82	6,397	79.53	5,401	90.42	3,302	78.54	10,89	91.95	4,381	80.36
Others (widowed, divorced)	504	5.27	943	11.72	301	5.04	548	13.04	417	3.52	632	11.59
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00
CDI	9,212	96.28	7,544	93.78	5,706	95.53	3,887	92.46	11,714	98.91	5,272	96.70
CDD	356	3.72	500	6.22	267	4.47	317	7.54	129	1.09	180	3.30
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00
Management and High Intellectual professionals	1,723	18.01	607	7.55	896	15.00	247	5.88	1,885	15.92	363	6.66
High Skilled White Collar	2,521	26.35	2,22	27.60	1,543	25.83	1,113	26.47	3,748	31.65	1,677	30.76
Low Skilled White Collar	872	9.11	4,281	53.22	506	8.47	1,985	47.22	802	6.77	2,131	39.09
Blue collar	4,452	46.53	936	11.64	3,028	50.69	859	20.43	5,408	45.66	1,281	23.50
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00
Manufacturing	3,42	35.74	1,121	13.94	2,081	34.84	834	19.84	8,091	68.32	2,362	43.32
Trade	1,516	15.84	1,414	17.58	430	7.20	369	8.78	302	2.55	313	5.74
Services	4,632	48.41	5,509	68.49	3,462	57.96	3,001	71.38	3,45	29.13	2,777	50.94
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00
primary education	2,649	27.69	1,776	22.08	1,763	29.52	1,078	25.64	2,935	24.78	1,508	27.66

Secondary	1,077	11.26	1,384	17.21	674	11.28	690	16.41	1,189	10.04	827	15.17
Technical Short	3,756	39.26	2,641	32.83	2,343	39.23	1,338	31.83	4,887	41.26	1,639	30.06
Technical Long	576	6.02	734	9.12	323	5.41	288	6.85	889	7.51	386	7.08
Higher	1,51	15.78	1,509	18.76	870	14.57	810	19.27	1,943	16.41	1,092	20.03
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00
Ile de France (11)	1,464	15.30	1,374	17.08	712	11.92	477	11.35	2,02	17.06	1,227	22.51
Champagne-Ardenne(21)	214	2.24	156	1.94	160	2.68	79	1.88	321	2.71	81	1.49
Picardie (22)	294	3.07	216	2.69	238	3.98	155	3.69	487	4.11	178	3.26
Haute-Normandie (23)	401	4.19	280	3.48	167	2.80	158	3.76	492	4.15	232	4.26
Centre (24)	336	3.51	336	4.18	289	4.84	150	3.57	617	5.21	214	3.93
Basse-Normandie (25)	229	2.39	217	2.70	114	1.91	69	1.64	201	1.70	170	3.12
Bourgogne (26)	303	3.17	307	3.82	236	3.95	233	5.54	407	3.44	111	2.04
Nord (31)	622	6.50	426	5.30	472	7.90	262	6.23	1,142	9.64	424	7.78
Lorraine (41)	378	3.95	247	3.07	269	4.50	160	3.81	884	7.46	247	4.53
Alsace (42)	411	4.30	314	3.90	378	6.33	315	7.49	544	4.59	272	4.99
Franche-Comte (43)	228	2.38	211	2.62	127	2.13	122	2.90	156	1.32	72	1.32
Pays de la Loire (52)	525	5.49	435	5.41	383	6.41	282	6.71	642	5.42	286	5.25
Bretagne (53)	505	5.28	357	4.44	261	4.37	189	4.50	362	3.06	344	6.31
Poitou-Charentes (54)	266	2.78	240	2.98	253	4.24	117	2.78	238	2.01	182	3.34
Aquitaine (72)	563	5.88	512	6.36	314	5.26	287	6.83	562	4.75	238	4.37
Midi-Pyrenees (73)	477	4.99	412	5.12	180	3.01	143	3.40	357	3.01	265	4.86
Limousin (74)	189	1.98	126	1.57	92	1.54	87	2.07	200	1.69	65	1.19
Rhone-Alpes (82)	1,011	10.57	900	11.19	778	13.03	524	12.46	1,319	11.14	415	7.61
Auvergne (83)	160	1.67	183	2.27	74	1.24	37	0.88	229	1.93	96	1.76
Languedoc-Roussillon (91)	236	2.47	212	2.64	62	1.04	65	1.55	142	1.20	83	1.52
Provence-Alpes-Cote d'Azur (93)	756	7.90	583	7.25	414	6.93	293	6.97	521	4.40	250	4.59
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00
Other Nationality	613	6.41	316	3.93	370	6.19	136	3.24	600	5.07	156	2.86
French	8,955	93.59	7,728	96.07	5,603	93.81	4,068	96.76	11,243	94.93	5,296	97.14
Total	9,568	100.00	8,044	100.00	5,973	100.00	4,204	100.00	11,843	100.00	5,452	100.00

APPENDIX-B: Threshold Variations for Size

Wage equation estimates using the same model are estimated for three other variations of size (1/49 = 1, 50/499=2 , 500/max=3), (1/19 = 1, 20/299=2, 300/max=3) and (1/19 = 1, 20/499=2, 500/max=3). The inverse mills ratio is negative and significant in each case. The direction and significance level of all the variables is the same. We find robust results by changing the threshold values. This means that our results does not depend on the choice of the size categories.

Wage equation for Gross hourly wage

	Small Size (1-49)		**Medium Size (50-499)**		**Large size (500+)**	
	Female	Male	Female	Male	Female	Male
Secondary (base category primary education)	0.100***	0.054***	0.088***	0.097***	0.101***	0.067***
	(0.009)	(0.010)	(0.009)	(0.009)	(0.012)	(0.010)
Technical Short	0.066***	0.024***	0.065***	0.058***	0.066***	0.044***
	(0.007)	(0.007)	(0.008)	(0.006)	(0.010)	(0.007)
Technical Long	0.111***	0.092***	0.131***	0.106***	0.152***	0.078***
	(0.011)	(0.013)	(0.012)	(0.012)	(0.015)	(0.012)
Higher	0.165***	0.156***	0.216***	0.193***	0.234***	0.151***
	(0.010)	(0.011)	(0.011)	(0.010)	(0.014)	(0.011)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	-0.441***	-0.453***	-0.406***	-0.445***	-0.357***	-0.456***
	(0.011)	(0.008)	(0.013)	(0.009)	(0.015)	(0.009)
Low Skilled White Collar	-0.661***	-0.732***	-0.612***	-0.705***	-0.492***	-0.666***
	(0.011)	(0.012)	(0.013)	(0.012)	(0.016)	(0.013)
Blue collar	-0.784***	-0.759***	-0.745***	-0.674***	-0.618***	-0.614***
	(0.014)	(0.009)	(0.015)	(0.009)	(0.018)	(0.010)
Tenure	0.016***	0.014***	0.016***	0.018***	0.013***	0.009***

	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Tenure2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000**	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Type of job Contract	0.010	-0.020	0.003	-0.047***	-0.101***	-0.204***
	(0.011)	(0.014)	(0.012)	(0.014)	(0.023)	(0.026)
(Base Industry Manufacturing) Trade	0.007	0.114***	-0.048***	0.093***	-0.019	0.179***
	(0.019)	(0.019)	(0.019)	(0.020)	(0.022)	(0.032)
Services	0.040***	0.061***	0.002	0.085***	0.030*	0.152***
	(0.013)	(0.011)	(0.012)	(0.010)	(0.016)	(0.015)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.182***	-0.158***	-0.111***	-0.021	-0.173***	-0.108***
	(0.020)	(0.019)	(0.021)	(0.014)	(0.033)	(0.024)
Picardie (22)	-0.168***	-0.151***	-0.123***	-0.091***	-0.072***	-0.003
	(0.017)	(0.016)	(0.016)	(0.013)	(0.021)	(0.014)
Haute-Normandie (23)	-0.141***	-0.105***	-0.127***	-0.068***	-0.112***	0.037***
	(0.015)	(0.014)	(0.015)	(0.015)	(0.021)	(0.014)
Centre (24)	-0.183***	-0.182***	-0.160***	-0.115***	-0.196***	-0.056***
	(0.015)	(0.015)	(0.016)	(0.013)	(0.018)	(0.012)
Basse-Normandie (25)	-0.214***	-0.173***	-0.147***	-0.159***	-0.138***	-0.039**
	(0.017)	(0.018)	(0.023)	(0.021)	(0.018)	(0.018)
Bourgogne (26)	-0.187***	-0.200***	-0.160***	-0.099***	-0.203***	-0.067***
	(0.015)	(0.016)	(0.016)	(0.014)	(0.022)	(0.015)
Nord (31)	-0.223***	-0.197***	-0.167***	-0.151***	-0.187***	-0.140***
	(0.013)	(0.012)	(0.012)	(0.011)	(0.015)	(0.010)
Lorraine (41)	-0.181***	-0.132***	-0.152***	-0.113***	-0.139***	-0.050***
	(0.016)	(0.014)	(0.015)	(0.012)	(0.018)	(0.012)
Alsace (42)	-0.186***	-0.132***	-0.103***	-0.072***	-0.141***	0.028**
	(0.014)	(0.014)	(0.013)	(0.012)	(0.017)	(0.012)
Franche-Comte (43)	-0.159***	-0.138***	-0.210***	-0.172***	-0.169***	-0.084***
	(0.018)	(0.019)	(0.019)	(0.019)	(0.033)	(0.022)

Pays de la Loire (52)	-0.189***	-0.167***	-0.166***	-0.164***	-0.178***	-0.030**
	(0.013)	(0.013)	(0.013)	(0.013)	(0.016)	(0.012)
Bretagne (53)	-0.224***	-0.155***	-0.169***	-0.130***	-0.151***	-0.037*
	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.020)
Poitou-Charentes (54)	-0.199***	-0.191***	-0.079***	-0.120***	-0.097***	0.022
	(0.016)	(0.017)	(0.018)	(0.015)	(0.019)	(0.018)
Aquitaine (72)	-0.194***	-0.164***	-0.143***	-0.066***	-0.108***	0.058***
	(0.012)	(0.013)	(0.013)	(0.014)	(0.020)	(0.012)
Midi-Pyrenees (73)	-0.200***	-0.174***	-0.188***	-0.092***	-0.104***	-0.015
	(0.013)	(0.014)	(0.015)	(0.018)	(0.018)	(0.014)
Limousin (74)	-0.181***	-0.230***	-0.221***	-0.132***	-0.232***	-0.128***
	(0.022)	(0.020)	(0.020)	(0.020)	(0.048)	(0.021)
Rhone-Alpes (82)	-0.151***	-0.142***	-0.123***	-0.087***	-0.079***	0.006
	(0.011)	(0.010)	(0.012)	(0.010)	(0.017)	(0.009)
Auvergne (83)	-0.218***	-0.238***	-0.170***	-0.098***	-0.040	-0.097***
	(0.019)	(0.021)	(0.026)	(0.020)	(0.027)	(0.019)
Languedoc-Roussillon (91)	-0.193***	-0.142***	-0.168***	-0.068**	-0.153***	0.006
	(0.018)	(0.018)	(0.024)	(0.028)	(0.028)	(0.021)
Provence-Alpes-Cote d'Azur (93)	-0.107***	-0.080***	-0.092***	-0.058***	-0.029	0.081***
	(0.012)	(0.012)	(0.013)	(0.013)	(0.021)	(0.014)
lambda	-0.098***	-0.168***	-0.029*	-0.131***	-0.088***	-0.321***
	(0.022)	(0.020)	(0.015)	(0.015)	(0.027)	(0.029)
Constant	4.441***	4.559***	4.516***	4.664***	4.683***	5.217***
	(0.034)	(0.032)	(0.022)	(0.020)	(0.045)	(0.045)
Rho	-0,431	-0,682	-0,139	-0,569	-0,455	-1,480
Sigma	.22729	.24631	.20845	.23018	.19337	.21675
Observations	8,044	9,568	6,293	9,415	3,363	8,401
R-squared	0.59	0.67	0.62	0.64	0.63	0.62
Adj. R-squared	0.59	0.67	0.62	0.64	0.63	0.62

Second Variation

	Small Size (1-19)		Medium Size (20-299)		Large size (300+)	
	Female	Male	Female	Male	Female	Male
Secondary (base category primary education)	0.107***	0.032**	0.096***	0.080***	0.104***	0.079***
	(0.013)	(0.016)	(0.008)	(0.008)	(0.010)	(0.009)
Technical Short	0.063***	0.008	0.065***	0.046***	0.073***	0.058***
	(0.011)	(0.010)	(0.007)	(0.006)	(0.008)	(0.006)
Technical Long	0.116***	0.075***	0.121***	0.090***	0.150***	0.099***
	(0.015)	(0.020)	(0.010)	(0.011)	(0.013)	(0.010)
Higher	0.177***	0.143***	0.181***	0.173***	0.251***	0.169***
	(0.014)	(0.016)	(0.009)	(0.009)	(0.011)	(0.010)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	-0.396***	-0.437***	-0.450***	-0.448***	-0.349***	-0.453***
	(0.016)	(0.013)	(0.010)	(0.007)	(0.013)	(0.008)
Low Skilled White Collar	-0.606***	-0.717***	-0.671***	-0.726***	-0.501***	-0.662***
	(0.016)	(0.018)	(0.011)	(0.010)	(0.013)	(0.011)
Blue collar	-0.720***	-0.749***	-0.802***	-0.720***	-0.638***	-0.619***
	(0.021)	(0.014)	(0.013)	(0.008)	(0.015)	(0.008)
Tenure	0.017***	0.015***	0.016***	0.016***	0.015***	0.011***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Tenure2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Type of job Contract	0.008	-0.031	0.013	-0.017	-0.068***	-0.199***
	(0.016)	(0.021)	(0.010)	(0.011)	(0.018)	(0.022)
(Base Industry Manufacturing) Trade	0.027	0.138***	-0.034**	0.077***	-0.053***	0.137***
	(0.027)	(0.026)	(0.017)	(0.015)	(0.019)	(0.021)

Services	0.042**	0.068***	0.015	0.060***	-0.010	0.124***
	(0.017)	(0.016)	(0.010)	(0.009)	(0.012)	(0.010)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.183***	-0.250***	-0.153***	-0.110***	-0.175***	-0.075***
	(0.028)	(0.027)	(0.018)	(0.015)	(0.024)	(0.014)
Picardie (22)	-0.164***	-0.165***	-0.159***	-0.138***	-0.065***	-0.058***
	(0.026)	(0.026)	(0.014)	(0.012)	(0.018)	(0.012)
Haute-Normandie (23)	-0.172***	-0.168***	-0.140***	-0.099***	-0.141***	-0.033***
	(0.026)	(0.025)	(0.013)	(0.012)	(0.016)	(0.012)
Centre (24)	-0.183***	-0.199***	-0.189***	-0.166***	-0.175***	-0.103***
	(0.021)	(0.022)	(0.014)	(0.013)	(0.015)	(0.011)
Basse-Normandie (25)	-0.209***	-0.156***	-0.199***	-0.179***	-0.105***	-0.039**
	(0.022)	(0.025)	(0.019)	(0.017)	(0.017)	(0.017)
Bourgogne (26)	-0.206***	-0.222***	-0.170***	-0.170***	-0.170***	-0.096***
	(0.022)	(0.026)	(0.013)	(0.013)	(0.020)	(0.013)
Nord (31)	-0.280***	-0.232***	-0.188***	-0.196***	-0.173***	-0.153***
	(0.019)	(0.020)	(0.011)	(0.010)	(0.013)	(0.010)
Lorraine (41)	-0.201***	-0.155***	-0.172***	-0.149***	-0.139***	-0.104***
	(0.023)	(0.025)	(0.014)	(0.012)	(0.015)	(0.011)
Alsace (42)	-0.174***	-0.195***	-0.141***	-0.095***	-0.133***	-0.024**
	(0.023)	(0.024)	(0.011)	(0.011)	(0.014)	(0.011)
Franche-Comte (43)	-0.177***	-0.212***	-0.196***	-0.173***	-0.153***	-0.123***
	(0.027)	(0.032)	(0.016)	(0.015)	(0.028)	(0.019)
Pays de la Loire (52)	-0.191***	-0.186***	-0.185***	-0.160***	-0.151***	-0.068***
	(0.018)	(0.018)	(0.012)	(0.011)	(0.014)	(0.011)
Bretagne (53)	-0.219***	-0.174***	-0.224***	-0.161***	-0.122***	-0.094***
	(0.019)	(0.020)	(0.013)	(0.012)	(0.013)	(0.014)
Poitou-Charentes (54)	-0.242***	-0.213***	-0.167***	-0.137***	-0.056***	-0.001
	(0.025)	(0.027)	(0.015)	(0.013)	(0.016)	(0.016)
Aquitaine (72)	-0.231***	-0.202***	-0.162***	-0.132***	-0.115***	0.023**

	(0.018)	(0.020)	(0.011)	(0.011)	(0.016)	(0.011)
Midi-Pyrenees (73)	-0.216***	-0.205***	-0.174***	-0.120***	-0.172***	-0.045***
	(0.018)	(0.020)	(0.014)	(0.013)	(0.015)	(0.013)
Limousin (74)	-0.185***	-0.255***	-0.231***	-0.248***	-0.224***	-0.164***
	(0.035)	(0.035)	(0.018)	(0.017)	(0.026)	(0.017)
Rhone-Alpes (82)	-0.162***	-0.150***	-0.140***	-0.118***	-0.109***	-0.020**
	(0.015)	(0.015)	(0.010)	(0.009)	(0.013)	(0.008)
Auvergne (83)	-0.261***	-0.297***	-0.178***	-0.197***	-0.087***	-0.135***
	(0.027)	(0.035)	(0.020)	(0.018)	(0.023)	(0.017)
Languedoc-Roussillon (91)	-0.200***	-0.099***	-0.168***	-0.152***	-0.143***	0.011
	(0.024)	(0.025)	(0.019)	(0.020)	(0.028)	(0.020)
Provence-Alpes-Cote d'Azur (93)	-0.137***	-0.070***	-0.094***	-0.075***	-0.072***	0.043***
	(0.017)	(0.017)	(0.011)	(0.011)	(0.016)	(0.012)
lambda	-0.083***	-0.188***	-0.065***	-0.133***	-0.028	-0.294***
	(0.028)	(0.027)	(0.016)	(0.014)	(0.024)	(0.023)
Constant	4.362***	4.459***	4.548***	4.652***	4.564***	5.138***
	(0.058)	(0.055)	(0.019)	(0.018)	(0.035)	(0.035)
Rho	-0,358	-0,736	-0,301	-0,564	-0,142	-1,349
Sigma	.23149	.25531	.21592	.23559	.19687	.21796
Observations	3,991	4,197	8,856	12,206	4,853	10,981
R-squared	0.57	0.66	0.62	0.66	0.64	0.62
Adj. R-squared	0.56	0.66	0.61	0.66	0.64	0.62

Third Variation

	Small Size (1-19)		**Medium Size (20-499)**		**Large size (500+)**	
	Female	Male	Female	Male	Female	Male
Secondary (base category primary education)	0.105***	0.029*	0.094***	0.085***	0.103***	0.066***

	(0.012)	(0.016)	(0.007)	(0.008)	(0.012)	(0.010)
Technical Short	0.063***	0.004	0.068***	0.049***	0.066***	0.043***
	(0.011)	(0.010)	(0.006)	(0.005)	(0.010)	(0.007)
Technical Long	0.113***	0.071***	0.122***	0.100***	0.152***	0.075***
	(0.015)	(0.020)	(0.010)	(0.010)	(0.015)	(0.012)
Higher	0.175***	0.135***	0.188***	0.177***	0.234***	0.148***
	(0.014)	(0.017)	(0.008)	(0.009)	(0.014)	(0.012)
(Base Category Management and High Intellectual professionals) High Skilled White Collar	-0.396***	-0.439***	-0.439***	-0.452***	-0.354***	-0.451***
	(0.016)	(0.013)	(0.010)	(0.007)	(0.015)	(0.009)
Low Skilled White Collar	-0.607***	-0.723***	-0.656***	-0.718***	-0.490***	-0.662***
	(0.016)	(0.018)	(0.010)	(0.009)	(0.016)	(0.013)
Blue collar	-0.718***	-0.749***	-0.789***	-0.703***	-0.616***	-0.609***
	(0.021)	(0.014)	(0.012)	(0.007)	(0.018)	(0.010)
Tenure	0.017***	0.015***	0.016***	0.017***	0.013***	0.009***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
Tenure2	-0.000***	-0.000***	-0.000***	-0.000***	-0.000**	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Type of job Contract	0.008	-0.031	0.009	-0.031***	-0.101***	-0.206***
	(0.016)	(0.021)	(0.009)	(0.011)	(0.023)	(0.026)
(Base Industry Manufacturing) Trade	0.024	0.164***	-0.036**	0.085***	-0.014	0.175***
	(0.027)	(0.030)	(0.016)	(0.016)	(0.023)	(0.032)
Services	0.043**	0.085***	0.017*	0.078***	0.031*	0.150***
	(0.018)	(0.018)	(0.010)	(0.009)	(0.016)	(0.015)
Base regional category Ile de France (11) Champagne-Ardenne(21)	-0.180***	-0.199***	-0.142***	-0.029**	-0.167***	-0.076***
	(0.028)	(0.028)	(0.017)	(0.013)	(0.033)	(0.025)
Picardie (22)	-0.166***	-0.154***	-0.141***	-0.117***	-0.070***	-0.002
	(0.026)	(0.026)	(0.013)	(0.011)	(0.021)	(0.014)

Haute-Normandie (23)	-0.168***	-0.164***	-0.134***	-0.102***	-0.113***	0.006
	(0.026)	(0.026)	(0.012)	(0.011)	(0.021)	(0.014)
Centre (24)	-0.182***	-0.173***	-0.173***	-0.132***	-0.201***	-0.042***
	(0.021)	(0.022)	(0.013)	(0.011)	(0.018)	(0.013)
Basse-Normandie (25)	-0.210***	-0.150***	-0.172***	-0.177***	-0.137***	-0.027
	(0.022)	(0.025)	(0.018)	(0.016)	(0.018)	(0.018)
Bourgogne (26)	-0.209***	-0.208***	-0.166***	-0.138***	-0.201***	-0.072***
	(0.022)	(0.026)	(0.012)	(0.011)	(0.022)	(0.015)
Nord (31)	-0.276***	-0.228***	-0.169***	-0.174***	-0.189***	-0.154***
	(0.019)	(0.020)	(0.010)	(0.009)	(0.015)	(0.010)
Lorraine (41)	-0.197***	-0.135***	-0.158***	-0.128***	-0.138***	-0.067***
	(0.023)	(0.025)	(0.012)	(0.010)	(0.018)	(0.012)
Alsace (42)	-0.172***	-0.191***	-0.133***	-0.094***	-0.140***	0.016
	(0.023)	(0.024)	(0.011)	(0.010)	(0.017)	(0.012)
Franche-Comte (43)	-0.179***	-0.210***	-0.186***	-0.172***	-0.163***	-0.104***
	(0.027)	(0.032)	(0.015)	(0.014)	(0.033)	(0.022)
Pays de la Loire (52)	-0.191***	-0.179***	-0.173***	-0.160***	-0.176***	-0.022*
	(0.018)	(0.019)	(0.011)	(0.010)	(0.016)	(0.012)
Bretagne (53)	-0.217***	-0.156***	-0.191***	-0.142***	-0.148***	-0.041**
	(0.019)	(0.021)	(0.012)	(0.011)	(0.015)	(0.020)
Poitou-Charentes (54)	-0.240***	-0.219***	-0.128***	-0.143***	-0.104***	0.024
	(0.025)	(0.027)	(0.014)	(0.012)	(0.019)	(0.018)
Aquitaine (72)	-0.231***	-0.200***	-0.149***	-0.115***	-0.107***	0.039***
	(0.018)	(0.020)	(0.011)	(0.010)	(0.020)	(0.012)
Midi-Pyrenees (73)	-0.211***	-0.212***	-0.181***	-0.134***	-0.100***	-0.044***
	(0.018)	(0.020)	(0.013)	(0.012)	(0.019)	(0.014)
Limousin (74)	-0.175***	-0.235***	-0.206***	-0.204***	-0.233***	-0.155***
	(0.035)	(0.035)	(0.016)	(0.015)	(0.048)	(0.021)
Rhone-Alpes (82)	-0.161***	-0.149***	-0.131***	-0.112***	-0.081***	-0.003
	(0.015)	(0.015)	(0.009)	(0.008)	(0.016)	(0.009)

Auvergne (83)	-0.261***	-0.277***	-0.177***	-0.162***	-0.043	-0.114***
	(0.027)	(0.036)	(0.018)	(0.016)	(0.027)	(0.020)
Languedoc-Roussillon (91)	-0.204***	-0.101***	-0.163***	-0.142***	-0.149***	0.007
	(0.024)	(0.025)	(0.018)	(0.019)	(0.028)	(0.021)
Provence-Alpes-Cote d'Azur (93)	-0.135***	-0.073***	-0.085***	-0.078***	-0.030	0.068***
	(0.017)	(0.017)	(0.010)	(0.010)	(0.021)	(0.013)
lambda	-0.078***	-0.206***	-0.067***	-0.152***	-0.093***	-0.317***
	(0.028)	(0.030)	(0.016)	(0.015)	(0.029)	(0.030)
Constant	4.369***	4.418***	4.535***	4.653***	4.686***	5.218***
	(0.060)	(0.061)	(0.018)	(0.016)	(0.046)	(0.046)
Rho	-0,337	-0,807	-0,312	-0,647	-0,481	-1,462
Sigma	.23153	.25536	.21451	.23488	.19336	.21688
Observations	3,991	4,197	10,346	14,786	3,363	8,401
R-squared	0.57	0.66	0.62	0.65	0.63	0.62
Adj. R-squared	0.56	0.66	0.62	0.65	0.63	0.62

APPENDIX-C: Gender Wage Decomposition by Profession across employer Size

Here we present the gender wage decomposition across employer size by taking each profession as reference and we preformed the similar estimations.

Results are presented below for each profession separately:

Profession-1 Management and High Intellectual professionals

	Endowments (E)	Coefficients (C)	Selectivity (S)	Intercepts (U)	Total (R)	Total net of selectivity (RS)
M-F (small)	-0,0204	-0,0666	0,0372	0,1311	0,0813	0,0441
M-F (medium)	-0,0087	-0,5739	-0,0565	0,5945	-0,0446	0,0120
M-F (large)	-0,0236	-0,2368	0,0901	0,6299	0,4595	0,3695

	Endowment Proportion (E/R)	Coeficient Proportion (C/R)	Selectivity Proportion (S/R)	Unexplained Proportion (U/R)
M-F (small)	-0,251	-0,819	0,458	1,613
M-F (medium)	0,195	12,874	1,268	-13,337
M-F (large)	-0,051	-0,515	0,196	1,371

Profession-2 High Skilled White Collar

	Endowments (E)	Coefficients (C)	Selectivity (S)	Intercepts (U)	Total (R)	Total net of selectivity (RS)
M-F (small)	-0,0381	-0,0244	0,0443	0,0174	-0,0008	-0,0451
M-F (medium)	-0,0412	0,1361	0,0157	0,0121	0,1227	0,1070
M-F (large)	-0,1023	-0,0314	0,1361	0,4256	0,4279	0,2919

	Endowment Proportion (E/R)	Coeficient Proportion (C/R)	Selectivity Proportion (S/R)	Unexplained Proportion (U/R)
M-F (small)	47,503	30,378	-55,240	-21,641
M-F (medium)	-0,335	1,109	0,128	0,098
M-F (large)	-0,239	-0,073	0,318	0,995

Profession-3 Low Skilled White Collar

	Endowments (E)	Coefficients (C)	Selectivity (S)	Intercepts (U)	Total (R)	Total net of selectivity (RS)
M-F (small)	-0,0114	0,0790	-0,0069	0,1213	0,1820	0,1889
M-F (medium)	0,0168	0,2783	0,0002	-0,1471	0,1480	0,1479
M-F (large)	0,0395	0,0152	0,0028	0,2436	0,3011	0,2984

	Endowment Proportion (E/R)	Coeficient Proportion (C/R)	Selectivity Proportion (S/R)	Unexplained Proportion (U/R)
M-F (small)	-0,063	0,434	-0,038	0,666
M-F (medium)	0,113	1,880	0,001	-0,994
M-F (large)	0,131	0,051	0,009	0,809

Profession-4 Blue collar

	Endowments (E)	Coefficients (C)	Selectivity (S)	Intercepts (U)	Total (R)	Total net of selectivity (RS)
M-F (small)	0,0335	-0,0124	0,0015	0,1415	0,1641	0,1625
M-F (medium)	0,0714	0,0311	-0,0132	0,1754	0,2646	0,2779

M-F (large)	0,0780	-0,1200	-0,0055	0,5664	0,5190	0,5245

	Endowment Proportion (E/R)	Coeficient Proportion (C/R)	Selectivity Proportion (S/R)	Unexplained Proportion (U/R)
M-F (small)	0,204	-0,076	0,010	0,862
M-F (medium)	0,270	0,118	-0,050	0,663
M-F (large)	0,150	-0,231	-0,011	1,091