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# BOOTSTRAPPING THE EUROPEAN GENDER WAGE GAP

by

Eva Rückert

IRISS WORKING PAPER SERIES

No. 2003-10

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# Bootstrapping the European Gender Wage Gap*

Eva Rueckert
CERT, Heriot Watt University, Edinburgh
Email.: E. Rueckert@hw.ac.uk
Tel.: +44 (0) 131 4513625
Fax.: +44 (0) 131 4513296

January 2003

**Abstract**

This paper investigates the gender wage gap in Denmark, the Netherlands, France and Spain by boostrapping the Oaxaca-Blinder decomposition. The boostrap method is used to compute confidence intervals and to perform hypothesis tests for the (disaggregated) explained and unexplained components of the national earnings differentials between men and women. From the subset of paid employees selected from the European Community Household Panel (ECHP) it is revealed that the respective national gender wage gaps are significant at the 5% level. The empirical boostrap distribution of the male-female earnings differential reveals that the average differentials of the four selected countries lie very close together, whereas the boostrap standard deviations of the gaps do not agree.

**JEL-Classification:** J16, J31, J70
**Keywords:** Gender Wage Gap, ECHP, Boostrapping

*The author thanks Hartmut Lehmann, the participants of the Scottish Graduate Programme in Economics "2003 Reading Weekend", Gaston Schaber, the staff at CEPS/INSTEAD and in particular Philippe Van Kerm for helpful comments and suggestions. This research was (co-)funded by a grant of the European Commission under the Transnational Access to major Research Infrastructures contract HPRI-CT-2001-00128 hosted by IRISS-C/I at CEPS/INSTEAD Differdange (Luxembourg).

# 1 Introduction

European integration implies convergence among member states in many policy aspects affecting the labour market. Nevertheless European labour markets still display a great deal of heterogeneity. This analysis focuses on the differences in the size and composition of the gender wage gap between selected member countries. By means of the standard Oaxaca decomposition, a distinction between gender specific and wage structure effects can be made. Comparing the magnitude and distribution of these components across countries will give evidence about the heterogeneity within the European Union and its impact on affecting differences in pay between men and women.

Despite sharing a common legislative framework relating to equal pay and equal opportunities, European countries have adopted different approaches to embed European legislation into their national agendas. Notable variations between countries can be found when comparing national approaches towards social policy from North to South. Nordic countries, here represented by Denmark, have historically fostered the labour market attachment of women by adopting a wide range of family-friendly policies. In such social democratic welfare states, the support in terms of maternity/parental leave and subsidized child-care stands in stark contrast to allowances made in more paternalistic societies such as Spain. For countries geographically located in the center of Europe, here represented by the Netherlands and France, the differences are less pronounced. A recent OECD publication of the series entitled Benefit Systems and Work Incentives gives an overview of the benefits made available by the four countries selected for analysis. In Denmark annual child benefit amounts to 1155 Euro per child related to the child's age, whereas in Spain only 266 Euro are paid out per child[1]. In the Netherlands the annual allocation of 624 Euros increases with the number of children, whereas in France there are no benefits for the first child, but 1251 Euros are paid out per two children and 1600 Euros are paid out for the third and subsequent children. Except for Spain, these benefits are paid as fixed amounts per child and are not means tested.

Although the EU Maternity Leave Directive establishes a statutory entitlement to a continuous period of 14 weeks paid leave and the right to return to the same job, national childcare benefits may play an important role in determining whether the decision to return to the labour force is feasible. Some countries, such as Spain, do not provide benefits to cover childcare costs. In France benefits are "non-activity"-tested, that is, they are conditioned on one parent being inactive, albeit it is required that the parent has left a previous employment[2]. In the Netherlands childcare centres are subsidized so that the fee is a function of the parents' pooled net income, whereas in Denmark the actual fees of approved day-care or nursery centres are totally subsidized if earnings are below 80 percent of the earnings of the average production worker[3]. Considering that

[1] However, it should be noted that there is also a general tax allowance.
[2] Tax reductions and tax credits also exist.
[3] See OECD (2000), Taxing Wages, 1999-2000, Paris.

the cost of day-care centres can eat up a considerable chunk of householf income, these policy interventions have the potential to either discourage or encourage mothers to participate actively in the working environment. More importantly however, the diversity of the benefit schemes within the European Union highlights the differences in attitudes towards the family, and the role of women in particular. As Rice (1999) notes, the main benefit of policies committed to facilitate a stable attachment of women to the workforce, lies in mitigating the perception of married women having a weak attachment to employment which results in women being attributed with lower levels of unobservable productivity.

Intuitively, we would therefore expect to observe a North-South divide in terms of the size of the earnings differential between men and women. Since it is difficult to properly account for the existence of such effects, the unexplained component of the standard Oaxaca decomposition can give indications about the magnitude of these differences between the countries examined. Unexplained wage gaps occur when two individuals with equal labour market characteristics are rewarded differently by the employer.

Furthermore, we look at the contribution of various differential components on the gender wage gap, with the aim to analyze whether different characteristics are rewarded equally across gender and countries. It might be the case the in some countries human capital characteristics are rewarded less or a particular attachment to industry involves higher wage premiums compared to another country. We then apply bootstrapping to construct confidence intervals for this decomposition and its components.

The remainder of the paper is structured as follows: Section 2 provides some information about the advantages and drawbacks of an analysis employing the European Community Household Panel (ECHP), as well as a description of the subset selected. The third section briefly discusses the methodology used to decompose national gender wage gaps and then moves on to an exposition of summary statistics and estimation results of the wage functions. Thereafter the boostrapped decomposition results are presented. Section 4 provides some concluding remarks.

# 2 The Data

The European Community Household Panel (ECHP) is a standardized longitudinal survey initiated in 1994, including all EU member states at the time (Excluding Austria, Finland and Sweden). The ECHP UDB, version of December 2001 provides comparable information across Member States on income, work and employment, poverty and social exclusion, housing, health and other socio and demographic indicators.

What distinguishes the ECHP from other cross-national data projects, is the harmonization of its methodology from its inception. Peracchi (2000) provides detailed information of the methodology and shortcomings of the ECHP, some of which is summarized here to give a brief overview of the data employed.

The creation of a harmonized questionnaire was conducted under the supervision of the Statistical Office of the European Communities (Eurostat) and involved negotiations between fourteen different countries as well as a number of international organizations. After the creation of a uniform questionnaire the operation is handled by National Data Collection Units (NDU). The units are responsible for sample selection, adaptation of the questionnaire, annual interviewing of a representative panel of households and individuals as well as data processing, editing and initial weighting of the data. The units refer to the National Statistical Institutes in France, the Netherlands and Spain and other public institutions and private organizations in Denmark.

Due to the wide range of countries involved in the project, the NDU's have a certain degree of flexibility in terms of procedures and data collection. Broadly speaking, probability sampling is employed for all national samples. However, sampling frames and procedures vary across countries. In most countries the sampling frame consists of the population register or a master-sample created from the latest population census. Two-stage sampling, with municipalities as the primary sampling unit and households or addresses as secondary sampling units was employed in Spain, whereas simple random sampling is used in Denmark and large cities in the Netherlands. Three-stage sampling is used in parts of France.

The national data is then stored in the so-called Production Data Base (PDB). The PDB is only accessible to the NDU's and Eurostat, due to national and EU statistical laws. However, access to the data can be gained via a contract with Eurostat. The data for "public-use" is anonymised and converted into a user-friendly format. The Users' data base (UDB) is similar to the original data although most variables have been sorted into a manageable and standardized format. Since the harmonization of variables involved a great deal of coordination between Member States and the European Commission, the creation of the UDB took a considerable amount of time. One consequence of this joint work effort for researchers is the lack of detail encountered when inspecting standard covariates. The variation in national anonymisation criteria restrict detail on age, occupation, industry and employment, income, geographical mobility and region of residence. Due to the diversity of national regulations and peculiarities, the detail of the analysis is further burdened. For example, educational characteristics have been collapsed to the three-digit ISCED level and information on occupation and industry has been aggregated to the two and three-digit level (for some countries no comparable information on occupation is available). Additionally, no information on trade union status is available.

Another possible drawback of the ECHP is the approach taken when it comes to item non-response. In the case of income, for example, some individuals might only give net amounts, whereas net and gross amounts are requested. Partial non-response on income is substantial for the self-employed and for wage and salary earnings. As Peracchi (2000) notes, it would be important to investigate whether this partial non-response is missing at random, depending on whether the probability of item nonresponse depends only on exogenous covariates or also upon the value of the variable of interest. It has been found (Biewen, 2001) that in most household surveys the proportion of missing information is positively correlated with increasing income levels. However, this distinction has not been made and from the UDB it is not possible to investigate the matter further as imputation was employed to fill-in values that are missing. It is not possible to identify whether a zero value corresponds to non recipiency or a missing value.

For further details on sample design and selection the reader is refered to *The European Community Household Panel (ECHP): Survey Methodology and Implementation, Volume I* and the ECHP UDB manual DOC.PAN 168/2001-12.

This investigation makes use of the information collected in wave 4, i.e. the survey year 1997[4]. This paper investigates intra-European differences exemplified by Denmark, the Netherlands, France and Spain. The sample has been selected by restricting the inclusion of the dependent variable to individuals who are working with an employer in paid employment.

After several attempts to find a unifying model for the countries selected and due to the fact that the diversity and depth of covariates is restricted from the outset,.the following explanatory variables were chosen:

(i) 1-digit industry classification (Agriculture (reference category), Industry and Services)
(ii) Job status (Supervisory, Intermediate, Non-Supervisory (reference category))
(iii) Education (ISCED5-7: Third level education, ISCED3: Secondary education, ISCED0-2: Less than secondary education (reference category))
(iv) Experience (Mincer proxy: Age minus age individual entered the labour market) and Tenure (Date of interview minus start date of present job)
(v) Marital Status

Furthermore, it should be noted that the achieved sample size varies across countries. This is mainly due to differences in response rates across the European Union. Generally, Southern countries appear to be overrepresented, that is the ratio between the actual adult population and the achieved sample size, is larger than for the remaining countries. To compensate for unequal selection probabilities and response rates, weights were assigned to both households and the individual. Deaton (1997) notes that if we multiply each observation by its "inflation factor", i.e. the weights provided by Eurostat, the total for all households (individuals) is estimated by the sample household (individual) and the sum of these products over all sample households (individuals) is an unbiased estimate of the population total.

[4]For the fourth wave of the ECHP, i.e. 1997, the original ECHP surveys were stopped in three countries, namely Germany, Luxembourg and the United Kingdom. In these countries, existing national panels were then used and comparable data were derived from the German and UK survey. For Luxembourg only the original ECHP datasets are available, converted data will be included in subsequent versions of the ECHP UDB.

# 3 Methodology

## 3.1 Wage function estimates

This investigation into the gender wage gap in selected European Union countries relies on the assumption initially brought forward by Oaxaca and Blinder in 1973, stating that in a non-discriminatory labour market, men and women should face the same prices, observed and unobserved. This premise has been formally adopted by all member states when signing the Treaty of Rome. The treaty includes a clause which binds countries within the Union to a firm commitment to the principle of "equal pay for equal work". Stated in economic terms, the male wage structure or prices, proxied by the male vector of coefficients, can be viewed as an indicator for the overall wage structure in a particular country in which men and women are rewarded equally. By the same token ,the female wage structure could also be used as an index.

In order to identify the gender earnings gap in a particular country, wage functions are estimated by the standard human capital based model developed by Mincer (1974):

$$\ln y_i = \beta x_i' + \varepsilon_i,$$

where $\ln y_i$ is the natural log of hourly gross wages for individual $i$, $\beta$ is a column vector of coefficients, $x_i$ is a vector of characteristics of individual $i$ and $\varepsilon_i \sim (0, \sigma^2)$.

Among an ever increasing choice of covariates, depending on the richness of the underlying survey, explanatory variables included into the above linear wage function range from age, experience, tenure, union membership, health, region, firm size to parent's education and school class size. Recently it has been found that controlling for subject of degree explains a significant part of the male/female gender wage differential amongst graduates (Machin and Puhani, 2002). However, due to the comparative nature of the present study, the diversity of covariates included is farily rudimentary. Another possible drawback of the estimated model lies in the construction of the variable accounting for experience and tenure. Here, experience is proxied as the time spent as an active partcipant in the labour force and tenure as the time spent in the current job. For both men and women. However, these measures have an inherent bias due to the fact that women who bear children have to take out time out of the labour force (usually 14 weeks leave) and in terms of household decisions, still are the ones that take the parental leave. Even in more progressive countries such as Denmark, the proportion of men taking parental leave is still negliable. When inspecting the distribution of hours worked of paid employees (Table 1), the consistently lower amount of time spent at the workplace by women could give an indication of the unequal distribution of hours spent on housework. This hypothesis is reinforced by the fact that in Denmark, a country commited to achieving an intra-household balance between work and family, the discrepancy between the sexes in terms of hours worked is the lowest. Another interesting insight can be obtained when inspecting the age distribution in our sample, namely paid employees, across the selected European Union countries (Table 2). As noted in the Key Indicators of the Labour Market 2001-2002 report of the International Labour Office, since the 1990's women are remaining in the labour force throughout their reproductive years in a way that the pattern of uninterrupted economic activity has come to resemble that of men. In the past a double peak pattern of female labour force participation used to be common. Women entered the labour force in their twenties, left after a few years to bear and raise children and re-entered, but at a lower rate, as the children grew older. However, when inspecting the countries in our subset, significant variations in the rates and patterns of male and female participation in paid employment are evident. Again, Denmark stands out in that the distribution of women in paid employment is relatively stable along the age distribution, whereas for the remaining countries female participation declines over the life-cycle.

Another important, and maybe obvious point, worth noting is that not only do the countries in this analysis differ in their approach towards social policy, but also display a very different underlying structure of their national economies. The Southern countries not only display a higher gender wage gap, but also a different level of economic success. Since decisions concerning labour market involvement are likely to be taken at the household level, it might be argued that because jobs are scarce in southern countries the traditional roles attributed within a family are more likely to persist.

The underlying differences in the structures of the four economies analysed in this paper become visible when inspecting the proportion of observations within different sectors of the economy (Table 4). Whereas 74% of paid employees in Denmark are working in the service sector, only 57% work in this sector in Spain. Denmark is closely followed by the Netherlands with 72% and France with 69%. Most notably, Spain has still a very strong industry sector, with nearly 40% of paid employees employed in this sector. This stands in contrast to the other countries observed. When inspecting the sectors by gender, it becomes obvious that there is a very unequal gender distribution in the industry sector, with men holding the majority of these jobs. The gender distribution within the service sector is more equal for France and the Netherlands, whereas in Spain nearly 80% of women in the sample are employed in the service sector compared to only 45% of men.

The difference in the structure of the labour market and the types of jobs that are available in each country can also be noted when inspecting Table 5 displaying sample means on job status. The non-supervisory category is markeldly higher in Spain than in the other observed countries. Correspondingly, the observed percentage proportion of individuals holding supervisory positions in Spain is half of the proportion observed in the remaining countries. Not surprisingly, women hold a much smaller proportion of supervisory jobs than men in all countries.

In terms of education (Table 3), women on average have higher levels of education than men. The only country which displays a higher proportion of men with completed third level education than women is the Netherlands.

Conditional on the covariates presented, seperate wage function estimates were obtained for men and women in every country (Table 6-9). The variables capturing returns to educational attainment display that highest returns relative to the reference category of primary education are obtained with completed third level education. In all four countries this result is significant at the 1% level. The highest returns to completed third level education can be found in Spain. However, the difference between the values of the coefficients of the education variables between men and women is also noticable in all four countries. The experience variables display the common parabola shape, indicating that rewards to experience are of a non-linear form. Furthermore, the wage equation estimates diplay that in terms of the size and the significance of the repsective coefficients important inter-country differences exist. National peculiarities can be observed when inspecting returns to different sectors of the economies and returns to different levels of job status. For example, whereas in Denmark and France women experience higher returns than men within the service sector, the reverse is true for the Netherlands and Spain. In Spain men receive a substantially higher wage premium relative to the reference category than women. Similarly, returns observed to holding a supervisory job are higher for men than for women in all countries, with the exception of France.

The predicted gender wage gap is 0.10475 log points in Denmark, 0.121912 log points in the Netherlands, 0.13668 log points in France and 0.13535 log points in Spain.

## 3.2 Ordinary Least-Squares Decomposition

The Oaxaca decomposition is employed to disentangle the national gender wage gaps into an explained component and an unexplained component. Where the former refers to the gap due to differences in mean endowment between men and women and the latter to differences in returns to the mean characteristics, i.e. the difference in the coefficients. The wage function presented in the previous section was estimated sepertately for men and women:

$$\overline{\ln y_m} = \widehat{\beta}_m \overline{x}_m$$

$$\overline{\ln y_f} = \widehat{\beta}_f \overline{x}_f$$

where the subscripts $m$ and $f$ refer to male and female observations. As already stated earlier, the Oaxaca decomposition hinges on the premise that mean coviariates are rewarded equally for both groups. So in absence of unexplained differences, the female wage equation could be expressed as:

$$\overline{\ln y_F} = \widehat{\beta}_m \overline{x}_f$$

Henceforth, the national earnings differential can be decomposed into:

$$\overline{\ln y_m} - \overline{\ln y_f} = (\overline{\ln y_m} - \overline{\ln y_F}) + (\overline{\ln y_F} - \overline{\ln y_f})$$

After rearranging the terms presented above, the well-known Oaxaca/Blinder decomposition is revealed:

$$\overline{\ln y_m} - \overline{\ln y_f} = \widehat{\beta}_m(\overline{x}_m - \overline{x}_f) + \overline{x}_f(\widehat{\beta}_m - \widehat{\beta}_f),$$

where the first term captures gender differences in mean covariates and the second term accounts for differences in the coefficients or rewards to these mean covariates. The results of the decompositions for each country are displayed in Tables 10-13. Furthermore, the two terms steming from the Oaxaca decomposition have been further disaggregated in order to shed light on the magnitude of different components making up the gap. The terms have been disaggregated into components capturing the contribution of human capital, industry, job status and marital status.

### 3.3 Bootstrap Re-Sampling of the Wage Gap Decomposition

To obtain a measure of statistical inference for the gender wage gap, bootstrapping is applied. Bootstrapping is a computer-based method of statistical inference, based on the drawing of many independent random observations with replacement from the dataset. From these random samples, the bootstrap standard error as well as confidence intervals of the gender wage gaps are estimated by their empirical counterparts (Efron and Tibshirani, 1993). More specifically, from the selected subset of paid employees in four countries, N observations were randomly drawn with replacement. Since the observations which were drawn are replaced, some observations may appear twice, some once and others never. For each replication, N male observations and N female observations were drawn in order to compute the two components of the Oaxaca decomposition. To produce good estimates 1000 bootstrap runs were employed.

The methodology employed follows the approach taken by Mills and Zandvakili (1997) who boostrapped decomposable measures of inequality. For the present analysis, the statistic of interest is the gender wage gap,

$$\theta = \overline{\ln y_m} - \overline{\ln y_m},$$

where $\overline{\ln y_m}$ is the predicted average male wage and $\overline{\ln y_f}$ is the predicted average female wage. The distribution of $\theta$ can be bootstrapped in the same way than the distribution of $\overline{\ln y_m}$ and $\overline{\ln y_f}$. Tail probabilities can be calculated from the boostrap distribution $F(\theta)$. Thereafter confidence intervals can be constructed by making use of the obtained values of $\theta$. Exploiting the relationship between confidence intervals and hypothesis tests then enables the performance of the hypothesis of $\theta = 0$. This hypothesis test involves the comparison of means of two distinct distributions with respective unequal variances. The same rational was employed to boostrap the components of the Oaxaca decomposition, namely the explained and unexplained component and their further disaggregation. Figure 1 exposes the procedure schematically.

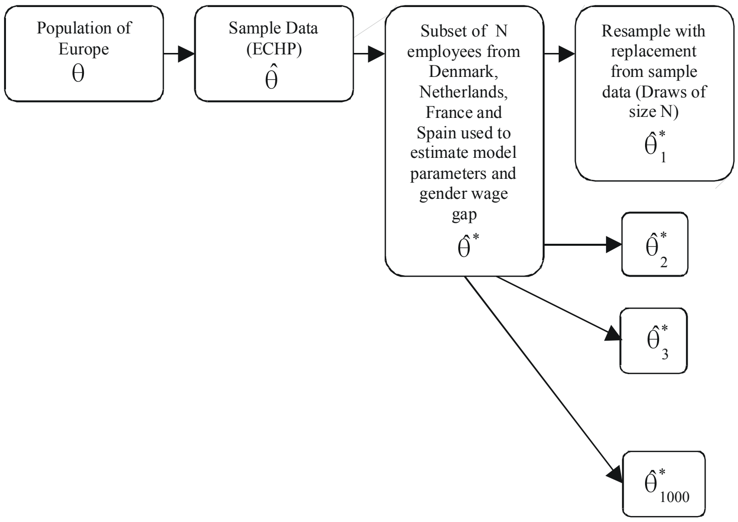


Figure 1: Bootstrap Re-Sampling of the Gender Wage Gap

No assumptions have been made concerning the distribution of the components. Stata 7 reports three alternative methods for calculating boostrap intervals. The "percentile method" takes the tail probabilities or the lower and upper bound directly from the percentiles of the boostrap distribution. The 0.025 and 0.975 percentiles form the lower and upper bound for the 0.95 bootstrap percentile interval of the boostrap gender wage gap. Alternatively, confidence intervals can be calculated by the "standard-normal method" using the boostrap standard errors, relying on the standard Normal tables for the significance point. This however involves implicit assumptions, like symmetry of the distribution for example, not necessary when using the "percentile method". If the bootstrap distribution of the gender wage gap is roughly normal, then the standard normal and percentile intervals will nearly agree. If there are large discrepancies between the standard normal and the percentile intervals, the percentile interval is to be prefered to the standard interval (Efron and Tibshirani, 1993). Although the average of the bootstrapped statistic is used in the calculation of the standard deviation, it is not used as the estimated value of the statistic itself. The point estimate of the earnings gap is the original observed statistic, i.e. the value of the statistic computed using the original N observations. The bias of the statistic can be calculated by subtracting the observed point estimate from the average bootstrap statistic. Subtracting the bias from the average boostrap statistic represents the "bias-corrected method".

If the statistic is unbiased, then the percentile and bias-corrected methods should give similar results. For biased statistics, the bias-corrected method should yield confidence intervals with better coverage probability (i.e. closer to the nominal value of 95%) than the percentile method. When the bootstrap distribution is approximately normal, all three methods should give similar confidence intervals.

### 3.4 Decomposition Results

The empirical boostrap distributions of the gender wage gaps of Denmark, the Netherlands, France and Spain are shown in Figure 2 below. Although the means of the respective gender wage gaps lie very close together, it can be observed that the distributions do not have equal variance. The bootstrap distribution of the Spanish gender wage gap is markedly wider than the Danish boostrap distribution. Remarkably, in all four countries under consideration the percentile, standard Normal and bias corrected bootstrap intervals roughly agree, suggesting that the bootstrapped gender wage gaps follow a Normal distribution. The boostrap Oaxaca decomposition and its disaggregation provides further evidence about differences between the determinants of the national gender earnings gaps.

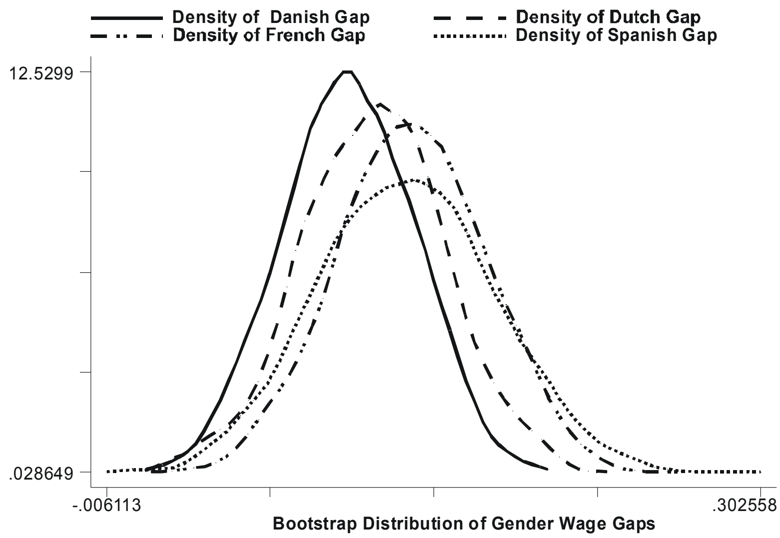


Figure 2: Empirical Boostrap Distributions of the Gender Wage Gap

The Danish gender wage gap is mainly driven by the gap due to differences in the coefficients, i.e. the unexplained component. This component makes up

95% of the Danish gender wage gap. Although the disaggregation into different components of the unexplained part of the Oaxaca decomposition reveals that returns to human capital characteristics are mainly responsible for the size of the gap, the bootstrap confidence interval does not allow us to reject the null hypothesis of $H_0 : (\widehat{\beta}^m_{HC} - \widehat{\beta}^f_{HC})\overline{X}^f_{HC} = 0$, since the null hypothesis is still plausible. However, we can safely reject $H_0 : (\widehat{\beta}^m - \widehat{\beta}^f)\overline{X}^f = 0$, i.e. the overall gap between male and female coefficients is significant at the 95% level.

In the Netherlands the reverse scenario can be observed. The significant explained component, i.e. the gap between male and female wages that is due to differences in labor market characteristics, is the main cause of the gap. The overall gender wage gap in the Netherlands is 0.1219 log points and the explained component amounts to 0.1091 log points. Furthermore it should be noted that the disaggregation suggests that roughly 60% of the gap in the explained component is driven by human capital characteristics. These include education, experience and tenure. Job status and marital status also play a significant role in determining the pay differential. The French gender wage gap has an overwhelming gender wage gap in coefficients. The unexplained term accounts for 0.1522 log points, whereas the overall gap is only 0.1367 log points. The comparative favorable human capital characteristics of french women are mainly responsible for deflating the size of the gap. However, none of the disaggregation components appear to be individually significant suggesting that no conclusion about the underlying factors of the gap can be drawn as observed returns to covariates may be explained solely by random variation due to small sample size. Although explained differences in industry and job status play a significant role in widening the Spanish gender wage gap, a decomposition result similar to France emerges. The unexplained component is significant and makes up approximately 85% of the overall gender wage gap of 0.1354 log points. Relying on the "percentile method" to provide us with a probability interval, the returns to human capital are revealed to significantly counteract the gender wage gap in unexplained factors This suggests that women in Spain with comparable human capital characteristics to men experience higher rewards in terms of hourly wages.

In order to further shed light onto cross-national differences, the Oaxaca decomposition is employed to decompose the earnings differential between women in the four countries. France was selected as the basis of comparison as it has the greatest gender wage gap in our observed sample. Table 14 displays the decomposition of the wage gap between Danish and French women. Not surprisingly, the gap due to differences in coefficients accounts for almost the entire gap. Although French women seem to have a favorable position in terms of job status, Danish women seem to experience more favorable labour market conditions overall. The difference in constant terms is striking, indicating that the model selected is not able to explain the difference in the earnings gap between French and Danish women. That is, after controlling for human capital and other labour market characteristics, the gap is still of significant size.

When comparing French women to Dutch women via the Oaxaca decomposition, a similar result is reached. The significant earnings differential cannot be explained well by the model parameters.

However, it should be noted that French women seem to outdo Dutch women in terms of labour market characteristics, particular human capital characteristics. The predicted wages of Spanish women on the other hand are lower than the predicted hourly wages of French women. A more interesting picture emerges here, because the model is able to give some evidence about the underlying causes of this gap. The explained component, i.e. the gap due to differences in endowments, is positive and significant and accounts for nearly half the gap in earnings. Again, human capital plays an important role. However, it seems as if although french women have more favorable labour market characteristics, Spanish women receive higher rewards for human capital.

So what happens if we include the average Danish woman, who possesses the most beneficial characteristics in our analysis, into the Spanish labor market? Assuming that the average Danish women is rewarded according to the same wage structure than Spanish men, the hypothetical female wage can be written as:

$$\overline{\ln y_F} = \widehat{\beta}_m^S \overline{x}_f^D$$

where S stands for Spain and D for Denmark. After some rearranging the gender wage gap can then be decomposed into:

$$\widehat{\beta}_m^S(\overline{x}_m^S - \overline{x}_f^D) + \overline{x}_f^D(\widehat{\beta}_m^S - \widehat{\beta}_f^D),$$

Table 17 shows the results of this decomposition. Interestingly, the disaggregation of the explained and unexplained components reveals that the majority of components accounting for the differences in mean characteristics are negative, hence the favorable characteristics of Danish women act to reduce this hypothetical gender wage gap. The difference in human capital endowments between Danish women and Spanish men is particularly striking as well as significant at the 5% level. On the other hand, ignoring the difference in constant terms, the disaggregation components measuring the differences in rewards to characteristics are all positive. Thus widening the gender earnings gap in favour of Spanish men. However, it should be noted that the difference in constant terms is very large and significant, which is hardly surprising when comparing apples with pears.

# 4 Summary and Conclusion

Using the ECHP, bootstrap estimates of standard errors and probability intervals were calculated for the gender wage gap of paid employees in Denmark, the Netherlands, France and Spain. For all countries under consideration, the earnings differential between men and women is found to be significant at the 5% level. Conditional on the model parameters, Danish men earn on average approximately 10% more than Danish women. This gender differential in predicted hourly wages amounts to around 12% in the Netherlands and 14% in France and Spain. The empirical boostrap distribution allows us to gauge at the otherwise unknown distribution of the gender earnings differential. When plotting the empirical boostrap distributions of the national gender wage gaps it becomes visible that although the mean gaps lie very close together, the variance of the gaps does not coincide. Spain is shown to have the widest gender earnings gap, whereas Denmark displays a narrow gender wage gap. Furthermore, the decomposition of the national gender wage gaps by means of the Oaxaca and Blinder methodology reveals that there exist substantial differences in the underlying causes of this persistent Europe-wide differential. With exception of the Netherlands, the earnings gap between the sexes is mainly driven by the unexplained component. The main point revealing itself through the disaggregation is that human capital plays an important role in determining the male-female earnings differential. The boostrap was also used to perform hypothesis tests regarding the statistical significance of the disaggregated components of the decomposition. The strongest result in terms of statistical significance is found for the Netherlands and Spain, where in the former the explained difference in human capital characteristics reveals that the comparatively higher endowment of men explains 53% of the observed gap, and in the latter case, i.e. in Spain, women receive an hourly wage premium of roughly 25% in terms of returns to human capital. For the remaining two countries no conclusions about the importance of human capital can be drawn from the boostrapped disaggregation as the observed variations between gender are not statistically significant and could therefore be explained by random variance in our relatively small subset. However when performing the Oaxaca-Blinder decomposition between Spanish and French women and for Danish women and Spanish men, it becomes clear that human capital characteristics are valued differently than in the other three countries observed.

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| | Denmark | Netherlands | France | Spain |
|---|---|---|---|---|
| Total | 37.90 | 36.64 | 38.90 | 41.24 |
| | (8.28) | (10.15) | (9.88) | (9.84) |
| Men | 40.38 | 40.83 | 41.77 | 43.22 |
| | (8.25) | (8.33) | (9.25) | (9.39) |
| Women | 35.15 | 30.482 | 35.39 | 37.54 |
| | (7.41) | (9.43) | (9.49) | (9.60) |

Table 1: Distribution of working hours of paid employees. Notes: (i) Standard deviations in parenthesis (ii) Source: ECHP

| | Denmark | Netherlands | France | Spain |
|---|---|---|---|---|
| Men | | | | |
| 16-24 | 8.34 | 5.15 | 6.94 | 12.01 |
| | (53.14) | (44.52) | (52.83) | (61.76) |
| 25-39 | 42.76 | 43.68 | 44.21 | 44.96 |
| | (53.26) | (55.93) | (55.22) | (62.59) |
| 40-54 | 38.82 | 43.84 | 42.76 | 33.61 |
| | (50.84) | (64.32) | (55.14) | (67.34) |
| 55-64 | 10.08 | 7.33 | 6.09 | 9.42 |
| | (56.36) | (71.40) | (56.77) | (77.36) |
| Women | | | | |
| 16-24 | 8.15 | 9.42 | 7.61 | 13.93 |
| | (46.86) | (55.48) | (47.17) | (38.24) |
| 25-39 | 41.60 | 50.55 | 44.00 | 50.36 |
| | (46.74) | (44.07) | (44.78) | (37.41) |
| 40-54 | 41.60 | 35.72 | 42.70 | 30.54 |
| | (49.16) | (35.68) | (44.86) | (32.66) |
| 55-64 | 8.66 | 4.30 | 5.70 | 5.17 |
| | (43.64) | (28.60) | (43.23) | (22.64) |

Table 2: Age distribution of paid employees. Notes: (i) Percentage distribution of men and women in each group in parenthesis(ii) Source: ECHP

| | | *ISCED 0-2* | *ISCED 3* | *ISCED 5-7* |
|---|---|---|---|---|
| Denmark | Total | 0.1834 | 0.4354 | 0.3812 |
| | Men | 0.2062 | 0.4322 | 0.3616 |
| | Women | 0.1538 | 0.4396 | 0.4066 |
| Netherlands | Total | 0.2497 | 0.5006 | 0.2497 |
| | Men | 0.2284 | 0.5198 | 0.2518 |
| | Women | 0.2875 | 0.4665 | 0.2460 |
| France | Total | 0.2247 | 0.4355 | 0.3398 |
| | Men | 0.2345 | 0.4506 | 0.3149 |
| | Women | 0.2098 | 0.4126 | 0.3776 |
| Spain | Total | 0.4611 | 0.2678 | 0.2711 |
| | Men | 0.5105 | 0.2526 | 0.2369 |
| | Women | 0.3735 | 0.2947 | 0.3318 |

Table 3: Highest level of education (sample means). Notes: (i) ISCED 5-7 stands for recognized third level education, ISCED 3 for second stage of secondary level education and ISCED 0-2 for less than second stage of secondary education. In order to facilitate cross-country comparison, the national education levels where classified according to the International Standard Classification of Education (ISCED). It should be noted that the variation in education and training systems between member countries is still very visible. The ISCED classification is very crude and hides many of the differences between schooling and training programs, which are important, if comparison of returns to education between member states is to be meaningful. (ii) Source: ECHP

| | | *Agriculture* | *Industry* | *Services* |
|---|---|---|---|---|
| Denmark | Total | 0.0255 | 0.2313 | 0.7432 |
| | Men | 0.0395 | 0.3192 | 0.6412 |
| | Women | 0.0073 | 0.1172 | 0.8755 |
| Netherlands | Total | 0.0219 | 0.2543 | 0.7238 |
| | Men | 0.0234 | 0.3129 | 0.6637 |
| | Women | 0.0192 | 0.1502 | 0.8307 |
| France | Total | 0.0180 | 0.2913 | 0.6907 |
| | Men | 0.0207 | 0.3379 | 0.6414 |
| | Women | 0.0139 | 0.2203 | 0.7657 |
| Spain | Total | 0.0318 | 0.3967 | 0.5715 |
| | Men | 0.0366 | 0.5183 | 0.4450 |
| | Women | 0.0232 | 0.1810 | 0.7958 |

Table 4: Industry (sample means)

| | | *Supervisory* | *Intermediate* | *Non-Supervisory* |
|---|---|---|---|---|
| Denmark | Total | 0.1244 | 0.1563 | 0.7193 |
| | Men | 0.1469 | 0.1356 | 0.7175 |
| | Women | 0.0952 | 0.1832 | 0.7216 |
| Netherlands | Total | 0.1174 | 0.1415 | 0.7411 |
| | Men | 0.1403 | 0.1493 | 0.7104 |
| | Women | 0.0767 | 0.1278 | 0.7955 |
| France | Total | 0.1165 | 0.1845 | 0.6990 |
| | Men | 0.1264 | 0.2138 | 0.6598 |
| | Women | 0.1014 | 0.1399 | 0.7587 |
| Spain | Total | 0.0527 | 0.1188 | 0.8285 |
| | Men | 0.0615 | 0.1257 | 0.8128 |
| | Women | 0.0371 | 0.1067 | 0.8561 |

Table 5: Job status (sample means)

| | *Men* | *Women* |
|---|---|---|
| ISCED 5-7 | 0.3571 | 0.2779 |
| | (0.0763)*** | (0.0438)*** |
| ISCED 3 | 0.0438 | 0.1493 |
| | (0.0646) | (0.0438)*** |
| Experience | 0.0197 | 0.0087 |
| | (0.0096)** | (0.0083) |
| Experience squared | -0.0003 | -0.0001 |
| | (0.0003) | (0.0002) |
| Tenure | -0.0548 | -0.0522 |
| | (0.0694) | (0.0482) |
| Tenure squared | 0.0138 | 0.0178 |
| | (0.0142) | (0.0102)* |
| Married/Cohabiting | 0.0744 | -0.0052 |
| | (0.0545) | (0.0378) |
| Industry | 0.2447 | 0.2380 |
| | (0.0902)*** | (0.0532)*** |
| Services | 0.1477 | 0.1771 |
| | (0.0912) | (0.0481)*** |
| Supervisory | 0.1675 | 0.0786 |
| | (0.0801)** | (0.0503) |
| Intermediate | 0.0251 | -0.0097 |
| | (0.0511) | (0.0384) |
| Constant | 1.9684 | 1.9718 |
| | (0.1277)*** | (0.0728)*** |
| Observations | 354 | 273 |
| R-squared | 0.38 | 0.31 |
| Predicted | 2.5292 | 2.4244 |
| (s.d.) | (0.2390) | (0.1336) |

Notes:
(i) ISCED 0-2 is the reference group for education, agriculture is the reference group for industry and non-supervisory is the reference group for status.
(ii) * significant at 10%; ** significant at 5%; *** significant at 1%
(iii) Robust standard errors in parentheses

Table 6: Wage function estimates 1997: Denmark.

| | *Men* | *Women* |
|---|---|---|
| ISCED 5-7 | 0.4236 | 0.3936 |
| | (0.0582)*** | (0.0656)*** |
| ISCED 3 | 0.1113 | 0.1904 |
| | (0.0526)** | (0.0529)*** |
| Experience | 0.0209 | 0.0230 |
| | (0.0082)** | (0.0068)*** |
| Experience squared | -0.0002 | -0.0005 |
| | (0.0003) | (0.0002)** |
| Tenure | 0.1123 | 0.2273 |
| | (0.0507)** | (0.0581)*** |
| Tenure squared | -0.0267 | -0.0435 |
| | (0.0124)** | (0.0124)*** |
| Married/Cohabiting | 0.1462 | 0.0360 |
| | (0.0325)*** | (0.0532) |
| Industry | 0.0859 | 0.0599 |
| | (0.0795) | (0.0900) |
| Services | 0.1168 | 0.1062 |
| | (0.0833) | (0.0583)* |
| Supervisory | 0.2149 | 0.1532 |
| | (0.0587)*** | (0.0726)** |
| Intermediate | 0.0198 | 0.0314 |
| | (0.0498) | (0.0654) |
| Constant | 1.8380 | 1.7520 |
| | (0.1052)*** | (0.0815)*** |
| Observations | 556 | 313 |
| R-squared | 0.38 | 0.34 |
| Predicted | 2.5002 | 2.3783 |
| (s.d.) | (0.2929) | (0.2372) |

Notes:
(i) ISCED 0-2 is the reference group for education, Agriculture is the reference group for industry and Non-Supervisory is the reference group for status.
(ii) * significant at 10%; ** significant at 5%; *** significant at 1%
(iii) Robust standard errors in parentheses

Table 7: Wage function estimates 1997: Netherlands.

| | *Men* | *Women* |
|---|---|---|
| ISCED 5-7 | 0.4471 | 0.5185 |
| | (0.0619)*** | (0.0783)*** |
| ISCED 3 | 0.1315 | 0.1414 |
| | (0.0452)*** | (0.0661)** |
| Experience | 0.0104 | 0.0067 |
| | (0.0070) | (0.0104) |
| Experience squared | -0.0001 | -0.0001 |
| | (0.0002) | (0.0003) |
| Tenure | 0.0398 | 0.0725 |
| | (0.0528) | (0.0774) |
| Tenure squared | -0.0032 | -0.0041 |
| | (0.0111) | (0.0152) |
| Married/Cohabiting | 0.0575 | 0.0031 |
| | (0.0451) | (0.0487) |
| Industry | 0.2239 | 0.3499 |
| | (0.1152)* | (0.2423) |
| Services | 0.1831 | 0.3416 |
| | (0.1134) | (0.2410) |
| Supervisory | 0.1656 | 0.2610 |
| | (0.0766)** | (0.0704)*** |
| Intermediate | 0.0645 | 0.1208 |
| | (0.0533) | (0.0752) |
| Constant | 1.3030 | 1.0293 |
| | (0.1235)*** | (0.2434)*** |
| Observations | 435 | 286 |
| R-squared | 0.31 | 0.39 |
| Predicted | 2.0118 | 1.8751 |
| (s.d.) | (0.2512) | (0.2632) |

Notes:
(i) ISCED 0-2 is the reference group for education, Agriculture is the reference group for industry and Non-Supervisory is the reference group for status.
(ii) * significant at 10%; ** significant at 5%; *** significant at 1%
(iii) Robust standard errors in parentheses

Table 8: Wage function estimates 1997: France.

| | *Men* | *Women* |
|---|---|---|
| ISCED 5-7 | 0.5004 | 0.6771 |
| | (0.0551)*** | (0.0802)*** |
| ISCED 3 | 0.2459 | 0.4129 |
| | (0.0585)*** | (0.0733)*** |
| Experience | 0.0140 | 0.0215 |
| | (0.0096) | (0.0126)* |
| Experience squared | -0.0001 | -0.0002 |
| | (0.0002) | (0.0004) |
| Tenure | 0.0101 | 0.1113 |
| | (0.0623) | (0.0601)* |
| Tenure squared | -0.0067 | -0.0097 |
| | (0.0147) | (0.0141) |
| Married/Cohabiting | 0.0015 | 0.0604 |
| | (0.0510) | (0.0541) |
| Industry | 0.3214 | 0.0195 |
| | (0.0798)*** | (0.1459) |
| Services | 0.2014 | 0.0790 |
| | (0.0831)** | (0.1412) |
| Supervisory | 0.5376 | 0.0091 |
| | (0.0930)*** | (0.1316) |
| Intermediate | 0.1472 | 0.1869 |
| | (0.0551)*** | (0.0807)** |
| Constant | 1.1168 | 0.9019 |
| | (0.1013)*** | (0.1630)*** |
| Observations | 764 | 431 |
| R-squared | 0.38 | 0.40 |
| Predicted | 1.7588 | 1.6235 |
| (s.d.) | (0.3034) | (0.3503) |

Notes:
(i) ISCED 0-2 is the reference group for education, Agriculture is the reference group for industry and Non-Supervisory is the reference group for status.
(ii) * significant at 10%; ** significant at 5%; *** significant at 1%
(iii) Robust standard errors in parentheses

Table 9: Wage function estimates 1997: Spain.

| | *Observed* | *Bias* | *Standard Error* | *95% Confidence Interval* | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: $(\bar{X}^m - \bar{X}^f)\hat{\beta}^m$ | 0.00508 | 0.00028 | 0.02409 | -0.04219 | 0.05235 (N) |
| | | | | -0.03756 | 0.05525 (P) |
| | | | | -0.03456 | 0.05683 (BC) |
| Disaggregation into components: | | | | | |
| $(\bar{X}^m_{HC} - \bar{X}^f_{HC})\hat{\beta}^m_{HC}$ | -0.01322 | 0.00085 | 0.01786 | -0.04828 | 0.0218 (N) |
| | | | | -0.04815 | 0.02211 (P) |
| | | | | -0.04959 | 0.02011 (BC) |
| $(\bar{X}^m_{IND} - \bar{X}^f_{IND})\hat{\beta}^m_{IND}$ | 0.01483 | -0.00019 | 0.01297 | -0.01061 | 0.04028 (N) |
| | | | | -0.00834 | 0.04136 (P) |
| | | | | -0.00779 | 0.04309 (BC) |
| $(\bar{X}^m_{STA} - \bar{X}^f_{STA})\hat{\beta}^m_{STA}$ | 0.00746 | -0.00012 | 0.00670 | -0.00569 | 0.02061 ( N) |
| | | | | -0.00409 | 0.02252 (P) |
| | | | | -0.00230 | 0.02551 (BC) |
| $(\bar{X}^m_{MAR} - \bar{X}^f_{MAR})\hat{\beta}^m_{MAR}$ | -0.00399 | -0.00026 | 0.00499 | -0.01379 | 0.00581 (N) |
| | | | | -0.01651 | 0.00306 (P) |
| | | | | -0.01976 | 0.00195 (BC) |
| Gap due to differences in coefficients: $(\hat{\beta}^m - \hat{\beta}^f)\bar{X}^f$ | 0.09967 | 0.00279 | 0.03245 | 0.03601 | 0.16334 (N) |
| | | | | 0.03743 | 0.16545 (P) |
| | | | | 0.03249 | 0.16356 (BC) |
| Disaggregation into components: | | | | | |
| $(\hat{\beta}^m_{HC} - \hat{\beta}^f_{HC})\bar{X}^f_{HC}$ | 0.07583 | -0.00639 | 0.14633 | -0.21131 | 0.36297 (N) |
| | | | | -0.20742 | 0.35232 (P) |
| | | | | -0.20366 | 0.35809 (BC) |
| $(\hat{\beta}^m_{IND} - \hat{\beta}^f_{IND})\bar{X}^f_{IND}$ | -0.02496 | 0.01623 | 0.13269 | -0.28535 | 0.23542 (N) |
| | | | | -0.27758 | 0.26593 (P) |
| | | | | -0.30011 | 0.24621 (BC) |
| $(\hat{\beta}^m_{STA} - \hat{\beta}^f_{STA})\bar{X}^f_{STA}$ | 0.01484 | 0.00128 | 0.01737 | -0.01925 | 0.04892 (N) |
| | | | | -0.01637 | 0.05215 (P) |
| | | | | -0.01726 | 0.04987 (BC) |
| $(\hat{\beta}^m_{MAR} - \hat{\beta}^f_{MAR})\bar{X}^f_{MAR}$ | 0.03734 | 0.0036 | 0.03289 | -0.02721 | 0.10189 (N) |
| | | | | -0.02416 | 0.10502 (P) |
| | | | | -0.03119 | 0.09734 (BC) |
| $(\hat{\beta}^m_{CON} - \hat{\beta}^f_{CON})\bar{X}^f_{CON}$ | -0.00337 | -0.01193 | 0.17004 | -0.33705 | 0.33031 (N) |
| | | | | -0.36887 | 0.31708 (P) |
| | | | | -0.32252 | 0.33837 (BC) |
| Predicted overall gap: $\ln \bar{W}^m - \ln \bar{W}^f$ | 0.10475 | 0.00308 | 0.03079 | 0.04432 | 0.16518 (N) |
| | | | | 0.04783 | 0.16658 (P) |
| | | | | 0.04345 | 0.16141 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 10: Bootstrapped Male-Female Oaxaca Decomposition 1997: Denmark.

| | Observed | Bias | Standard Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: $(\bar{X}^m - \bar{X}^f)\hat{\beta}^m$ | 0.10908 | -0.00065 | 0.02399 | 0.06199 | 0.15618 (N) |
| | | | | 0.06342 | 0.15356 (P) |
| | | | | 0.06758 | 0.15645 (BC) |
| Disaggregation into components: $(\bar{X}^m_{HC} - \bar{X}^f_{HC})\hat{\beta}^m_{HC}$ | 0.06479 | -0.0006 | 0.01935 | 0.02682 | 0.10275 (N) |
| | | | | 0.02489 | 0.10618 (P) |
| | | | | 0.02876 | 0.10916 (BC) |
| $(\bar{X}^m_{IND} - \bar{X}^f_{IND})\hat{\beta}^m_{IND}$ | -0.00553 | -0.00003 | 0.00638 | -0.01804 | 0.00699 (N) |
| | | | | -0.01775 | 0.00665 (P) |
| | | | | -0.01716 | 0.00704 (BC) |
| $(\bar{X}^m_{STA} - \bar{X}^f_{STA})\hat{\beta}^m_{STA}$ | 0.01409 | -0.00016 | 0.00600 | 0.00232 | 0.02587 (N) |
| | | | | 0.00337 | 0.02807 (P) |
| | | | | 0.00448 | 0.02971 (BC) |
| $(\bar{X}^m_{MAR} - \bar{X}^f_{MAR})\hat{\beta}^m_{MAR}$ | 0.03573 | 0.00015 | 0.00983 | 0.01643 | 0.05502 (N) |
| | | | | 0.01791 | 0.05613 (P) |
| | | | | 0.01848 | 0.05713 (BC) |
| Gap due to differences in coefficients: $(\hat{\beta}^m - \hat{\beta}^f)\bar{X}^f$ | 0.01283 | -0.00156 | 0.03487 | -0.05559 | 0.08125 (N) |
| | | | | -0.05913 | 0.08002 (P) |
| | | | | -0.05841 | 0.08067 (BC) |
| Disaggregation into components: $(\hat{\beta}^m_{HC} - \hat{\beta}^f_{HC})\bar{X}^f_{HC}$ | 0.12047 | 0.00279 | 0.10575 | -0.32799 | 0.08705 (N) |
| | | | | -0.31136 | 0.10662 (P) |
| | | | | -0.31047 | 0.10699 (BC) |
| $(\hat{\beta}^m_{IND} - \hat{\beta}^f_{IND})\bar{X}^f_{IND}$ | 0.01268 | 0.00142 | 0.11559 | -0.21415 | 0.23952 (N) |
| | | | | -0.20721 | 0.26286 (P) |
| | | | | -0.20645 | 0.26612 (BC) |
| $(\hat{\beta}^m_{STA} - \hat{\beta}^f_{STA})\bar{X}^f_{STA}$ | 0.00326 | -0.00087 | 0.01495 | -0.02609 | 0.03261 (N) |
| | | | | -0.02590 | 0.03108 (P) |
| | | | | -0.02319 | 0.03356 (BC) |
| $(\hat{\beta}^m_{MAR} - \hat{\beta}^f_{MAR})\bar{X}^f_{MAR}$ | 0.03133 | -0.00031 | 0.01751 | -0.00303 | 0.06569 (N) |
| | | | | -0.00512 | 0.06362 (P) |
| | | | | -0.00415 | 0.06416 (BC) |
| $(\hat{\beta}^m_{CON} - \hat{\beta}^f_{CON})\bar{X}^f_{CON}$ | 0.08602 | -0.00460 | 0.14636 | -0.20119 | 0.37323 (N) |
| | | | | -0.21224 | 0.35716 (P) |
| | | | | -0.20704 | 0.35857 (BC) |
| Predicted overall gap: $\ln \bar{W}^m - \ln \bar{W}^f$ | 0.12191 | -0.00221 | 0.03370 | 0.05578 | 0.18804 (N) |
| | | | | 0.04939 | 0.18733 (P) |
| | | | | 0.05139 | 0.19034 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 11: Bootstrapped Male-Female Oaxaca Decomposition 1997: Netherlands.

| | Observed | Bias | Standard Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: | | | | | |
| $(\bar{X}^m - \bar{X}^f)\hat{\beta}^m$ | -0.01549 | -0.00022 | 0.02049 | -0.05571 | 0.02472 (N) |
| | | | | -0.05747 | 0.02452 (P) |
| | | | | -0.05694 | 0.02425 (BC) |
| Disaggregation into components: | | | | | |
| $(\bar{X}^m_{HC} - \bar{X}^f_{HC})\hat{\beta}^m_{HC}$ | -0.02968 | 0.00026 | 0.01666 | -0.06237 | 0.00301 (N) |
| | | | | -0.06411 | 0.00288 (P) |
| | | | | -0.06582 | 0.00121 (BC) |
| $(\bar{X}^m_{IND} - \bar{X}^f_{IND})\hat{\beta}^m_{IND}$ | 0.00357 | -0.00036 | 0.00583 | -0.00787 | 0.01501 (N) |
| | | | | -0.00798 | 0.01518 (P) |
| | | | | -0.00664 | 0.01664 (BC) |
| $(\bar{X}^m_{STA} - \bar{X}^f_{STA})\hat{\beta}^m_{STA}$ | 0.00892 | -0.00006 | 0.00665 | -0.00413 | 0.02196 (N) |
| | | | | -0.00350 | 0.02314 (P) |
| | | | | -0.00242 | 0.02422 (BC) |
| $(\bar{X}^m_{MAR} - \bar{X}^f_{MAR})\hat{\beta}^m_{MAR}$ | 0.00169 | -0.00006 | 0.00334 | -0.00486 | 0.00825 (N) |
| | | | | -0.00459 | 0.00976 (P) |
| | | | | -0.00203 | 0.01174 (BC) |
| Gap due to differences in coefficients: | | | | | |
| $(\beta^m - \beta^f)\bar{X}^f$ | 0.15217 | 0.00123 | 0.03277 | 0.08786 | 0.21648 (N) |
| | | | | 0.09223 | 0.22207 (P) |
| | | | | 0.09045 | 0.21665 (BC) |
| Disaggregation into components: | | | | | |
| $(\hat{\beta}^m_{HC} - \hat{\beta}^f_{HC})\bar{X}^f_{HC}$ | 0.02088 | -0.00172 | 0.12719 | -0.22871 | 0.27048 (N) |
| | | | | -0.23689 | 0.28189 (P) |
| | | | | -0.23031 | 0.29048 (BC) |
| $(\hat{\beta}^m_{IND} - \hat{\beta}^f_{IND})\bar{X}^f_{IND}$ | -0.14907 | 0.01146 | 0.34205 | -0.82029 | 0.52216 (N) |
| | | | | -1.00714 | 0.41966 (P) |
| | | | | -1.15383 | 0.36659 (BC) |
| $(\hat{\beta}^m_{STA} - \hat{\beta}^f_{STA})\bar{X}^f_{STA}$ | -0.01755 | -0.00123 | 0.01864 | -0.05412 | 0.01902 (N) |
| | | | | -0.05650 | 0.01945 (P) |
| | | | | -0.05472 | 0.02142 (BC) |
| $(\hat{\beta}^m_{MAR} - \hat{\beta}^f_{MAR})\bar{X}^f_{MAR}$ | 0.02418 | 0.00072 | 0.03064 | -0.03596 | 0.08431 ( N) |
| | | | | -0.03325 | 0.08859 (P) |
| | | | | -0.03239 | 0.08962 (BC) |
| $(\hat{\beta}^m_{CON} - \hat{\beta}^f_{CON})\bar{X}^f_{CON}$ | 0.27373 | -0.00800 | 0.35716 | -0.42714 | 0.97459 (N) |
| | | | | -0.30299 | 1.13684 (P) |
| | | | | -0.23907 | 1.44063 (BC) |
| Predicted overall gap: $\ln \bar{W}^m - \ln \bar{W}^f$ | 0.13668 | 0.00101 | 0.03497 | 0.06805 | 0.20530 (N) |
| | | | | 0.06885 | 0.20523 (P) |
| | | | | 0.06723 | 0.20203 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 12: Bootstrapped Male-Female Oaxaca Decomposition 1997: France.

| | Observed | Bias | Standard Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: $(\bar{X}^m - \bar{X}^f)\hat{\beta}^m$ | 0.02009 | 0.00137 | 0.02435 | -0.02770 | 0.06788 (N) |
| | | | | -0.02415 | 0.06713 (P) |
| | | | | -0.02476 | 0.06667 (BC) |
| Disaggregation into components: | | | | | |
| $(\bar{X}^m_{HC} - \bar{X}^f_{HC})\hat{\beta}^m_{HC}$ | -0.03359 | 0.00079 | 0.01704 | -0.06702 | -0.00016 (N) |
| | | | | -0.06619 | 0.00088 (P) |
| | | | | -0.06676 | -0.00007 (BC) |
| $(\bar{X}^m_{IND} - \bar{X}^f_{IND})\hat{\beta}^m_{IND}$ | 0.03776 | 0.00059 | 0.01621 | 0.00595 | 0.06958 ( N) |
| | | | | 0.00679 | 0.06853 (P) |
| | | | | 0.00620 | 0.06839 (BC) |
| $(\bar{X}^m_{STA} - \bar{X}^f_{STA})\hat{\beta}^m_{STA}$ | 0.01589 | 0.00002 | 0.00728 | 0.00162 | 0.03018 (N) |
| | | | | 0.00316 | 0.03094 (P) |
| | | | | 0.00367 | 0.03135 (BC) |
| $(\bar{X}^m_{MAR} - \bar{X}^f_{MAR})\hat{\beta}^m_{MAR}$ | 0.00001 | -0.00003 | 0.00153 | -0.00299 | 0.00301 (N) |
| | | | | -0.00327 | 0.00335 (P) |
| | | | | -0.00302 | 0.00362 (BC) |
| Gap due to differences in coefficients: $(\beta^m - \beta^f)\bar{X}^f$ | 0.11526 | -0.00123 | 0.04445 | 0.02803 | 0.20249 (N) |
| | | | | 0.02917 | 0.19979 (P) |
| | | | | 0.03285 | 0.20348 (BC) |
| Disaggregation into components: | | | | | |
| $(\hat{\beta}^m_{HC} - \hat{\beta}^f_{HC})\bar{X}^f_{HC}$ | -0.24458 | 0.01239 | 0.12710 | -0.49400 | 0.00484 (N) |
| | | | | -0.48521 | -0.00153 (P) |
| | | | | -0.52346 | -0.02607 (BC) |
| $(\hat{\beta}^m_{IND} - \hat{\beta}^f_{IND})\bar{X}^f_{IND}$ | 0.15200 | 0.00102 | 0.17125 | -0.18404 | 0.48805 ( N) |
| | | | | -0.22221 | 0.4651832 (P) |
| | | | | -0.27837 | 0.44459 (BC) |
| $(\hat{\beta}^m_{STA} - \hat{\beta}^f_{STA})\bar{X}^f_{STA}$ | 0.01538 | -0.00071 | 0.01374 | -0.01158 | 0.04234 (N) |
| | | | | -0.01152 | 0.04220 (P) |
| | | | | -0.00867 | 0.04886 (BC) |
| $(\hat{\beta}^m_{MAR} - \hat{\beta}^f_{MAR})\bar{X}^f_{MAR}$ | -0.02244 | -0.00149 | 0.02802 | -0.07742 | 0.03254 (N) |
| | | | | -0.08116 | 0.02625 (P) |
| | | | | -0.08042 | 0.02678 (BC) |
| $(\hat{\beta}^m_{CON} - \hat{\beta}^f_{CON})\bar{X}^f_{CON}$ | 0.21491 | -0.01245 | 0.19451 | -0.16678 | 0.59659 (N) |
| | | | | -0.17653 | 0.58796 (P) |
| | | | | -0.13790 | 0.62351 (BC) |
| Predicted overall gap: $\ln \bar{W}^m - \ln \bar{W}^f$ | 0.13535 | 0.00014 | 0.04143 | 0.05405 | 0.21665 (N) |
| | | | | 0.05523 | 0.21637 (P) |
| | | | | 0.05537 | 0.21541 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 13: Bootstrapped Male-Female Oaxaca Decomposition 1997: Spain.

| | Observed | Bias | Standard Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: | | | | | |
| $(\overline{X}_F^f - \overline{X}_D^f)\hat{\beta}_F^f$ | -0.01488 | -0.00011 | 0.02686 | -0.06758 | 0.03783 (N) |
| | | | | -0.07082 | 0.03521 (P) |
| | | | | -0.07123 | 0.03489 (BC) |
| Disaggregation into components: | | | | | |
| $(\overline{X}_{FHC}^f - \overline{X}_{DHC}^f)\hat{\beta}_{FHC}^f$ | -0.00976 | 0.00059 | 0.02488 | -0.05858 | 0.03907 (N) |
| | | | | -0.06111 | 0.03659 (P) |
| | | | | -0.06364 | 0.03543 (BC) |
| $(\overline{X}_{FIND}^f - \overline{X}_{DIND}^f)\hat{\beta}_{FIND}^f$ | -0.00142 | -0.00028 | 0.00642 | -0.01402 | 0.01118 (N ) |
| | | | | -0.01492 | 0.01153 (P) |
| | | | | -0.01437 | 0.01176 (BC) |
| $(\overline{X}_{FSTA}^f - \overline{X}_{DSTA}^f)\hat{\beta}_{FSTA}^f$ | -0.00362 | -0.00024 | 0.00853 | -0.02036 | 0.01312 (N) |
| | | | | -0.02239 | 0.01221 (P) |
| | | | | -0.02215 | 0.01269 (BC) |
| $(\overline{X}_{FMAR}^f - \overline{X}_{DMAR}^f)\hat{\beta}_{FMAR}^f$ | -0.00007 | -0.00017 | 0.00249 | -0.00496 | 0.00481 ( N) |
| | | | | -0.00604 | 0.00420 (P) |
| | | | | -0.00646 | 0.00408 (BC) |
| Gap due to differences in coefficients: | | | | | |
| $(\hat{\beta}_F^f - \hat{\beta}_D^f)\overline{X}_D^f$ | -0.53447 | 0.00271 | 0.03457 | -0.60230 | -0.46664 (N) |
| | | | | -0.60061 | -0.46276 (P) |
| | | | | -0.60412 | -0.46853 (BC) |
| Disaggregation into components: | | | | | |
| $(\hat{\beta}_{FHC}^f - \hat{\beta}_{DHC}^f)\overline{X}_{DHC}^f$ | 0.20578 | -0.01694 | 0.14052 | -0.06996 | 0.48153 (N) |
| | | | | -0.08877 | 0.44746 (P) |
| | | | | -0.05936 | 0.47762 (BC) |
| $(\hat{\beta}_{FIND}^f - \hat{\beta}_{DIND}^f)\overline{X}_{DIND}^f$ | 0.15713 | 0.02093 | 0.31826 | -0.46742 | 0.78167 (N ) |
| | | | | -0.32709 | 1.00106 (P) |
| | | | | -0.32462 | 1.01885 (BC) |
| $(\hat{\beta}_{FSTA}^f - \hat{\beta}_{DSTA}^f)\overline{X}_{DSTA}^f$ | 0.04127 | 0.00137 | 0.02061 | 0.00082 | 0.08172 ( N) |
| | | | | 0.00307 | 0.08452 (P) |
| | | | | 0.00156 | 0.08358 (BC) |
| $(\hat{\beta}_{FMAR}^f - \hat{\beta}_{DMAR}^f)\overline{X}_{DMAR}^f$ | 0.00389 | 0.00399 | 0.03126 | -0.05744 | 0.06523 (N) |
| | | | | -0.05249 | 0.06651 (P) |
| | | | | -0.06291 | 0.06022 (BC) |
| $(\hat{\beta}_{FCON}^f - \hat{\beta}_{DCON}^f)\overline{X}_{DCON}^f$ | -0.94255 | -0.00664 | 0.34129 | -1.61228 | -0.27282 (N) |
| | | | | -1.77703 | -0.38684 (P) |
| | | | | -2.03126 | -0.45824(BC) |
| Predicted overall gap: $\ln\overline{W}_F^f - \ln\overline{W}_D^f$ | -0.54934 | 0.00261 | 0.03189 | -0.61193 | -0.48676 (N) |
| | | | | -0.60817 | -0.48083 (P) |
| | | | | -0.61515 | -0.48596 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 14: Bootstrapped Female Oaxaca Decomposition 1997: France versus Denmark.

| | Observed | Bias | Standard Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: | | | | | |
| $(\overline{X}_F^f - \overline{X}_N^f)\hat{\beta}_F^f$ | 0.12962 | -0.00069 | 0.03316 | 0.06454 | 0.19469 (N) |
| | | | | 0.06299 | 0.19763 (P) |
| | | | | 0.07038 | 0.20109 (BC) |
| Disaggregation into components: | | | | | |
| $(\overline{X}_{FHC}^f - \overline{X}_{NHC}^f)\hat{\beta}_{FHC}^f$ | 0.11886 | -0.00071 | 0.02965 | 0.06067 | 0.17705 (N) |
| | | | | 0.06319 | 0.18282 (P) |
| | | | | 0.06739 | 0.18613 (BC) |
| $(\overline{X}_{FIND}^f - \overline{X}_{NIND}^f)\hat{\beta}_{FIND}^f$ | 0.00235 | -0.00024 | 0.00643 | -0.01026 | 0.01496 (N ) |
| | | | | -0.00856 | 0.01754 (P) |
| | | | | -0.00642 | 0.02597 (BC) |
| $(\overline{X}_{FSTA}^f - \overline{X}_{NSTA}^f)\hat{\beta}_{FSTA}^f$ | 0.00791 | -0.00017 | 0.00729 | -0.00639 | 0.02221 (N) |
| | | | | -0.00609 | 0.02445 (P) |
| | | | | -0.00595 | 0.02467 (BC) |
| $(\overline{X}_{FMAR}^f - \overline{X}_{NMAR}^f)\hat{\beta}_{FMAR}^f$ | 0.00049 | 0.00043 | 0.00799 | -0.01519 | 0.01618 (N) |
| | | | | -0.015947 | 0.01622 (P) |
| | | | | -0.01967 | 0.01435 (BC) |
| Gap due to differences in coefficients: | | | | | |
| $(\hat{\beta}_F^f - \hat{\beta}_N^f)\overline{X}_N^f$ | -0.63283 | -0.00148 | 0.04081 | -0.71292 | -0.55275 (N) |
| | | | | -0.71018 | -0.55221 (P) |
| | | | | -0.70518 | -0.54839 (BC) |
| Disaggregation into components: | | | | | |
| $(\hat{\beta}_{FHC}^f - \hat{\beta}_{NHC}^f)\overline{X}_{NHC}^f$ | -0.15950 | 0.00365 | 0.10956 | -0.37449 | 0.05549 (N) |
| | | | | -0.37407 | 0.05666 (P) |
| | | | | -0.37854 | 0.05089 (BC) |
| $(\hat{\beta}_{FIND}^f - \hat{\beta}_{NIND}^f)\overline{X}_{NIND}^f$ | 0.23904 | -0.00288 | 0.31474 | -0.37858 | 0.85666 (N) |
| | | | | -0.27151 | 1.05443 (P) |
| | | | | -0.23399 | 1.18394 (BC) |
| $(\hat{\beta}_{FSTA}^f - \hat{\beta}_{NSTA}^f)\overline{X}_{NSTA}^f$ | 0.01969 | -0.00017 | 0.01725 | -0.01415 | 0.05354 (N) |
| | | | | -0.01236 | 0.05601 (P) |
| | | | | -0.01232 | 0.05619 (BC) |
| $(\hat{\beta}_{FMAR}^f - \hat{\beta}_{NMAR}^f)\overline{X}_{NMAR}^f$ | -0.00935 | 0.00059 | 0.02061 | -0.04979 | 0.03110 (N) |
| | | | | -0.05001 | 0.03178 (P) |
| | | | | -0.05306 | 0.02911 (BC) |
| $(\hat{\beta}_{FCON}^f - \hat{\beta}_{NCON}^f)\overline{X}_{NCON}^f$ | -0.72273 | -0.00266 | 0.33513 | -1.38037 | -0.06509 (N) |
| | | | | -1.59972 | -0.20637 (P) |
| | | | | -1.81843 | -0.26725 (BC) |
| Predicted overall gap: $\ln \overline{W}_F^f - \ln \overline{W}_N^f$ | -0.50322 | -0.00217 | 0.03473 | -0.57138 | -0.43506 (N) |
| | | | | -0.57199 | -0.43997 (P) |
| | | | | -0.57079 | -0.43949 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 15: Bootstrapped Female Oaxaca Decomposition 1997: France versus Netherlands.

| | Observed | Bias | Standard Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: | | | | | |
| $(\bar{X}_F^f - \bar{X}_S^f)\hat{\beta}_F^f$ | 0.13884 | 0.00072 | 0.03418 | 0.07175 | 0.20592 (N) |
| | | | | 0.07324 | 0.20893 (P) |
| | | | | 0.07488 | 0.20974 (BC) |
| Disaggregation into components: | | | | | |
| $(\bar{X}_{FHC}^f - \bar{X}_{SHC}^f)\hat{\beta}_{FHC}^f$ | 0.11438 | 0.00073 | 0.03092 | 0.05371 | 0.17506 (N) |
| | | | | 0.05669 | 0.17218 (P) |
| | | | | 0.05649 | 0.17190 (BC) |
| $(\bar{X}_{FIND}^f - \bar{X}_{SIND}^f)\hat{\beta}_{FIND}^f$ | 0.00347 | -0.00024 | 0.00626 | -0.00881 | 0.01575 ( N) |
| | | | | -0.00589 | 0.01884 (P) |
| | | | | -0.00269 | 0.03254 (BC) |
| $(\bar{X}_{FSTA}^f - \bar{X}_{SSTA}^f)\hat{\beta}_{FSTA}^f$ | 0.02078 | 0.00013 | 0.00834 | 0.00441 | 0.03715 (N) |
| | | | | 0.00635 | 0.03817 (P) |
| | | | | 0.00717 | 0.04042 (BC) |
| $(\bar{X}_{FMAR}^f - \bar{X}_{SMAR}^f)\hat{\beta}_{FMAR}^f$ | 0.00019 | 0.00011 | 0.00366 | -0.00698 | 0.00738 (N) |
| | | | | -0.00812 | 0.00801 (P) |
| | | | | -0.00854 | 0.00792 (BC) |
| Gap due to differences in coefficients: | | | | | |
| $(\hat{\beta}_F^f - \hat{\beta}_S^f)\bar{X}_S^f$ | 0.11279 | -0.00017 | 0.04853 | 0.01756 | 0.20801 (N) |
| | | | | 0.01797 | 0.20813 (P) |
| | | | | 0.01767 | 0.20674 (BC) |
| Disaggregation into components: | | | | | |
| $(\hat{\beta}_{FHC}^f - \hat{\beta}_{SHC}^f)\bar{X}_{SHC}^f$ | -0.26375 | 0.00796 | 0.12894 | -0.51677 | -0.01073 (N) |
| | | | | -0.51449 | -0.00659 (P) |
| | | | | -0.54519 | -0.03172(BC) |
| $(\hat{\beta}_{FIND}^f - \hat{\beta}_{SIND}^f)\bar{X}_{SIND}^f$ | 0.26873 | -0.00581 | 0.33639 | -0.39138 | 0.92883 (N) |
| | | | | -0.35187 | 1.01819 (P) |
| | | | | -0.30323 | 1.23895 (BC) |
| $(\hat{\beta}_{FSTA}^f - \hat{\beta}_{SSTA}^f)\bar{X}_{SSTA}^f$ | 0.00229 | -0.00069 | 0.01479 | -0.02673 | 0.03132 (N) |
| | | | | -0.02822 | 0.03034 (P) |
| | | | | -0.02689 | 0.03081 (BC) |
| $(\hat{\beta}_{FMAR}^f - \hat{\beta}_{SMAR}^f)\bar{X}_{SMAR}^f$ | -0.02181 | 0.00005 | 0.02818 | -0.07712 | 0.03349 (N) |
| | | | | -0.07738 | 0.03513 (P) |
| | | | | -0.07977 | 0.03189 (BC) |
| $(\hat{\beta}_{FCON}^f - \hat{\beta}_{SCON}^f)\bar{X}_{SCON}^f$ | 0.12733 | -0.00167 | 0.36473 | -0.58841 | 0.84306 (N) |
| | | | | -0.73445 | 0.77698 (P) |
| | | | | -0.77662 | 0.76112 (BC) |
| Predicted overall gap: $\ln W_F^f - \ln W_S^f$ | 0.25162 | 0.00055 | 0.04307 | 0.16711 | 0.33614 (N ) |
| | | | | 0.17104 | 0.33643 (P) |
| | | | | 0.17026 | 0.33623 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 16: Bootstrapped Female Oaxaca Decomposition 1997: France versus Spain

| | Observed | Bias | Standard Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Gap due to differences in characteristics: | | | | | |
| $(\bar{X}_S^m - \bar{X}_D^f)\hat{\beta}_S^m$ | -0.18223 | 0.00116 | 0.03736 | -0.25553<br>-0.25219<br>-0.25284 | -0.10892 (N)<br>-0.10760 (P)<br>-0.10934 (BC) |
| Disaggregation into components: | | | | | |
| $(\bar{X}_{SHC}^m - \bar{X}_{DHC}^f)\hat{\beta}_{SHC}^m$ | -0.19774 | 0.00085 | 0.03374 | -0.26396<br>-0.26651<br>-0.27243 | -0.13153 (N)<br>-0.13423 (P)<br>-0.13897 (BC) |
| $(\bar{X}_{SIND}^m - \bar{X}_{DIND}^f)\hat{\beta}_{SIND}^m$ | 0.04222 | 0.00061 | 0.01961 | 0.00374<br>0.00448<br>0.00398 | 0.08069 (N)<br>0.08164 (P)<br>0.08123 (BC) |
| $(\bar{X}_{SSTA}^m - \bar{X}_{DSTA}^f)\hat{\beta}_{SSTA}^m$ | -0.02659 | -0.00030 | 0.01240 | -0.05093<br>-0.05445<br>-0.05655 | -0.00225 (N)<br>-0.00499 (P)<br>-0.00624 (BC) |
| $(\bar{X}_{SMAR}^m - \bar{X}_{DMAR}^f)\hat{\beta}_{SMAR}^m$ | -0.00012 | 2.37e-06 | 0.00428 | -0.00851<br>-0.00903<br>-0.00860 | 0.00828 (N)<br>0.00916 (P)<br>0.00938 (BC) |
| Gap due to differences in coefficients: | | | | | |
| $(\hat{\beta}_S^m - \hat{\beta}_D^f)\bar{X}_D^f$ | -0.48339 | 0.00084 | 0.03883 | -0.55959<br>-0.56046<br>-0.55763 | -0.40718 (N)<br>-0.40391 (P)<br>-0.40312 (BC) |
| Disaggregation into components: | | | | | |
| $(\hat{\beta}_{SHC}^m - \hat{\beta}_{DHC}^f)\bar{X}_{DHC}^f$ | 0.26496 | -0.01228 | 0.13528 | -0.00051<br>-0.01235<br>-0.00647 | 0.53043 (N)<br>0.51388 (P)<br>0.54092 (BC) |
| $(\hat{\beta}_{SIND}^m - \hat{\beta}_{DIND}^f)\bar{X}_{DIND}^f$ | 0.03106 | 0.02735 | 0.12085 | -0.20609<br>-0.15733<br>-0.19157 | 0.26821 (N)<br>0.32989 (P)<br>0.26222 (BC) |
| $(\hat{\beta}_{SSTA}^m - \hat{\beta}_{DSTA}^f)\bar{X}_{DSTA}^f$ | 0.07244 | 0.00129 | 0.01955 | 0.03407<br>0.03857<br>0.03843 | 0.11080 (N)<br>0.11328 (P)<br>0.11328 (BC) |
| $(\hat{\beta}_{SMAR}^m - \hat{\beta}_{DMAR}^f)\bar{X}_{DMAR}^f$ | 0.00312 | 0.00214 | 0.03065 | -0.05702<br>-0.05524<br>-0.05934 | 0.06327 (N)<br>0.06346 (P)<br>0.05919 (BC) |
| $(\hat{\beta}_{SCON}^m - \hat{\beta}_{DCON}^f)\bar{X}_{DCON}^f$ | -0.85497 | -0.01765 | 0.14497 | -1.13946<br>-1.18879<br>-1.15583 | -0.57048 (N)<br>-0.59313 (P)<br>-0.57781 (BC) |
| Predicted overall gap: $\ln W_S^m - \ln W_D^f$ | -0.66561 | 0.00199 | 0.03021 | -0.72491<br>-0.71933<br>-0.72122 | -0.60633 (N)<br>-0.60373 (P)<br>-0.60517 (BC) |

N = normal, P = percentile, BC = bias-corrected

Table 17: Bootstrapped Oaxaca Decomposition 1997: Danish females vs. Spanish males

## 6 Variable Description

The inclusion of the dependent variable was restricted to individuals working with an employer in paid employment. The dependent variable, ln gross wage, has been hourly adjusted as hours supplied differ across gender. In order to make the returns to covariates comparable over countries examined, the dependent variable was adjusted via Purchasing Power Parities.

| | |
|---|---|
| Agriculture | =1 if individual works in the agricultural sector of the economy (=0 otherwise) |
| Industry | =1 if individual works in the industrial sector of the economy (=0 otherwise) |
| Services | =1 if individual works in the service sector of the economy (=0 otherwise) |
| Supervisory | =1 if individual holds a job with supervisory duties (=0 otherwise) |
| Intermediate | =1 if individual holds a job with some supervisory duties (=0 otherwise) |
| Non-Supervisory | =1 if individual holds a job with no supervisory duties (=0 otherwise) |
| ISCED5-7 | =1 if individual has obtained third level education or higher (=0 otherwise) |
| ISCED3 | =1 if individual has obtained secondary education (=0 otherwise) |
| ISCED0-2 | =1 if individual has obtained primary education (=0 otherwise) |
| Experience (sq) | Age of individual minus age individual entered the labour market (and its square) |
| Tenure (sq) | Date of interview minus start date of present job (and its square) |
| Marrital Status | =1 if individual is married/cohabiting (=0 otherwise) |

**IRISS-C/I is currently supported by the European Community under the *Transnational Access to Major Research Infrastructures* action of the *Improving the Human Research Potential and the Socio-Economic Knowledge Base* programme (5th framework programme)**

**[contract HPRI-CT-2001-00128]**

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**Please refer to this document as**

**IRISS Working Paper 2003-10, CEPS/INSTEAD, Differdange, G.-D. Luxembourg.**

***(CEPS/INSTEAD internal doc. #07-03-0035-E)***