Decomposing the Gender Wage Gap in Europe: Evidence from the Tourism Sector

Marina Marfil-Cotilla[1], Juan A. Campos Soria[2], Alejandro García-Pozo[3]

[1] Programa de Doctorado en Economía y Empresa. Departamento de Economía Aplicada (Estructura Económica). Universidad de Málaga. C./ Ejido, 6, 29013, Málaga, España. Tel: 952131822. Correo-e: marinamc@uma.es

[2] Catedrático de Universidad. Departamento de Economía Aplicada (Estructura Económica). Universidad de Málaga. C./ Ejido, 6, 29013, Málaga, España. Tel: 952131183. Correo-e: jacampos@uma.es

[3] Catedrático de Universidad. Departamento de Economía Aplicada (Estructura Económica). Universidad de Málaga. C./ Ejido, 6, 29013, Málaga, España. Tel: 952131180. Correo-e: alegarcia@uma.es

ABSTRACT

Statement of the research question: Unfavourable labour conditions in the tourism sector and the gender wage gap have been found to be significant in studies carried out for different countries, demonstrating that this is an international phenomenon. However, its study has only been addressed in a singular way in specific countries, such as Spain, Norway, UK, Portugal, Italy or USA (Burgess, 2003; Santos and Varejão, 2007; Skalpe, 2007; Thrane, 2008; Campos Ortega and Ropero, 2009). To our knowledge, no international comparisons with supranational database have been carried out to explain the heterogeneity of the gender wage gap between countries and its main determinants.

Objective: This paper uses a micro and macro perspectives simultaneously, through a multilevel approach, which may be helpful for understanding how the characteristics of the employees of each country (compositional effect) and how the country characteristics (contextual effect) can affect the differences at European level in the gender wage gap and its discriminatory component in the tourism sector.

Data: We created a combined dataset, based on the latest EU Structure Earnings Survey (SES-2018), that contains matched employer-employee data in the EU-28 countries, with country-level contextual variables obtained from other international statistical sources.

Methodology: This paper uses a hierarchical linear model and the Oaxaca-Ramson wage decomposition. Hierarchical linear models incorporate greater flexibility because they can estimate random parameters to take into account the heterogeneity between individuals (Hensher and Greene, 2003).

✓ First step: A two-level random intercept model is estimated separately for each gender, male (m) and female (f):

$$ln \, w_{mic} = \beta_0 + \beta_1{}^m x_{mic} + \beta_2{}^m z_{ic} + u_c + \varepsilon_{mic} \qquad [1]$$

$$ln \, w_{fic} = \beta_0 + \beta_1{}^f x_{fic} + \beta_2{}^f z_{ic} + u_c + \varepsilon_{fic} \qquad [2]$$

where $ln \, w_{mic}$ and $ln \, w_{fic}$ correspond to the logarithm of each employee's hourly gross wage for male and female; x_{mic} and x_{fic} are the vectors of male and female productive characteristics, respectively, $\beta_1{}^m$ and $\beta_1{}^f$ are the parameters for both genders; z_{ic} and z_{ic} are vectors of country-level explanatory variables and $\beta_2{}^m$ and $\beta_2{}^f$ are the parameters for both genders associated to the contextual variables. Due to employees i (first level) are grouped into countries c (second level), so that the error term can be decomposed between the variability between countries (u_c) and the variability between individuals within each country (ε_{ic}), for men and women respectively.

✓ Second step: Based on the estimation of Equations [1] and [2], we proposed the gender wage gap decomposition based on Oaxaca and Ransom´s (1994) model as follows:

$$ln(\overline{w}_{mic}) - ln(\overline{w}_{fic}) = (\bar{x}'_{mic} - \bar{x}'_{fic})\hat{\beta}^* + (\bar{z}'_{ic} - z'_{ic})\hat{\beta}^* + \bar{x}'_{mic}(\hat{\beta}_1{}^m - \hat{\beta}^*) - \bar{x}'_{fic}\left(\hat{\beta}_1{}^f - \hat{\beta}^*\right) +$$

$$\bar{z}'_{mic}(\hat{\beta}_2{}^m - \hat{\beta}^*) - z'_{fic}\left(\hat{\beta}_2{}^f - \hat{\beta}^*\right) \qquad [3]$$

where $\hat{\beta}^*$ is the vector of coefficients in the absence of discrimination, $\hat{\beta}_1{}^m$ and $\hat{\beta}_1{}^f$ are the estimated coefficients for male and female productive characteristics; $\hat{\beta}_2{}^m$ and $\hat{\beta}_2{}^f$ are the estimated coefficients of contextual variables. For each explanatory variable, if the return for men ($\hat{\beta}_m$) is higher than for women ($\hat{\beta}_f$), it would mean that these variable favors gender wage discrimination.

Results and conclusions: The results of the estimation of the random intercept models under unequal returns for male and female samples are carried out by maximum likelihood (ML) method using adaptive quadrature (Table 1). Preliminary estimations in Table 1 shows the relevance of the compositional effect, which is mainly explained by individual and establishment regressors. However, a general finding from the analyses indicated that significant variance in wage structures for women and men exists not only within countries, but also among European nations (Figure 1). Such heterogeneity is shown in Figure 1, in which the random intercept and the between-group residual variance σ_u^2 are presented across countries. The LR test statistic also corroborates such result, showing strong evidence of statistically significant variability between countries in the wage structure by genders.

Table 1. Estimates Multilevel mixed-effects linear regression - Hospitality

	Men		Women	
	Model 1	Model 2	Model 1	Model 2
Intercept	1.7839***	1.5684***	1.6519***	1.3578***
Individual-level regressors				
Age		0.0743***		0.0748***
Education		0.1330***		0.1470***
Tenure		0.0092***		0.0093***
Temporary contract		-0.0592***		-0.0303***
Part-time job		-1.0899***		-0.9497***
Control (1=Private)		-0.0018***		0.0428***
Var (constant) σ_u^2	0.3152***	0.4024***	0.2870***	0.4139***
LR test	28171.24	62342.50	49001.77	94360.17

Figure 2. Country-effect estimations
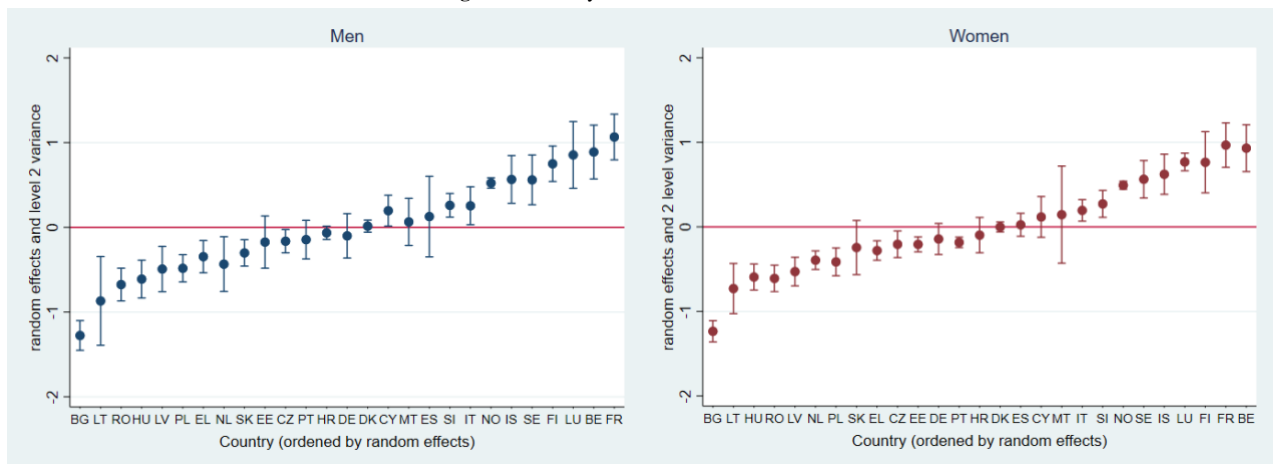
Our research aims to delve into the contextual determinants that could explain the heterogeneity between European countries, such as the economic and institutional conditions, which could be key factors for decomposing the gender wage gap and its discriminatory component in the tourism sector at the European level.

References

Burgess, C. (2003). Gender and salaries in hotel financial management: it's still a man's world. *Women in Management Review,* 18 (1/2), 50–59.

Campos, J.A., Ortega, B., and Ropero, M.A. (2009). Gender segregation and wage difference in the hospitality industry. *Tourism Economics*, 15 (4), 847-866.

Hensher, D., and Greene, W. (2003). The mixed logit model: The state of practice. *Transportation*, 30, 133–176.

Oaxaca, R.L., and Ransom, M.R. (1994). On discrimination and the decomposition of wage differentials. *Journal of Econometrics*, 61 (1), 5–21.

Santos, L., and Varejão, J. (2007). Employment, pay and discrimination in the tourism industry. *Tourism Economics*, 13 (2), 225e240.

Skalpe, O. (2007). The CEO gender pay gap in tourism industry – evidence from Norway. *Tourism Management*, 28 (3), 845–853.

Thrane, C. (2008). Earnings differentiation in the tourism industry: gender, human capital and socio-demographic effects. *Tourism Management*, 29 (3), 514-524.