The gender wage gap in hospitality: New evidence from Spain

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José M. Casado-Díaz (corresponding author)
Universidad de Alicante – University Institute of Tourism Research (IUIT), Department of Applied
Economic Analysis and IEI
Faculty of Economic and Business Sciences
Carretera San Vicente del Raspeig s/n - 03690 San Vicente del Raspeig (Alicante)
Tel.: +34 965903400 ext. 3192; e-mail: jmcasado@ua.es

Oana Driha
Universidad de Alicante – University Institute of Tourism Research (IUIT), Department of Applied
Economic Analysis and IEI
Faculty of Economic and Business Sciences
Carretera San Vicente del Raspeig s/n - 03690 San Vicente del Raspeig (Alicante)
Tel.: +34 965903400 ext. 2627; e-mail: oana.driha@ua.es

Hipólito Simón
Universidad de Alicante – Department of Applied Economic Analysis and IEI
Faculty of Economic and Business Sciences
Carretera San Vicente del Raspeig s/n - 03690 San Vicente del Raspeig (Alicante)
Tel.: +34 965903400 ext. 2707; e-mail: hsimon@ua.es

Abstract

This article examines the gender wage gap in the Spanish hospitality industry versus the rest of the economy. Decomposition techniques are applied to a nationwide representative sample that includes matched employer-employee data allowing an accurate quantification of the phenomenon and its determinants. The methodologies used allow us to examine the average gender wage gap but also how this gap behaves throughout the wage distribution. According to the results, the gender wage gap in hospitality is rather significant (although slightly lower compared with the rest of the economy) and exhibits a steeper profile along the wage distribution. A large part of the gap is explained by observable characteristics, as female hospitality workers have lower levels of seniority than men, are over-represented in low-skilled occupations, have less supervisory responsibilities and are segregated into low-wage firms. Although potentially direct discrimination seems to be lower in hospitality, it is not a negligible problem, since in its most conservative measure (namely when observationally identical male and female employees working in the same firm are compared) it accounts for as much as 0.05 log points or 30% of the raw gender wage gap. The evidence also shows that the particularly intense gender wage gap observed in the uppermost part of the wage distribution in the hospitality industry arises because more qualified women in the sector are doubly penalized by an intense segregation into comparatively worse jobs and by an unfavorable wage treatment with respect to comparable men, which is consistent with the glass ceiling phenomenon.

Key terms: hospitality, gender wage gap, discrimination, Spain, tourism.

JEL codes: J16, J30, J31, J71, L83

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1. Introduction

Tourism is a highly labor intensive sector and a significant source of employment in OECD countries. This is especially true in the Spanish case where, according to the OECD (2020), it is one of the mainstays of the economy and an outstanding driver of economic and social development. Thus, in 2017 it accounted for 11.8% of GDP (the largest share of all OECD countries, for which the average is 4.4%) and in 2018 it represented 13.5% of employment (the second largest share among OECD countries, for which the average is 6.9%). This last figure is equivalent to 2.6 million direct jobs, of which 1.7 million correspond to the hospitality subsector. On a global level, Spain is the second-most visited destination, after France. Thus, according to the same source, in 2018 approximately 124.5 million international arrivals were registered (of which 82.8 million were international overnight visitors) in a country of 47.1 million people. In terms of the origin of these overnight tourists, the United Kingdom (22.4%), Germany (13.8%) and France (13.6%) stand out. On the other hand, it is worth noting that in 2018 the number of domestic trips registered in Spain was 425.4 million, of which 139.9 million were overnight trips. In total, in 2018 the nights spent by tourists in all types of accommodation were 616.7 million (287.9 million in hotels) for international tourists and 507.7 million (90.6 million in hotels) for domestic tourists. The OECD (2020) estimates that approximately 53% of internal tourism consumption is associated with domestic tourism expenditure whereas the remaining 47% comes from inbound tourism expenditure (OECD average is 75% and 25%, respectively). A particularly noteworthy aspect of the Spanish tourism sector is its role in compensating for the trade deficit that characterizes the country's balance of payments. Thus, for example, in 2018 receipts from inbound tourism were 69 billion euros compared with total international expenditure of 22.7 billion euros by residents in Spain. These figures make Spain the country with the second largest surplus in absolute terms of all OECD countries, following only the
United States, and reflect the fact that Spain has been the most competitive country in the three latest editions of the Travel & Tourism Competitiveness Report. Thus, according to the World Economic Forum (2019) its success resides in a unique offer of both natural and cultural resources, with the latter being its greatest advantage relative to the rest of the world. Other of the country’s strengths are its tourism infrastructure, including a high hotel density, as well as quality railroads, roads, port and air transport infrastructures. The country also performs well in ICT readiness and security and the most negative aspects highlighted by the World Economic Forum (2019) include Spain's falling price competitiveness.

The Spanish tourism sector attracts people with different backgrounds, often from the lower segments of the economically active population. In fact, this happens in all countries, since tourism is a sector that offers strong potential to support job-rich growth and creates jobs for people of different ages and skill levels (OECD, 2018a). Thus, it provides opportunities to enter the labor market, gain experience, develop skills and move into higher level, better paid jobs. However, the sector’s negative job features, such as long unsociable hours, unfavorable pay and working conditions, shifts, gender discrimination, narrow job functions, and lack of training opportunities (see e.g. Ladkin, 2011), have given rise to a poor image (Baum, 2007, 2015) that induces negative perceptions of the sector as a long-term career option (OECD, 2018b). This, in turn, results in recruitment and retention difficulties, coupled with high turnover and vacancy rates in many countries. This lack of career attractiveness and advancement pathways is particularly relevant in explaining the difficulties experienced by the industry in attracting top talent, both for technical and managerial positions (World Economic Forum, 2017). These talent gaps and deficiencies in the industry have been estimated to cost the global economy about 14 million jobs and $610 billion in GDP (World Travel & Tourism Council, 2016).
The population groups for which tourism is an attractive sector include low-skilled workers, minorities, migrants, youth, the long-term unemployed, and female workers (World Tourism Organization & International Labour Organization, 2014). This article focuses on one of these groups, female employees and, more specifically, on the wage gap they suffer compared to men employed in the sector. The fact that female workers have lower wages compared with their male counterparts is well documented. Thus, for example, the European Union women’s gross hourly earnings were on average 17% below those of men according to the last available data, and large differences were observed between the different countries (Eurostat, 2020). This phenomenon arouses great concern because it could be derived from discriminatory practices, and therefore the analysis of the origin of this gender wage gap has received much attention in economic analyses (Blau & Kahn, 2016, and Ponthieux & Meurs, 2015, are excellent reviews of this issue).

According to the evidence in this extensive literature, part of the gender wage gap can be explained by observable factors. The existence of gender differences in the characteristics that influence workers' productivity is an example of such variables: if female workers have a lower level of education or less work experience than men, according to the theory of human capital (Becker, 1985) at least part of the wage gap could be considered as non-discriminatory, since both factors influence their productivity and women's lower endowments would partly explain their lower salaries. However, some authors argue that there is actually a gender effect in aspects that could influence women's human capital, such as the choice of specific field of study, or the interruptions in their labor force participation due to, for example, maternity leaves or child rearing (Blau & Kahn, 2016). Other observable factors, such as the concentration of women in certain occupations and sectors characterized by lower wages, could also explain part of the gender wage gap. However, in this case these decisions may not reflect differences in gender preferences, but factors of a discriminatory
nature or related to the desire to comply with certain social norms and stereotypes and thus constitute a form of indirect discrimination (Ponthieux & Meurs, 2015). In any case, the unexplained share of the wage gap is largely attributed to wage discrimination: if the researcher cannot identify why female workers who are identical to their male counterparts in all measurable characteristics earn less, the logical explanation that follows from this observation is discrimination (the proportion of the unexplained part of the gross wage difference between male and female workers is our most accurate measure of this phenomenon). However, it must be recognized that the appropriateness of this reasoning and the accuracy of the estimation of the wage gap depends critically on the ability of the researcher to fully characterize the individuals analyzed in as many relevant aspects as possible, since the exclusion of relevant factors from the analyses could lead to biased measures of such direct discrimination. One specific aspect of the gender wage gap that has become increasingly important in recent years is the fact that it may be that neither its behavior nor the factors that explain it are homogeneous throughout the wage distribution. In this sense, there has been a popularization of the 'glass ceiling’ concept, which refers to the fact that women face different kinds of barriers to their promotion to the highest positions in firms (Albrecht et al., 2003). This phenomenon has been associated with a potential waste of human capital and, together with gender differences in occupational distribution, is currently considered as one of the main factors explaining the persistence of the gender wage gap in most countries (Ponthieux & Meurs, 2015).

Research on tourism employees’ earnings is not abundant, although the number of studies addressing certain interrelated issues within this general topic has increased in recent years. Previous research shows that average wages of employees working in tourism are comparatively low (Muñoz-Bullón, 2009; Santos & Varejão, 2007), and that the hospitality subsector is particularly affected by this fact (Lee & Kang, 1998; Thrane, 2008; Casado-Díaz
Thus, authors such as Riley et al. (2002) and Riley & Szivas (2003) suggest that this is a sector that has generated a “tolerance of low pay”, with a predominance of “deflationary pressures on the level of pay” associated with factors such as recruiting in large labor markets, high levels of staff turnover, and the propensity to have weak internal labor markets due to easily acquired and transferable skills. Moreover, as in other sectors of the economy, women's wages are also lower than men's in the case of tourism (Santos & Varejão, 2007; Muñoz-Bullón, 2009; Thrane, 2008; Guimarães & Silva, 2016) and the hospitality sub-sector (García-Pozo et al., 2012; Fleming, 2015). However, this gender wage gap would appear to be, on average, lower in the tourism sector than in other parts of the economy (Campos-Soria et al., 2011; Lee & Kang, 1998; Santos & Varejão, 2007), a phenomenon that, according to authors such as Santos & Varejão, (2007) and Muñoz-Bullón (2009), might at least partially be a result of the effective protection provided by minimum wages, which is especially relevant for women who are low wage earners in this low-wage industry. Although the stylized facts described by previous literature are on the whole consistent, the exact measure of the wage gap or, more relevantly, the quantification of the contribution of each of the explanatory factors and the associated discriminatory component of this gap is still controversial. This is in line with what has been stated before and is largely explained by the limitations imposed by the characteristics of the available databases. Furthermore, it should be noted that although some of the results obtained so far in the literature indicate that the gender wage gap in the hospitality industry could be higher among managers (Fleming, 2015) and that the gender wage gap is larger among chief executive officers working in the tourism industry compared with manufacturing (Skalpe, 2007), the evolution of the gender wage gap throughout the wage distribution and, in particular, the factors that may explain it, is an aspect that has not been addressed to date.
Against this background, this article aims to examine the gender wage gap among employees in the Spanish hospitality industry in comparative terms with respect to those employed in the rest of the economy. Our analysis is based on a nationwide representative sample that offers matched employer-employee data with rich information on employees as well as on their jobs and firms. From a methodological point of view, we first use a variation of the Juhn-Murphy-Pierce decomposition methodology (Juhn et al., 1991) adapted to be used with matched employer-employee data and permits a much detailed decomposition of the differential between the average wage of men and women, including the influence of female segregation into low-wage firms. Furthermore, we also apply the methodology proposed by Fortin et al. (2011), which provides a detailed decomposition of the wage differences throughout the wage distribution, and therefore allows us to examine in a novel way whether there are substantial dissimilarities in the gender wage gap suffered by more qualified workers and those in the lower part of the wage ladder.

The article is organized as follows. Section 2 describes the context of the analysis by providing an overview of the explanations offered by the literature for the gender wage gap, and focusing on the contributions that have specifically dealt with the hospitality and the tourism industries. Such a detailed review is relevant since it not only sets the context for the rest of the article but it also illustrates the diversity of the broader literature examining the gender wage gap in terms of both the techniques and explanatory variables considered and the associated conclusions arising from these analyses. The data and the methods used in the analyses are described in sections 3 and 4, respectively. Then section 5 begins by examining the raw differences between male and female workers according to the descriptive evidence available from the samples used, and proceeds by presenting the results from the two econometric methodologies described in the previous section. Section 6 concludes summarizing some of the main findings and examining them in terms of their potential policy
making and managerial implications. Both the limitations of the study and some potential future lines of research are also discussed in this section.

2. Literature review

2.1. Explaining the gender wage gap

The gender wage gap has been examined by researchers from different disciplines, exploring a wide range of explanations. The economic perspective has traditionally been based on the neoclassical human capital theory (Becker, 1985) according to which women would earn less than men because they invest less in education, have less labor market experience and suffer human capital decay due to employment interruptions. According to this view, the wage gap would derive from male-female dissimilarities in productivity which could ultimately stem from differences in preferences and behavior. However, the explanatory capability of this strand of research has been challenged by the evolution of relative human capital endowments, since both the experience and educational gaps between the sexes are declining or reversing, as are employment interruptions among female workers (Ponthieux & Meurs, 2015; and Blau & Kahn, 2016).

Accordingly, the relevance of observable human capital factors as a potential explanation of the gender wage gap has dramatically diminished in recent research, which has increasingly focused on other issues that include both supply and demand-side factors. Within the first group, for example, the analyses defending the role of human capital have become more sophisticated, with the focus shifting from quantity to quality: from years of education and working experience to the type of education (women have a lower presence in science and technology, for example) and working experience (women have more part-time experience than men), in a context of skill-biased technological change that favors fields of study where women are relatively scarce (Rubery & Grimshaw, 2014). Also within the
supply-side point of view some studies have highlighted the possible preference among female workers for jobs that facilitate work-life balance (e.g. part-time work with flexible working hours), as well as their peculiarities in terms of attitudes and expectations (e.g. lack of career orientation, differences in work commitment) and, ultimately, the possible relevance of unmeasured productivity differences between male and female workers (Blau & Kahn, 2016). Thus, a new strand of the literature, almost entirely based on experiments, explores the possible existence of differences between men and women in terms of psychological traits or non-cognitive abilities (such as risk aversion and the taste for competition) that could influence their labor outcomes through their preferences or attitudes (this literature is reviewed by Bertrand, 2011, and Bertrand & Duflo, 2016). This opens the debate on whether such psychological features are acquired; and, if this is the case, when and why these traits develop. It must be noted, however, that the impact of these elements on the explanation of the wage gap seems to be quantitatively moderate (Blau & Kahn, 2016).

From the demand side, other factors have gained much relevance, namely the disproportionate concentration of women in poorly paid labor market segments (Simón, 2012). Such female employment segregation is observed not only horizontally (women and men do not occupy the same jobs, as female workers tend to be concentrated in certain occupational areas, sectors and firms) but also vertically (men and women have different wage careers, and women occupy jobs that on average involve less responsibility). Thus, in recent years, there has been an increasing interest in the literature to go beyond analyzing the average gender wage gap behavior so as to also consider how this gap evolves throughout the wage distribution (e.g. Christofides et al., 2013). This is an area of study that, since the work of Albrecht et al. (2003:146), has been particularly associated with the term "glass ceiling": "the phenomenon whereby women do quite well in the labor market up to a point after which there is an effective limit on their prospects. The existence of a glass ceiling would imply that
women’s wages fall behind men’s more at the top of the wage distribution than at the middle or bottom". In this vein, it is in fact considered a stylized fact today (Ponthieux & Meurs, 2015) that gender wage inequality results from gender differences in occupations and from the lack of women at the top. Ponthieux & Meurs (2015) and Blau & Kahn (2016) show how this realization has fostered the exploration of the reasons behind employment gender segregation, which, in turn, are related to supply and demand-side issues: segregation could potentially derive from the preference of women for certain jobs due to their comparatively different attitudes or expectations or may be due to discrimination. If the latter is true, such discrimination could in turn be direct (if employers prefer not to hire women for ‘masculine’ jobs because of prejudices) or indirect (if social norms and stereotypes, on the one hand, and a greater workload in the family – in terms of care of children and dependent members- , on the other hand, lead women to choose ‘feminine’ fields of study and jobs that increase their chances of balancing work and family life). Thus, Dueñas et al. (2014), for example, conclude that the significant occupational segregation of females does not essentially derive from discrimination against women in male-dominated occupations but is due more to factors that attract women to female-dominated occupations. The results based on this type of evidence are still rather scarce and, accordingly, the ultimate origin of female segregation is essentially an unknown question.

2.2. Previous studies on the gender wage gap in the hospitality sector

The empirical literature on the gender wage gap can be very clearly exemplified by that focusing on the tourism industry. Similarly to the more general literature, many of the empirical studies that analyze the gender wage gap in tourism are based on variations of the so-called Oaxaca-Blinder technique, which was originally proposed by Oaxaca (1973) and Blinder (1973) and has subsequently been used and extended by numerous authors. This technique decomposes the wage gap into two parts: one that captures the differences in
endowments between the two groups of workers (i.e. this part measures the extent to which women suffer a wage penalty as a consequence of their relatively worse characteristics compared with men), and one that measures the extent to which men and women with the same characteristics receive different returns in exchange for them (this is the unexplained part of the gap and has been frequently interpreted as a measure of the wage discrimination suffered by female workers). The literature focusing on the hospitality or the broader tourism sector illustrates some of the strengths and the limitations of this empirical exploration of the wage gap. Thus, for example, in some cases, data constraints limit the nature of the variables considered in the analyses. This fact, added to the diversity of methodological approaches and territorial peculiarities, influences the variation observed between some studies and others in terms of the estimated magnitudes of the explained and unexplained components, as well as in the significance and relative explanatory capability of the diverse factors themselves.

One recent example of the application of the Oaxaca-Blinder model is Guimarães & Silva (2016), who analyze the gender wage gap in the Brazilian tourism industry using data for 2012 and a variation of the technique that adds an interaction term to the decomposition (Jann, 2008). The independent variable in this study is hourly wage, and the explanatory variables include individual characteristics (education, age, squared age, family position, race and the presence of children aged 13 and less), territorial variables and job characteristics (whether or not the individual contributes to social security, is a member of a trade union and has a formal contract). The authors conclude that the bulk of the wage gap is attributable to the returns component and might be therefore associated with potential discrimination. The conclusion from the study by Guimarães & Silva (2016) is at odds with previous research based on variations of the same decomposition technique. For example, Santos & Varejão (2007) estimated in their analysis of the Portuguese case (for year 2000) that only 55% of the
gender wage gap in tourism was attributable to the returns term. In contrast with Guimarães & Silva (2016), they also provided estimations for the rest of the economy and found that the unexplained part accounted for 63% of the wage gap. Santos & Varejão (2007) conclude that 80% of the explained component is due to the greater concentration of female tourism employees in small and medium-sized establishments and to their position on the labor ladder compared to their male counterparts; and they attribute the lower intensity of discrimination in tourism compared to the rest of the economy to minimum wage legislation that grants less room for pay discrimination for low-wage workers in low-wage industries such as tourism. Their study considers matched employer-employee data and they control for occupation, part-time status, establishment size and region besides individual characteristics (education, tenure and its square, potential experience and its square, and two interactions). The magnitude of the unexplained component of the wage gap in Santos & Varejão (2007) is consistent with the results from the analysis of the Spanish case conducted by García-Pozo et al. (2012), who estimate separated models by region and conclude that the unexplained part of the gap is over 50% in all cases, although a considerable regional variability is observed. This study uses data for the year 2006 and is comparable to the previous one, since it controls for schooling years, overeducation and undereducation, potential experience, tenure in the firm, type of contract (full-time and permanent or not) and firm size. The results of a fourth study, Muñoz-Bullón (2009), also analyzing the Spanish case in the early years of the 2000s are totally different to the previous ones, since the contribution of the returns component in tourism is as low as 12% while it is over 87% for the rest of the economy and the characteristics component (and, within it, two main variables: type of contract and qualification) explains most of the gap. It must be noted that the wage variable in this study is monthly real earnings and only full-time salaried workers are considered (to overcome the absence of information on hours worked). The list of explanatory variables considered includes individual
characteristics (sex, age and the qualifications required for the job – used as a proxy for both education and occupation), job characteristics (type of contract – permanent or temporary in six categories- and job tenure) and firm characteristics (tourism sub-sector, location and size).

The application of the Oaxaca-Blinder family of decomposition techniques is not the only approach used to examine the gender wage gap issue in tourism. A number of studies have opted for other empirical strategies. The most recent of these studies is Fleming (2015), who uses data for the United States, year 2010, to analyze gender wage differentials in the hospitality industry. This study replicates a previous one by Sparrowe & Iverson (1999) using data for 1989. In both cases a regression model is estimated where the dependent variable is the annual income received from an employer (including wages and other concepts) and the set of independent variables includes education (whether or not the individual holds a bachelor’s degree; work experience or its proxy, age, is not considered), annual number of hours worked, the proportion of women within each occupation (to account for occupational overcrowding and sex composition – firm characteristics are not considered) and the variable of interest, a gender dummy variable that allegedly measures the wage penalty experienced by female workers due to sex discrimination. According to these two studies, the wage penalty has decreased over the last two decades but still persists: in 2010 it was 5.3% compared with 10.7% in 1989.

Two more studies based on longitudinal data are worth mentioning. The first, Thrane (2008), focuses on the Norwegian economy and uses data for a sample of workers employed in tourism firms and hotels during the period 1994-2002. In this study the dependent variable, annual wage, is regressed against the number of working hours per week, human capital variables (education, potential work experience and its square), sociodemographic variables (number of children <11, marital status, immigrant status, number of family members, region of residence, parents’ educational level, and a dummy for recent graduates), a set of dummies
typifying the tourism sub-sector/hotel classification, observation year dummies and the variable of interest, gender. Due to data limitations neither occupation nor other job or firm characteristics are considered. The results of this study, which indicate that of a 21% gender wage gap in hotels, independent variables explain 35.4% (for the rest of the tourism sector these figures are 19.8% and 35.8% respectively), are at odds with a rather similar analysis by Kortt et al. (2018). These authors use Australian data for period 2001-2004 that do not include information on occupations and firms and find that the female wage penalty is 8.5% for tourism workers and 7.5% for those employed in hospitality, and that the part of the gap accounted for by independent variables is 88% and 95%, respectively.

To conclude this review, it should be noted that, in contrast to the broader literature on the gender wage gap, the analysis of the evolution of the gender wage gap throughout the wage distribution is an aspect for which there is very little quantitative evidence in the case of tourism and hospitality.¹ Three studies are noteworthy in this regard. The first two are the aforementioned Sparrowe & Iverson (1999), whose title begins, significantly, with the question "Cracks in the glass ceiling" and Fleming (2015). These comparable studies find that although the gender wage gap for hospitality managers has declined (21.6% in 2010 vs. 27.4% in 1989) it is especially notable compared to the already reported 5.3% and 10.7%, respectively, observed for the average hospitality worker, something that indicates the existence of a persistent glass ceiling effect. A third study related to this field is Skalpe (2007), who analyzes the gender wage gap among chief executive officers (CEOs) in the tourism and manufacturing sectors using register-based 1999-2001 data for Norway (a country where the frequency of female CEOs in the tourism industry is 21.4% compared to 5.8% in manufacturing). The set of explanatory variables in this study is quite detailed in terms of firm characteristics (sales revenues, return on assets and rural/urban location), but is sparse in terms of CEOs’ characteristics (only age is included as no information was available
on education or household characteristics) and other job characteristics. As in preceding U.S.
examples, the variable of interest is a dummy that indicates whether the CEO is a woman or a
man, and the dependent variable is annual income, a concept that includes salaries, bonuses
and economic incentives (the number of hours worked is not considered). The author
attributes the difference found (beta estimates of the dummy variable are -0.066 for the
tourism industry and -.0037 in manufacturing) to the fact that female CEOs are employed in
relatively smaller firms.

In a nutshell, some stylized lessons can be drawn from the literature reviewed in this
section: (a) the descriptive evidence confirms the existence of a gender wage gap in the
tourism/hospitality industry; (b) the statistical and econometrical analyses show that part of
the gap remains unexplained (and could therefore be potentially attributed to discriminatory
practices); (c) the size of the gap varies in a very notable manner between the different
studies, which are diverse in terms of the country analyzed, and the data, econometric
techniques and variables considered; (d) the same applies regarding the relative relevance of
the potential explanations for this gap (in particular, few studies have considered matched
employer-employee data, and even in those cases some crucial variables are not measured in
a conventional way); (e) the few studies that have analyzed different economic sectors
conclude that the part of the wage gap that is commonly associated with discrimination is
lower in the tourism or hospitality sectors, something that is in some studies attributed to the
protection provided by minimum wages; (f) there is evidence indicating that part of the
gender wage gap in tourism is due both to female occupational and firm segregation; and (g)
there is also some evidence indicating that the wage penalty suffered by hospitality female
workers is higher in managerial positions, and that the gap suffered by tourism female
managers is higher compared to that in other industries. As regards this last point, there is still
a lack of studies that specifically examine how the wage gap and its determinants change as
the wage itself increases (i.e. previous studies have not considered the differences in the wage gap throughout the whole wage distribution).

3. Data

This research is based on the cross-section microdata of the 2010 wave\(^2\) of the *Encuesta de Estructura Salarial* (Survey of Earnings Structure; hereafter, EES). This survey is conducted by the Spanish National Statistics Institute and is the sample for Spain of the *European Structure of Earnings Survey*, a survey conducted in every member country of the European Union in accordance with a harmonized methodology with the specific aim of obtaining comparable results on the structure and distribution of earnings between member states. It is a nationally representative survey on firms, covering employees registered in the Social Security system throughout the month of October at workplaces of any size belonging to the general scheme of the Social Security system and whose economic activity is framed in sections B to S of the sectoral classification NACE 2009.\(^3\) Therefore, it almost fully covers the Spanish economy (including the private and public sector), with minor exceptions such as agriculture and domestic service. The design of the survey corresponds to a two-stage sampling of employees working in firms registered in the Social Security system, so one of its most characteristic features is that it includes matched employer-employee microdata (i.e. observations for several employees in each workplace), a type of data which overall has had an extremely significant impact on the analysis of wage determination (Hamermesh, 2008, and Abowd & Kramarz, 1999).

The EES provides detailed information on wages and the characteristics of workers, jobs and firms. Wage information includes the different components that make up the wage and covers different temporal references including monthly and annual wage components. The wage concept used in this research is the wage per hour, calculated from the wage
corresponding to a representative month (October), divided by the number of hours worked in that month. Wages are expressed in gross terms and their calculation incorporates any payment by firms, including commissions, bonuses for night work and weekends, as well as overtime work.

The explanatory variables considered in the empirical analysis cover both the characteristics of individuals and those of their jobs and the firms employing them. The former concern controls relating to the individual's nationality, years of education and potential experience (defined as age-years of education-6). The attributes of jobs are occupation (six categories); tenure in the current employment and their quadratic form; type of contract (permanent or fixed-term); the type of working day (full-time or part-time) and the performance of supervisory tasks. Finally, the attributes of the companies are size (six strata); the region where they are located (there are 17 regions in Spain) and the type of collective agreement (distinguishing between company, national sector or infra-national sector agreements). As we can observe, these variables allow us to control for both characteristics relating to the employed person’s human capital and for others associated with their occupation and with the firm in which they work. In addition, the characteristics of the source make it possible to consider fixed firm effects that, ultimately, make it possible to compare the situation of men and women who are observably similar and work in exactly the same firm.

Those observations for which there was no available information for the main variables of interest and those of individuals younger than 16 or older than 65 years of age or with hourly wages lower than one euro or higher than two hundred euros were filtered. Moreover, firms with less than two observations were excluded from the sample, in order to allow the correct identification of firm fixed effects in the econometric estimates. The final sample amounts to 168,812 observations (97,850 men and 70,962 women), of which 5,218
(2,153 men and 3,065 women) correspond to the hospitality sector, respectively. Descriptive statistics of these samples are shown in table A.1 of the appendix.

4. Methodology

Two different econometric methodologies have been employed in the empirical analysis in order to decompose wage differences between men and women in the hospitality sector (and, for comparison, in the rest of the Spanish economy). The first technique is an extension of the Juhn-Murphy-Pierce methodology (Juhn et al., 1991) adapting its use to matched employer-employee data, which permits a detailed decomposition of the differential between the average wage of men and women. The second is the methodology proposed by Fortin et al. (2011) which provides a detailed decomposition of the wage differences throughout the wage distribution. Both techniques are briefly described below.

4.1. Juhn-Murphy-Pierce decomposition

First, we use an extension of the Juhn et al. (1991) decomposition suggested by Blau & Kahn (1992), specifically adapted to be used with matched employer-employee data. This technique departs from the estimation of the following semi-logarithmic wage equation:

\[ w_{ij} = X_i \beta + a_j + \varepsilon_{ij} \]  

(1)

where \( w_{ij} \) is the natural log of the hourly wage of individual \( i \) in workplace \( j \); \( X_i \) is a vector of controls; \( \beta \) is a vector of parameters to be estimated (including an intercept); \( a_j \) is an error component corresponding to workplace \( j \) and invariant for all the individuals working in the same workplace and \( \varepsilon_{ij} \) is a stochastic error term.

Equation (1) is estimated for the pool of workers (i.e. men and women).\textsuperscript{6} Identification of the workplace effects is guaranteed, given that there is more than one observation per workplace in the dataset. Since the result of the Hausman's contrast indicates that workplace specific effects are correlated with the rest of the explanatory variables in
equation (1), the equation is estimated by fixed effects (which is equivalent to estimating by
ordinary least squares with a set of workplace dummies). Relying on the properties of the
ordinary least squares estimator, after the estimation of equation (1) with the pooled data and
having obtained the values of $\hat{\beta}$, $\sigma$ and $\eta$, the average wage of the subgroup of workers $s$
($s=$men or women) can be expressed as:

$$w_s = X_s \hat{\beta} + \eta \bar{\lambda}_s + \sigma \bar{\theta}_s$$

where $\bar{w}_s$ stands for the mean natural log of the hourly wage of a given group $s$; $X_s$ is a vector
of the average of the set of explanatory variables for group $s$; $\hat{\beta}$ is the vector of coefficients
estimated with equation (1) and the pooled data; $\eta$ is the standard deviation of workplace
effects of the pool of men and women; $\bar{\lambda}_s$ is the average standardized workplace effect of
group $s$; $\sigma$ is the standard deviation of wage residuals of the pool of workers and $\bar{\theta}_s$ is the
average standardized residual of group $s$.

Using the pooled wage structure as the market price references in the decomposition,
the wage gap between men and women can be written as follows:

$$D = w_m - w_f = (X_m - X_f)\hat{\beta} + (\bar{\lambda}_m - \bar{\lambda}_f)\eta + (\bar{\theta}_m - \bar{\theta}_m)\sigma = \Delta X \hat{\beta} + \Delta \bar{\lambda} \sigma + \Delta \bar{\theta} \eta$$

where the subscript $m$ is for males and $f$ for females and a $\Delta$ prefix denotes the average
difference between men and women in the subsequent variable.

In brief, equation (3) provides a decomposition of the male-female wage gap that
quantifies the extent to which average wage differences between men and women are related
to (a) differences in observed characteristics, (b) the influence of workplace-related factors
and (c) the influence of unobserved elements. More specifically, the first term on the right-
hand side of the equation corresponds to the portion of the wage differential attributable to
differences in the observed characteristics between the two groups $(X_m - X_f)$, valued at
market prices ($\hat{\beta}$), which coincides with the ‘explained’ component of the standard Oaxaca-
Blinder decomposition. The second term estimates the influence of workplace-related factors. This term is taken as a product of the difference in the average standardized workplace effect of men and women \((\bar{\lambda}_m - \bar{\lambda}_f)\) - which measures the intensity of female segregation into comparatively low-wage workplaces - and the dispersion of wage differentials across workplaces \((\eta)\) - which determines the degree of the wage penalty for women resulting from this segregation -. Finally, the third term measures the influence of the unobserved factors in the model. This component comprises the effect of unobserved ability, motivation and discrimination, among others, and corresponds to the impact of differences by gender on the average standardized residual \((\bar{\theta}_m - \bar{\theta}_m)\) multiplied by the money value per unit difference in the standardized residual \((\sigma)\), which determines the specific wage penalty suffered by the disadvantaged group.

4.2. Fortin-Lemieux-Firpo decomposition

Fortin et al. (2011) propose a technique that enhances the development of the empirical decompositions of differences between two distributions of a variable. More specifically, this technique provides a breakdown of the differences between distributions in the value of any distributional statistic (such as the value of a quantile or an inequality index) based on the differences in the endowments of its characteristics and in its returns respectively. This is something that other techniques undertake by constructing counterfactual distributions that allow for the decomposition of the differences into their aggregated characteristics and returns components. In contrast to these methodologies, the one proposed by Fortin, Lemieux and Firpo additionally provides a detailed decomposition that allows the individual contribution made by each explanatory variable to the two components to be quantified.

More specifically, this technique is based on the estimation of a regression in which the independent variable (the wage) is replaced by a wage transformation, the recentered
influence function (hereinafter, RIF), so as to be able to conduct a standard Oaxaca-Blinder decomposition of any distributional statistic based on the regression results (for further details, see Fortin et al., 2011). The decomposition takes the following form:

\[ \Delta Q_\theta = (\bar{X}_m - \bar{X}_f) \hat{\gamma}^*_{Q_\theta} + \left\{ \bar{X}_m \left( \hat{\gamma}^f_{Q_\theta} - \hat{\gamma}^*_{Q_\theta} \right) + \bar{X}_f \left( \hat{\gamma}^*_{Q_\theta} - \hat{\gamma}^m_{Q_\theta} \right) \right\} \quad (4) \]

Where \( \Delta Q_\theta \) is the difference in the quantile \( Q_\theta \) of the wage distributions of males and females, respectively; \( \bar{X}_m \) and \( \bar{X}_f \) are the average observed characteristics for males and females and \( \hat{\gamma}^m_{Q_\theta}, \hat{\gamma}^f_{Q_\theta} \) and \( \hat{\gamma}^*_{Q_\theta} \) are the estimated coefficients following regression of the RIF variable of the quantile \( Q_\theta \) on the group of explanatory variables for males, females and the pool of both groups respectively. The first component of the right-hand side of the equation represents the effect on the differential between distributions caused by differences in characteristics (or ‘explained’ component) whereas the second corresponds to the effect of the coefficients (or ‘unexplained’ component). As previously stated, the individual contribution of each explanatory factor can be observed in the decomposition results.

5. Results

5.1. Descriptive evidence

Table 1 and Figure 1 contain information on the wage gap between men and women in the hospitality sector and the rest of the Spanish economy, measured in logarithms of the gross hourly wage (Figure A.1 in the Appendix provides, in turn, the corresponding density function of the wage distribution for each group). Although average women's wages are lower than men's both in the hospitality sector (0.176 log points) and the rest of the economy (0.189), this disadvantage is lower in the former. Another major difference that can be observed is that whereas the gender wage gap in the overall Spanish economy except hospitality is rather flat throughout the whole wage distribution, the gender wage gap in
hospitality exhibits a markedly increasing profile (with the only exception of the tail at the extreme right), which implies that in the hospitality sector the gap tends to be comparatively wider for more qualified women. Hence, while up to the 60th percentile gender wage differentials are systematically lower in hospitality than in the rest of the economy, from the 70th percentile onwards they are comparatively higher in hospitality, to the point of reaching 0.331 log points in the 90th percentile compared with 0.191 in the rest of the economy.

The descriptive evidence in Table A.1 in the Appendix shows the sectoral segmentation of the Spanish economy, which is evident in the high degree of relative concentration of women in the hospitality sector. Thus, women account for 58.7% of the sample corresponding to this sector, while their relative weight in the rest of the economy is around 41%. Moreover, it also shows that male and female workers in Spain differ significantly in terms of their observed characteristics. These differences occur in a context where hospitality workers and jobs generally have a poorer profile. Thus, in the hospitality sector there is a greater presence of immigrants and workers generally have lower levels of education and seniority and they work more frequently on a part-time basis, in elementary occupations and in companies where there are no firm-level collective bargaining agreements that improve the conditions of the sector's agreements. In all cases, these circumstances are associated with comparatively lower relative wages, which is consistent with the existing evidence on the magnitude and determinants of wages in the sector.9

Differences in the observed characteristics of men and women are generally detrimental for female relative wages, with rare exceptions associated with specific factors
such as educational level, in line with previous evidence in the literature (e.g. Blau & Kahn, 2016, and Ponthieux & Meurs, 2015). Such differences are found across the whole economy, although much more intensely in the hospitality industry. Thus, in both the hospitality sector and the rest of the economy female workers have, on average, lower endowments of seniority and a greater presence in part-time jobs than men, and are segregated in worse occupations without supervisory responsibilities (on the contrary, among the aforementioned exceptions, women exhibit higher endowments of education and a higher presence in larger-sized firms).

This circumstance is even more influential in hospitality, given that the relative endowments of women with respect to certain characteristics are comparatively worse in relation to those who work in the rest of the productive sectors. Hence, whereas female workers have rather similar levels of education compared with men in hospitality (8.7 years vs. 8.8) they exhibit better endowments in the rest of the economy (11.5 vs. 10.6 years). This is also the case of occupational segregation, insofar as many more female hospitality employees work in basic occupations (36.3%, compared with 13% in the case of their male counterparts and figures of 12.2% and 9.5% for women and men in the rest of the economy) and the proportion of those who access managerial positions is even lower (only 1.6% of female hospitality workers, compared to 2.3% of women in the rest of the economy and around 4% for men in both sectors). Similarly, although women generally perform fewer supervisory tasks than men in all sectors, gender differences are more pronounced in the case of hospitality (where 15% of women and 30% of men have supervisory tasks, compared to 15% and 22% in the rest of the economy). Finally, although both in the hospitality industry and in the rest of the economy there is a greater relative presence of women than men in larger companies, this is less so in the case of the hospitality industry. In contrast, the only relevant attribute in which women in hospitality exhibit more favorable relative
characteristics than women in the rest of the economy is potential work experience, since female hospitality workers have more experience than their male counterparts.

5.2. Econometric decompositions of average gender wage gaps

Table 2 contains the results of applying the extension of the Juhn et al. (1991) technique to decompose average wage differentials between men and women in the hospitality sector and, for comparative purposes, in the rest of the Spanish economy. The first row in the table provides the value of the wage gap between men and women and in the rest of the rows the figures correspond to the different terms of the decomposition (note that a positive value for a specific factor indicates an unfavorable effect for female wages). Three different specifications of the wage equation have been considered: the first includes as explanatory variables only sociodemographic characteristics of individuals such as nationality, potential experience or education (model 1); the second also includes a whole set of job and firm attributes (model 2) while the third specification considers firm fixed effects instead of firm attributes (model 3). Note that the results of models 1 and 2 are equivalent to those of a standard Oaxaca-Blinder decomposition of differences in average wages into two components (characteristics and returns), whereas model 3 incorporates the results of decomposing the third component of the right side of equation (3).

According to the results of model 1, the wage gap between men and women in the hospitality sector cannot be apparently explained by differences in the endowments of observed characteristics of men and women (differences in returns actually explain 100% of the raw wage gap in hospitality whereas differences in endowments of characteristics exhibit no explanatory power), which on the whole coincides with the findings for the rest of the
Spanish economy. The results change significantly when job and firm attributes are also added as explanatory variables (model 2). The gender wage gap in hospitality is now explained in a balanced way by differences in characteristics (55.1%) and differences in returns (44.9%), contrasting with what is observed in the rest of the Spanish economy, where most of the gap (86.8%) is due to unobserved elements. The detailed results of the decomposition show, in turn, that the most detrimental factors for female wages in hospitality are women’s lower endowments of tenure and, particularly, their segregation into low-skilled occupations without supervisory responsibilities (the sum of the three afore-mentioned factors actually explain around 45% of the raw wage gap). The evidence also shows that the higher level of potential work experience is the only characteristic of women in hospitality that has a favorable effect on their relative wages.

Yet, when firm fixed effects are also included as explanatory variables (Model 3) the bulk of the raw gender wage gap in hospitality is explained by observed elements, either by differences in observed individual or job characteristics (the first component explains 41.5% of the gap) or by the unequal distribution by firms of men and women (the second component explains 28.4% of the gap). Consequently, unobservable factors justify only a minor part of the wage gap (that is, the third component of the decomposition explains just 30.1% of the gap). Given that, due to the nature of the decomposition employed, the value of this latter component provides the average wage differential between men and equally productive women working in the same firm, it suggests that in general Spanish firms in the hospitality sector tend to systematically pay lower wages to women with similar observed characteristics as men. This finding is consistent with the existence of wide-ranging direct discrimination against women in hospitality, although this phenomenon could be less relevant than in the rest of the Spanish economy (i.e. the intra-firm gender wage differential captured by the third component of the decomposition takes a value of 0.053 log points in hospitality and 0.077 in
the rest of the economy). Other important differences regarding the origin of the gender wage 
gap in hospitality with respect to the rest of the economy is that in the former case the impact 
of the differences in observed individual and job characteristics is quantitatively more 
relevant (0.073 log points compared with 0.021) and, conversely, the effect of the relative 
segregation of women in low-wage firms is less relevant (0.050 log points compared with 
0.091).

In short, this evidence reveals very interesting aspects about the nature of the gender 
wage gap in tourism and its similarities and differences with that observed in the rest of the 
economy. Therefore, in general terms, the results obtained show that the origin of the gap is 
due in both sectors to the sum of three influential factors: (i) the worse relative characteristics 
of women (especially in terms of seniority, occupation and supervision), (ii) their segregation 
in low-wage firms, and (iii) the wage disadvantage of women with respect to men with the 
same characteristics working in the same company. In relative terms, however, the first of 
these three factors stands out in the hospitality industry compared to the rest of the economy, 
with the effect derived from the segregation in worse firms and the worse relative salary 
treatment within the same firms being comparatively less relevant.

5.3. Decompositions throughout the wage distribution

On the other hand, Figures 2 and 3 refer to the differences between women and men 
in the quantiles of the log hourly wages distribution and show the results of the 
decomposition throughout the wage distribution obtained using the methodology proposed by 
Fortin et al. (2011). To simplify the presentation, Figure 2 distinguishes only between the 
aggregate contribution of the characteristics and returns components, whereas Figure 3 
contains the detailed results of the individual effects of the explanatory variables through the 
former component. This evidence has been obtained using as explanatory variables the socio-
demographic characteristics of individuals and jobs and the firms’ attributes (therefore,
following Model 2). In order to facilitate the presentation, in Figure 3, the explanatory variables have been grouped into three categories, depending on whether they refer to the individual characteristics of the workers, attributes of the jobs, or characteristics of the firms, respectively. Additional information on the results of the decomposition can be found in Table 3, including detailed evidence regarding the effect of each individual explanatory factor.

For illustrative purposes, the gender wage gap observed in the median wage for hospitality (0.151 log points) is decomposed into 0.084 points due to differences in the characteristics between men and women (characteristics component) and 0.067 points corresponding to a relatively worse wage treatment of women compared to men with the same characteristics (returns component; Table 3). The first effect is due almost entirely to the significant differences between men and women in terms of job attributes, with the influence of differences in the characteristics of individuals and the firms in which they work being practically negligible (Figure 3). Among these job attributes, the effects on the gap associated with gender differences in terms of seniority, supervisory tasks and occupational distribution stand out, with impacts of 0.02, 0.027 and 0.023 log points (Table 3).

The aggregate results of the decomposition (Figure 2) are consistent with previous evidence in Model 2 regarding differences in average wages. According to these results, the gender wage gap in hospitality tends to be explained throughout the wage distribution in a balanced manner by differences in the endowments of characteristics and by differences in
returns, with a slightly more important effect of the characteristics component effect in most parts of the distribution (according to Table 3, in the 10th, 50th and 90th percentiles this component accounts for between 55% and 60% of a raw gender wage gap of 0.078, 0.151 and 0.331 log points, respectively). As in the case of average wages, these results contrast significantly with those observed for the rest of the economy, where the characteristics component is in general much less important in explaining the gender wage gap in every part of the wage distribution and where this component exhibits a decreasing profile throughout the distribution (e.g. in the 10th, 50th and 90th percentiles the characteristics component accounts for 0.037, 0.024 and 0.021 log points of a raw gender wage gap of 0.163, 0.196 and 0.195 log points, respectively).

According to the detailed evidence from the decomposition (Figure 3), the bulk of the characteristics component in the hospitality sector is actually explained by differences in the jobs held by men and women, with an almost negligible effect for the differences in both individual characteristics and firm attributes (with a little exception in this case in the uppermost tail of the distribution). Along these lines, as in the case of average wages, the lower tenure of women and their presence in low-wage occupations and in jobs without supervisory tasks are the individual elements that are particularly detrimental for their relative wages (Table 3). The impact of these three elements exhibits a considerably growing profile along the distribution (in every case, they explain less than 0.01 log points of the gender wage gap in the 10th percentile of the distribution, whereas their joint explanatory power is of 0.158 log points of the gap in the 90th percentile, which amounts around 50% of the unadjusted gender wage gap). In fact, this is the origin of the increasing magnitude of the characteristics component along the wage distribution and, eventually, a key explanation of the steeply increasing profile of the unadjusted gender wage gap in hospitality.
The returns component, meanwhile, shows a clearly growing profile along the hospitality wage distribution (namely it takes a value of 0.031 log points at the 10th percentile and 0.149 at the 90th percentile), which suggests that the unfavorable wage treatment suffered by women in relation to men with the same characteristics is accentuated as wages increase, a phenomenon that in applied research is taken as an indicator of the existence of a ‘glass ceiling’ (Ponthieux & Meurs, 2015). This result is compatible with those of Sparrowe & Iverson (1999) and Fleming (2015), who show that the wage penalty suffered by employees in the US hospitality sector is notably higher among managers than average employed people. It should be noted that this same growing profile of the returns component is also observed for the rest of the economy, but in a less pronounced way. In any case, the magnitude of the unexplained component is very similar in both cases at the highest wage levels (0.15 log points for the hospitality industry and 0.17 for the rest of the economy at the 90th percentile), which suggests that this phenomenon has a comparable incidence in both cases. This contrasts with the scenario in other parts of the wage distribution, where women in the hospitality industry face a much less intense unfavorable wage treatment than in the rest of the economy.

6. Conclusions

The objective of this article is to examine the gender wage gap among employees in the Spanish hospitality industry, in comparative terms with respect to those employed in the rest of the economy. Our analysis is based on a nationwide representative sample that offers matched employer-employee data and therefore enables us to make very detailed measurements of the gender wage gap and a thorough examination of its determinants. To pursue this aim we use two decomposition methodologies. The first is a variation of the Juhn-Murphy-Pierce methodology (Juhn et al., 1991) applied to matched data, enabling us to
conduct a detailed examination of the differential between the average wage of men and women. The second is the methodology proposed by Fortin et al. (2011) which provides a detailed decomposition of the wage differences throughout the wage distribution, and therefore allows us to examine whether analyses based on average differences are reasonably representative of the situation of all female workers or whether there are substantial dissimilarities in the nature of the gender wage gap suffered by higher wage workers and those in the lower part of the wage ladder.

According to our results, the average raw difference in wages between male and female employees in hospitality is rather significant, although slightly lower than in the rest of the economy (0.176 vs. 0.189 log points). Yet, when the gender wage gap is measured throughout the wage distribution, the gap in hospitality exhibits a much steeper profile than in the rest of the economy, becoming very significant in the uppermost part of the wage ladder, suggesting the presence of a glass-ceiling phenomenon in the sector. The evidence obtained also suggests that there is a high degree of relative concentration of women in the hospitality sector, which accentuates the interest of the analysis. Furthermore, a potential explanatory element for the gap is that women working in the hospitality industry have job attributes that are generally associated with comparatively low wages. Although this circumstance occurs transversally throughout the economy, it does in fact occur more intensely in this sector, which is reflected, for example, in a higher level of female segregation in low-skilled occupations without supervisory functions.

The results of the analysis seeking to determine the origin of the average gender wage gap in hospitality show first, that socio-demographic (mainly human capital) variables do not explain the gender wage gap either in tourism or in the rest of the economy and that, accordingly, women’s endowments in terms of individual characteristics should give them access to the same or better wages compared with men. Second, when the characteristics of
jobs and firms are included in the estimations, a significant difference emerges between hospitality and the rest of the economy. The set of regressors considered only explains 13% of the wage gap in the rest of the economy (and accordingly 87% of this gap is unexplained and could therefore potentially be associated with discrimination). In contrast, the explained part of the gap is 55% in the case of the hospitality sector, and therefore more than half of the male-female difference in wages is attributable to the fact that the job characteristics of the two groups are different (in particular, women exhibit less tenure and an over-representation in less-skilled occupations without supervisory responsibilities), whereas the other half could be interpreted as being the result of a direct discriminatory component. Third, according to our best estimation of what could be considered as direct discrimination (the difference in the wages perceived by male and female workers whose observable characteristics are identical and work in exactly the same firm), this phenomenon accounts for 30% of the gap in hospitality and 41% in the rest of the economy.

In turn, the results of the decomposition of the gender wage gap in the hospitality industry along the wage distribution reveal that, as in the case of average wages, the gap is explained throughout the wage distribution in a rather balanced way by differences in the endowments of characteristics and by differences in returns, contrasting with the rest of the economy, where the gap is largely explained by unobserved elements associated with the returns component. The significant widening of the gender gap in the hospitality industry along the distribution is, in turn, explained by the growing profile of the two components. In the case of the characteristics component, we can observe relative deficiencies in the endowment of three job attributes in the case of women (seniority, supervisory tasks and occupational distribution), which are particularly intense in the right-hand tail of the distribution. In the case of the returns component, we can see that the worse wage treatment of women compared to men with the same characteristics is intensified throughout the
distribution, which supports the existence of a glass ceiling phenomenon in the sector. The evidence shows that, compared to other women working in the hospitality industry, women at the sector's top positions are doubly penalized by their segregation into worse jobs and by more unfavorable wage treatment. When the comparison is made with women at the top of the wage distribution in the rest of sectors, we can observe that the relatively unfavorable wage treatment compared to men is a shared element, but that the segregation in worse jobs is a differential element that penalizes qualified women in the hospitality industry more severely.

The existence of any potential discrimination against women should be a matter of concern for policymakers and managers, but in this case it is particularly important taking into account that hospitality is a sector where average hourly wages are lower by about a quarter than those of the rest of the economy, which puts women in a more precarious situation. In this sense, this study adds to the research that has found gender-based inconsistencies in the way the hospitality industry compensates its employees. As pointed out by Sturman (2015), the fight against prejudiced and biased practices is especially relevant since, given the industry’s human resources challenges, allowing these barriers to persist is not only illegal and may expose a company to legal action, but it is also counterproductive.

Moreover, it should be noted again that being able to identify measurable features associated with lower female wages does not preclude the existence of other, indirect ways of discrimination, as pointed out by a growing strand of the specialized literature. In particular, our results show that, in contrast with other parts of the economy, observable/quantifiable factors are highly relevant in explaining the gender wage gap in hospitality. This paves the way for targeted measures to reduce gender inequalities in the sector that, according to our findings, should focus on mitigating the segregation of women in lower-paid occupations and on increasing their supervisory attributions, on the one hand and, to a lesser extent, on trying
to improve their job tenure. Measures that could be taken (see e.g. European Commission, 2017, European Union 2019, and World Tourism Organization, 2019) to address both direct and indirect forms of discrimination include, first, those aimed at improving the conditions and flexibility of family-related leave entitlements as well as promoting the sufficient availability of flexible working arrangements and reduced working hours options. For these types of measures to be successful, however, a more balanced gender distribution of the use of all benefits related to childcare and dependent relatives must be ensured, so that these policies do not lead to a reduction in women's accumulation of work experience and seniority in the company, or to their concentration in jobs where the opportunity cost of engaging in these types of options is lower. In the same vein, improving the availability of accessible, affordable and quality formal care services for children and dependent relatives could also reduce the gender differences in the workplace, including those between wages. A second group of measures that could mitigate the gender wage gap would be those aimed at strengthening public awareness of anti-discrimination laws, promoting transparency in pay, staff selection and promotion practices, improving the application of the law at the enterprise level through not only punitive actions but also through policies to promote and make the presence of women in higher positions on the labor ladder more visible, highlighting the global impact that women have in the tourism sector. A third course of action comprises educational measures that diminish the impact of traditional social norms and stereotypes on the decisions that women make with respect to their early educational choices and professional careers, something that can also be promoted from the private sector through the use of champions, mentors and role model systems.

To conclude this section we must refer to two limitations of the database used in the analysis: the impossibility of controlling for selection, which could potentially influence the results achieved, as discrimination could be present in hiring practices and not in wage
determination and, due to its cross-sectional design, the impossibility of controlling for individual fixed effects. Future research based on new databases should consider these potential effects carefully. Moreover, given that previous evidence has shown that there are significant regional differences in the magnitude of the average gender wage gap in the Spanish hospitality sector (García-Pozo et al., 2012), a possible line of future research could examine regional differences in the gap throughout the wage distribution. Finally, it would also be interesting to examine whether there are differences in observed and unobserved characteristics between wage-earners and self-employed workers in the hospitality industry, and whether such potential differences are moderated by gender. This would enable us to determine whether hospitality wage-earners are representative of all workers and if analyses based on their experience allow for non-biased examinations of the gender wage gap in hospitality. This is an issue that, unfortunately, cannot be analyzed using data from the Survey of Earnings Structure, which only includes information on wage-earning workers.

References


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1 The scarcity of quantitative studies contrasts with a renewed interest in the study of the difficulties faced by women in their employment progression in the field of tourism and hospitality using qualitative techniques (e.g. Segovia-Pérez et al., 2019, and Carvalho et al., 2019).

2 The empirical analysis is conducted using the 2010 wave of the survey in order to avoid plausible potential distortions for both cyclical and regulatory reasons associated with the next available wave of the survey, 2014. These distortions could arise from both the intense job destruction during the crisis following the Great Recession (with a strong composition effect on the labor force that could distort the magnitude and nature of the characteristics component of the decompositions) and the approval of a profound labor market reform in 2012, which affected collective bargaining and the wage determination mechanism and, consequently, could affect the estimation of the returns component of the decompositions (see OECD, 2013 and 2017, for more details).
As is the case in much of the specialized literature, tourism-related sectors cannot be consistently disaggregated from other sectors due to data source limitations, and therefore the analysis focuses on the hospitality sector (that accounts for almost 70% of tourism employment in Spain; Turespaña, 2014). The hospitality sector is unambiguously identified, given that it corresponds to section I in the sectoral classification NACE 2009.

The October wage was taken as a reference given that having worked during that month was the prerequisite for defining the population scope of the survey, following the framework established by the European Union. The total number of hours worked during the month was calculated as a normal working weekday multiplied by 4.35 plus the number of overtime hours worked. The most obvious alternative to the use of the wage hour is the use of their annual equivalents. This last option was ruled out because the annual figure which can be obtained for the number of hours worked based on the survey refers to the working day agreed on for the year between the employer and employee, and not on the number of hours effectively worked, which excludes overtime hours.

The six occupational categories are: 1) Managers and directors; 2) Professionals and technicians; 3) Professional scientists and support staff; 4) Accounting, administrative and other office employees; 5) Medium-skilled blue collar workers and 6) Basic occupations.

Thus, we follow Oaxaca & Ramson (1994) and Neumark’s (1988) recommendation to use the wage structure of all individuals belonging to both groups as the reference in the decomposition.

When conducting the decomposition, the wage structure of the pool of the two groups involved in the comparison has also been used in this case as the reference wage structure.

The monthly average bilateral exchange rate in October 2010 was 0.719 euros per US dollar.

A detailed analysis of the origin of the lower relative wages of the hospitality industry can be found in Casado-Díaz & Simón (2016).

This result is in line with those of Santos & Varejão (2007) and Muñoz-Bullón (2009), who also conclude that the unexplained component is less relevant than the characteristics component in tourism compared to the rest of the economy, although the specific figures vary (55% and 63%, respectively, in Santos & Varejão, 2007, and 12% and 87% in the estimations made by Muñoz-Bullón, 2009), and contradicts, as in the case of the two aforementioned studies, the results of Guimarães & Silva (2016), for whom the bulk of the tourism gender wage gap is due to the unexplained component.

This result is consistent with that obtained by Skalpe (2007), who points out that the greater gender wage gap between tourism managers (vs. manufacturing) found in his analysis is partly explained by the fact that tourism CEOs are relatively more concentrated in smaller firms.

It should be noted, however, that this result does not rule out that some of the differences observed (and therefore explained by the characteristics component) could also be of a discriminatory nature. It that was the case, the comparable contribution of the returns component (the conditional wage gap) in the upper percentiles of the wage distribution in the hospitality industry and the rest of the economy would not accurately reflect the magnitude of the discrimination suffered by women at the top in both sectors. If, for example, occupational segregation and the relative absence of supervisory functions were considered to be discriminatory in origin and their coefficients were added to those of the returns component, our estimations would indicate that the combined (direct/indirect) gender discrimination suffered by female workers in the highest percentiles of the hospitality wage distribution is much higher than in the rest of sectors. This type of reasoning explains why the empirical identification of the glass ceiling phenomenon is sometimes carried out by simply observing
the growth of the raw gender wage gap (and not the conditional gender wage gap) along the wage distribution.
Tables and figures

Figure 1.
Gender wage differentials across the wage distribution.
Hospitality and rest of the economy.

[Graph showing the difference in the logarithm of hourly wages across quantiles for hospitality and the rest of the economy.]
Figure 2.
Aggregate decomposition of the gender wage gap.
Hospitality and rest of the economy.
Figure 3.
Detailed decomposition of the gender wage gap.
Hospitality and rest of the economy.
Characteristics component.
### Table 1.
Wage differentials between males and females.
Hospitality and rest of the economy.

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Hospitality</th>
<th>Rest of the economy</th>
</tr>
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<tbody>
<tr>
<td>Average</td>
<td>0.176</td>
<td>0.189</td>
</tr>
<tr>
<td>10</td>
<td>0.080</td>
<td>0.161</td>
</tr>
<tr>
<td>20</td>
<td>0.094</td>
<td>0.171</td>
</tr>
<tr>
<td>30</td>
<td>0.105</td>
<td>0.181</td>
</tr>
<tr>
<td>40</td>
<td>0.123</td>
<td>0.190</td>
</tr>
<tr>
<td>50</td>
<td>0.149</td>
<td>0.192</td>
</tr>
<tr>
<td>60</td>
<td>0.173</td>
<td>0.194</td>
</tr>
<tr>
<td>70</td>
<td>0.227</td>
<td>0.191</td>
</tr>
<tr>
<td>80</td>
<td>0.273</td>
<td>0.183</td>
</tr>
<tr>
<td>90</td>
<td>0.331</td>
<td>0.191</td>
</tr>
</tbody>
</table>

*Notes: The wage gap corresponds to the differential of the logarithm of the hourly wage.*
Table 2.
Decomposition of the differential in average wages between males and females.
Juhn-Murphy-Pierce decomposition.

<table>
<thead>
<tr>
<th></th>
<th>Hospitality</th>
<th>Rest of the economy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Gender wage gap</td>
<td>0.176</td>
<td>0.176</td>
</tr>
<tr>
<td>Characteristics (1)</td>
<td>0.000(0.0)</td>
<td>0.097(55.1)</td>
</tr>
<tr>
<td>Nationality</td>
<td>-0.001</td>
<td>0.000</td>
</tr>
<tr>
<td>Potential experience</td>
<td>-0.003</td>
<td>-0.001</td>
</tr>
<tr>
<td>Education</td>
<td>0.004</td>
<td>0.001</td>
</tr>
<tr>
<td>Tenure</td>
<td>-</td>
<td>0.019</td>
</tr>
<tr>
<td>Type of contract</td>
<td>-</td>
<td>0.000</td>
</tr>
<tr>
<td>Full- or part-time</td>
<td>-</td>
<td>0.007</td>
</tr>
<tr>
<td>Supervisory tasks</td>
<td>-</td>
<td>0.024</td>
</tr>
<tr>
<td>Occupation</td>
<td>-</td>
<td>0.037</td>
</tr>
<tr>
<td>Region</td>
<td>-</td>
<td>0.010</td>
</tr>
<tr>
<td>Firm size</td>
<td>-</td>
<td>0.000</td>
</tr>
<tr>
<td>Collective agreement</td>
<td>-</td>
<td>0.000</td>
</tr>
<tr>
<td>Firm fixed effects (2)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wage residuals (3)</td>
<td>0.176(100)</td>
<td>0.079(44.9)</td>
</tr>
</tbody>
</table>

Notes: The table shows the results obtained after applying equation (3) to microdata drawn from the Encuesta de Estructura Salarial. Models 1 and 2 correspond to specifications of the wage equation that include just individual characteristics (nationality, potential experience and education) or, additionally, attributes of the job and the firm (tenure, type of contract, full- or part-time, supervisory tasks, occupation, region, sector and type of collective agreement), whereas Model 3 includes individual and job attributes and firm fixed effects instead of firm attributes. The percentage of the wage differential explained by each term appears in brackets.
Table 3.  
Decomposition of gender wage differentials by quantiles of the wage distribution.  
Fortin-Lemieux-Firpo decomposition.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Hospitality Median</th>
<th>Percentile 90</th>
<th>Rest of the economy Median</th>
<th>Percentile 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>1.812</td>
<td>2.137</td>
<td>1.860</td>
<td>2.365</td>
</tr>
<tr>
<td></td>
<td>(0.009)**</td>
<td>(0.009)**</td>
<td>(0.002)**</td>
<td>(0.002)**</td>
</tr>
<tr>
<td>Females</td>
<td>1.734</td>
<td>1.986</td>
<td>1.697</td>
<td>2.170</td>
</tr>
<tr>
<td></td>
<td>(0.006)**</td>
<td>(0.005)**</td>
<td>(0.016)**</td>
<td>(0.002)**</td>
</tr>
<tr>
<td>Difference</td>
<td>0.078</td>
<td>0.151</td>
<td>0.163</td>
<td>0.196</td>
</tr>
<tr>
<td></td>
<td>(0.010)**</td>
<td>(0.027)**</td>
<td>(0.002)**</td>
<td>(0.003)**</td>
</tr>
<tr>
<td>Characteristics</td>
<td>0.047</td>
<td>0.084</td>
<td>0.037</td>
<td>0.024</td>
</tr>
<tr>
<td></td>
<td>(0.005)**</td>
<td>(0.017)**</td>
<td>(0.001)**</td>
<td>(0.002)**</td>
</tr>
<tr>
<td>Coefficients</td>
<td>0.031</td>
<td>0.067</td>
<td>0.126</td>
<td>0.172</td>
</tr>
<tr>
<td></td>
<td>(0.009)**</td>
<td>(0.021)**</td>
<td>(0.002)**</td>
<td>(0.002)**</td>
</tr>
<tr>
<td>Characteristics</td>
<td>Nationality</td>
<td>0.000</td>
<td>-0.001</td>
<td>-0.000</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)**</td>
<td>(0.000)**</td>
</tr>
<tr>
<td></td>
<td>Experience</td>
<td>-0.001</td>
<td>-0.001</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.000)</td>
<td>(0.001)**</td>
<td>(0.000)**</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>0.000</td>
<td>0.000</td>
<td>-0.010</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)**</td>
<td>(0.000)**</td>
</tr>
<tr>
<td></td>
<td>Tenure</td>
<td>0.009</td>
<td>0.020</td>
<td>0.011</td>
</tr>
<tr>
<td></td>
<td>(0.002)**</td>
<td>(0.002)**</td>
<td>(0.007)**</td>
<td>(0.001)**</td>
</tr>
<tr>
<td></td>
<td>Type of contract</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)**</td>
<td>(0.000)**</td>
</tr>
<tr>
<td></td>
<td>Full-time/Part-time</td>
<td>0.015</td>
<td>0.009</td>
<td>-0.011</td>
</tr>
<tr>
<td></td>
<td>(0.003)**</td>
<td>(0.002)**</td>
<td>(0.006)*</td>
<td>(0.001)**</td>
</tr>
<tr>
<td></td>
<td>Supervision</td>
<td>0.005</td>
<td>0.027</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td>(0.002)**</td>
<td>(0.003)**</td>
<td>(0.007)**</td>
<td>(0.000)**</td>
</tr>
<tr>
<td></td>
<td>Occupation</td>
<td>0.009</td>
<td>0.023</td>
<td>0.081</td>
</tr>
<tr>
<td></td>
<td>(0.003)**</td>
<td>(0.003)**</td>
<td>(0.011)**</td>
<td>(0.001)**</td>
</tr>
<tr>
<td></td>
<td>Region</td>
<td>0.010</td>
<td>0.005</td>
<td>0.024</td>
</tr>
<tr>
<td></td>
<td>(0.002)**</td>
<td>(0.003)*</td>
<td>(0.006)**</td>
<td>(0.000)*</td>
</tr>
<tr>
<td></td>
<td>Size</td>
<td>0.001</td>
<td>0.000</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.002)*</td>
<td>(0.000)**</td>
</tr>
<tr>
<td></td>
<td>Collective agreement</td>
<td>-0.002</td>
<td>0.001</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.000)</td>
<td>(0.002)</td>
<td>(0.000)**</td>
</tr>
</tbody>
</table>

\[N\] 5,218, 5,218, 5,218, 163,594, 163,594, 163,594

\[* p<0.1; ** p<0.05; *** p<0.01\]
Appendix

Figure A.1.
Kernel density functions of the logarithm of hourly wages of males and females. Hospitality and rest of the economy.
### Table A.1.

Descriptive statistics.

<table>
<thead>
<tr>
<th></th>
<th>Hospitality Males</th>
<th>Hospitality Females</th>
<th>Rest of the economy Males</th>
<th>Rest of the economy Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly wage (€)</td>
<td>10.149</td>
<td>8.125</td>
<td>13.254</td>
<td>10.750</td>
</tr>
<tr>
<td></td>
<td>(7.01)</td>
<td>(3.73)</td>
<td>(9.67)</td>
<td>(7.23)</td>
</tr>
<tr>
<td>Logarithm of hourly wage</td>
<td>2.215</td>
<td>2.039</td>
<td>2.434</td>
<td>2.246</td>
</tr>
<tr>
<td></td>
<td>(0.40)</td>
<td>(0.30)</td>
<td>(0.51)</td>
<td>(0.42)</td>
</tr>
<tr>
<td>Native</td>
<td>0.804</td>
<td>0.826</td>
<td>0.935</td>
<td>0.945</td>
</tr>
<tr>
<td>Immigrant</td>
<td>0.196</td>
<td>0.174</td>
<td>0.065</td>
<td>0.055</td>
</tr>
<tr>
<td></td>
<td>24.68</td>
<td>25.176</td>
<td>24.519</td>
<td>21.774</td>
</tr>
<tr>
<td>Potential experience</td>
<td>8.828</td>
<td>8.701</td>
<td>10.586</td>
<td>11.516</td>
</tr>
<tr>
<td></td>
<td>(11.88)</td>
<td>(11.84)</td>
<td>(11.61)</td>
<td>(10.93)</td>
</tr>
<tr>
<td>Years of education</td>
<td>(3.13)</td>
<td>(3.05)</td>
<td>(3.87)</td>
<td>(4.08)</td>
</tr>
<tr>
<td>Tenure</td>
<td>7.393</td>
<td>5.116</td>
<td>9.681</td>
<td>7.895</td>
</tr>
<tr>
<td></td>
<td>(9.48)</td>
<td>(6.34)</td>
<td>(10.18)</td>
<td>(9.62)</td>
</tr>
<tr>
<td>Fixed-term contract</td>
<td>0.209</td>
<td>0.205</td>
<td>0.216</td>
<td>0.233</td>
</tr>
<tr>
<td>Part-time job</td>
<td>0.288</td>
<td>0.510</td>
<td>0.083</td>
<td>0.244</td>
</tr>
<tr>
<td>Supervisory tasks</td>
<td>0.302</td>
<td>0.153</td>
<td>0.217</td>
<td>0.150</td>
</tr>
<tr>
<td>Managers and directors</td>
<td>0.040</td>
<td>0.016</td>
<td>0.041</td>
<td>0.023</td>
</tr>
<tr>
<td>Professionals and technicians</td>
<td>0.010</td>
<td>0.012</td>
<td>0.133</td>
<td>0.201</td>
</tr>
<tr>
<td>Professional scientists and support staff</td>
<td>0.100</td>
<td>0.057</td>
<td>0.193</td>
<td>0.177</td>
</tr>
<tr>
<td>Accounting, administrative and other offices employees</td>
<td>0.092</td>
<td>0.081</td>
<td>0.081</td>
<td>0.206</td>
</tr>
<tr>
<td>Medium-skilled blue collar workers</td>
<td>0.627</td>
<td>0.471</td>
<td>0.458</td>
<td>0.270</td>
</tr>
<tr>
<td>Basic occupations</td>
<td>0.130</td>
<td>0.363</td>
<td>0.095</td>
<td>0.122</td>
</tr>
<tr>
<td>Andalusia</td>
<td>0.134</td>
<td>0.151</td>
<td>0.103</td>
<td>0.097</td>
</tr>
<tr>
<td>Aragon</td>
<td>0.025</td>
<td>0.028</td>
<td>0.040</td>
<td>0.036</td>
</tr>
<tr>
<td>Asturias</td>
<td>0.015</td>
<td>0.016</td>
<td>0.033</td>
<td>0.022</td>
</tr>
<tr>
<td>Balearic Islands</td>
<td>0.140</td>
<td>0.099</td>
<td>0.025</td>
<td>0.026</td>
</tr>
<tr>
<td>Canary Islands</td>
<td>0.166</td>
<td>0.126</td>
<td>0.037</td>
<td>0.036</td>
</tr>
<tr>
<td>Cantabria</td>
<td>0.013</td>
<td>0.023</td>
<td>0.024</td>
<td>0.015</td>
</tr>
<tr>
<td>Castile and Leon</td>
<td>0.012</td>
<td>0.014</td>
<td>0.040</td>
<td>0.038</td>
</tr>
<tr>
<td>Castile-La Mancha</td>
<td>0.018</td>
<td>0.021</td>
<td>0.051</td>
<td>0.048</td>
</tr>
<tr>
<td>Catalonia</td>
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<td>0.161</td>
<td>0.168</td>
<td>0.203</td>
</tr>
<tr>
<td>Valencia</td>
<td>0.057</td>
<td>0.066</td>
<td>0.087</td>
<td>0.083</td>
</tr>
<tr>
<td>Extremadura</td>
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<td>0.007</td>
<td>0.022</td>
<td>0.017</td>
</tr>
<tr>
<td>Galicia</td>
<td>0.011</td>
<td>0.019</td>
<td>0.054</td>
<td>0.054</td>
</tr>
<tr>
<td>Madrid</td>
<td>0.189</td>
<td>0.198</td>
<td>0.176</td>
<td>0.215</td>
</tr>
<tr>
<td>Murcia</td>
<td>0.008</td>
<td>0.012</td>
<td>0.030</td>
<td>0.026</td>
</tr>
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<td>0.009</td>
<td>0.029</td>
<td>0.021</td>
</tr>
<tr>
<td>Basque Country</td>
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<td>0.051</td>
<td>0.062</td>
<td>0.049</td>
</tr>
<tr>
<td>La Rioja</td>
<td>0.015</td>
<td>0.016</td>
<td>0.016</td>
<td>0.012</td>
</tr>
<tr>
<td>Ceuta and Melilla</td>
<td>0.003</td>
<td>0.002</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td>Firm size less than 20</td>
<td>0.206</td>
<td>0.201</td>
<td>0.221</td>
<td>0.201</td>
</tr>
<tr>
<td>Firm size 20-49</td>
<td>0.132</td>
<td>0.096</td>
<td>0.131</td>
<td>0.096</td>
</tr>
<tr>
<td>Firm size 50-99</td>
<td>0.098</td>
<td>0.080</td>
<td>0.109</td>
<td>0.081</td>
</tr>
<tr>
<td>Firm size 100-199</td>
<td>0.141</td>
<td>0.144</td>
<td>0.141</td>
<td>0.110</td>
</tr>
<tr>
<td>Firm size 200-49</td>
<td>0.189</td>
<td>0.198</td>
<td>0.215</td>
<td>0.217</td>
</tr>
<tr>
<td>Firm size 500 or more</td>
<td>0.234</td>
<td>0.281</td>
<td>0.183</td>
<td>0.295</td>
</tr>
<tr>
<td>National sectoral collective agreement</td>
<td>0.049</td>
<td>0.051</td>
<td>0.281</td>
<td>0.330</td>
</tr>
<tr>
<td>Sub-national sectoral collective agreement</td>
<td>0.876</td>
<td>0.889</td>
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<td>Firm collective agreement</td>
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<td>0.061</td>
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<td>0.348</td>
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<tr>
<td>Number of observations</td>
<td>2,153</td>
<td>3,065</td>
<td>95,697</td>
<td>67,897</td>
</tr>
</tbody>
</table>

*Notes: Standard deviation for continuous variables in brackets.*