Raining stones? Female immigrants in the Spanish Labor Market

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ABSTRACT

The aim of this paper is to analyze how female migrants fare in the labor market in Spain, a country that has experienced impressive immigration flows during the last decade. Particularly, we explore the differential access to employment and the earnings penalty faced by this group considering the interaction between two potential sources of disadvantage for migrant women: gender and migrant condition. Our findings suggest that migrant women do face this double negative disadvantage. In both cases, we find an economically significant gap, at least for migrants from non-developed countries. Regarding the former, the larger unemployment rate of female migrants is not explained by observable characteristics. In the case of earnings differential, although human capital endowments play a relevant role, both the unexplained earnings penalty associated with gender and migrant status slightly rise across the distribution of wages, suggesting the existence of a sort of glass ceiling for female immigrants.

KEYWORDS: immigration, women, Spain, unemployment, earnings.

JEL CLASSIFICATION: J31, J71.

INTRODUCTION[1]

A glance at the history of nineteenth and twentieth centuries reveals that Spain has largely been a land of emigrants, with massive flows of Spaniards leaving for a better life, first, to America and, more recently, to Western and Central Europe. However, since the mid 1990s, this country has witnessed an unparalleled arrival of immigrants, mainly coming from Latin America and the Caribbean, the Maghreb, and Bulgaria and Romania. As a result, in barely a decade, the percentage of foreign-born population in Spain rose from 1 to around 13 percent, putting Spain side by side with classic host countries like Germany or France.

The aim of this paper is to analyze the performance of female immigrants in the Spanish labor market, studying, particularly, the differential access to employment and the earnings penalty faced by this group. We explore the interaction between two potential sources of disadvantage for migrant women: gender and migrant condition. In order to assess whether migrant women face this double negative disadvantage, through all the analyses the performance of foreign women is compared with the situation of natives, both male and female. The perspective adopted in this paper places female migrants at the centre of the analysis of Spanish immigration, in contrast to most of the available empirical literature, which only refers to the total foreign or even male population, ignoring in all cases the possibility of a double disadvantage for migrant women.

The topic addressed here is relevant not only from a Spanish or European perspective but is also interesting for a broader international audience for several reasons. First, Spain (along with Ireland and Greece) represents an unparalleled case of

[1] We thank Martha MacDonald for very helpful comments on a first draft of this paper.

a country that in barely three decades turned from being a land of emigrants to becoming one of the main immigrant receiving countries of the OECD. In fact, Spain was historically a country of emigrants up to the mid-1970s, when the population flows to European countries were stopped by the restrictions to immigration imposed by the host states in a context of economic crisis and rising unemployment. In the second place, the Spanish peculiarity also applies to the pace of the migration flows received. The rapid growth of the Spanish economy since the mid-1990s, together with the sluggish economic growth in Latin America and the Caribbean and Eastern Europe, led to an impressive increase in the foreign population in Spain in both absolute and relative terms. Nowadays, more than 10 percent of the Spanish population was born abroad. This shift places Spain at the top of the European Union in terms of share of foreign population, ahead of classic immigration countries such as Germany, the Netherlands, France, or the UK. Furthermore, whereas the high immigration rate (foreign-born population over total population) in these countries is the product of several decades of immigration, in the former case is the result of barely ten years of immigration (figure 1). It is reasonable to assume that the fast process of immigration will affect the assimilation of immigrants to the Spanish labor market, leading to a higher potential risk of discrimination. The third reason for which the Spanish case deserves attention has to do with the Spanish-speaking condition of an important proportion of migrants, who arrived from Latin American and Caribbean countries, who are often descendants of former Spanish emigrants to America. In this framework, an interesting question to address is how these men and women perform in the land of their ancestors compared to other groups of foreigners without this shared cultural and linguistic background. Finally, most of previous studies about labor market disadvantages faced by female

migrants were carried out for Anglo-Saxon countries and other Central European countries often with a higher level of development, lower unemployment rates, different institutions and a different functioning of the labor market.

[Figure 1 about here]

The Spanish case is also important from a different perspective. Spain is not only a latecomer in terms of immigration, but also in terms of the incorporation of women into the workplace. Due to the late modernization of the Spanish economy and the late democratization of its political institutions, the increase in the female labor force participation rate in Spain took place much later than in other high income OECD countries. For example, in 1980 the labor force participation rate of Spanish women was only 33 percent (making women less than 1/3 of total employment) compared to values around 55 percent for France or the UK, and almost 62 percent for the US. In contrast, 25 year later, the female labor force participation rate had increased to 58 percent, reducing the gap with France to less than 5 percentage points (12 with the US). This is important because in Spain the inflow of immigrants has taken place at a time of high growth in the (local) female labor force. It is well known, both from standard theoretical analysis of the labor market and from empirical studies, that the gender gap can be affected by the behavior of the female labor supply, especially if immigrants and women share, at least partially, the same labor market niches.

It is our understanding that all these elements make Spain an interesting case study to investigate the potential double burden of female immigrants in the labor market. With that aim, the next section briefly reviews the characteristics and timing of the Spanish immigration phenomenon, presenting the main findings of the literature on the issue as well as placing the Spanish gender wage gap in the context of other

advanced economies' gender wage gap. With this background, and after presenting the characteristics in terms of the adequacy and shortcomings of the data bases used in the analysis, we turn into the central aim of the paper. Immigrants face two potential sources of discrimination: the first is related to the process of access to the labor market, the second, once employed, derives from the risk of earning a lower wage for otherwise equal observable characteristics. Following this two-step approach, we analyze whether female immigrants face a differential risk of unemployment compared to the risk faced by national men and women, and, then, earnings differentials associated with both gender and migrant/national status are explored. In order to have a close look at the issue of the eventual double negative effect we go beyond previous estimates of gender pay gap by using quantile regression, an approach that, to our knowledge, has not been used in previous works on the topic. As is well known, this methodology allows us to see whether the pay gap is different as we move from the low to the high end of the labor market. As usual, the last section concludes summarizing the main findings and contributions of the paper.

HISTORICAL BACKGROUND AND LITERATURE REVIEW

As mentioned in the introduction, immigration is a novelty in the economic history of Spain; once a country of emigrants, in little more than a decade Spain has turned into one of the countries with the highest inflow and rate of immigrants in the EU.[2] As we can see in figure 2, the foreign population in Spain experienced an impressive increase

[2] Spain experienced in the last 150 years different migration waves that were fed, in the nineteenth and first part of the twentieth centuries, by the lack of economic opportunities at home in contrast to the bright perspectives of Latin America, by the political repression and the economic recession after the Spanish Civil War (1936-1939), and by the economic backwardness of the country compared with the tight labour market of Western and Central Europe from the 1950s until the early 1970s.

from less than 1.5 percent in 1996 to almost 13 percent in 2008. Furthermore, the impressive increase of immigration flows to Spain has not been male-dominated.[3]

[Figure 2 about here]

According to Eurostat data, Spain has an unadjusted gender pay gap similar to the EU-27 average (around 17 percent in 2007).[4] Although the Spanish gender wage gap has been studied both from a national perspective (Sara De la Rica and Arantza Ugidos 1995; Jaime García, Pedro J. Hernández, and Ángel López-Nicolás 2001; Javier Gardeazábal and Arantza Ugidos 2005; Sara de la Rica, Juan J. Dolado, and Vanesa Llorens 2008) and from a comparative approach (Wiji Arulampalam, Alison L. Booth, and Mark L. Bryan 2007; Gradín, Del Río, and Cantó forthcoming), labor market outcomes of migrant women in Spain have not received any particular attention from researchers, who usually focus their interest on the overall foreign-born population.[5] Recent examples of research work on wage differentials and immigration, like the papers of Hipólito Simón, Esteban Sanromà, and Raúl Ramos (2008), Juan Canal-Domínguez and César Rodríguez-Gutiérrez, or José I. Antón, Rafael Muñoz de Bustillo, and Miguel Carrera (2009), though documenting the issue of the earnings gap between migrants and natives not explained by human capital endowments, do not address the possibility of a double negative effect on female migrants' outcomes. As far as we know, there are only papers with a similar scope for countries like Denmark (Leif

[3] However, this pattern is not uniform across nationalities. For example, while African or Asian women represent only one third of immigrants of both regions, in the case of people from European countries (other than EU members) and Latin America and the Caribbean, females account for roughly 55 percent of the total.

[4] The unadjusted gender pay gap represents the difference between the average gross hourly earnings of male paid employees and of female paid employees as a percentage of the average gross hourly earnings of male paid employees.

[5] To be honest, in Spain there is a rich tradition of immigration studies from a gender perspective, but mostly from a sociological approach. See, for example María R. Soriano (2006) on female Moroccan migration or Colectivo IOE (2001), for a general review of women, immigration and work, but without specifically addressing the issue of the wage gap.

Husted et al. 2000), the US (James E. Long 1980), and Canada (Charles M. Beach and Christopher Worswick 1993; Abul F.M. Shamsuddin, 1998). In addition, these empirical findings do not allow us to reach a consensus on the existence of double discrimination against women.

Both women and immigrants are potentially at risk of discrimination. In fact, fighting against such discrimination is one of the aims of European social policy and Spain has recently passed a major law on this issue (Ley Orgánica 3/2007 para la igualdad efectiva de hombres y mujeres 2007). Immigrants also face important disadvantages not explained by human capital endowments: they are easy to differentiate, have lower knowledge of the customs and often the language of the country and lower resources with which to prolong the job search.

DATA

The analyses performed in this work are based on two different sources of micro-data: the Labor Force Survey 2006 (LFS 2006) and the Wage Structure Survey 2006 (WSS 2006). These sources are described in detail below.

The Labor Force Survey is the most widely used database for analyzing the patterns of labor market participation in Spain. It has a large sample size and follows a two-stage stratified sampling design. Although it does not include any information on earnings, this survey, carried out by the National Statistics Institute since 1968, comprises detailed information on the socio-demographic characteristics of the working-age population. Micro-data are available on a quarterly basis at the website of the National Statistics Institute (www.ine.es/en), where the interested reader might also

find extensive information on technical features of the LFS, including the questionnaire (INE, 2005 and 2008a).

Regarding the definition of migrant, the LFS offers two useful alternatives for this research: country of birth and citizenship. Since naturalization rules in Spain vary considerably across country of origin and returned emigration to Spain is negligible, there is a case for favoring the former criterion over the latter. Nevertheless, as explained below, nationality is the only variable available when studying wage differentials. Thus, for reasons of methodological consistency, the analysis performed hereafter is based on citizenship. Another pertinent clarification refers to the definition of unemployment. Unlike the official definition of unemployment status, which limits itself to jobless people who are actively looking for a job and quote at least two different job search methods, we work with a wide definition of the unemployed population that comprises all persons who are not currently employed but are willing to work, which includes, for instance, discouraged workers.

Although micro-data are available for the 2nd quarter of 2009, in order to explore the pattern of employment participation in a 'normal' situation, the database of 2006, just before the important downturn suffered by the Spanish economy (which has raised unemployment up to 17.9 percent in October 2009), is used here. Aiming to maximize the size of the available sample, the four quarterly waves carried out each year are pooled, resulting in roughly 290,000 observations of the working-age population, with almost 20,000 foreigners.

The Wage Structure Survey 2006 is the main and most detailed source of information on labor earnings in Spain. Carried out by the National Statistics Institute on --approximately-- a four-year basis and with a two-stage stratified sampling design,

it contains information on monthly and annual wages earned by salaried employees in 2006 (INE, 2008b). Its sample exceeds 150,000 observations, which means it has a significant advantage over other databases, like the much smaller national household survey, the Survey on Living Conditions, and the previous editions of the WSS, limited to firms with 10 or more employees (which excluded almost 40 percent of the total employed population in Spain that is employed in that sort of firm). The micro-data of this survey are also available at the National Statistics Institute website and customized samples can be obtained through it. The only variable specifically referred to migrant status is nationality, which we therefore used as the only criterion for defining migrant status in this research. Though this might be considered as a shortcoming, such a limitation will be minor considering that the bulk of migration flows are concentrated between 2000 and 2005 and it is reasonable to assume that by 2006 there was literally no time for a relevant process of naturalization of immigrants to occur.[6] Moreover, using the LFS 2006 (which includes both country of birth and citizenship) the correlation between having a foreign nationality and being born abroad is above 90 percent. Another problem of the WSS 2006 is that firms whose activity sector is agriculture, livestock, fishing, and forestry do not appear in the database. Workers employed in these sectors barely represent 4 percent of the total employed population. Finally, we have to acknowledge that the WSS has an important shortcoming when looking at the female labor force and particularly migrant women. Being an establishment survey, it does not include workers in private households, namely domestic service. This absence is especially relevant for the study of wage gaps in Spain, as this country is the state with the highest percentage of female employment in

[6] According to Eurostat data from 2001 to 2006 there was a total of 208,520 acquisitions of citizenship in Spain.

this sector of the EU-15, 7.9 percent. Moreover household service is an important source of employment for immigrant women: according to the LFS, more than half (57 percent) of workers in this sector of activity are immigrants.[7] Last, this firm survey only includes information on individuals, so household and family characteristics such as marital status or number of children are not available. If some of the determinants of earnings are associated with decisions made at a household level or power relationships at a family level (as suggested, for instance, by Jacob Mincer 1978 and Michael Baker and Dwayne Benjamin 1997), the effect of such factors will be logically confined to the unexplained part of our models.

EMPIRICAL ANALYSIS

UNEMPLOYMENT DIFFERENTIALS

As mentioned in the introduction, the total employment gap of women or migrant women in the labor market is the product of two different potential sources of discrimination: their higher risk of being unemployed and the risk of receiving a lower wage for otherwise equal characteristics. In this section we will try and find out if women and migrant woman face a higher unemployment gap, leaving the analysis of the wage gap for the next section.

Methodology

Apart from the information provided by descriptive statistics, an appealing way of studying the differences in terms of unemployment rates between migrants and natives is to perform an Oaxaca-Blinder type decomposition of the probability of being

[7] According to an *ad-hoc* survey run in 2000, immigrant women working in household services face a raw hourly wage gap of 19 - 38 percent, depending on the time of the contractual relation, the lower gap corresponding to internal domestic service and the higher one to work by the hour (based on data supplied by Colectivo IOE 2001: 327)

unemployed as a function of several basic demographic characteristics, such as age, schooling level, marital status, number of children and the like (Ronald L. Oaxaca 1973; Alan S. Blinder 1973). The decomposition of binary variable models was proposed for the first time by Joanna Gomulka and Nicolas H. Stern (1990), who used a *probit* model in order to determine what factors accounted for the increase in the employment rate of married women in the UK.

In our case, we extend this methodology in order to take into account the possible existence of a double negative effect on the employment of immigrant women. In other words, we decompose the differences in unemployment rates between male natives and foreign women in two steps: first, we compare male locals and female locals; second, we assess the gap between female natives and migrant women. The procedure unfolds in the following stages:

(1) We take advantage of the fact that the average of predicted unemployment rates according to a *logit* model --this property holds only in asymptotic terms in the case of *probit*- equals the actual mean.

(2) We decompose the gap in actual (and predicted) unemployment rates between male natives and female immigrants into two components: a gender gap and a migrant gap. The gender gap is defined as the differential existing between male and female Spaniards, while the migrant gap refers to the difference in unemployment rates between female natives and female migrants.[8]

[8] The idea of using native women instead of male immigrants as a middle point in the decomposition procedure is in line with the idea of bring disadvantages faced by female workers to the front of the discussion. Alternatively, one can first compute the gap between male natives and male migrants and, then, the differential existing between male and female foreign workers. The results obtained using this alternative approach, though obviously quantitatively different, are qualitatively the same, in the sense that there is also a double disadvantage for migrant women.

(3) Taking the native group as the reference category, both the gender and the migrant gap are split into two components: a first one associated with differences in observed characteristics and a second one linked to differences in coefficients (or unexplained by observable endowments). In the case of the gender gap, the analysis is carried out by computing the hypothetical unemployment rate (calculated as the mean of the probability of being unemployed) that would be observed if socio-demographic characteristics of female Spaniards had the same effect on the probability of being unemployed as their male compatriots. In the case of the migrant gap, the counterfactual unemployment rate corresponds to a situation where migrants see their observable characteristics remunerated in terms of escaping from unemployment in the same fashion as Spanish females.

(4) As a consequence, we can decompose the gap between native men and foreign women in a gender and migrant gap. In each case, there is a part of the gap which is not explained by characteristics.

Formally, we estimate the probability of being unemployed conditioned on a set of human capital and demographic characteristics for three different groups (native males, native females, and migrant females) using *logit* models, that is:

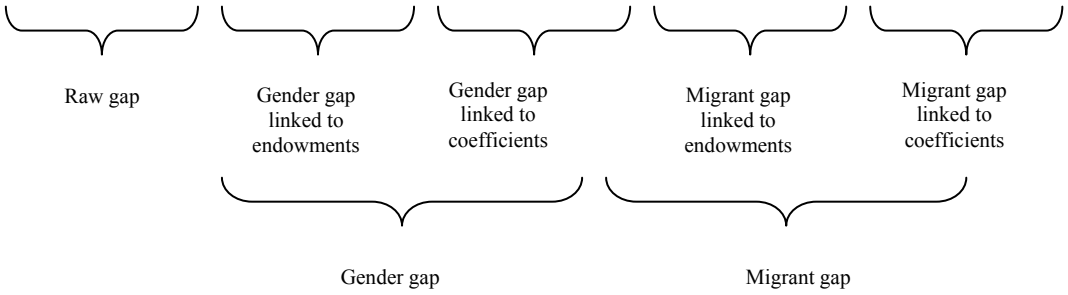
$$P^i = F(X^i \beta^i) \qquad i = nm,\ nw,\ mw.$$

where $F(\cdot)$ is the logistic cumulative distribution function and i = { native men (*nm*), native women (*nw*), migrant women (*mw*)}. X includes a vector of basic socio-demographic characteristics affecting employability (age group, educational level, marital status, household size, number of children, and regional dummies). Then, using the estimated coefficients, b, we compute the average probabilities of employment interchanging coefficients and endowments, that is:

$$\overline{P^{i/j}} = \frac{1}{N_i}\sum_i F(X^i b^j) \qquad i, j = nm,\ nw,\ mw.$$

Finally, adding and subtracting $P^{nw/nw}$, $P^{nw/nm}$, and $P^{mw/nw}$, we have

$$\overline{P^{nm/nm}} - \overline{P^{mw/mw}} = \overline{P^{nm/nm}} - \overline{P^{nw/nm}} + \overline{P^{nw/nm}} - \overline{P^{mw/nw}} + \overline{P^{nw/nw}} - \overline{P^{mw/nw}} + \overline{P^{mw/nw}} - \overline{P^{mw/mw}}$$



Results

The main socio-demographic characteristics of the labor force in Spain in 2006 are presented in Table 1. There are substantial differences between native men, native women, and female migrants. First, the unemployment rate is considerably higher among Spanish women (13.8 percent) than among men (6.5 percent), being even higher among foreign females (around 16 percent). Secondly, while the proportion of Spanish women with high education is higher than that of men, migrant females are younger than the native population and their schooling levels are also higher than those observed among Spanish men. Finally, foreign women are married to a smaller proportion than natives and live in slightly larger households and a greater presence of children.

[Table 1 about here]

The results of the application of the decomposition technique detailed above are presented in Table 2. For reasons of space, detailed econometric results are not presented here and are confined to Annex I. Apart from the decomposition of the unemployment gaps between Spanish men and women and native women and foreign

women, it also analyzes the differential in terms of unemployment between female Spaniards and several groups of migrant women, particularly, women from non-developed countries (which excludes European Union countries, Canada, and the USA), from Latin America and the Caribbean, women who arrived five years ago or earlier (recent migrants), and those foreign women who arrived more than five years ago ('old' migrants). Results show that the seven-point unemployment gap among natives is entirely independent of observable characteristics of the labor force; on the contrary, the gap is completely explained by different returns to such endowments. When comparing Spanish and foreign females, the gap is 2 percent (or total immigrant population and more than 2.8 percent for females from non-developing countries). The gap in the case of Latin American and Caribbean women is less than 1 percent and slightly above this figure for 'old' female migrants. As in the case of the gender gap, the unemployment differential between native women and female migrants is linked to factors not related to observed characteristics. What is even more interesting, in the absence of these different coefficients, the probability of being unemployed should be smaller for Latin American and Caribbean females and 'old' migrant women than for native women, according to their observable characteristics. Basically the same information is displayed in a much more intuitive way by Figure 3, which allows us to observe the huge role played by different returns to observable endowments in explaining both the gender and migrant gap in Spain.

[Table 2 about here]

[Figure 3 about here]

After studying the gap in terms of unemployment, another interesting issue is to analyze where immigrants work, particularly, in which types of occupations and sectors

of activity. Although this point might deserve a paper on its own, we can get a first impression by simply computing how different are jobs held by locals and foreigners. Defining a job as the intersection of a sector of activity and an occupational level, we have computed the Duncan dissimilarity index, which, as it is relatively well-known, accounts for to what extent the job structures of two groups of workers are different. The index is bounded between 0 (the same job structure, no segregation) and 1 (total segregation across jobs). The result of the application of this measure to Spaniards and foreigners from NDC (Figure 4) reveals that segregation by gender seems to be more relevant than segregation by migration status althoght, at the same time, jobs held by female migrants are very different from those hold by their male counterparts.

[Figure 4 about here]

EARNINGS DIFFERENTIALS

Methodology

The analysis of earnings differentials is performed by making use of the so-called Machado-Mata decomposition (José A.F. Machado and José Mata 2005). The main strength of this technique, based on quantile regressions and resampling procedures, is its capability of determining where the gaps are placed in the earnings distribution, allowing the researcher to know whether, for example, the gap increases across the distribution of wages, is larger at the bottom or is constant across different wage levels. This approach has been widely used in order to analyze gender pay gaps (see, for example, James Albrecht, Anders Björklund, and Susan Vroman 2003; Arulampalam, Booth, and Bryan 2007). In addition, we extend this methodology in order to take into

account the potential existence of a double negative disadvantage for foreign women in terms of wages, a perspective that, as far as we know, has not been explored before.

Though technically far more complex, the decomposition follows the spirit of the Oaxaca-Blinder technique mentioned before, a decomposition of mean wage differences. We apply the Machado-Mata technique using the simplified procedure proposed by Albrecht, Björklund, and Vroman (2003). It is based on a four-step methodology that involves the construction of several counterfactual earnings distributions:

(1) Estimate a quantile regression for each percentile for native men, native women, and migrant women.[9] As covariates, we include a set of variables capturing factors related to individual productivity (human capital endowments, that is, age, age squared, educational level, and tenure) and productive structure (firm size, eleven dummies for sector of activity, and regional dummies).

(2) For each quantile, take a draw from the sample of native women and compute the predicted log wage for them using the native men coefficients for that quantile (obtained in the previous step). Repeat the process for the migrant women database, but using the coefficients estimated for native women.

(3) Repeat step two *M* times obtaining a counterfactual distribution of native women that reflects their remunerations as if they were paid as native men and a counterfactual distribution of migrant women as if they were paid as native women. Following the work of James Albrecht, Aico van Vuuren and Susan Vroman (2007), *M* is set to 100. In addition, just as Arulampalam, Booth, and Bryan (2007), our bases for comparison

[9] In this respect, see, for example, the comprehensive work of Roger Koenker (2005).

are the predicted wage distributions of native men and native women, retaining their characteristics and specific returns.

(4) Finally, compute the wage difference at each quantile between the predicted earnings distributions of the following groups:

- Native men and native women.
- Native women and migrant women.

Using this procedure, the raw gap at each quantile of the wage distribution (conditioned on covariates) can be decomposed into a gender gap (differential between native men and native women) and a migrant gap (differential between native women and migrant women). At the same time, each of these gaps can be split into a first component associated with differences in endowments and a second one linked to differences in coefficients. Written down in a bit more formal way:

$$\underbrace{\theta(nm/nm,q)-\theta(mw/mw,q)}_{\text{Raw gap}}=$$

$$\underbrace{\underbrace{\theta(nm/nm,q)-\theta(nw/nm,q)}_{\text{Gender gap associated to coefficients}}+\underbrace{\theta(nw/nm,q)-\theta(nw/nw,q)}_{\text{Gender gap associated to endowments}}}_{\text{Gender gap}}+$$

$$\underbrace{\underbrace{\theta(nw/nw,q)-\theta(mw/nw,q)}_{\text{Migrant gap associated to}}+\underbrace{\theta(mw/nw,q)-\theta(mw/mw,q)}_{\text{Migrant gap associated to endowments}}}_{\text{Migrant gap}}$$

where $\theta(i/j,q)$ is the q-th quantile --q ϵ (0,1)-- of the distribution resulting from considering the endowments of group i and the returns to observable characteristics of group j, with i, j = { native men (*nm*), native women (*nm*), migrant women (*mw*)}.

Results

Descriptive evidence points out several features of the employed population that are worthy of mention (table 3). First, foreign female workers are younger than native employees and have lower educational levels. Second, apart from the remarkable wage gap between native men and native and migrant women, regarding occupational characteristics it is worth mentioning that female foreign workers are employed in smaller firms than Spanish women, are much less tenured and are employed to a greater extent than natives in the services sector. Unsurprisingly, these differences in terms of sector of activity also apply to the comparison of native men and women.

Figures 5 and 6 better depict the earnings differential between the three groups analyzed here. Figure 5, which presents the estimated density functions of wages for native men, native women, and migrant women, makes it clear that migrant women face a serious earnings disadvantage in comparison to natives, as long as their earnings distribution are placed to the left of their distributions, which mainly applies when they are compared to male nationals. This gap is not explained by the different age profiles of migrants and natives; as shown by Figure 6, native women earn lower wages than their male counterparts and, at the same time, migrant females' earnings are also below local women's ones for every age.

[Figure 5 about here]

[Figure 6 about here]

The results of the Machado-Mata decomposition are presented in Tables 4 and 5 and, in order to offer a friendlier interpretation, in Figures 7 and 8. Detailed econometric results are displayed in Annex II. For comparative purposes, the mean wage gap -- estimated using the well-known Oaxaca-Blinder technique-- is also presented in both tables and figures. An interesting picture arises from the analysis of wage differentials

across the earnings distribution. First, the raw wage gap between Spanish men and women is large (between 20 and 25 percent) and remains more or less constant across the distribution. In turn, a closer look at the bottom of the distribution suggests that the counterfactual gender gap --not explained by observable characteristics-- slightly increases from 20 percent, at the bottom, up to almost 30 percent at the top. This pattern resembles the *glass ceiling* phenomenon documented for several developed countries (Arulampalam, Booth, and Bryan 2007), though the increasing trend in Spain is much less intense than in other European countries. It is also worth mentioning that, as in other high-income countries, the counterfactual gap is sometimes even larger than the raw earnings differential, which implies that women receive lower remunerations than men, even though females retain 'better' observable characteristics.

Second, the earnings gap between female natives and migrants, which amounts to roughly 20 percent, practically disappears on average when controlling for observable characteristics. The quantile-based analysis shows here all its usefulness as an analytical tool: although the counterfactual differential is tiny up to the 40^{th} percentile, it then rises, reaching nearly 10 percent around the 80^{th}-90^{th} percentiles. This pattern becomes even clearer when we focus only on female workers from non-developed countries, suggesting also the existence of a *glass ceiling*. Interestingly, the gap observed for women from Latin America and the Caribbean behaves in a very similar way, which suggests that foreign women from non-developed regions are employed in jobs where language proficiency does not prove itself to be a highly valuable asset for getting a higher wage.

[Table 4 about here]

[Table 5 about here]

[Figure 7 about here]

[Figure 8 about here]

One can speculate about the explanatory factors behind the behavior of these earnings differentials. In the case of the gender gap, the obstacles faced by women in accessing managerial positions, linked to the classical *glass ceiling* hypothesis, can account for the wide and increasing gap --once we control for observable endowments. In the case of the differential between native and foreign women, the non-recognition (or partial recognition) of the qualifications of female immigrants from non-developed countries is likely to be a consistent explanation of the pattern observed at the top of the earnings distribution. Apart from a higher prevalence of discriminatory practices and information problems about skills and abilities at the upper part of the wage distribution, this result can be explained by the limited transferability of skills and human capital acquired abroad (Chiswick and Miller 2008 and 2009), a fact that has also been recently documented for Spain.[10] This circumstance would be specific for migrants (not affecting local women) and is likely to be more acute at the top of the earnings distribution as long as it is reasonable to think that this problem will be greater in jobs demanding more complex abilities than for those involving only basic tasks.

The existence of power relationships within the family or the prevalence of decisions made at household level --in the neoclassical jargon, family rationality-- could also account for the limited possibilities of migrant women of getting good jobs. For example, Mincer (1978) suggests that, when men are the first to migrate, women might suffer a reduction in their market earnings potential, with a higher possibility of withdrawal from the job market, less job mobility, and a shorter tenure that implies less

[10] Particularly, the research work of Esteban Sanromà, Raúl Ramos, and Hipólito Simón (2009) well documents that human capital endowments obtained abroad are not as profitable as human capital acquired in Spain.

occupational progress, reducing the growth of wages over the life cycle. Taking into account 'family rationality,' Baker and Benjamin (1997) argue that women take the role of secondary workers who fall into low-investment occupations with little mobility and flatter wage and experience profiles. In this context, female work would allow husbands to invest and catch up faster with native men. Also embedded in this context, the division of labor in the household --highly dependent on the power relations among its members-- might be associated with lower earnings for women and moderately higher earnings for men to the extent that a division of labor in the household has a different effect by gender on past labor supply and work effort (Alicia Adsera and Barry Chiswick 2007). If migrant women from less developed countries face a worse family setup, involving a large housework load, that circumstance could partially explain their problems in improving their jobs versus Spanish women.

On the other hand, the compressive effects exerted by some labor market institutions --particularly, the national minimum wage and collective agreements-- represent the most consistent explanation for the behavior of the gap at the bottom. The statutory national minimum wage would act as a floor irrespectively of human capital endowments; thanks to the existence of such a lower limit. Those workers with almost no qualifications would be pushed up in terms of wage in comparison to the wage they would receive in the absence of a minimum wage. Collective agreements, which cover both unionized and non-unionized workers in Spain, could have a similar effect at the former part of the distribution by setting floors in some sectors of activity higher than the national minimum wage. Although the remunerations set by the minimum wage and collective agreements also affect native women, the higher concentration of immigrant

women from non-developed countries at the lower-end of the wage distribution allows this group to profit more from the effects of these institutions.[11]

Finally, it is worth mentioning that the gaps, both in terms of earnings and employment, observed might be partially linked to racial issues, as long as, apart from foreigners, Spain is a racially and ethnically homogenous country.[12]

In sum, the results presented above have shown that migrant women face a double negative effect in terms of both access to employment and earnings in the Spanish labor market. Therefore, improving the situation of this female group placed at the lower end of the table might require narrowly targeted interventions. In this respect, we can mention the very positive effects on employment found in the evaluation of pilot schemes targeted on recent migrants in Sweden, involving not only work-oriented language teaching but also practical workplace training (see Lennart Delander et al. 2005).

CONCLUSIONS

The comparatively late entry of Spanish women into the labor force and the sudden increase in immigration flows experienced by the Spanish economy in the last decade make Spain an interesting case study to assess whether female immigrants face a double negative disadvantage in the labor market.

To tackle this issue, we have analyzed the gap in both unemployment and earnings between male natives, female natives, and female immigrants and, particularly,

[11] According to our estimates, 29 percent of immigrant women are located in the first wage decile, compared to 16.7 percent of native women and 4.7 percent of native men (for the first two deciles, the numbers are 12, 30, and 50 percent).

[12] Actually, one can quote the Roma as a Spanish minority. Although there is no official figure reflecting the size of the Roma population, according to estimations from the Spanish government they represent around 1.5 percent of total population. They usually work outside the regular labor market, as self-employed or employed in family businesses.

we have explored which part of those differentials is not explained by observable characteristics linked to employability and productivity, respectively.

The first form of potential discrimination for women in general and immigrant women in particular is related to their differential risk of being unemployed. Our results have shown that the unemployment gap for both groups is entirely independent of observable characteristics of the female labor force, that differential being fully explained by the different returns --in terms of getting a job-- to such observable characteristics. If access to employment were only determined by socio-demographic endowments, migrant women in general, female foreigners from Latin America and the Caribbean, and female foreigners that arrived more than five years ago would have a lower unemployment rate than natives and no differential would be observed in the case of women from non-developed countries and recent female migrants.

In the second place, the earnings gap faced by migrant women has been analyzed using a decomposition technique based on quantile regressions that allows us to explore how those differentials vary across the whole earnings distribution. As in the case of the employment gap, we have first analyzed the gap between male and female local workers and, then, the differential between female natives and migrant women. Regarding the former, whereas the raw gender gap is remarkably stable across the earnings distribution, the unexplained differential grows from roughly 20 to around 30 percent of wages, pointing to the existence of a sort of *glass ceiling*. The picture is somewhat different when focusing on migrant women *vis a vis* local females. In this case, the average raw gap of nearly 20 percent practically disappears when we control for the different human capital characteristics of both groups of workers. Although, on average, the counterfactual earnings differential is almost null, it is remarkably higher at

the top of the distribution (excluding the top decile), a fact consistent with a *glass ceiling* for immigrant women too. Both migrant women from non-developed countries and, particularly, from Latin America and the Caribbean show a similar though somewhat more intense pattern: a relatively small average wage gap, virtually null below the 30th percentile and reaching 10 percent at the top. Non-recognition --or partial recognition-- of the qualifications of female immigrants from non-developed countries (due to a problem of lack of information, discrimination practices, or non-transferability of their skills) as well as power relations and decision-making at family level are likely to be a consistent explanation of this pattern at the upper part of the earnings distribution. The absence of an earnings gap at the lower tail of the distribution between female natives and migrants might be linked to the compressive effect exerted by the national minimum wage and collective agreements.

The finding of this double-negative effect on labor market outcomes of, at least, an important share of migrant women in Spain raises the issue of designing social interventions specifically aimed at improving the situation of this group in terms of access to employment and earnings, which will result in a non-negligible step towards not only gender equality but also social justice in this country.

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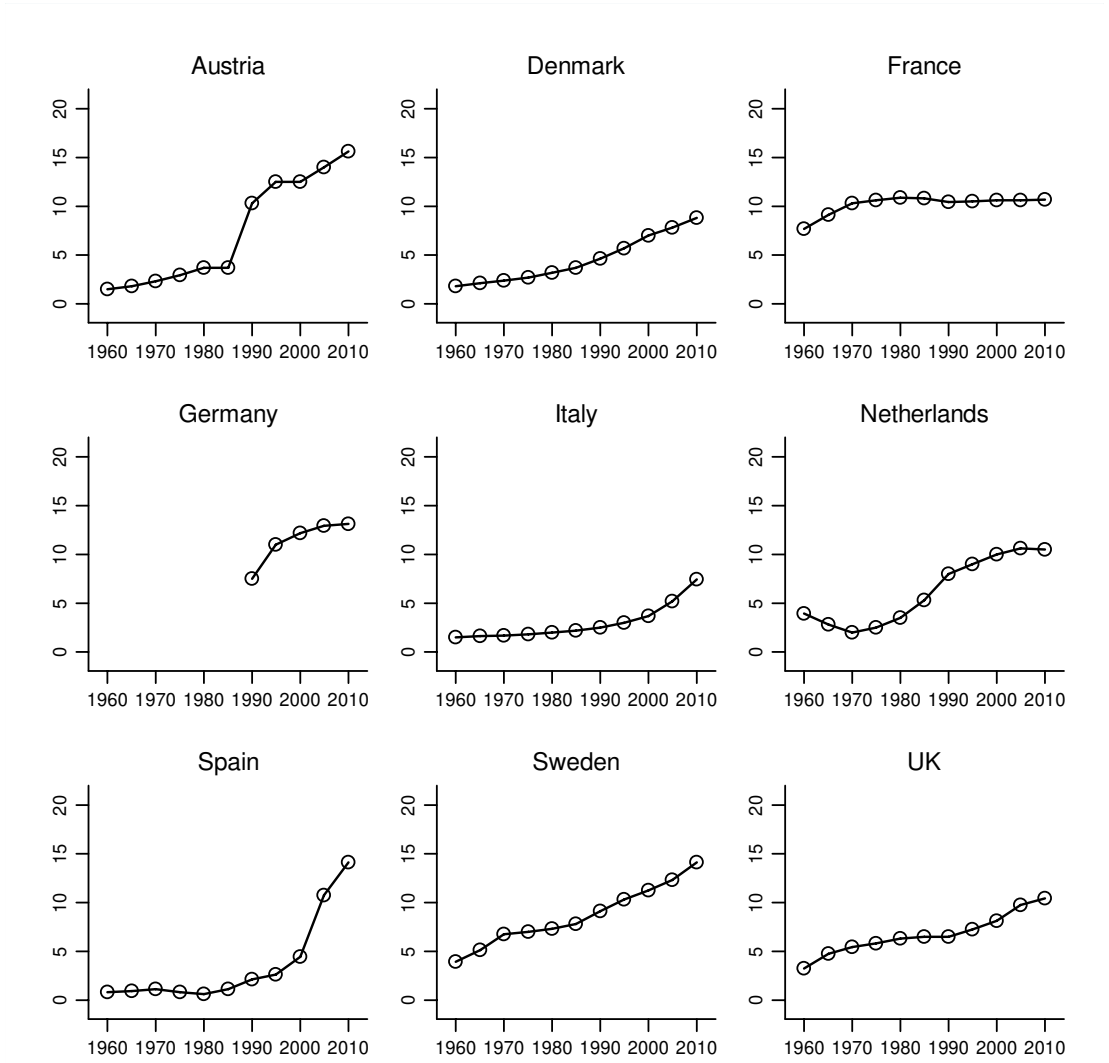
ANNEX I

[Table A.1 about here]

ANNEX II

[Tables A.2-A.6 about here]

Figure 1. Foreign-born population in selected European countries as a percentage of total population (1960-2010)

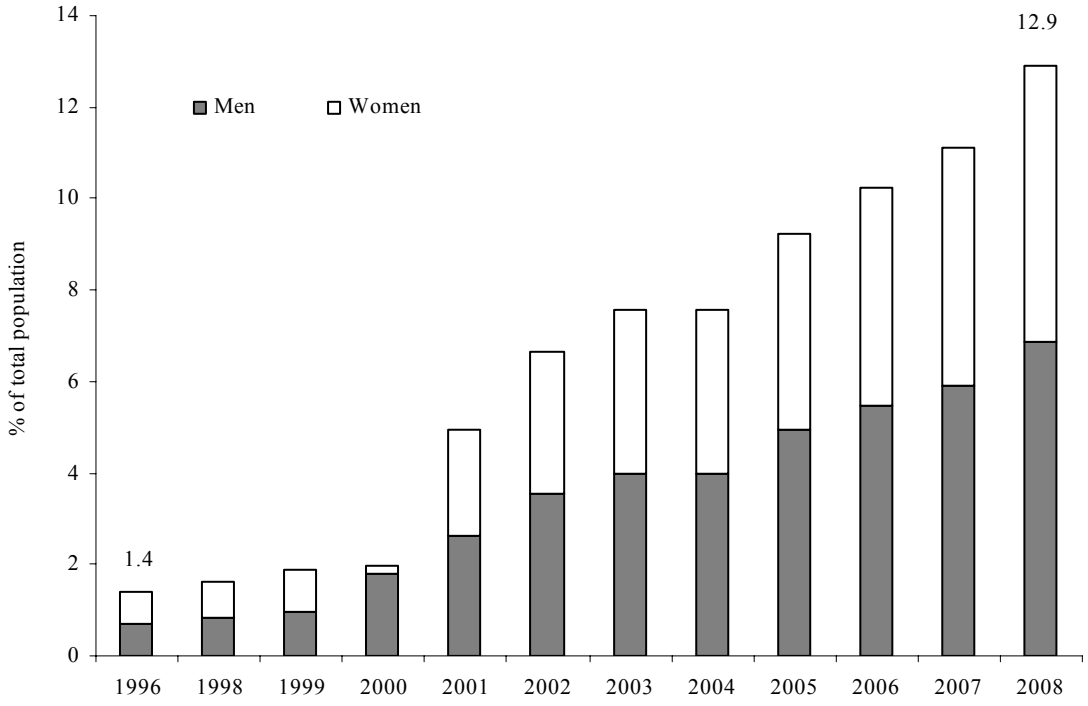


Note: The exact definition of immigrant can vary across countries.

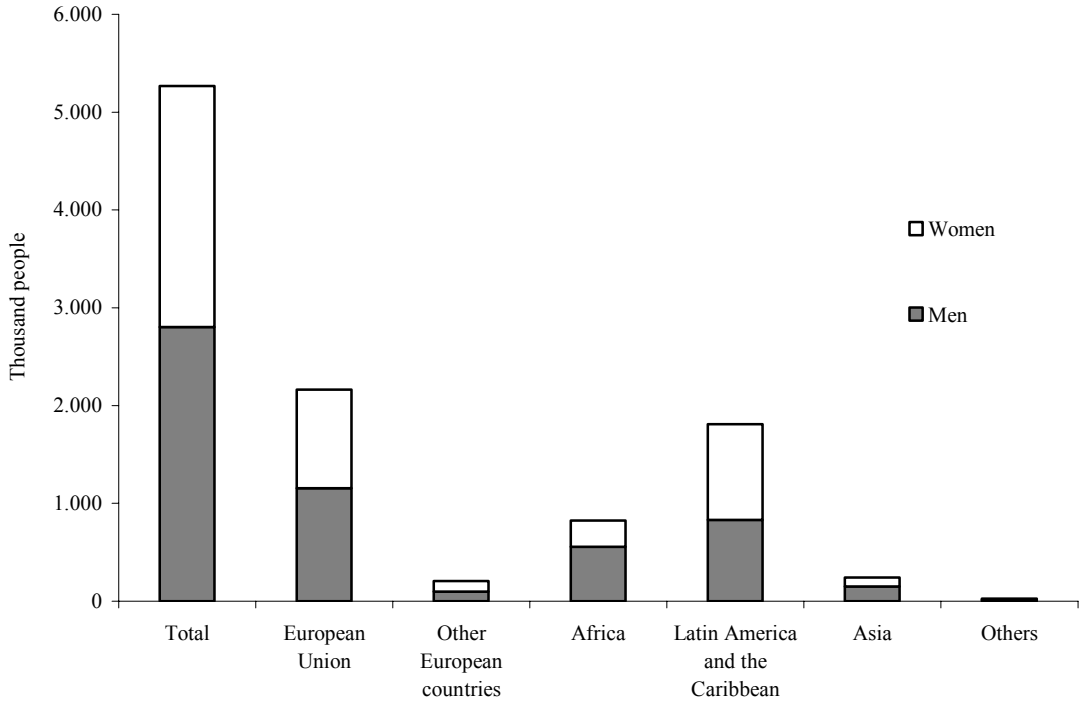
Source: Authors' analysis from the United Nations Migration Database (http://esa.un.org/unmigration/).

Figure 2. Foreign population by gender and country of origin in Spain (1996-2008)

(A) The evolution of foreign population as a percentage of total population in Spain (1996-2008)



(B) Total foreign population by gender and country of origin in Spain (2008)



Source: Authors' analysis from the Local Population Registers.

Table 1. Selected socio-demographic characteristics of labor force in Spain (2006)

	Spanish men		Spanish women		Migrant women		Migrant women from NDC		Female migrants from Latin America and the Caribbean	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Unemployed	0.065	0.246	0.138	0.345	0.159	0.366	0.161	0.368	0.145	0.352
Years of residence	-	-	-	-	5.434	5.603	4.587	4.055	4.317	3.368
Age										
Aged 16-24 years old	0.115	0.319	0.117	0.321	0.152	0.359	0.158	0.364	0.138	0.345
Aged 25-34 years old	0.231	0.422	0.262	0.440	0.363	0.481	0.373	0.484	0.361	0.480
Aged 35-44 years old	0.266	0.442	0.284	0.451	0.293	0.455	0.292	0.455	0.305	0.461
Aged 45-54 years old	0.244	0.430	0.232	0.422	0.153	0.360	0.142	0.349	0.156	0.363
Aged 55-64 years old	0.220	0.415	0.202	0.401	0.128	0.334	0.117	0.322	0.129	0.335
Education										
Elementary	0.031	0.174	0.027	0.161	0.047	0.213	0.052	0.222	0.029	0.168
Basic	0.577	0.494	0.481	0.500	0.394	0.489	0.407	0.491	0.407	0.491
Medium	0.217	0.412	0.217	0.412	0.364	0.481	0.370	0.483	0.390	0.488
High	0.175	0.380	0.275	0.447	0.195	0.396	0.171	0.376	0.173	0.379
Civil status										
Single	0.400	0.490	0.450	0.498	0.496	0.500	0.493	0.500	0.541	0.498
Married	0.600	0.490	0.550	0.498	0.504	0.500	0.507	0.500	0.459	0.498
Household size	3.503	1.230	3.392	1.236	3.549	1.560	3.622	1.585	3.651	1.555
No. of children aged less than 5 years old	0.165	0.431	0.157	0.419	0.266	0.523	0.282	0.536	0.282	0.543
No. of children aged 5-15	0.101	0.387	0.100	0.385	0.153	0.511	0.158	0.520	0.159	0.519
Observations	117,382		155,397		8,634		5,869		4,908	

Source: Authors' analysis from the LFS 2006.

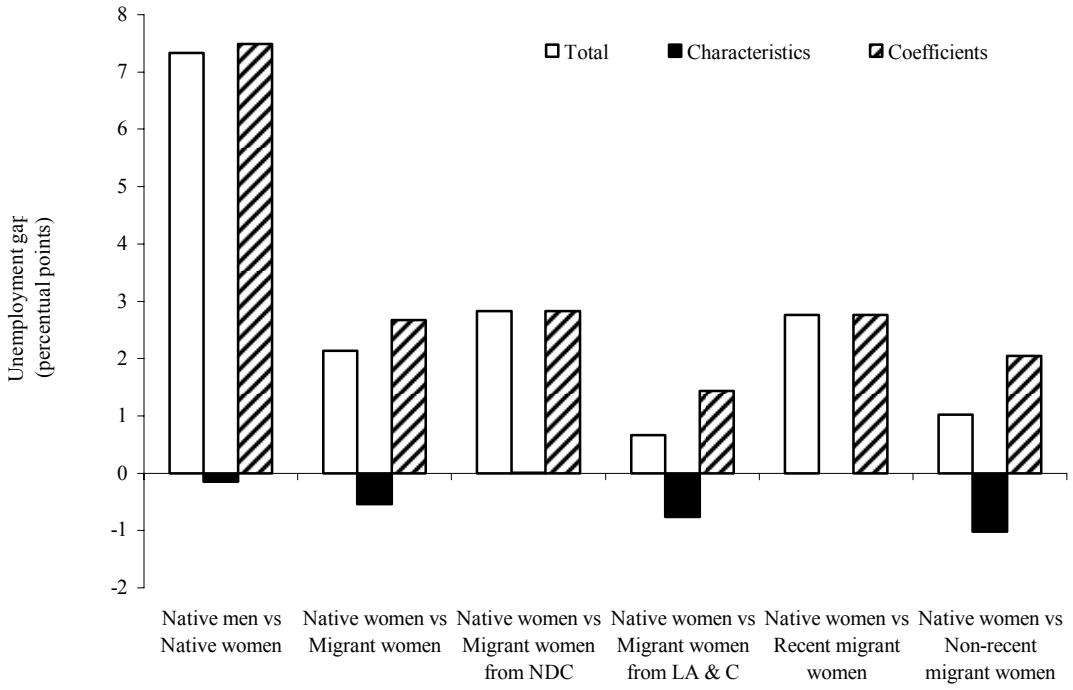
Table 2. Decomposition of the gap in unemployment rates between male natives and female foreigners in Spain (2006)

	Gender gap			Migrant gap		
	Total	Characteristics	Coefficients	Total	Characteristics	Coefficients
Native men-Native women	0.0733	-0.0015 ***	0.0749 ***			
		(0.0002)	(0.0008)			
Native women-Migrant women				0.0213	-0.0054 ***	0.0267 ***
					(0.0008)	(0.0036)
Native women-Migrant women from NDC				0.0283	0.0000	0.0283 ***
					(0.0009)	(0.0044)
Native women-Migrant women from LA & C				0.0067	-0.0077 ***	0.0143 ***
					(0.0008)	(0.0049)
Native women-Recent migrant women				0.0276	0.0000	0.0276 ***
					(0.0008)	(0.0047)
Native women-"Old" migrant women				0.0103	-0.0102 ***	0.0205 ***
					(0.0009)	(0.0055)

Notes: Standard errors between parentheses. *** Significant at 1%; ** significant at 5%; * significant at 1%.

Source: Authors' analysis from the LFS 2006.

Figure 3. Decomposition of unemployment differentials between Spanish men and migrant women (2006)



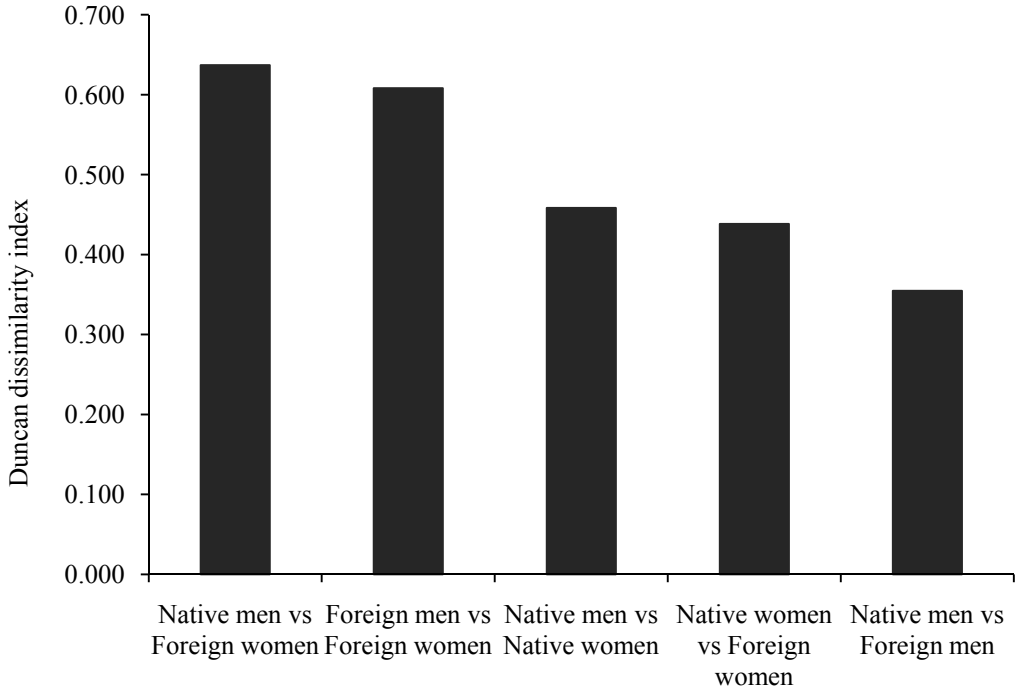
Source: Authors' analysis from the LFS 2006.

Table 3. Selected socio-demographic characteristics of employed population in Spain (2006)

	Spanish men		Spanish women		Migrant women		Migrant women from NDC		Female migrants from Latin America and the Caribbean	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Hourly gross wage (euros)	11.961	8.069	9.380	6.235	7.591	5.444	6.810	3.657	6.810	3.765
Age	38.800	8.458	37.574	8.306	35.748	7.559	35.697	7.487	35.753	7.566
Education										
Elementary	0.056	0.229	0.046	0.210	0.143	0.350	0.160	0.366	0.140	0.347
Basic	0.537	0.499	0.450	0.497	0.551	0.498	0.612	0.487	0.620	0.486
Medium	0.208	0.406	0.209	0.407	0.147	0.354	0.131	0.337	0.141	0.348
High	0.198	0.399	0.295	0.456	0.159	0.366	0.097	0.296	0.100	0.301
Tenure	8.387	8.880	6.912	7.939	1.829	2.715	1.555	2.287	1.457	1.892
Firm size										
Less than 50 employees	0.447	0.497	0.371	0.483	0.450	0.498	0.454	0.498	0.418	0.493
Between 50 and 199 employees	0.273	0.446	0.250	0.433	0.263	0.440	0.255	0.436	0.249	0.433
200 or more employees	0.280	0.449	0.380	0.485	0.287	0.452	0.291	0.454	0.333	0.471
Sector of activity										
Manufacturing	0.445	0.497	0.234	0.423	0.185	0.388	0.196	0.397	0.156	0.363
Construction	0.112	0.315	0.018	0.132	0.012	0.110	0.013	0.112	0.014	0.115
Services	0.443	0.497	0.748	0.434	0.803	0.398	0.792	0.406	0.831	0.375
Observations	89,694		62,728		3,896		3,072		2,074	

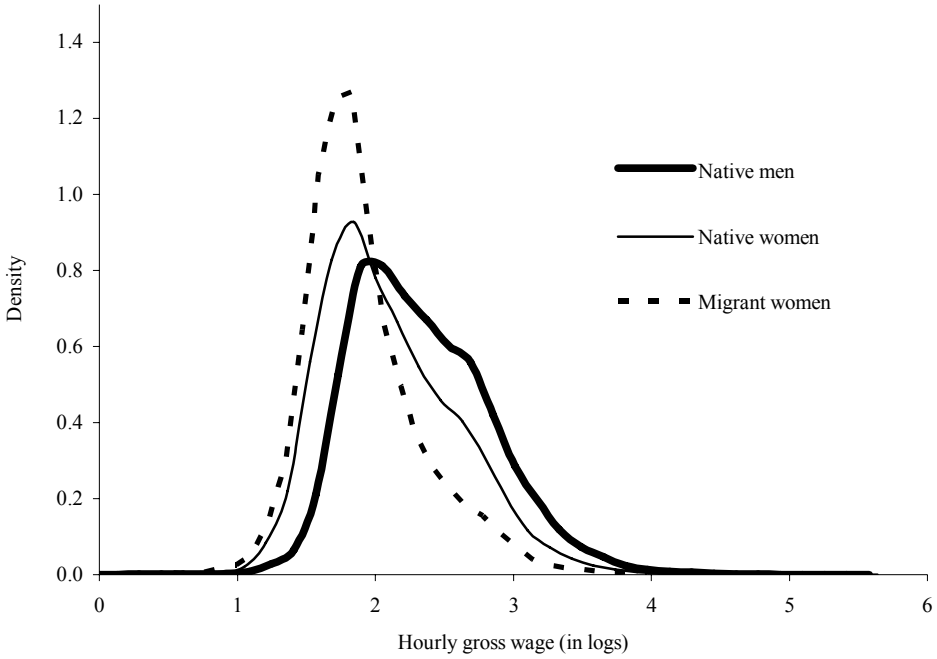
Source: Authors' analysis from the WSS 2006.

Figure 4. Segregation across jobs of natives and foreigners from NDC in Spain (2006)



Source: Authors' analysis from the LFS 2006.

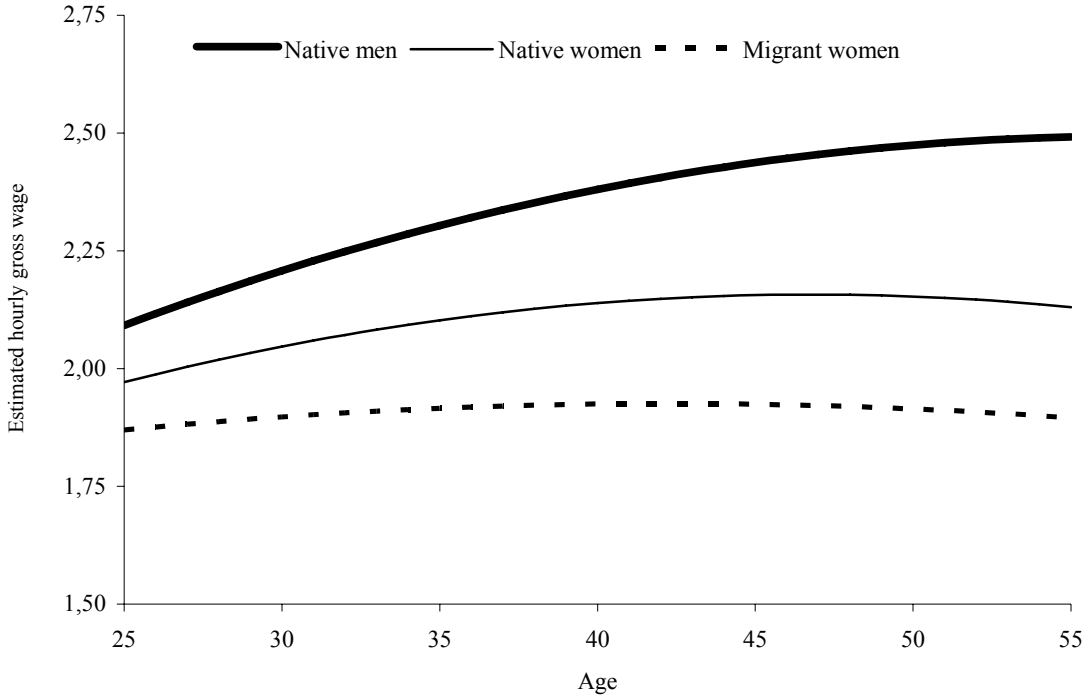
Figure 5. Wage distribution of native men, native women, and migrant women in Spain (2006)



Note: Density functions estimated using an Epanechnikov kernel.

Source: Authors' analysis from the WSS 2006.

Figure 6. Wage-age profiles of native men, native women, and migrant women in Spain (2006)



Note: Estimated hourly gross wages are the fitted values computed from a regression of the hourly gross wage (in logs) on age and age squared by each group.

Source: Authors' analysis from the WSS 2006.

Table 4. Estimated raw and counterfactual wage gaps by percentile (I)

Percentile	Native men-Native women		Native women-All migrant women	
	Raw gap (Standard errors between parenthesis)	Counterfactual gap (Standard errors between parenthesis)	Raw gap (Standard errors between parenthesis)	Counterfactual gap (Standard errors between parenthesis)
10th	0.2115 ***	0.2080 ***	0.0577 ***	-0.0301 ***
	(0.0082)	(0.0002)	(0.0069)	(0.0007)
25th	0.2200 ***	0.2271 ***	0.1036 ***	-0.0036 ***
	(0.0078)	(0.0006)	(0.0063)	(0.0005)
50th	0.2385 ***	0.2552 ***	0.2072 ***	0.0307 ***
	(0.0088)	(0.0005)	(0.0076)	(0.0008)
75th	0.2312 ***	0.2697 ***	0.2927 ***	0.0670 ***
	(0.0109)	(0.0000)	(0.0101)	(0.0006)
90th	0.2248 ***	0.2585 ***	0.3077 ***	0.0645 ***
	(0.0152)	(0.0001)	(0.0160)	(0.0018)
Mean gap (OLS)	0.2387 ***	0.2527 ***	0.1898 ***	0.0140 **
	(0.0027)	(0.0025)	(0.0074)	(0.0069)

*** significant at 1%; ** significant at 5%; * significant at 10%.

Source: Authors' analysis from the WSS 2006.

Table 5. Estimated raw and counterfactual wage gaps by percentile (II)

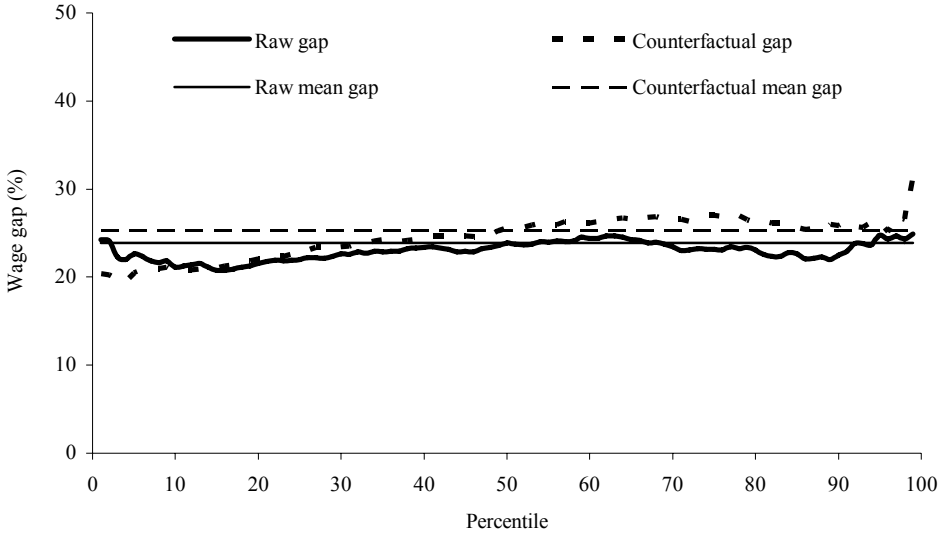
Percentile	Native women-Migrant women from NDC		Native women-Migrant women from LA & C	
	Raw gap (Standard errors between parenthesis)	Counterfactual gap (Standard errors between parenthesis)	Raw gap (Standard errors between parenthesis)	Counterfactual gap (Standard errors between parenthesis)
10th	0.0629 ***	-0.0142 ***	0.0714 ***	-0.0208 ***
	(0.0072)	(0.0004)	(0.0071)	(0.0008)
25th	0.1328 ***	0.0037 ***	0.1361 ***	0.0186 ***
	(0.0062)	(0.0007)	(0.0064)	(0.0009)
50th	0.2473 ***	0.0471 ***	0.2594 ***	0.0610 ***
	(0.0072)	(0.0010)	(0.0069)	(0.0009)
75th	0.3894 ***	0.1088 ***	0.3943 ***	0.1174 ***
	(0.0094)	(0.0011)	(0.0095)	(0.0011)
90th	0.4445 ***	0.1418 ***	0.4757 ***	0.1524 ***
	(0.0138)	(0.0003)	(0.0139)	(0.0012)
Mean gap (OLS)	0.2634 ***	0.0496 ***	0.2628 ***	0.0582 ***
	(0.0073)	(0.0074)	(0.0086)	(0.0087)

*** significant at 1%; ** significant at 5%; * significant at 10%.

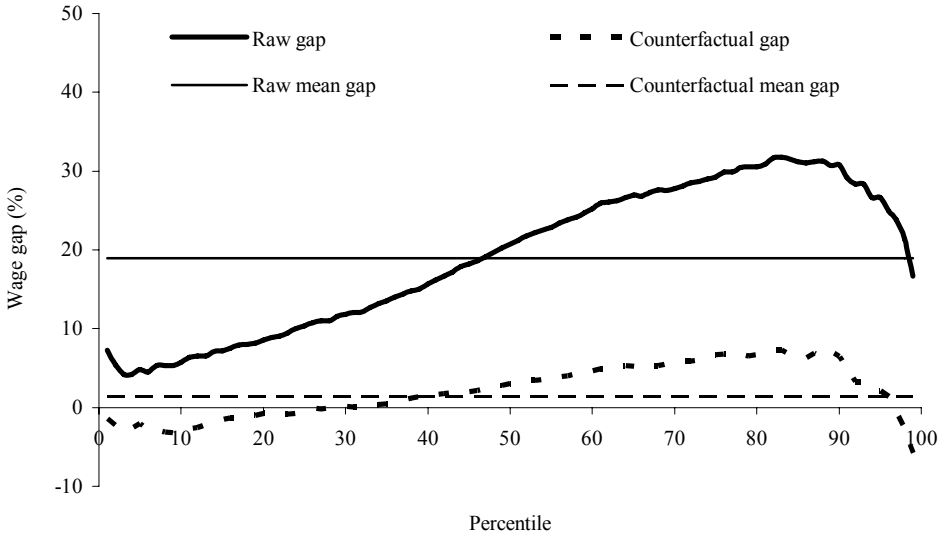
Source: Authors' analysis from the WSS 2006.

Figure 7. Decomposition of the wage differentials between native men and migrant women (I)

Wage gap between native men and native women



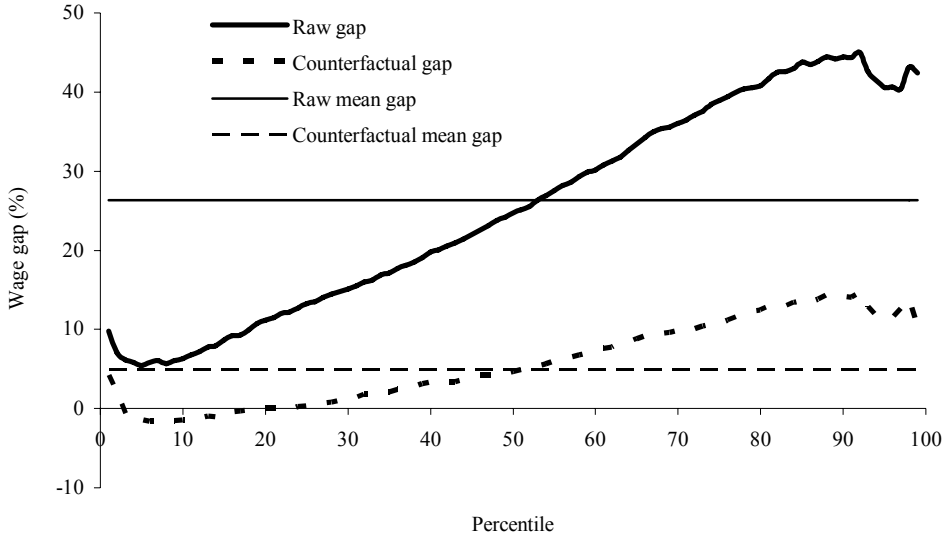
Wage gap between native women and migrant women



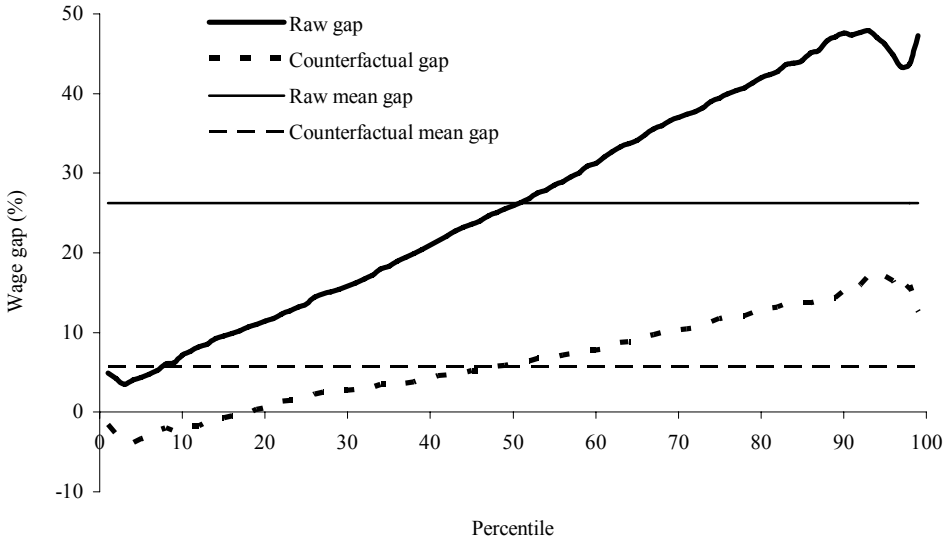
Source: Authors' analysis from the WSS 2006.

Figure 8. Decomposition of the wage differentials between native men and migrant women (II)

Wage gap between native women and migrant women from non-developed countries



Wage gap between native women and migrant women from Latin American and the Caribbean



Source: Authors' analysis from the WSS 2006.

Table A.1. Marginal effects (evaluated at the means of covariates) of *logit* estimates of the probability of being unemployed (2006)

	Native men	Native women	Migrant women	Migrant women from non-developed countries	Migrant women from Latin America and the Caribbean	Migrant women arrived 5 years ago or earlier	Migrant women arrived more than 5 years ago
Age (25-34 years old = 0)							
16-24 years old	0.531 ***	0.097 ***	0.104 ***	0.141 ***	0.114 ***	0.128 ***	0.056 **
	(0.035)	(0.005)	(0.016)	(0.020)	(0.021)	(0.020)	(0.026)
35-44 years old	0.005	0.020 ***	0.024 **	0.037 ***	0.026 **	0.040 ***	-0.004
	(0.031)	(0.003)	(0.010)	(0.013)	(0.013)	(0.014)	(0.014)
45-54 years old	-0.293 ***	-0.005	-0.026	-0.020	-0.021	-0.039	-0.010
	(0.045)	(0.004)	(0.019)	(0.027)	(0.025)	(0.028)	(0.027)
55-64 years old	0.146 ***	0.001	0.045 *	0.041	0.046	0.073	0.038
	(0.045)	(0.004)	(0.026)	(0.035)	(0.035)	(0.045)	(0.035)
Single (Married = 0)	0.996 ***	-0.003	-0.031 ***	-0.036 ***	-0.029 ***	-0.042 ***	-0.012
	(0.030)	(0.002)	(0.008)	(0.010)	(0.011)	(0.011)	(0.013)
Education (Basic education = 0)							
Elementary education	0.817 ***	0.073 ***	0.061 ***	0.085 ***	0.017	0.081 ***	0.053 *
	(0.047)	(0.007)	(0.020)	(0.024)	(0.031)	(0.028)	(0.028)
Medium education	-0.338 ***	-0.050 ***	-0.041 ***	-0.031 ***	-0.017	-0.053 ***	-0.034 ***
	(0.028)	(0.002)	(0.008)	(0.010)	(0.011)	(0.011)	(0.013)
High education	-0.487 ***	-0.087 ***	-0.043 ***	-0.043 ***	-0.023 *	-0.034 **	-0.056 ***
	(0.034)	(0.002)	(0.009)	(0.013)	(0.013)	(0.013)	(0.014)
Household size	0.018 **	0.006 ***	0.007 **	0.006 *	0.003	0.011 ***	0.001
	(0.009)	(0.001)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)
No. of children aged less than 5	-0.080 **	-0.006 **	0.032 ***	0.029 ***	0.022 **	0.028 ***	0.060 ***
	(0.031)	(0.002)	(0.007)	(0.009)	(0.010)	(0.010)	(0.011)
No. of children aged 5-15	-0.009	0.007 ***	0.010	0.013	0.009	0.014	0.006
	(0.037)	(0.003)	(0.008)	(0.010)	(0.011)	(0.011)	(0.012)
McFadden R^2	0.072	0.057	0.037	0.041	0.027	0.043	0.042
Observations	117,382	155,397	8,634	5,869	4,908	5,164	3,510

*** significant at 1%; ** significant at 5%; * significant at 1%.

Notes: Standard errors between parentheses. All models include an intercept, regional dummies and dummies for year quarters. The reference category is a person aged 25-34 years old with basic education.

Source: Authors' analysis from the LFS 2006.

Table A.2. OLS and quantile regression estimates for Spanish male employees (2006)

	OLS coefficients	Coefficients of quantile regressions by percentile				
		10th	25th	50th	75th	90th
Age	0.045 ***	0.029 ***	0.033 ***	0.038 ***	0.046 ***	0.054 ***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)
Age squared	0.000 ***	0.000 ***	0.000 ***	0.000 ***	0.000 ***	-0.001 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (Basic education = 0)						
Elementary	0.065 ***	0.053 ***	0.051 ***	0.059 ***	0.085 ***	0.060 ***
	(0.006)	(0.007)	(0.006	(0.007)	(0.009)	(0.014)
Medium	0.226 ***	0.161 ***	0.175 ***	0.214 ***	0.262 ***	0.251 ***
	(0.006)	(0.008)	(0.006)	(0.007)	(0.010)	(0.015)
High	0.494 ***	0.319 ***	0.395 ***	0.493 ***	0.568 ***	0.566 ***
	(0.007)	(0.008)	(0.007)	(0.007)	(0.011)	(0.016)
Tenure	0.012 ***	0.012 ***	0.013 ***	0.013 ***	0.011 ***	0.009 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size (less than 50 employees = 0)						
Firm size 50-199	0.143 ***	0.112 ***	0.131 ***	0.169 ***	0.170 ***	0.139 ***
	(0.003)	(0.004)	(0.003)	(0.004)	(0.005)	(0.008)
Firm size 200+	0.252 ***	0.238 ***	0.265 ***	0.287 ***	0.270 ***	0.232 ***
	(0.004)	(0.005)	(0.003)	(0.004)	(0.006)	(0.008)
R^2	0.345	0.158	0.197	0.230	0.213	0.191
Observations	89,694	89,694	89,694	89,694	89,694	89,694

*** significant at 1%; ** significant at 5%; * significant at 10%.

Notes: Standard errors between parentheses. McFadden R^2 reported in quantile regressions. The reference category is a person with an intercept, eleven dummies for sector of activity of the firm and regional dummies are also included in all regressions.

Source: Authors' analysis from the WSS 2006.

Table A.3. OLS and quantile regression estimates for Spanish female employees (2006)

	OLS coefficients	Coefficients of quantile regressions by percentile				
		10th	25th	50th	75th	90th
Age	0.033 ***	0.015 ***	0.020 ***	0.030 ***	0.037 ***	0.042 ***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)
Age squared	0.000 ***	0.000 ***	0.000 ***	0.000 ***	0.000 ***	-0.001 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (Basic education = 0)						
Elementary	0.031 ***	0.077 ***	0.041 ***	0.030 ***	0.017 ***	0.017 ***
	(0.008)	(0.009)	(0.008)	(0.008)	(0.010)	(0.016)
Medium	0.170 ***	0.169 ***	0.157 ***	0.162 ***	0.167 ***	0.189 ***
	(0.008)	(0.010)	(0.008)	(0.008)	(0.011)	(0.017)
High	0.481 ***	0.379 ***	0.416 ***	0.490 ***	0.531 ***	0.569 ***
	(0.009)	(0.010)	(0.009)	(0.008)	(0.011)	(0.017)
Tenure	0.015 ***	0.014 ***	0.016 ***	0.016 ***	0.016 ***	0.014 ***
	(0.000)	(0.000)	(0.000)	0.000	(0.000)	(0.000)
Firm size (less than 50 employees = 0)						
Firm size 50-199	0.072 ***	0.056 ***	0.077 ***	0.074 ***	0.077 ***	0.078 ***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.009)
Firm size 200+	0.171 ***	0.144 ***	0.166 ***	0.177 ***	0.188 ***	0.179 ***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.009)
R^2	0.366	0.134	0.190	0.248	0.261	0.218
Observations	62,728	62,728	62,728	62,728	62,728	62,728

*** significant at 1%; ** significant at 5%; * significant at 10%.

Notes: Standard errors between parentheses. McFadden R^2 reported in quantile regressions. The reference category is a person with an intercept, eleven dummies for sector of activity of the firm and regional dummies are also included in all regressions.

Source: Authors' analysis from the WSS 2006.

Table A.4. OLS and quantile regression estimates for migrant female employees (2006)

	OLS coefficients	Coefficients of quantile regressions by percentile				
		10th	25th	50th	75th	90th
Age	0.014 *	0.006	0.005	0.013	0.020 **	0.031 *
	(0.008)	(0.009)	(0.007)	(0.008)	(0.009)	(0.017)
Age squared	0.000 *	0.000	0.000	0.000 *	0.000 **	0.000 *
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (Basic education = 0)						
Elementary	-0.017	-0.011	-0.010	-0.006	-0.023	0.031
	(0.018)	(0.021)	(0.016)	(0.018)	(0.021)	(0.039)
Medium	0.126 ***	0.065 **	0.052 **	0.070 ***	0.126 ***	0.231 ***
	(0.024)	(0.027)	(0.020)	(0.023)	(0.027)	(0.050)
High	0.366 ***	0.223 ***	0.268 ***	0.340 ***	0.422 ***	0.546 ***
	(0.028)	(0.030)	(0.022)	(0.024)	(0.028)	(0.052)
Tenure	0.028***	0.019 ***	0.025 ***	0.028 ***	0.039 ***	0.039 ***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.005)
Firm size (less than 50 employees = 0)						
Firm size 50-199	0.104 ***	0.048 ***	0.070 ***	0.103 ***	0.130 ***	0.143 ***
	(0.016)	(0.018)	(0.013)	(0.015)	(0.018)	(0.034)
Firm size 200+	0.076 ***	0.013	0.035 **	0.077 ***	0.151 ***	0.185 ***
	(0.018)	(0.018)	(0.014)	(0.016)	(0.020)	(0.037)
R^2	0.234	0.085	0.098	0.132	0.183	0.191
Observations	3,896	3,896	3,896	3,896	3,896	3,896

*** significant at 1%; ** significant at 5%; * significant at 10%.

Notes: Standard errors between parentheses. McFadden R^2 reported in quantile regressions. The reference category is a person with an intercept, eleven dummies for sector of activity of the firm and regional dummies are also included in all regressions.

Source: Authors' analysis from the WSS 2006.

Table A.5. OLS and quantile regression estimates for migrant female employees from non-developed countries (2006)

	OLS coefficients	Coefficients of quantile regressions by percentile				
		10th	25th	50th	75th	90th
Age	0.013	0.032 *	0.008	0.010	0.018	0.032 *
	(0.008)	(0.017)	(0.006)	(0.007)	(0.011)	(0.017)
Age squared	0.000	0.000 *	0.000	0.000	0.000 *	0.000 *
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (Basic education = 0)						
Elementary	-0.021	0.025	-0.006	-0.008	-0.032	0.025
	(0.018)	(0.037)	(0.014)	(0.016)	(0.025)	(0.037)
Medium	0.057 **	0.096 *	0.031 *	0.038 *	0.033	0.096 *
	(0.025)	(0.051)	(0.018)	(0.021)	(0.033)	(0.051)
High	0.272 ***	0.466 ***	0.162 ***	0.232 ***	0.337 ***	0.466 ***
	(0.031)	(0.054)	(0.021)	(0.024)	(0.037)	(0.054)
Tenure	0.018 ***	0.027 ***	0.015 ***	0.017 ***	0.019 ***	0.027 ***
	(0.003)	(0.005)	(0.002)	(0.002)	(0.004)	(0.005)
Firm size (less than 50 employees = 0)						
Firm size 50-199	0.092 ***	0.146 ***	0.044 ***	0.103 ***	0.155 ***	0.146 ***
	(0.016)	(0.034)	(0.012)	(0.014)	(0.022)	(0.034)
Firm size 200+	0.092 ***	0.232 ***	0.027 **	0.096 ***	0.165 ***	0.232 ***
	(0.019)	(0.019)	(0.013)	(0.015)	(0.024)	(0.036)
R^2	0.127	0.127	0.066	0.070	0.095	0.127
Observations	3,072	3,072	3,072	3,072	3,072	3,072

*** significant at 1%; ** significant at 5%; * significant at 10%.

Notes: Standard errors between parentheses. McFadden R^2 reported in quantile regressions. The reference category is a person with an intercept, eleven dummies for sector of activity of the firm and regional dummies are also included in all regressions.

Source: Authors' analysis from the WSS 2006.

Table A.6. OLS and quantile regression estimates for migrant female employees from Latin America and the Caribbean (2006)

	OLS coefficients	Coefficients of quantile regressions by percentile				
		10th	25th	50th	75th	90th
Age	0.019 **	0.011	0.007	0.013 *	0.023	0.030
	(0.010)	(0.011)	(0.007)	(0.007)	(0.015)	(0.024)
Age squared	0.000 **	0.000	0.000	0.000 *	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (Basic education = 0)						
Elementary	-0.016	0.018	0.022	0.005	0.026 ***	0.024 ***
	(0.022)	(0.026)	(0.016)	(0.017)	(0.006)	(0.008)
Medium	0.062 **	0.069 **	0.048 **	0.044 **	-0.025	0.017
	(0.030)	(0.035)	(0.021)	(0.022)	(0.035)	(0.053)
High	0.263 ***	0.150 ***	0.173 ***	0.223 ***	0.046	0.089
	(0.038)	(0.038)	(0.023)	(0.024)	(0.045)	(0.068)
Tenure	0.019 ***	0.014 ***	0.015 ***	0.012 ***	0.349 ***	0.428 ***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.050)	(0.077)
Firm size (less than 50 employees = 0)						
Firm size 50-199	0.106 ***	0.041 *	0.060 ***	0.103 ***	0.120 ***	0.182 ***
	(0.019)	(0.023)	(0.014)	(0.015)	(0.031)	(0.049)
Firm size 200+	0.106 ***	0.020	0.043 ***	0.093 ***	0.173 ***	0.255 ***
	(0.021)	(0.023)	(0.014)	(0.015)	(0.033)	(0.049)
R^2	0.131	0.076	0.067	0.074	0.097	0.129
Observations	2,074	2,074	2,074	2,074	2,074	2,074

*** significant at 1%; ** significant at 5%; * significant at 10%.

Notes: Standard errors between parentheses. McFadden R^2 reported in quantile regressions. The reference category is a person with an intercept, eleven dummies for sector of activity of the firm and regional dummies are also included in all regressions.

Source: Authors' analysis from the WSS 2006.