How are you doing in your grandpa's country? Labour market performance of Latin American immigrants in Spain.

Antón, José-Ignacio and Carrera, Miguel and Muñoz de Bustillo, Rafael

University of Salamanca

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'HOW ARE YOU DOING IN YOUR GRANDPA'S COUNTRY?' LABOUR MARKET PERFORMANCE OF LATIN AMERICAN IMMIGRANTS IN SPAIN.

JOSÉ-IGNACIO ANTÓN (janton@usal.es) → Corresponding author

RAFAEL MUÑOZ DE BUSTILLO (bustillo@usal.es)

MIGUEL CARRERA (mcarrera@usal.es)

University of Salamanca

ABSTRACT

This paper analyses wage differentials between local and foreign workers from Latin America and the Caribbean in Spain, which was traditionally a country of emigrants, being precisely Hispanic America the main host region of Spanish migrants during the 19th and 20th centuries. In addition, we also compute earnings. The paper exploits the *Earnings Structure Survey 2006*, which is the first nationally representative sample of both foreign and Spanish employees. Using the Machado-Mata econometric procedure, wage differentials between locals and foreigners are decomposed into the gap related to characteristics and the one due to different returns on endowments (i.e., discrimination). First, we find that, in absolute terms, the latter component grows across wage distribution, reflecting the existence of a kind of glass ceiling. Second, there seem not to be significant wage gap between Latin American and the last of foreign employees, probably because non-native workers are employed in low-skill jobs.

KEYWORDS: Immigration, Wage differentials, Latin America, Spain, Quantile regression.

JEL CLASSIFICATION: J71, F22.

1. INTRODUCTION

We all are captains and the only difference between us is the boat in which we sail
León Felipe, Spanish poetry in exile (Spain, 1884- Mexico, 1968)

Migration flows between America and Spain since the 16th clearly illustrates how paradoxical history might be. When some Latin American countries, like, for instance, Argentina or Mexico, were hosting thousands of Spaniards at the beginning and in the middle of the last century -among them, some of the most renamed Spanish intellectuals in its whole history-, few people could even imagine that the situation would be exactly the opposite at the beginning of the 21st century, with almost 2 million Latin American people (more than one third of Spanish foreign population) migrated to Spain in search of better economic opportunities. In many cases, these migrants were descendents of Spanish exiles or economic migrants to America in the 20th century.

The aim of this paper is to assess, for first time, how these Latin American migrants fare in the Spanish labour market compared to both native-born employees and other foreign workers, particularly in terms of earnings. With that objective, we use a recently released earnings survey containing sufficient observations from immigrants.

Though immigration and labour market have been the focus of plenty of economic research, such works have been mainly centred on either all kinds of migrants or certain countries, like the United States, Germany, Canada and Sweden, which often provide academics with comprehensive and large datasets. To our knowledge, Latin American immigration has received scant attention outside the United States, where, among others, the studies of Gammage and Schmitt (2004) and Rivera-Batiz (2007) can be highlighted. The former work finds substantial earnings differentials between male and female Central American migrants, while the latter analyze mean wage gaps among Latin American and native-born workers. Apart from the existence of a common language and shared cultural values, the interest of the Spanish case derives not only from the impressive increase in immigration flows experienced by the country during the last decade, but also from the Spaniards' surprisingly rough attitudes towards foreigners according to opinion polls. For example, immigration was considered the most important problem in the country, well above unemployment and housing (CIS,

2006). In addition, most studies on wage discrimination of immigrants are focused on Anglo-Saxon, and Nordic countries, as well as Central Europe and Benelux, which have been the main host countries in the OECD during recent decades.

In spite of the relative novelty of immigration flows to Spain, there is some literature dealing with the labour market integration of foreign workers, without making any distinction by nationality. The pioneering work of Dolado, Jimeno and Duce (1997) points out a negligible effect of migration on labour market outcomes at the beginning of the nineties, when the intensity of immigrations flows was very low. More recent research exploiting several data sources –among others, the *Spanish Earnings Structure Survey 2002*, which does not offer coverage of small firms- reports similar findings for the second half of the nineties (Carrasco, Jimeno and Ortega, 2008). Other researchers have focused on employment outcomes and occupational segregation of foreign workers, documenting different patterns of labour market integration among foreign-born workers depending both on socio-economic characteristics and country of origin (Amuedo-Dorantes and De la Rica, 2007; Simón, Sanromá and Ramos, 2008). These relatively poor employment outcomes, however, tend to eventually improve with the years of residence in Spain (Fernández and Ortega, 2008). Finally, the work of Canal-Domínguez and Rodríguez-Gutiérrez (2008) is the only one that, to our knowledge, aims to study wage differences between natives and foreigners in Spain, finding a substantial pay gap not explained by observable characteristics and which does not rise across the wage distribution, as in the case of highly educated women –the so-called glass ceiling phenomenon- (De la Rica, Dolado and Llorens, 2008). From our point of view, this work has three main shortcomings. First, it is based on the *Earnings Structure Survey 2002*, which does not include any information on firms with ten or less workers, which accounts for almost half of salaried workers in Spain. Second, in 2002 migration flows were not as important as they would be later and, according to the *Spanish Labour Force Survey 2002* (2^{nd} quarter), less than 3% of employees had a non-Spanish nationality. Finally, this work does not compute any confidence interval for estimates or other mechanisms for determining whether differentials across the distribution are statistically significant.

Regarding international case studies, there is plenty of evidence of important wage differentials between locals and migrants once we control for observable

characteristics, although there is no consistent pattern across countries. For example, the pay disadvantage faced by foreign-born workers is concentrated mainly on the bottom of earnings distribution in Sweden (Hammarstedt and Shukur, 2006 and 2007) and the U.K. (Hunt, 2008) and increases along with wages in the U.S. and Australia (Chiswick, Le and Miller, 2008).

Apart from the role of productivity endowments, several theories can explain the existence of wage differentials between locals and migrants.[1] The point of departure is Becker's (1957) view based on employer's tastes: some employers dislike people from other ethnic groups –modelled as a utility loss derived from hiring them- and, in competitive labour markets, if the share of prejudiced employers is sufficiently large, foreign workers might earn a lower wage than locals. Theories of statistical discrimination also offer a framework for understanding the existence of wage gaps between natives and immigrants based on the lack of information or informational asymmetries (Arrow, 1972a, 1972b and 1973; Phelps, 1972). If there is no perfect information on certain characteristics of immigrants (for example, quality of education) or firms have less knowledge about them, employers will tend to base their hiring and pay decisions on observable characteristics of workers, like the ethnic group they belong to. Another interesting perspective of looking at this issue is the idea of monopsonistic discrimination, inspired by Joan Robinson's (1933) work on imperfect markets. Drawing on this framework, Barth and Dale-Olsen (2009) suggest that (apparently) unexplained wage differentials are associated with the existence of monopsonistic employers and different labour supply elasticities across population. Other things being equal, those collectives with more rigid labour supplies earn less than otherwise. If immigrant workers are employed in sectors where firms have some market power and their labour supply is less elastic than the local one (for example, because of a lower access to unemployment benefits and so on), their pay will be lower. This last hypothesis might be especially relevant for the Spanish labour market, characterized by an excess of labour supply for many years.[2]

[1] See Arrow (1998) for a comprehensive and didactic review.

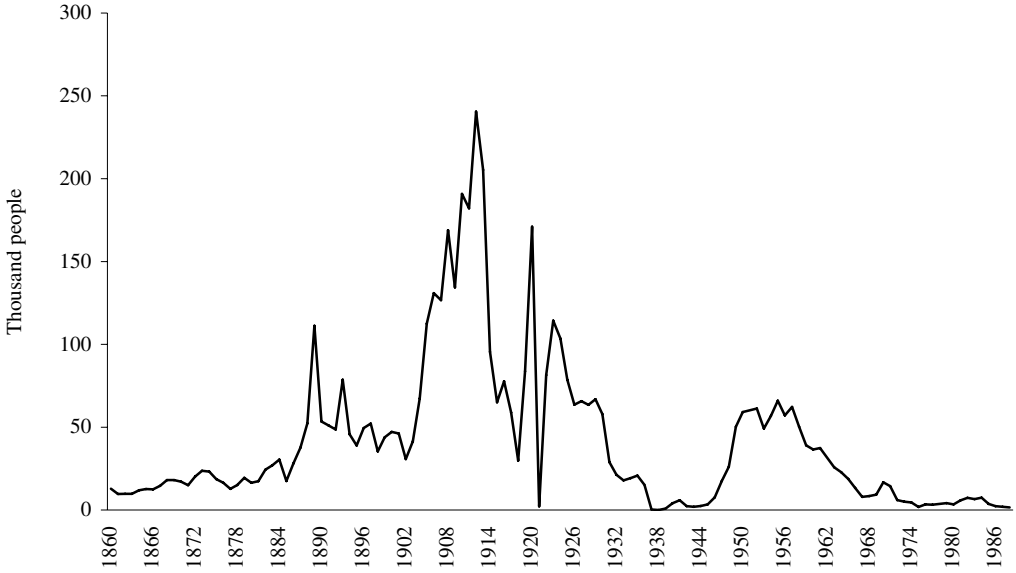
[2] According to OECD statistics, nowadays the unemployment rate in Spain is the highest in the European Union (11.3%) and was 8.5% in 2006. Furthermore, the proportion of over-qualified workers is remarkably high, as around 35% of males and 40% of females reported having jobs where their skills were underutilized (Budría and Moro, 2006).

The rest of the article is organized in four parts as follows. In section two, we present an overall and historical perspective of migration flows between Spain and Latin America and the Caribbean. Section two provides a brief description of the database used in the paper. The methodology and results of the empirical analysis are discussed in the third part, while the last one summarizes and discusses the main findings of the research.

2. HISTORICAL BACKGROUND OF LATIN AMERICA-SPAIN MIGRATIONS

The beginning of migration flows between America and Spain goes back to the times of conquest, since, as soon as Spaniards arrived the continent, Latin America became the main destination of emigration from the metropolis (Martínez Shaw, 1994). Between 1765 and 1824, more than 17 thousand Spanish people left the country to make fortune in America (Márquez, 1995); however, the 19th and 20th century witnessed massive population flows of Spaniards to Latin America and the Caribbean (figure 1). During the second half of the 19th century and the first decades of the last century, the main focuses of emigration were those regions falling behind in the industrialization process. Argentina and Cuba were the main host countries of this first modern wave of transoceanic flows. Latin American and Caribbean countries were also a natural destination of people who went into exile after the Spanish Civil War (1936-1939) and means the main way of escaping from the famine and poverty that were devastating post-war dictatorial Spain during the 40s. The main hosts in this case were Venezuela and Colombia. The history of Spain as a country of emigrants did not stop here, since during the 60s million Spanish moved to European countries –especially, France, Germany and Switzerland- looking for job opportunities. Their remittances remittances financed around 10% of imports, contributing to alleviate serious balance of payments constraints (Oporto del Olmo, 1992).

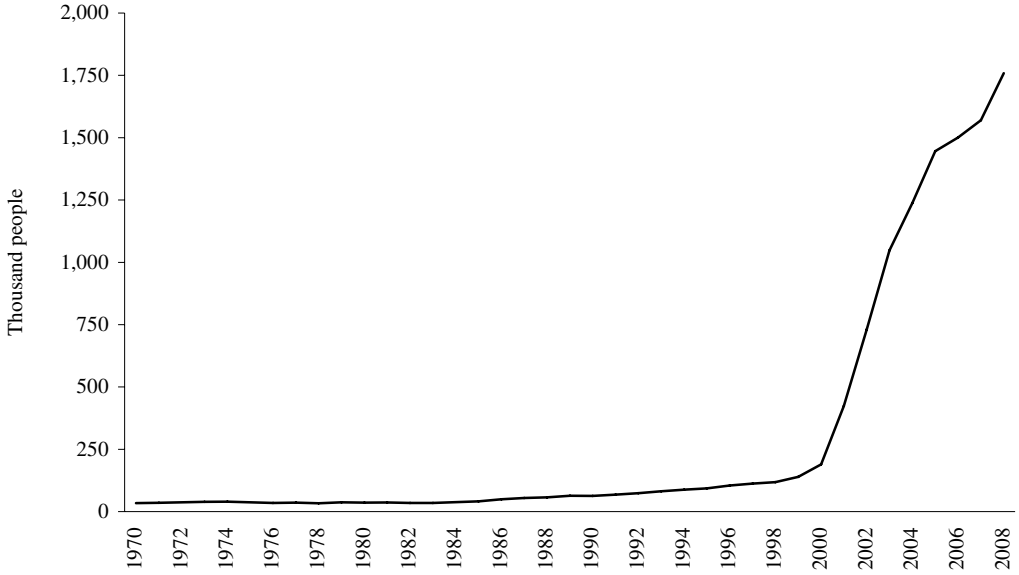
Figure 1. Departures from Spain to America (1860-1988)



Source: Authors' analysis from Yáñez (1994).

The explosion of Latin American emigration to Spain can be framed in the second half of the 1990s, a period characterised by a quite bad economic performance in Latin America -often referred as the 'lost half-decade'- and a remarkable recovery from the 1992-1993 world crisis (figure 2). Those two factors, jointly with a shared language and cultural values definitely played an important role in explaining how migration flowed in the opposite direction than Latin America-Spain population movements in the past.

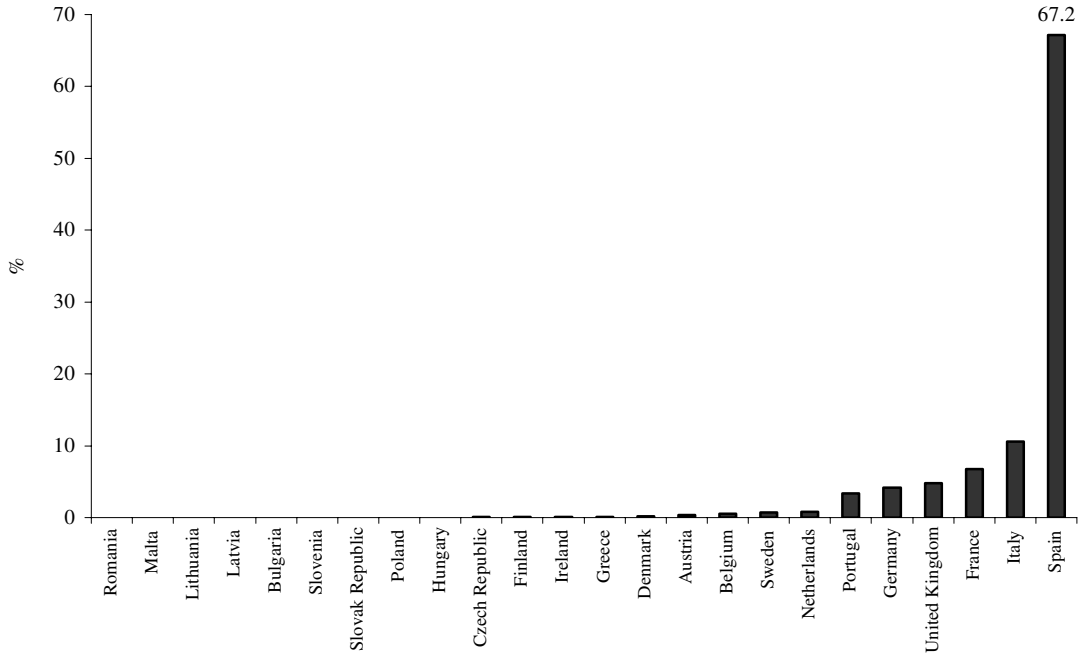
Figure 2. Latin American and Caribbean foreign population living in Spain (1970-2008)



Source: Authors' analysis from *Local Censuses 1996-2008*, *Statistical Yearbooks of Spain 1970-1995* and *1997 Statistical Yearbook of Foreigners*.

In fact, the proportion of population born abroad rose from less than 2% in 1996 to roughly 12% in 2008, which made Spain the country undergoing the third largest increase in non-native population in the European Union during the last decade, after Greece and Ireland (Eurostat, 2006). In terms of Latin American and Caribbean immigrants, figures are even more impressive, as two out of three foreigners from Latin American and Caribbean countries living in a country of the European Union are located in Spain (figure 3). As a result, according to the *2008 Local Census*, more than 1,700,000 Latin American and Caribbean people presently live in Spain, accounting for one out of three foreigners living in this country. The most extensively represented countries among Latin American and Caribbean immigrants in Spain are Ecuador (25%), Colombia (16%), Bolivia and Argentina (both around 10% of total Latin American migrants) (Muñoz de Bustillo and Antón, 2009).

Figure 3. Distribution of foreign population from Latin America and the Caribbean by European Union Countries (around 2008) (%)



Source: Authors' analysis from Eurostat Database and OECD International Migration Database.

3. DATABASE

Previous studies of immigrant-native wage differentials have been constrained by serious data limitations, which, to some extent, are linked to the novelty of modern immigration in Spain. However, it should not be neglected that Spain is a step behind other OECD countries regarding data sources for analysing labour market and social outcomes.

This work is based on the *Earnings Structure Survey 2006* (EES), released by the Spanish National Statistics Institute on December 2008.[3] The EES has several advantages over previous databases. Firstly, while neither the *European Community Household Panel* nor the *Social Statistics on Living Conditions* (SILC) –i.e., the household surveys containing information on labour income from the middle-nineties- provides a large enough and representative sample of foreign workers, the EES includes a sample of local and foreign-born employees representative at national level and whose

[3] Details on sample design and questionnaires can be found in INE (2008a and 2008b).

size can be considered appropriate for analysing foreigners' outcomes in isolation. For example, we have more than 10,000 employees born outside the European Union, which is a sample size higher than the whole SILC. In addition, the EES is based on administrative registers of employers, which, as Cowell (1995) points out, increases the reliability of wage data. In the second place, the EES 2006 overcomes the evident limitations of the previous wave of the survey, carried out in 2002. Firstly, the EES 2002 only contains information on workplaces with ten or more employees, an important shortcoming considering the undeniable relevance of small firms in Spain, where, according to the *2007 Observatory of European Small and Medium Enterprises Survey*, more than 40% of total salaried workers are employed in firms with less than ten workers, being one of the countries where small and medium enterprises account for a largest share of employment in the European Union. In addition, this shortcoming might be especially problematic, since, according to data from the 2006 SILC, foreign workers are over-represented in small firms: while roughly 40% of native employees work in an enterprise whose size is ten or less, the proportion of immigrants is above 55%. Therefore, it is possible there is a selection bias, which, if it is based on unobservable characteristics or observable covariates not included in econometric analyses of wages, will lead to inconsistent estimation of the effect of human capital endowments on wages.

One relevant issue involves the choice of the wage measure to be used in the empirical analysis. It is well-documented that immigrants are usually employed in jobs involving involve harder tasks or worse working conditions (Orrenious and Zavodny, 2009), which can contribute to reducing observed wage gaps if the principle of compensating differentials (at least partially) applies and detailed information on job characteristics is not available for researchers. Therefore, in order to estimate discrimination more precisely, we exclude bonuses associated with dangerous working conditions, night shifts and supplementary hours from our wage measure.

In the second place, it should be mentioned that we limit our analyses to men between 25 and 55 years old for two different reasons. The first one is related to the potential double discrimination suffered by foreign women because of their condition as both females and immigrants. Second, as our database only contains information on employees, there is likely to be some selection bias based on unobservable

characteristics. By restricting our analysis to the group with higher employment rates, we try to minimize this bias.

A final point that requires some discussion is the definition of immigrant. The common approach in the economic literature is, when possible, to consider as immigrants those born abroad, since naturalization rules can differ depending on the country of birth because of special agreements with former colonies and so on. This is, for example, the case of most Latin American workers living in Spain. Unfortunately, this variable is not available in our database, so we have to use citizenship as a proxy for immigrant status. An additional refinement is made: we only categorize as immigrants those foreigners with a nationality from geographical regions that, on average, have a lower level of development than Spain. In the EES 2006, these cases correspond to Latin America and the Caribbean, European countries not belonging the European Union, Oceania, Asia and Africa. There are two reasons for this strategy: first, the rest of the countries are not largely represented among immigrants; second, Spaniards tend to associate immigrants with people from poorer countries, not from other rich EU members or the U.S. or Canada. In addition, as mentioned in the introduction we split the immigrant sample into two groups, Latin American and Caribbean workers and other immigrants, in order to test if there are significant wage differences between both groups.

As a result, our sample comprises more than 96,000 observations, of which almost 90,000 correspond to Spaniards and approximately 6,200 are foreign workers. There are nearly 2,700 employees with citizenship of a Latin American or Caribbean country, with the rest of foreign workers with nationality of a other low or middle-income regions.

3. EMPIRICAL STRATEGY

This section is divided into three parts. The first one describes the Machado-Mata procedure to decompose gaps across the whole wage distribution, while the second one briefly summarizes the main descriptive statistics of the variables used in the analysis. Finally, we present the main results of the empirical analysis and discuss their implications.

3.1. THE MACHADO-MATA DECOMPOSITION

The seminal contributions made by Oaxaca (1973) and Blinder (1973) propose relatively simple econometric techniques to decompose the average gap into a component related to observable endowments and another one associated with differences in characteristics (interpreted usually as a measure of discrimination in labour market studies). The main shortcoming of this approach is related to the fact that the gap in a certain outcome between two groups is likely to not be constant across the whole distribution of such outcome. For example, a null mean gap can be simply the average of large gaps of different signs at the tails, which obviously have very different policy implications than the absence of discrimination.

Several approaches have been proposed to address this issue and compute the gaps conditioned on observable characteristics across the whole wage distribution. We follow the approach firstly proposed by Machado and Mata (2005), though we apply their method following the slightly modified but equivalent version suggested by Albrecht, Björlund and Vroman (2003) and De la Rica, Dolado and Llorens (2008).[4] The basic idea is to construct the counterfactual immigrant's wage distribution that would exist in the hypothetical case that immigrants' characteristics were remunerated exactly with the returns locals get for their endowments.[5] In more detail, the procedure unfolds as follows:

1) Estimate quantile regressions for 99 percentiles using the native-born employees' dataset.[6]
2) For each quantile, take a draw from the locals' sample and compute the predicted log wage for native-born employees at each quantile q, i.e., $x^n b^n(q)$. Repeat the process for the immigrants' database, calculating the predicted log-wage $x^m b^n(q)$.

[4] Other ways of analyzing unexplained wage gaps across the whole distribution have been proposed by DiNardo, Fortin and Lemieux (1996), based on semiparametric estimation methods, and Gardeazábal and Ugidos (2005) and Melly (2006) using quantile regression.

[5] We evaluate the gap at natives' coefficients, as De la Rica, Dolado and Llorens do when they address gender discrimination. On the contrary, Albrecht, Björlund and Vroman (2003) use the potentially discriminated group –in their work, women- as the reference group. Using this alternative assumption, we obtained qualitatively similar results. Estimates are available from the authors on request.

[6] We applied a slightly modified version of Machado-Mata's method, as they take random draws from a uniform distribution between 0 and 1. Both approaches are equivalent in large samples.

3) Repeat step two *M* times and, in this way, obtain a counterfactual distribution of immigrants that reflects their remunerations as if they were paid as locals and the predicted distribution of immigrants retaining their characteristics and specific returns.
4) Profiting from the linearity of quantile regression, calculate the counterfactual gap, that is, the wage differential associated with coefficients, as $x^m b^n(q) - x^m b^m(q)$.

One task seldom addressed in Spanish literature is the computation of standard errors or interval confidence for the counterfactual gap, a non-negligible issue in order to test if gaps at different quantiles are significantly different from zero.[7] Two different ways have been proposed in the literature: bootstrapping or deriving an asymptotic expression for the covariance matrix (Albrecht, Van Vuuren and Vroman, 2009). To compute bootstrapped standard errors with large samples might be computationally cumbersome[8], so we have used the latter procedure, which, as far as we know has only been implemented by Albrecht and his co-authors. The relevant issue here is to compute the variance of the difference between the predicted quantiles of the unconditional counterfactual distributions. According to Albrecht, Van Vueren and Vroman (2009), the variance of $\theta_{mn}(q) - \theta_m(q)$ is given by

$$Var\left[\theta_{mn}(q) - \theta_m(q)\right] = \frac{1}{99M}\left\{\frac{q(1-q)}{f_{mn}\left[\theta_{mn}(q)\right]^2} + \frac{q(1-q)}{f_m\left[\theta_m(q)\right]^2} - 2\frac{q(1-q)}{f_{mn}\left[\theta_{mn}(q)\right] f_m\left[\theta_m(q)\right]}\right\} \qquad <1>$$

This variance can be consistently estimated using the predicted quantiles, $\hat{\theta}_m(q) = x^m b^m(q)$ and $\hat{\theta}_{mn}(q) = x^m b^n(q)$ -which Albrecht and his co-authors prove to be consistent estimators of the true quantiles $\theta_m(q)$ and $\theta_{mn}(q)$- and estimating by kernel density $f_{mn}(\cdot)$ and $f_m(\cdot)$, which represents the density functions of the counterfactual distributions evaluated at each percentile. Obviously, the population density functions are not known; however, as long as the sample is large, it is possible to estimate them using kernel density methods.[9] Note that standard errors for the difference between

[7] De la Rica, Dolado and Llorens's (2008) work is a remarkable exception to this trend.
[8] For example, with our database, it took us more than two hours to run the model in Stata once.
[9] Particularly, we use a Gaussian kernel and the optimal bandwidth suggested by Silverman (1986).

$\hat{\theta}_m(q)$ and $\hat{\theta}_n(q)$ will be larger, since they are not correlated and, hence, the covariance is null.

The procedure described above allows us to compute not only the estimated gap at each quantile, but also to determine if those differentials are statistically significant.

Regarding quantile regressions, following Koenker (2005), the model to be estimated can be expressed in the following way:

$$Y(q) = x\beta(q) + \varepsilon(q) \qquad <2>$$

where Y denotes monthly gross wages (in logs), x includes a set of employee's observable characteristics, β_q is the parameter to be estimated, which captures the proportional wage change in the q^{th} quantile conditional on x and ε_q is a disturbance satisfying $E(u(q) \mid x) = 0$. Therefore, one can write conditional population quantiles $Quant_q(Y \mid X = x)$ as

$$Quant_q(Y \mid X = x) = x\beta(q) \qquad <3>$$

β can be consistently estimated by minimising the sum of weighted absolute deviations using q and 1-q as weighting factors for positive and negative errors, respectively. Finally, the set of covariates includes age, squared age, education, tenure, firm size and regional dummies.

We proceed in two steps: first, we analyse the wage differentials between native and Latin American and Caribbean employees; second, we determine if there is a significant gap between Latin American and Caribbean and other immigrant's earnings, considering the latter the reference group.

3.2. DESCRIPTIVE STATISTICS

The main descriptive statistics of the sample used in the analysis are reproduced in Table 1. They basically indicate that immigrants are younger and have lower stocks of human capital –educational level and tenure- than nationals. In addition, foreign workers tend to be concentrated in small and medium-size firms. Regarding differences

between Latin American and Caribbean employees and other foreigners, the most relevant one refers to schooling, showing the former a higher educational level than the latter.

Table 1. Main descriptive statistics

	Spanish employees		Latin American and Caribbean employees		Other foreign employees	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Hourly gross wage (euros)	7.08	4.51	8.34	4.97	8.24	4.87
Age	38.48	8.42	36.13	7.46	35.76	7.15
Education						
Less than primary education	0.0673	0.2505	0.1618	0.3684	0.2404	0.4274
Primary education	0.1955	0.3966	0.3460	0.4758	0.3697	0.4828
Lower secondary education	0.2892	0.4534	0.2679	0.4429	0.2593	0.4383
Upper secondary education	0.2558	0.4363	0.1458	0.3530	0.0890	0.2847
University	0.1922	0.3940	0.0785	0.2690	0.0417	0.1999
Tenure	7.15	8.20	1.49	1.90	1.72	2.75
Firm size						
Less than 50 employees	0.5874	0.4923	0.5714	0.4950	0.5898	0.4919
Between 50 and 199 employees	0.1891	0.3916	0.2567	0.4369	0.2835	0.4508
200 employees or more	0.2235	0.4166	0.1719	0.3773	0.1267	0.3327

Source: Authors' analysis from ESS 2006.

3.3. ECONOMETRIC RESULTS

Selected quantile regressions (at the 10^{th}, 25^{th}, 50^{th}, 75^{th} and 90^{th} percentiles) for Spaniards, Latin American and Caribbean immigrants and other foreigners are presented in Tables 2, 3 and 4, respectively.

Table 2. Estimated results for quantile for male Spanish employees (2006)

	Coefficients (standard errors in brackets) by percentile				
	10th	25th	50th	75th	90th
Age	0.009 ***	0.008 ***	0.009 ***	0.017 ***	0.025 ***
	(0.002)	(0.002)	(0.001)	(0.002)	(0.003)
Squared age	0.000 ***	0.000 ***	0.000 ***	0.000 ***	0.000 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (less than primary education=0)					
Primary education	-0.008	-0.006	0.000	0.014 *	0.043 ***
	(0.008)	(0.006)	(0.006)	(0.008)	(0.013)
Lower Secondary education	-0.005	0.007	0.014 **	0.021 ***	0.044 ***
	(0.008)	(0.006)	(0.006)	(0.007)	(0.013)
Upper secondary education	0.059 ***	0.083 ***	0.114 ***	0.183 ***	0.290 ***
	(0.008)	(0.006)	(0.006)	(0.007)	(0.013)
University education	0.228 ***	0.285 ***	0.392 ***	0.578 ***	0.715 ***
	(0.008)	(0.006)	(0.006)	(0.008)	(0.014)
Tenure	0.005 ***	0.006 ***	0.007 ***	0.010 ***	0.013 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm size (less than 50 employees=0)					
50-199 employees	0.007	0.020 ***	0.022 ***	0.031 ***	0.050 ***
	(0.004)	(0.003)	(0.003)	(0.004)	(0.007)
200 or more employees	0.027 ***	0.043 ***	0.081 ***	0.147 ***	0.175 ***
	(0.005)	(0.003)	(0.003)	(0.004)	(0.007)
Observations	8,970	8,970	8,970	8,970	8,970
McFadden R^2	0.057	0.078	0.127	0.197	0.222

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

Note: An intercept and seventeen regional dummies are also included in all regressions.

Source: Authors' analysis from ESS 2006.

Table 3. Estimated results for quantile for male Latin American and Caribbean employees (2006)

	Coefficients (standard errors in brackets) by percentile				
	10th	25th	50th	75th	90th
Age	0.004	0.000	-0.003	-0.002	-0.002
	(0.007)	(0.007)	(0.006)	(0.005)	(0.005)
Squared age	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (less than primary education=0)					
Primary education	0.029 *	0.005	0.005	0.008	0.008
	(0.017)	(0.016)	(0.013)	(0.012)	(0.012)
Lower Secondary education	0.008	-0.001	-0.011	0.008	0.008
	(0.018)	(0.017)	(0.014)	(0.013)	(0.013)
Upper secondary education	0.062 ***	0.073 ***	0.118 ***	0.077 ***	0.077 ***
	(0.021)	(0.019)	(0.016)	(0.014)	(0.014)
University education	0.057 **	0.131 ***	0.189 ***	0.326 ***	0.326 ***
	(0.026)	(0.023)	(0.019)	(0.017)	(0.017)
Tenure	0.006 *	0.010 ***	0.017 ***	0.022 ***	0.022 ***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)
Firm size (less than 50 employees=0)					
50-199 employees	-0.033 **	-0.007	-0.009	-0.003	-0.003
	(0.014)	(0.012)	(0.010)	(0.010)	(0.010)
200 or more employees	-0.053 ***	-0.047 ***	-0.027 **	0.017	0.017
	(0.017)	(0.015)	(0.012)	(0.012)	(0.012)
Observations	2,688	2,688	2,688	2,688	2,688
McFadden R^2	0.069	0.091	0.069	0.087	0.126

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

Note: An intercept and seventeen regional dummies are also included in all regressions.

Source: Authors' analysis from ESS 2006.

Table 4. Estimated results for quantile for other male foreign employees (2006)

	Coefficients (standard errors in brackets) by percentile				
	10th	25th	50th	75th	90th
Age	-0.003	-0.008	-0.005	-0.023 ***	-0.025 **
	(0.008)	(0.006)	(0.005)	(0.005)	(0.012)
Squared age	0.000	0.000	0.000	0.000 ***	0.000 **
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (less than primary education=0)					
Primary education	-0.001	-0.006	-0.002	0.023 **	0.022
	(0.016)	(0.012)	(0.011)	(0.010)	(0.023)
Lower Secondary education	-0.012	-0.021	-0.008	0.025 **	-0.014
	(0.017)	(0.013)	(0.012)	(0.011)	(0.024)
Upper secondary education	0.005	-0.001	0.027	0.084 ***	0.104 ***
	(0.023)	(0.018)	(0.016)	(0.015)	(0.034)
University education	0.081 **	0.092 ***	0.108 ***	0.351 ***	0.568 ***
	(0.032)	(0.024)	(0.022)	(0.020)	(0.046)
Tenure	0.002	0.006 ***	0.008 ***	0.004 ***	0.016 ***
	(0.003)	(0.002)	(0.002)	(0.001)	(0.003)
Firm size (less than 50 employees=0)					
50-199 employees	-0.022	0.003	0.009	0.022 **	0.044 **
	(0.014)	(0.011)	(0.009)	(0.009)	(0.020)
200 or more employees	-0.001	-0.006	-0.006	-0.001	0.022
	(0.019)	(0.015)	(0.013)	(0.012)	(0.028)
Observations	3,552	3,552	3,552	3,552	3,552
McFadden R^2	0.055	0.062	0.048	0.062	0.088

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

Note: An intercept and seventeen regional dummies are also included in all regressions.

Source: Authors' analysis from ESS 2006.

Estimates of the wage gap associated with differences in returns –that is, the component aiming to proxy for discrimination- are computed following the method described above and presented in Table 5 and Figures 4 and 5. The counterfactual gap is significantly different from zero across the whole distribution in both cases. In general terms, our results point out two several stylized facts. First, the existence of increasing wage differentials between Spanish and Latin American and Caribbean employees across the distribution conditioned on endowments; pointing to the existence of a sort of glass ceiling similar to those described for female workers. In At the bottom, the gap is very small, which might be explained by two factors. Firstly, by the existence of

compensating differentials not remunerated by specific bonuses but included in the base wage. As long as immigrants' jobs can involve riskier and unpleasant work activities or environments that yield some wage premium, differences at the bottom may be understandably lower. Our database is limited to formal and legal work relations, so all benefits and constraints associated with labour market institutions apply here. For example, collective bargaining agreements and minimum wages (which have considerably risen since 2004) might be contributing to the existence of a lower gap at the bottom by imposing minimum earnings thresholds. However, it is also noteworthy that there is a slight increase of the pay gap around the 20th percentile, which is not easy to interpret. A possible explanation, following the arguments of Hammarstedt and Shukur (2008) for Sweden, would be the existence of a group of foreign workers who have just arrived in the country and whose human capital endowments are not fully transferable to the Spanish labour market in the short or medium run. Secondly, when Latin American and Caribbean workers are compared to other foreigners, both raw and counterfactual wage gaps are tiny, suggesting that they experience quite similar difficulties in the Spanish labour market, not meaning Castilian proficiency a significant advantage in terms of earnings. This can be linked to the fact that most immigrants are employed in low-skill jobs.

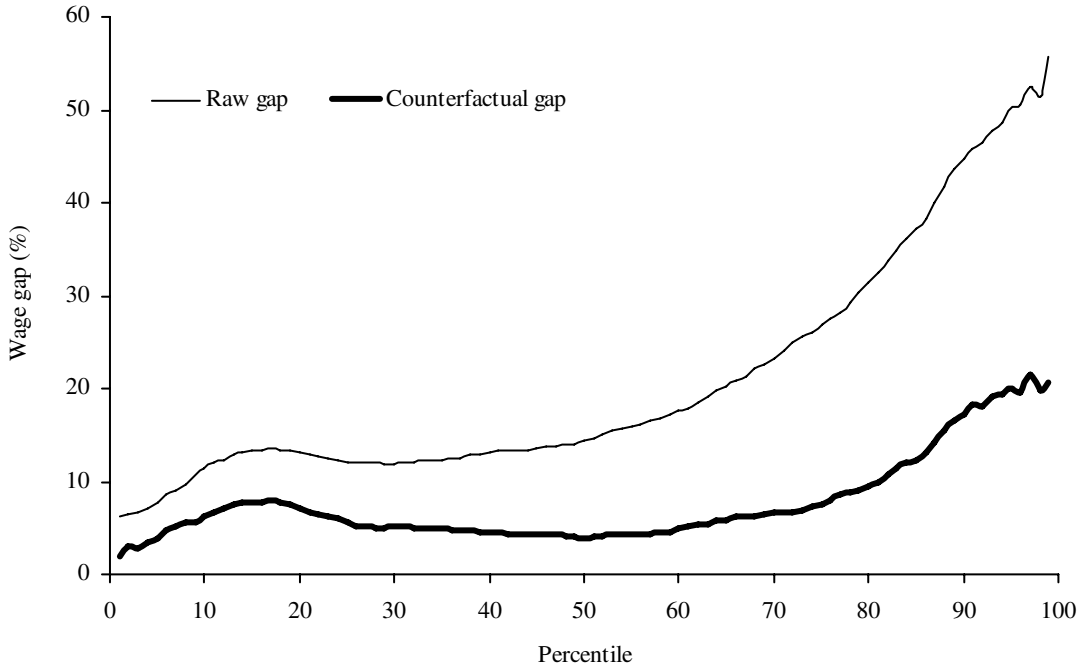
Table 5. Estimated raw and counterfactual wage gaps by percentile

Percentile	Spanish – Latin American and Caribbean employees		Latin American and Caribbean – other foreign employees	
	Raw gap (Standard errors in brackets)	Counterfactual gap (Standard errors in brackets)	Raw gap (Standard errors in brackets)	Counterfactual gap (Standard errors in brackets)
10th	0.113 ***	0.061 ***	0.031 ***	0.025 ***
	(0.006)	(0.001)	(0.005)	(0.000)
25th	0.121 ***	0.056 ***	0.022 ***	0.019 ***
	(0.006)	(0.001)	(0.005)	(0.000)
50th	0.143 ***	0.039 ***	0.010 **	0.011 ***
	(0.006)	(0.000)	(0.004)	(0.000)
75th	0.268 ***	0.076 ***	-0.001	0.004 ***
	(0.008)	(0.001)	(0.005)	(0.000)
90th	0.446 ***	0.171 ***	-0.038 ***	-0.019 ***
	(0.013)	(0.003)	(0.009)	(0.001)

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

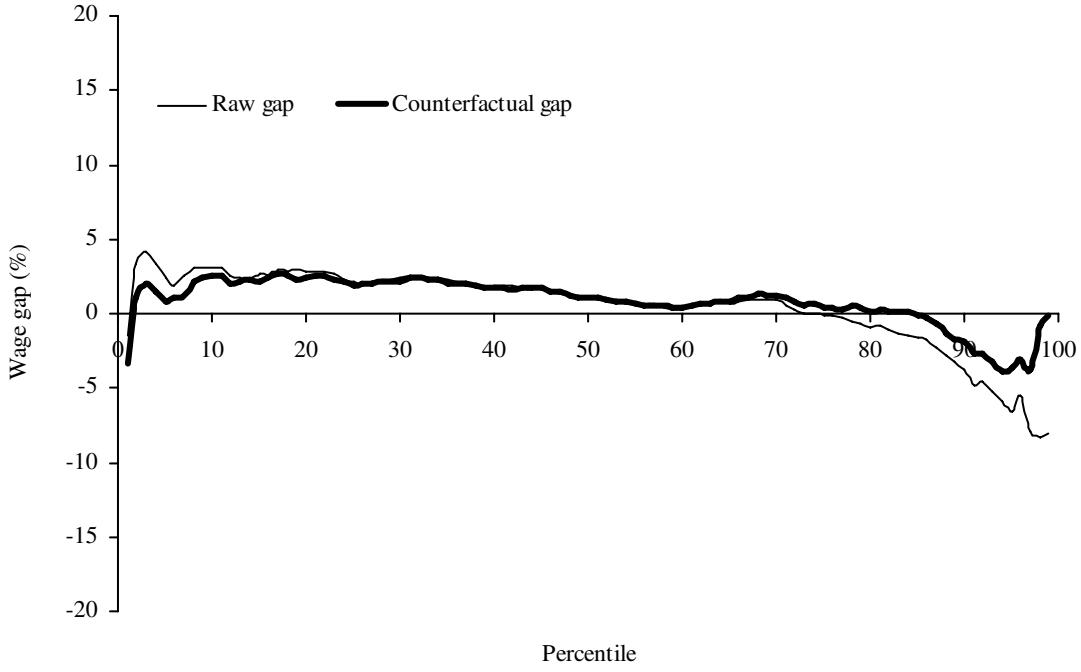
Source: Authors' analysis from ESS 2006.

Figure 4. Wage gaps between Spanish and Latin American and Caribbean employees in Spain (2006)



Source: Authors' analysis from EES 2006.

Figure 5. Wage gaps between Latin American and Caribbean and other foreign employees in Spain (2006)



Source: Authors' analysis from EES 2006.

4. CONCLUSIONS

Latin American and Caribbean immigration has become an increasingly important phenomenon in Spain, a country that had been country of emigrants until few years ago. In this paper, we have analysed the native-immigrant wage gap across the whole distribution using the M-M decomposition. The main contribution of the paper has been to address the issue for first time, using a representative survey of the labour force. In addition, standard errors for counterfactual gaps have been estimated, a task not addressed by previous research on the topic in Spain or in most other national case studies.

The main findings are two. First, the existence of an important glass ceiling for Latin American and Caribbean living in Spain, that is, the wage gap significantly grows across wage distribution, reaching around 25% for the last wage decile. Second, there are not relevant differences between wages earned by Latin American and Caribbean workers and other foreign employees.

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