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ABSTRACT

Immigrant Wages in the Spanish Labour Market: Does the Origin of Human Capital Matter?*

The aim of this paper is to analyse the role played by the different components of human capital in the wage determination of recent immigrants within the Spanish labour market. Using microdata from the *Encuesta Nacional de Inmigrantes* 2007, the paper examines returns to human capital of immigrants, distinguishing between human capital accumulated in their home countries and in Spain. It also examines the impact on wages of the legal status. The evidence shows that returns to host country sources of human capital are higher than returns to foreign human capital, reflecting the limited international transferability of the latter. The only exception occurs in the case of immigrants from developed countries and immigrants who have studied in Spain. Whatever their home country, they obtain relatively high wage returns to education, including the part not acquired in the host country. Having legal status in Spain is associated with a substantial wage premium of around 15%. Lastly, the overall evidence confirms the presence of a strong heterogeneity in wage returns to different kinds of human capital and in the wage premium associated to the legal status as a function of the immigrants' area of origin.

JEL Classification: J15, J24, J31, J61

Keywords: immigration, wages, human capital

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1. Introduction

Human capital has been considered a key factor in the determination of individual wages and their growth over time (Card, 1999; Psacharopoulos and Patrinos, 2002). Consistent with this perspective, the analysis of the situation of immigrants within their host countries' labour markets has focused on their human capital as well. The two main empirical results reached from several decades of academic effort regarding wages of immigrants—the presence of a significant initial wage gap relative to native-born workers and the rapid wage growth from the moment of arrival—can basically be explained by their human capital. Thus, the wage disadvantage experienced by immigrants when they arrive in a new country can generally be attributed to the limited transferability of the human capital they have acquired in their home country. The reason may lie in the lower quality of the educational system there or in their insufficient destination language skills. Whatever the case may be, the relevant fact is that newly arrived immigrants lack sufficient human capital for their host country's labour market (Chiswick, 1978; Chiswick and Miller, 1985, 2007; Friedberg, 2000). On the other hand, the explanatory factor behind the rapid growth over time in immigrant wage levels can be found in their accumulation of different types of human capital in the host country, which is particularly significant in the first years of residence in the host country. It is noteworthy that it is this rapid growth in wage levels that generally leads to wage assimilation with the native population (*inter alia*, Chiswick, 1978; Baker and Benjamin, 1994; Chiswick and Miller, 1995 and Bell, 1997).

Concerning the general analysis of immigrant wages in host countries and the role played by human capital as explanatory factor, major advances have been made by differentiating the effect of the different components of human capital. Consequently, studies focusing on immigrants' wage returns to schooling have shown the relevance of distinguishing between education completed in home and in host countries, given that their wage effects differ significantly (Schaafsma and Sweetman, 2001; Bratsberg and Ragan, 2002; Ferrer and Riddell, 2003). Moreover, their findings suggest that wage returns to education also differ across home countries and that, in particular, the level of economic development of the countries positively affects the transferability of studies completed there (Bratsberg and Ragan, 2002). In addition, analyses that have addressed non-linearity in immigrants' years of schooling show that age and the educational level attained could be significant at the time of emigrating (Ferrer, Green and Riddell, 2006; Hartog and Zorlu, 2009). Similarly, it has been also considered necessary to separate years of foreign experience from years of experience obtained in the host country, as long as returns to the former are generally zero or at least considerably lower than the latter (Chiswick and Miller, 1985; Kossoudji, 1989; Friedberg, 2000; Schaafsma and Sweetman, 2001).

Along the same lines, the recent literature on wage progress in host countries and the process of assimilation (third-generation models) also supports the usefulness of breaking down education and experience into the components related to home and host countries (Friedberg, 2000; Skuterud and Su, 2008; Clark and Lindley, 2009). Doing so, the limitations of the first empirical models, in which using the variable "years since migration" did not allow to distinguish among different types of activities pursued after the immigrant's arrival, can be overcomed. An additional important advance in a few recent studies has been to highlight the relevance of effective work experience, given that the accumulation of human capital specific to the new country is not necessarily the same if the immigrant holds employment or is jobless (Chiswick, Lee and Miller 2005; Skuterud and Su, 2008; Galloway, 2008).

The main objective of the paper is to analyse the role played by the various components of human capital on immigrant wages in the Spanish labour market and, in particular, on the relevance of the different origin of human capital -home vs. host country-, an issue, that to our knowledge, has not been studied before.

Studying immigration in the Spanish labour market is a matter of great interest, because Spain has become in a relatively short period of time a country with significant migration flows in the international context (OECD, 2008). Spain ranks second among OECD countries after the United States in absolute numbers of annual immigration, and it stands third after Luxembourg (41.6%) and Switzerland (20.3%) in percentage of foreigners out of the entire population (10.3%). Those figures put Spain ahead of all other European Union members. The growth of the stock of immigrants was particularly intense between 1995 and 2007, rising steeply from 542,300 foreigners (1.4% of the population) in 1995 to 5,268,800 (11.4%) in 2007.

Given the magnitude of the phenomenon, extensive research is needed to devise strategies and immigration policies to guarantee economic well-being and social stability. In the sense, the factors explaining immigrant wages are of special interest, particularly returns to their endowments of human capital, which is their primary—and, in many cases, only—asset. The recent nature of immigration in Spain, however, has made it difficult to obtain appropriate statistical information, which has in turn limited and conditioned studies on immigration in the Spanish labour market. Consequently, because of the absence of wage data, Amuedo-Dorantes and de la Rica (2007), Fernández and Ortega (2008) and Sanromá, Ramos and Simón (2005, 2008) have analysed immigrant assimilation in terms of employment status, occupation, contract type and over-education. In a similar vein, Simón, Sanromá and Ramos (2008) analysed differences in wages structures between native and immigrant workers using microdata drawn from the 2002 Spanish Wage Structure Survey (*Encuesta de Estructura Salarial*), which do not include information on the time of arrival in Spain (and consequently on education and work experience acquired in the home country). Last, Izquierdo, Lacuesta and Vegas (2009) have

analysed assimilation of immigrants using the Continuous Sample of Working Lives (*Muestra Continua de Vidas Laborales*) which, in addition to lacking the year of arrival in Spain, used the capped earnings from Social Security as a proxy for wage levels.

The current paper overcomes earlier limitations by making use of microdata from the Spanish National Immigrant Survey 2007 (*Encuesta Nacional de Inmigrantes 2007* – hereafter, ENI-) -), which was conducted by the Spanish National Statistics Institute between 2006 and 2007. The ENI collected a wide range of statistical information about immigrants, including wages. Moreover, it allows to distinguish, following the suggestions in recent literature, between education completed in home and host countries and to break down years of experience between home and host countries as well. In addition, the ENI enables a good approximation of effective work experience in Spain to be calculated, as well as years without employment (idle years). Lastly, it also provides information on immigrants' home countries, which facilitates the estimation of returns to human capital by economically different areas of origin.

The ENI comprises a single cross-section, which rules out longitudinal analysis. It also impedes the construction of a pseudo-panel combining information from different cross-sections, a highly useful approach in the literature since the contribution of Borjas (1985). However, working with a cross-section can lead to bias in the estimation of returns to human capital. The bias could result from three different causes: changes in the composition or quality of the immigrants arriving at different points in time (Borjas, 1985, 1995); the effect of the business cycle on the wages of individuals entering the labour market at different times (Aslund and Rooth, 2007); and the existence of return migration (or onward migration to a third country) (Constant and Massey, 2003; Dustmann and Weis, 2007; Lubotsky, 2007). To minimise these problems, the empirical analyses have been conducted on immigrants arrived in Spain between 1997 and 2007. The selection of this specific group of immigrants is intended to address the three problems set out above. Firstly, immigrants prior to 1997 mostly came from developed countries or from a number of relatively advanced Latin American countries, while the bulk of the immigrant population arriving subsequently have come from Latin America (basically the Andean countries), Eastern Europe and Africa (Reher *et al.*, 2008). Working with entire ENI sample would have involved a change in the quality and composition of the immigrants arriving at different points in time, while the selection actually used considerably reduces this problem. Moreover, in order to control the heterogeneity of the immigrant population more effectively, separate estimations have been performed by region of origin. In a similar vein, in the interests of greater homogeneity, immigrants with Spanish nationality from birth have been excluded. Secondly, the period 1997-2007 is a homogeneous period of sustained growth and intense job creation, with the consequence of minimising the persistent effects of the economic cycle on wages. Lastly, it would seem reasonable to argue that return migration is not quantitatively

significant when working solely with a period of economic expansion. The business cycle change observed in 2008 does appear to have resulted in rising levels of return migration and the measures encouraging return migration approved by the government during that year seem to be another factor at work. However, as the ENI was conducted in late 2006 and early 2007, the data should not be affected by either the cyclical change or government intervention[1].

The results obtained show significant differences in returns to distinct components of immigrants' human capital. Of particular importance is the origin of human capital. In general, returns to schooling in Spain exceed returns to foreign schooling, except in the case of immigrants from developed countries. Along the same lines, earlier education pursued by immigrants who have then completed their schooling in Spain present notably higher returns, which are greater in all cases than returns for immigrants who have only studied in their home country. In addition, wage progress occurs for immigrants as a function of the length of their stay in Spain, because Spanish experience is more valuable than experience abroad, which has a limited transferability (again, except in the case of immigrants from developed countries). In general, the analysis shows appreciable differences in returns to human capital and the pace of wage progress as a function of the area from which immigrants come. The differences are significant when comparing immigrants from developed and less developed countries, but also when comparing the different geographic areas to which the less developed countries belong. The differences appear to depend on their economic and cultural distance from Spain. Lastly, legal status is associated with a substantial wage premium.

The remainder of the paper is structured in three parts. Below, the second section sets out the principal characteristics of the database used in the empirical analysis. It also describes how the principal variables of interest have been constructed in the study. The third section describes the methodology applied and shows the results obtained. Lastly, the fourth section summarises the main conclusions of the paper.

2. The National Immigrant Survey 2007

The ENI (*Encuesta Nacional de Inmigrantes* 2007) is a survey prepared by the Spanish National Statistics Institute in order to obtain detailed information on the international nature of immigration in Spain, supplementing information gathered from regular sources of data (such as the *Padrón Municipal*, the *Encuesta de Variaciones Residenciales*, the *Encuesta de Población Activa* o the *Censo de población*), which provide partial information on the characteristics of immigration. The

[1] It should be noted, however, that this solution is not optimal. As a result, the results presented in the paper must be interpreted with caution.

scope of the ENI covers all of the national territory of Spain and the data collection was conducted between November 2006 and February 2007 based on the *Padrón Municipal*, using the week prior to the interview as the reference period[2]. The original survey sample comprises approximately 15,500 individuals.

The ENI provides detailed information on the sociodemographic characteristics of immigrants (e.g., age, gender, nationality, country of birth, marital status, legal status, knowledge of languages and year of arrival in Spain) and on their current work situation (as well as information on the characteristics of their first job in Spain, although to a lesser extent than their current job). The range of questions on immigration covered by the survey is very wide comprising, among others, immigrant household structure and accommodation characteristics; family and social networks; previous situation in their home countries and their current relationship to those countries, and various aspects of their migration experience.

The ENI defines immigrants as any individuals born abroad (regardless of whether they have Spanish nationality or not) who at the time of doing the interview had reached at least 16 years of age and had resided in a home for a year or longer (or, alternatively, in the case of individuals with less than one year's residence in Spain, had the intention to remain here for at least a year). The only exception is individuals born outside Spain who have possessed Spanish nationality from birth, but had not reached two years of age by the time of arrival in Spain. In that case, Spain was considered as their country of origin. This definition of immigrant meant, among other circumstances, that individuals born abroad but with Spanish nationality are considered immigrants, while foreign nationals born in Spain are not. Hence, this approach excludes individuals born in Spain of foreign immigrants, even if their nationality is not Spanish. It also excludes Spanish emigrants who have returned to Spain[3].

Immigrants' wages are expressed in monthly terms and correspond to the pay received in their principal job in net terms (i.e., after deductions, contributions and other related payments), including the proportional monthly part corresponding to extraordinary payments and other extraordinary income received on a regular basis[4]. If surveyed individuals chose not to provide the exact value of their wages during the ENI interview, they were given the option to identify their wages answering a closed interval question. For individuals providing alternative

[2] More detailed information on the contents of the ENI, the sample design and the data collection procedure used is available at the web page of the National Statistics Institute (www.ine.es).

[3] Using a definition based on country of birth contrasts with the alternative definition based on nationality, which has generally been used in previous studies on immigration and its effects on the Spanish labour market (see, for example, Amuedo-Dorantes and la Rica, 2007; Carrasco, Jimeno and Ortega, 2008; and Simón, Sanromá and Ramos, 2008).

[4] Even when wages correspond to the main job, a dummy variable has been introduced into the empirical estimations, which measures whether the individual has more than one job or not. The purpose is to control for any possible effect on wages. With a few exceptions, the variable tends to have a negative coefficient and to be statistically significant.

information of this sort, their wages have been calculated at the midpoint of the corresponding wage interval. It should be noted that the total number of individuals choosing this approach constituted only about 15% of the effective sample of wage earners used (Table A.1) and the general results of the empirical analysis are robust to the exclusion of this group.

As emphasised in the introduction, the central aspect examined in this research is how different forms of human capital affect immigrant wages. This requires differentiating between education and work experience and knowing whether these types of human capital have been acquired in the immigrants' home countries or in Spain. As the ENI lacks precise information on the age at which immigrants have finished their schooling, the breakdown of human capital into foreign and domestic components is based on a standard approach in the literature. Therefore, after recoding information on schooling levels into years[5], the approximation assumes that the period of education has been pursued continuously from the first year of entry into the school system at the age of six until the individual reaches the maximum declared level. This makes it possible to approximate the age at which schooling is concluded as the total number of years in education plus six[6]. Potential work experience corresponds to the difference between the individual's age and the age at which schooling was concluded. In addition, knowing the year of arrival in Spain makes it possible to differentiate which portion of an immigrant's human capital has been acquired in the home country and in Spain, in the case of both education and work experience. Moreover, Spanish potential work experience can be differentiated into effective work experience and idle years[7]. With respect to the labour market in the home country, the information contained in the ENI is insufficient to calculate effective work experience. For this reason, only a variable that measures whether the immigrant has worked in the home country at some time prior to emigrating to Spain (and consequently whether he has effective work experience prior to arrival) has been calculated.

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[5] Following common practice, years of schooling have been measured as follows: 0 years for individuals without any formal education; 3 years for incomplete primary education; 6 years for primary education; 10 years for completing lower secondary education; 12 years for completing higher secondary education; 15 years for the first cycle of university education; and 17 years for the second cycle of university education.

[6] In the absence of information on the exact age of finishing schooling, this approach reflects a standard approximation in the literature (see, for example, Friedberg, 2000). In order to interpret the results, however, it is necessary to bear in mind that this figure tends to overestimate (underestimate) the years of schooling in the home country (host country). Skuterud and Su (2008) provide a thorough review of the various approaches used to calculate foreign and domestic human capital and determine their influence on empirical estimations.

[7] The distinction rests on several assumptions, based on the variables available in the ENI which measure whether the immigrant still holds the first job obtained in Spain; the time required to obtain the first job; the number of times unemployed; whether the immigrant has been unemployed for more than a month since arriving in Spain; and the longest period of unemployment. In this way, the calculation of effective experience for all immigrants has broadly discounted time required to obtain the first job from potential work experience. In the specific case of immigrants who do not remain in their job, time spent unemployed has also been discounted by multiplying the longest period of unemployment by the number of times unemployed in Spain (given that the length of the longest period of unemployment is measured using intervals, then the midpoint of the corresponding interval has been used in the calculation). The exact definition of the variables used in the analysis is available from the authors on request.

In order to break down the information by area of origin, immigrants have been grouped by country of birth, distinguishing between developed and less developed countries. Developed countries include the EU-15 countries, Norway, Switzerland, Iceland, Cyprus, Malta, the small European principalities, the United States, Canada, Israel, Japan, Australia and New Zealand. All other countries have been considered less developed, distinguishing three main areas: Latin America, Eastern Europe and the rest of the world.

In addition, a variable has been devised to capture immigrants' legal status, reflecting whether or not they have the permits to become legally contracted employees under current Spanish law. The variable is dichotomous and reflects whether immigrants state that they have any of the following documents: permanent residency authorisation; temporary residency authorisation[8]; EU residence permit (except in the case of Romanian and Bulgarian workers who, despite being EU citizens, could not become legally contracted workers in Spain temporarily at the time of the ENI); refugee status or asylum application. This category also includes immigrants whose nationality is Spanish, from other EU member state (excluding Bulgaria and Romania) or from non-EU members of the European Free Trade Association (i.e., Liechtenstein, Iceland, Switzerland and Norway). Alternatively, immigrants not considered to have documentation to work legally as contracted employees include Romanian and Bulgarian residents; immigrants with student visas; immigrants who have residency applications pending or have not yet submitted their applications; immigrants who state that they have none of the documents listed above and immigrants who respond that they do not know which documents they possess.

Other variables employed in the empirical analysis include monthly working hours (calculated based on usual weekly working hours), gender, marital status, controls by region, the number of children in the household, and Spanish proficiency is a dichotomous variable which takes a value of 1 for individuals whose mother tongue is Spanish or, if not, who state that they can speak Spanish well or very well.

Observations have been excluded from the original sample for individuals with lacking information concerning the variables of interest; individual who are under 16 or over 65 years of age; individuals with net monthly wages below 200 euros or usual weekly working hours less than 10 hours or more than 90. The final sample also excludes immigrants with Spanish nationality at birth and immigrants who arrived before 1997. The final sample comprises 4,885 immigrants working as employees.

Table A.1 in the annex shows some descriptive statistics for the ENI sample. The characteristics of the immigrants covered by the survey generally fit the profile characterising

[8] In the case of temporary residency authorisation, the immigrant does not necessarily receive a work permit in Spain. The immigrant's application and the issuing of a work permit by the authorities are discretionary. However,

recent immigration to Spain. Without intending to be exhaustive[9], the immigrants in the sample are basically from less developed countries (92.2%), particularly Latin America (52.9%) and Eastern Europe (26.3%). They are mostly men (53.4%) and of intermediate age (the average age is approximately 34 years old). The immigrants in the sample also acquired the bulk of their human capital in their home country (10.95 of their 11.1 years of education, on average, corresponds to their home countries, and in the case of potential work experience, 12.67 of the 16.87 years on average). For the most part, their length of stay in Spain (4.35 years on average) leads to their accumulating potential work experience (4.2 years of which 3.57 correspond to effective work experience and 0.63 reflects idle years), while their accumulation of education is very limited (only 0.15 years). This largely reflects the low percentage of immigrants who have completed schooling in Spain. Immigrants who have studied in Spain make up 5.5% of the total sample. They are typically younger and have arrived in Spain at an earlier age than other immigrants. They have slightly higher wages (1,017 euros). They come largely from developed countries and Latin America. They have lower levels of work experience in both their home and host countries, and they possess high endowments of education, averaging 12.2 schooling years, of which 2.66 correspond to years of study in Spain.

The vast majority of the immigrants have fluency in Spanish (82.9%), legal status to work (87.5%), and previous work experience in their home country (85.2%).

In addition, the overall group of immigrants shows a strong heterogeneity in their characteristics as a function of area of origin. For example, while the average monthly net salary is 995 euros, it reaches 1,402 euros for immigrants from developed countries and 960 euros for immigrants from less developed countries. Along the same lines, notable differences can be observed in educational endowments (with comparatively lower endowments for immigrants from the rest of the world); in legal status (with a less stable situation for immigrants from Eastern Europe); and in fluency in Spanish (particularly low for immigrants from Eastern Europe or from the rest of the world).

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the overall results of the empirical analysis do not show significant variations, regardless of which of the two categories of the dichotomous variable on legal status is assigned to immigrants in this situation.

[9] For a more detailed description of the immigrants in the ENI, read the report *Informe Encuesta Nacional de Inmigrantes (ENI-2007)* that is available at the web page of the National Statistics Institute (www.ine.es).

3. Empirical evidence

The first model used in this study to analyse immigrants' wages is a semi-logarithmic Mincerian wage equation with the form:

$$w_i = \alpha + \delta\ ysm_i + \beta_1 \cdot sch_i + \beta_2 \cdot potexp_i^f + \beta_3 \cdot potexp_i^{f\,2} + \gamma \cdot X_i + \varepsilon_i \qquad (1)$$

where w_i corresponds to the wage logarithm for individual i, the variable ysm_i indicates the number of years since arrival in the host country, the variable sch_i represents the number of years of schooling and the variable $potexp_i^f$ denotes the number of years of foreign potential experience which is squared, as is usual in the literature. X_i is a vector that represents other individual characteristics which have an influence on wages, while ε_i is a random error term.

Chiswick, Lee and Miller (2005) have estimated equation (1) for a sample of immigrants to Australia. Their results show a significant, positive effect on wages from the amount of time that has passed since arrival in Australia. The significant economic progress achieved by immigrants in their study is consistent with the hypothesis of wage assimilation. This specification has also been used in various other studies on immigrant wages (see, for example, Accetturo and Infante, 2008).

Table 1 shows the result of estimating equation 1 using ordinary least squares on the immigrant sample described in the previous section, treating the logarithm of monthly wages as the endogenous variable. In addition to human capital, the remaining variables capturing immigrant characteristics include gender, marital status, legal status in Spain, geographic area of birth, and region of residence[10].

As can be seen in the first column of Table 1, the results obtained show that years since migration have a positive and significant effect on immigrant wages. More specifically, each year of Spanish residence increases wages *ceteris paribus* in a 1.4%, an increase that could be interpreted as evidence supporting the notion of economic progress for immigrants: a longer period of residence in Spain implies an improvement with respect to the initial wages. Although the returns are diminishing, a year of potential experience in the home country also has a positive, but modest, effect on immigrant wages.

[10] Another controls included in the regression are monthly working hours (in logarithms), if the immigrant holds more than one job and if he has provided wage information according to predetermined bands. The complete results for all estimations presented in the paper are available from the authors on request.

The results form estimating equation (1) also show that schooling have a positive and significant effect on immigrant wages. More specifically, each year of schooling results in a wage increment of 1.8%. In comparative terms, the figure is notably lower than returns to schooling for native workers, which according to estimations obtained from the Wage Structure Survey 2006 (EES) are approximately 4%[11]. As indicated by Chiswick (1978), Chiswick and Miller (1985) and Friedberg (2000), among many others, the lower returns to schooling for immigrants could be explained by the lower (real or perceived) quality of immigrants' education, an imperfect transferability of their human capital or an insufficient command of the host country language.

One result which is new to the Spanish literature on immigration is the possibility of quantifying the wage premium received by immigrants who work with the necessary permits. The results in the first column of Table 1 show that the gap is 15.1% between immigrants with documentation and immigrants of similar characteristics who lack documentation. Accetturo and Infante (2008) have found a somewhat higher wage gap (roughly 20 percent points) in the case of Lombardy. In the Spanish case, lower remuneration must be related to the characteristics of unskilled agricultural and construction jobs to which most immigrants without work permits must turn for employment. Another factor is their lower bargaining power. A third factor in explaining the gap may well be the greater adaptability of legal immigrants to the Spanish labour market.

[11] Given the lack of recent empirical literature on the returns to schooling in Spain, the estimation mentioned above has been obtained by using the Wage Structure Survey 2006 (EES) and controls similar to the ones incorporated into the estimation based on the ENI. Comparisons between the two sets of results should be made with caution as the two surveys reflect statistical operations with distinct purposes and methodologies. For example, the ENI is a household survey, while the EES is a company survey gathering data on employees. In addition, the wage concepts used in the two surveys differ. While the ENI provides information on net wages, the EES gives information on gross wages. Nonetheless, the estimations of returns to schooling are very similar for immigrants in both cases: 1.8% according to the ENI and 2.0% according to the EES.

Table 1

Logarithm of monthly wages	Model (1)	Model (2)	Model (3)	Model (3) – Schooling in Spain	Model (3) – No schooling in Spain
Legal status	0.141***	0.141***	0.142***	-0.0709	0.150***
	[0.0152]	[0.0156]	[0.0155]	[0.101]	[0.0157]
Years since migration	0.0141***				
	[0.00250]				
Schooling years	0.0177***				
	[0.00166]				
Schooling years in Spain		0.0332***	0.0369***	0.0871***	
		[0.00747]	[0.00746]	[0.0218]	
Schooling years in home country		0.0176***	0.0172***	0.0445***	0.0160***
		[0.00166]	[0.00166]	[0.00869]	[0.00170]
Potential experience in Spain		0.0140*			
		[0.00817]			
Potential experience in Spain^2		9.76E-06			
		[0.000879]			
Effective experience in Spain			0.0239***	-0.00387	0.0206***
			[0.00736]	[0.0353]	[0.00769]
Effective experience in Spain^2			-0.00094	0.00734	-0.000665
			[0.000863]	[0.00646]	[0.000892]
Idle years in Spain			-0.0036	-0.0256	-0.00414
			[0.00501]	[0.0184]	[0.00524]
Potential experience in home country	0.00676***	0.00679***	0.00622***	0.0163**	0.00535***
	[0.00177]	[0.00177]	[0.00176]	[0.00737]	[0.00182]
Potential experience in home country^2	-0.000190***	-0.000191***	-0.000185***	-0.000380*	-0.000166***
	[5.08e-05]	[5.10e-05]	[5.04e-05]	[0.000202]	[5.22e-05]
Labour experience in home country			0.0313**	-0.106	0.0301**
			[0.0142]	[0.0724]	[0.0143]
Number of observations	4.885	4.885	4.885	271	4.614
Adjusted R^2	0.453	0.453	0.456	0.582	0.455

Notes: OLS estimates with controls related to gender, civil status, geographical area of birth, monthly worked hours, having more than one job, the region of residence and Heckman's lamda. ***, ** and * indicate that the estimated coefficient is statistically different from zero at 1%, 5%, and 10% significance levels, respectively.

The results obtained from the remaining controls reflect what has typically been found in the literature. There is a favourable wage differential for men in relation to women and there is a wage premium for married immigrants. In addition, wage differences are significant by area of origin as a function of the economic and cultural distance of each area from Spain. In particularly, there is a negative differential of 23.3% for immigrants from Latin America with respect to immigrants to developed countries. It is 20.9% for immigrants from Eastern Europe and 29.7% for immigrants from the rest of the world, who therefore face the most severe wage gap in the Spanish labour market.

A final issue to emphasise is that the estimation of the model has taken into account the possible existence of bias in employment selection. As a result, the two-stage procedure proposed by Heckman has been applied. The results obtained after applying the first stage of the procedure is show in Table A.2 in the annex. The variables included in the discrete-choice selection model, which act as exclusion restrictions, have been the number of children living in the household and proficiency in Spanish. Heckman's lambda (obtained from previous results as the inverse Mills ratio) has been introduced as another explanatory variable in equation (1). Yet, neither this model nor any of the other estimated models has provided favourable evidence on the statistical significance of this variable. This is a common result in the immigration literature and could be explained by the liquidity restrictions of recently arrived immigrants, leading them to accept available employment without being able to exercise choice (see, for example, Friedberg, 2000).

Given the importance of human capital in the explanation of immigrant wages and wage progress, the remainder of the paper explores this central aspect in greater depth. A key question that could affect the interpretation of the results associated with the variables related to human capital in equation (1) is the presence of a close relationship between immigrants' years of residence in Spain, their years of schooling and their years of potential experience. More specifically, as indicated by Borjas (1999), Friedberg (2000) and more recently Skuterud and Su (2008), the equation is a restricted specification of a broader model that break downs returns to schooling and experience according to whether they have been acquired in the home or host countries. The coefficient δ in model (1) captures the effect of human capital investment in the host country (in this case, Spain), whereas the coefficients associated with years of schooling and potential experience are affected by the relative composition of human capital in home and host countries. For this reason, it is useful to expand equation (1) as follows:

$$\begin{aligned} w_i = \alpha + \beta_1^h \cdot sch_i^h + \beta_1^f \cdot sch_i^f + \beta_2^h \cdot potexp_i^h + \beta_3^h \cdot \left(potexp_i^h\right)^2 + \\ + \beta_2^f \cdot potexp_i^f + \beta_3^f \cdot \left(potexp_i^f\right)^2 + \gamma \cdot X_i + \varepsilon_i \end{aligned} \tag{2}$$

where the superscript *h* refers to human capital of any kind acquired in the host country and the superscript *f* refers to foreign human capital.

The second column of Table 1 represents the results from estimating equation (2). Based on these estimations, the marginal returns to a year of schooling in Spain (3.3%) are higher than the marginal returns to a year of foreign schooling (1.8%), and the difference between the two coefficients is statistically significant at 5%. Notably, immigrants' marginal returns to schooling in Spain are relatively much closer to the 4% estimated for native workers using microdata in the EES. In any case, the lower return to foreign formal education indicates that home country schooling have limited transferability to the Spanish labour market. This conclusion is consistent with previous work by Sanromá, Ramos and Simón (2008). The returns to a year of potential experience in Spain are 1.4%, which would support the existence of wage progress.

Potential experience in the home country has a marginal return of 0.7% in the Spanish labour market. This figure is lower than returns to experience accumulated in Spain, which supports the notion that the transferability of foreign job experience is limited with respect to the Spanish labour market. Nevertheless, this result can be seen as favourable in light of contrasting evidence obtained in countries like Israel (Friedberg, 2000), Canada (Schaafsma and Sweetman, 2001) and the United States (Kossoudji, 1989), which points to zero or near zero returns to foreign experience.

Recent studies such as Skuterud and Su (2008) have pointed to the value of also distinguishing between effective and potential experience. As indicated previously, the availability of information in the ENI on immigrant work histories after their arrival in Spain makes it possible to break down years of Spanish potential experience into years of effective experience ($effexp^h$) and idle years ($idle^h$). In addition, it provides information on whether an immigrant has been employed in the home country, permitting the introduction of a dummy variable (job^f) to try to represent this effect on wages. In this way, the empirical model can be expanded to reflect the additional breakdown:

$$\begin{aligned} w_i = \alpha + \beta_1^h \cdot sch_i^h + \beta_1^f \cdot sch_i^f + \beta_2^h \cdot effexp_i^h + \beta_3^h \cdot \left(effexp_i^h\right)^2 + \beta_4^h \cdot idle_i^h + \\ + \beta_2^f \cdot potexp_i^f + \beta_3^f \cdot \left(potexp_i^f\right)^2 + \beta_4^f \cdot job_i^f + \gamma \cdot X_i + \varepsilon_i \end{aligned} \tag{3}$$

The third column of Table 1 shows the results from estimating this equation. The first new contribution of this estimation is that it breaks down the effect of years actually worked in Spain from idle years. The first result to highlight in this sense is that returns to effective experience in Spain would appear to be greater than returns to potential experience: 2.4% and 1.4%, respectively. (The difference between the two coefficients, however, is not statistically

significant at the usual levels.) The result would seem to suggest that the wage improvement experienced by immigrants during their period of stay in Spain is largely associated with working and that this is basically the factor which enables them to accumulate knowledge and develop skills that are useful and adapted to the Spanish labour market. Periods of unemployment or inactivity (idle years) in Spain do not appear to have any statistically significant impact on immigrant wages. That would seem to indicate that skills acquisition and the development of social relationships take place most prominently in the working environment. Although the sign of this variable is negative and not statistically significant at the conventional levels, it does not seem to reflect a wage penalty, which contrasts with what might be expected from the evidence obtained for other countries (Bratsberg, Barth and Raaum, 2006). One possible explanation for this finding is that the obsolescence effect may be minimal because the unemployment spells are generally short as a result of the high labour turnover in the Spanish labour market, the higher job search intensity of immigrants in relation to native workers and the period of intense hiring occurring during the timeframe of our study.

The second difference between this model and the previous one is the presence of a dummy variable to reflect whether immigrants have held employment in their home countries. The variable is statistically significant at conventional levels, clearly showing that immigrants with foreign work experience obtain an additional wage increment of 3.2%. The existence of a wage premium indicates higher productivity as a result of effective experience gained in the home country, but its limited magnitude draws attention again to the limited transferability of most skills acquired in settings other than the Spanish labour market.

With respect to education, the third model offers a result similar to the previous one. Returns to schooling completed in Spain (3.7%) are higher than returns to foreign schooling (1.7%), and the difference is statistically significant at conventional levels.

In model (3), a restriction has been imposed so that the coefficient for years of schooling in the home country is equal for all immigrants. By contrast, the evidence contributed by Bratsberg and Ragan (2002) suggests that the coefficient for years of schooling in the home country could be different for immigrants who have also studied in Spain and for immigrants who have only studied in their home country and then come directly to Spain to work. In order to overcome this restriction and test whether schooling in Spain improve returns to foreign education, model (3) has been estimated separately for the two groups: immigrants that have finished their schooling in Spain and those who have not.

The results in columns 4 and 5 of Table 1 clearly show that there is effectively a notable difference (statistically significant) for the two groups with respect to the returns to schooling completed in the home country. Returns to schooling are much lower for immigrants who have only studied in their home country (1.6%) than for immigrants who have also studied in Spain

(4.5%). This result suggests that returns to foreign schooling for immigrants who continue to study in Spain might not be substantially different from the figure estimated for natives. In addition, the group of immigrants who have completed their schooling in Spain also present a very high returns. This evidence points in the same direction as the findings of Bratsberg and Ragan (2002) and it seems to confirm their conclusion that pursuing schooling in the host country serves to revalidate formal education obtained in the home country, making it valuable for the labour market of the host country.

One aspect of particular interest in the literature is the existence of wage differences and other work-related results among immigrants as a function of their geographic areas of origin. In order to evaluate whether these differences are also related to distinct returns to the various components of human capital, equation (3) has been estimated separately according to immigrant's areas of origin. Developed and less developed economies have been distinguished. Within the category of less developed economies, a further breakdown has distinguished among immigrants from Latin America, Eastern Europe and the rest of the world, which are the only three categories with a sufficient sample size. The results appear in Table 2.

The results for immigrants from developed countries show high returns to schooling, both for schooling in Spain (4.9%) and foreign schooling (roughly 6%). These figures, particularly the latter one, are slightly higher than the figure obtained for natives from estimations based on the EES-2006 data. The evidence reveals a very high transferability of education from developed countries in Western Europe and North America and significant returns to schooling completed in Spain. For this group of immigrants, however, a statistically significant positive effect is not observed from Spanish effective experience. Nor is there a clear wage penalty as a result of periods of unemployment or inactivity (idle years). The result is consistent with the fact that returns to schooling in the home country are higher for this group than for natives. Indeed, Simón, Sanromá and Ramos (2008) have found that the wage gap between natives and immigrants from developed economies is favourable to the immigrant group. Therefore, it seems reasonable to expect that their economic progress would not occur or would be less important than for other groups. This result is not new in the literature, but is rather known as "dis-assimilation" or "negative assimilation". For example, Chiswick and Miller (2008) have found that the situation of immigrants from English-speaking countries who immigrate to the United States actually declines over time with respect to their situation on arrival. Bell (1997), Dustman *et al.* (2003) and Clark and Lindley (2009) have obtained similar evidence for white immigrants to the United Kingdom. Lastly, experience accumulated in the home country, by contrast, presents significant positive returns, clearly supporting the complete transferability of foreign experience to the Spanish labour market, although no differences are detected as a result of having held job in the home country.

The results for immigrants from less developed countries show a positive wage effect from years of schooling in both home and host countries, as well as from effective experience in Spain and potential experience in the home country. However, returns to each component of human capital are distinct in the Spanish labour market. Specifically, returns to schooling in Spain (3.8%) are highly equivalent to returns for natives based on the EES, but they are much higher than returns to foreign schooling (1.5%). The low marginal returns to schooling in less developed countries reflect their lower transferability. The same outcome appears when comparing foreign experience with (effective) Spanish experience: a year of work in Spain results in greater wage returns than a year of foreign experience. Nevertheless, having held employment in their home country is related to immigrants earning wages which are 4.4% higher within the Spanish labour market.

The results for the three geographic groupings of less developed countries clearly show that the marginal returns to schooling completed in Spain are higher than returns to foreign education, revealing their limited transferability. In comparative terms, the evidence demonstrates that returns to schooling in Spain are greater for immigrants from Latin America (4.4%) and Eastern Europe (3.6%) than for immigrants from rest of the world (2.4%). Exactly the same result arises with respect to returns to foreign education. For immigrants from the rest of the world, these returns are non-existent. Some of the possible explanations for this result could be that the vast majority of Latin American immigrants speak Spanish and that the cultural distance is smaller for immigrants from Easter Europe than for immigrants from the rest of the world. In addition, differences in returns to schooling in Spain could also be related to the existence of discrimination in the Spanish labour market. Equally, the gap could reflect the limiting or determinant effect that low-quality education in the home country could have on the ability of immigrants from the rest of world to benefit effectively from any schooling subsequently completed in Spain. (Recall that the coefficient associated with this variable is not significant for immigrants from the rest of the world.)

Table 2

Logarithm of monthly wages	Developed countries	Less developed countries	Latin America	Eastern Europe	Rest of the world
Legal status	0.182**	0.130***	0.136***	0.133***	0.245***
	[0.0813]	[0.0156]	[0.0214]	[0.0239]	[0.0457]
Schooling years in Spain	0.0486*	0.0381***	0.0435***	0.0357**	0.0243*
	[0.0278]	[0.00804]	[0.00989]	[0.0179]	[0.0146]
Schooling years in home country	0.0596***	0.0148***	0.0175***	0.0109***	0.00417
	[0.00766]	[0.00167]	[0.00213]	[0.00329]	[0.00329]
Effective experience in Spain	0.0311	0.0242***	0.0354***	0.0122	-0.00979
	[0.0303]	[0.00778]	[0.00997]	[0.0150]	[0.0178]
Effective experience in Spain^2	-0.00176	-0.00111	-0.0019	0.000148	0.00222
	[0.00357]	[0.000883]	[0.00120]	[0.00182]	[0.00192]
Idle years in Spain	-0.111***	-0.00373	0.00539	-0.016	-0.000421
	[0.0244]	[0.00486]	[0.00629]	[0.00976]	[0.00938]
Potential experience in home country	0.0178**	0.00391**	0.00932***	0.00217	-0.00667
	[0.00865]	[0.00175]	[0.00236]	[0.00343]	[0.00493]
Potential experience in home country^2	-0.00019	-0.000130***	-0.000258***	-0.000126	0.000116
	[0.000252]	[4.93e-05]	[6.59e-05]	[9.75e-05]	[0.000149]
Labour experience in home country	-0.0274	0.0426***	0.0436**	0.0334	0.0396
	[0.0622]	[0.0155]	[0.0207]	[0.0288]	[0.0309]
Number of observations	381	4.504	2.586	1.286	632
Adjustd R^2	0.506	0.446	0.437	0.545	0.384

Notes: OLS estimates with controls related to gender, civil status, geographical area of birth, monthly worked hours, having more than one job, the region of residence and Heckman's lamda. ***, ** and * indicate that the estimated coefficient is statistically different from zero at 1%, 5%, and 10% significance levels, respectively.

With respect to foreign work experience, a positive wage effect is found only for Latin American immigrants and not for immigrants from Eastern Europe or the rest of the world. In addition, the fact of having actually worked in the home country is only related to higher wages (4.5%) in the case of Latin American immigrants. As already noted, it is common in the literature to find zero returns to foreign experience—both effective and potential—in the case of immigrants from less developed countries. Zero transferability is also a common result. The economic, technological, cultural and linguistic distance between home and host countries translates into knowledge and skills that do not match the requirements of a developed country's labour market, the Spanish economy in this case. The explanation could also lie at least partly in the different proficiency in Spanish of immigrants from Latin America, who experience limited but positive returns, when compared with immigrants from other less developed countries. This result has already been highlighted in previous studies (e.g., Sanromá, Ramos and Simón, 2008).

Effective labour experience in Spain only presents positive and significant marginal returns for immigrants from Latin America[12]. By contrast, effective experience in Spain is not statistically different from zero for the remaining immigrants. Sanromá, Ramos and Simón (2008) have already obtained some evidence of the absence of assimilation in the levels of over-education found among sub-Saharan and Asian immigrants, so it is not surprising to find no wage progress over time as immigrants from the rest of the world gain experience after arrival in Spain. By contrast, the absence of wage progress and, therefore, of assimilation in the Spanish labour market is inconclusive in the literature on immigrants from Eastern Europe. While Fernández and Ortega (2008) have found no assimilation in terms of over-education, Sanromá, Ramos and Simón (2008) have found evidence supporting assimilation. The matter is doubtless of sufficient interest—particularly in light of the large-scale influx of immigrants from Eastern Europe in recent years—to conduct a more in-depth analysis in future. Among other issues, future research should examine the occupational progress of immigrants and analyse the factors affecting it.

A final result to highlight is that being able to work legally has a positive wage impact for immigrants from all geographic areas. The wage differential for immigrants with legal status varies from 14.2% for Eastern Europeans to 27.8% for immigrants from the rest of the world. The substantial wage penalty estimated for African and Asian immigrants without legal work permits, which is clearly greater than the penalty suffered by other immigrant groups, could reflect not only poorer working conditions provided by their employers, but also a risk of social marginalisation.

4. Conclusions

The objective of the study is to analyse returns to human capital for recent immigrants to Spain, distinguishing where each component has been accumulated, a totally new approach for the Spanish economy. For this purpose, the wide range of recently availably statistical information provided by the National Immigrant Survey (ENI) has been used. The detailed information in this survey allows breaking down education and experience completed in home and host countries. It is also possible to break down immigrant work experience obtained in Spain into effective experience and years without employment (idle years) and to identify effective work experience obtained in immigrants' home countries. Consequently, using this dataset it has been possible to conduct an in-depth analysis of the influence which distinct types of human capital, both foreign and domestic in origin, have on immigrant wages.

The results obtained support the conclusion that returns to years of schooling in Spain are clearly higher than returns to foreign schooling, reaching similar returns to the ones estimated for natives from the microdata collected in the Wage Structure Survey 2006. Lower returns for formal education abroad indicate that its transferability to the Spanish labour market is limited for recent immigrants. On the other hand, the evidence also shows that schooling completed in Spain strengthen the value of foreign schooling, serving to adapt them totally to the Spanish labour market so that their effect on wages is similar to the returns to education for natives.

Positive returns to potential experience in Spain support the existence of strong wage progress, while foreign potential experience presents lower marginal returns, reaffirming the limited transferability of human capital among countries at different levels of economic development. Having work experience in the home country, however, does lead to higher wages once in Spain. Returns to effective experience in Spain would appear to be higher than returns to potential experience, suggesting that wage progress for immigrants after their arrival in Spain is associated with employment. By contrast, periods of unemployment or job search (idle years) have no positive impact on immigrant wages.

The results for immigrants from developed countries show higher returns to schooling, which are practically equal whether it has been pursued in Spain or at home. By contrast, their wages do not improve with the accumulation of experience in Spain, which is consistent with the existence of the phenomenon of "negative assimilation" uncovered in a number of studies conducted for other economies. The results for immigrants from less developed countries show an effect from the different components of their human capital which is always positive but unequal. For example, returns to host-country schooling are much higher than returns to foreign

[12] The high value of the coefficient (0.035), which is clearly greater than the 0.012 estimated for natives in the EES,

schooling. Similarly, effective Spanish experience is more valuable than foreign experience. Having held employment in the home country carries a limited wage premium.

In comparative terms, the evidence suggests that returns to schooling in Spain and returns to foreign schooling are both higher for immigrants from Latin America and Eastern Europe than for immigrants from the rest of the world. Work experience at home—both potential and effective—only has a positive wage effect for immigrants from Latin America, indicating limited but positive transferability. Effective work experience in Spain only presents positive marginal returns for immigrants from Latin America. The high coefficient value, which is clearly higher than the value for natives, confirms the possibility that a process of wage assimilation does exist for this group of immigrants. By contrast, there is no evidence of wage progress for the other groups of immigrants.

A new result in the Spanish literature on immigration is the quantification of the wage premium experienced by immigrants who are working with the necessary permits. The study finds that the differential is roughly 15% in favour of immigrants with legal status when they are compared to immigrants of similar characteristics without permits and that the gap expands to nearly 28% in the case of Africans and Asians without work permits.

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Annex

Table A.1

Descriptive statistics	Full sample	Schooling in Spain	Developed countries	Less developed countries			
				Total	Latin America	Eastern Europe	Rest of the world
Monthly wage	995.0	1017.4	1402.3	960.5	963.3	957.9	954.5
	(522.2)	(527.0)	(1001.5)	(442.7)	(491.7)	(399.5)	(288.0)
Male	0.534	0.480	0.562	0.532	0.474	0.512	0.810
Married	0.494	0.351	0.373	0.504	0.470	0.549	0.549
Age	33.98	29.65	34.92	33.90	34.34	33.64	32.59
	(8.59)	(8.90)	(8.58)	(8.59)	(8.69)	(8.98)	(7.06)
Children	0.674	0.432	0.488	0.690	0.758	0.616	0.559
	(0.938)	(0.795)	(0.797)	(0.947)	(0.992)	(0.803)	(1.007)
Language skills	0.827	0.926	0.690	0.839	0.985	0.672	0.584
Age of arrival to Spain	29.62	24.28	30.85	29.52	29.93	29.75	27.39
	(8.52)	(9.11)	(8.65)	(8.50)	(8.63)	(8.76)	(7.00)
Years since migration	4.35	5.37	4.08	4.37	4.41	3.89	5.20
	(2.12)	(2.01)	(2.54)	(2.08)	(2.05)	(1.91)	(2.22)
Schooling years	11.10	12.22	12.13	11.01	11.19	11.35	9.63
	(3.19)	(3.04)	(3.54)	(3.15)	(3.08)	(2.65)	(3.89)
Schooling years in home country	10.95	9.56	11.93	10.87	11.03	11.26	9.44
	(3.22)	(3.38)	(3.57)	(3.17)	(3.10)	(2.66)	(3.93)
Schooling years in Spain	0.15	2.66	0.20	0.14	0.16	0.09	0.19
	(0.65)	(0.97)	(0.79)	(0.64)	(0.65)	(0.48)	(0.81)
Potential experience	16.87	11.43	16.79	16.88	17.16	16.29	16.96
	(9.00)	(8.05)	(9.28)	(8.98)	(9.20)	(9.08)	(7.70)
Potential experience in home country	12.67	8.72	12.91	12.65	12.90	12.49	11.96
	(8.82)	(8.44)	(9.26)	(8.79)	(9.02)	(8.89)	(7.47)
Potential experience in Spain	4.20	2.71	3.88	4.23	4.26	3.80	5.00
	(2.13)	(1.85)	(2.54)	(2.09)	(2.08)	(1.92)	(2.20)
Effective experience	3.57	2.08	3.54	3.58	3.65	3.20	4.03
	(2.19)	(1.76)	(2.47)	(2.16)	(2.15)	(2.02)	(2.40)
Idle years	0.63	0.63	0.34	0.65	0.60	0.60	0.97
	(1.08)	(1.11)	(0.78)	(1.10)	(1.06)	(0.98)	(1.40)
Legal status	0.872	0.945	0.997	0.861	0.891	0.767	0.932
Labour experience in home country	0.856	0.572	0.882	0.854	0.878	0.863	0.741
Monthly worked hours	41.33	39.90	39.48	41.48	41.54	41.01	42.24
	(10.71)	(10.62)	(10.13)	(10.75)	(11.14)	(10.99)	(8.31)
Having more than one job	0.060	0.055	0.055	0.060	0.068	0.061	0.025
Attributed wage	0.150	0.140	0.265	0.140	0.138	0.128	0.169
Developed country	0.078	0.100	1.000	0.000	0.000	0.000	0.000
Less developed country	0.922	0.900	0.000	1.000	1.000	1.000	1.000
Latin America	0.529	0.576	0.000	0.574	1.000	0.000	0.000
Eastern Europe	0.263	0.181	0.000	0.286	0.000	1.000	0.000
Rest of the world	0.129	0.144	0.000	0.140	0.000	0.000	1.000
Andalucía	0.061	0.063	0.105	0.058	0.049	0.069	0.070
Aragón	0.047	0.022	0.024	0.050	0.030	0.078	0.071
Asturias	0.018	0.018	0.021	0.018	0.024	0.010	0.008
Baleares	0.063	0.041	0.102	0.059	0.073	0.034	0.054
Canarias	0.035	0.033	0.097	0.030	0.041	0.010	0.027
Cantabria	0.027	0.030	0.013	0.028	0.035	0.027	0.003
Castilla y León	0.039	0.026	0.026	0.040	0.030	0.062	0.035
Castilla-La Mancha	0.058	0.030	0.010	0.062	0.036	0.131	0.027
Cataluña	0.126	0.203	0.142	0.124	0.134	0.080	0.176
Comunidad Valenciana	0.085	0.092	0.102	0.083	0.067	0.113	0.090
Extremadura	0.019	0.030	0.026	0.019	0.018	0.020	0.019
Galicia	0.017	0.011	0.013	0.018	0.026	0.005	0.009
Madrid	0.147	0.188	0.126	0.149	0.172	0.138	0.079
Murcia	0.090	0.044	0.042	0.094	0.099	0.058	0.147
Navarra	0.089	0.114	0.084	0.089	0.100	0.068	0.092
País Vasco	0.028	0.030	0.045	0.027	0.033	0.016	0.024
Rioja	0.049	0.022	0.021	0.051	0.034	0.080	0.062
Number of observations	4.885	271	381	4.504	2.586	1.286	632

Notes: Values correspond to the variable averages. In the case of continuous variables, standard deviation is shown in parenthesis.

Table A.2

	Probit	Model (1)	Model (2)	Model (3)
Years since migration	0.0338***	0.0141***		
	[0.00789]	[0.00250]		
Schooling years	0.0114**	0.0177***		
	[0.00503]	[0.00166]		
Schooling years in Spain			0.0332***	0.0369***
			[0.00747]	[0.00746]
Schooling years in home country			0.0176***	0.0172***
			[0.00166]	[0.00166]
Potential experience	0.0813***			
	[0.00570]			
Potential experience^2	-0.00179***			
	[0.000122]			
Potential experience in Spain			0.0140*	
			[0.00817]	
Potential experience in Spain^2			9.76E-06	
			[0.000879]	
Effective experience in Spain				0.0239***
				[0.00736]
Effective experience in Spain^2				-0.00094
				[0.000863]
Idle years in Spain				-0.0036
				[0.00501]
Potential experience in home country		0.00676***	0.00679***	0.00622***
		[0.00177]	[0.00177]	[0.00176]
Potential experience in home country^2		-0.000190***	-0.000191***	-0.000185***
		[5.08e-05]	[5.10e-05]	[5.04e-05]
Labour experience in home country	0.375***			0.0313**
	[0.0417]			[0.0142]
Legal status	0.306***	0.141***	0.141***	0.142***
	[0.0444]	[0.0152]	[0.0156]	[0.0155]
Logarithm of monthly worked hours		0.562***	0.562***	0.558***
		[0.0207]	[0.0207]	[0.0205]
Having more than one job		-0.0442**	-0.0442**	-0.0478**
		[0.0201]	[0.0201]	[0.0201]
Attributed wage		0.00132	0.00135	0.000207
		[0.0160]	[0.0160]	[0.0161]
Lambda		-0.0157	-0.0161	0.00168
		[0.0235]	[0.0237]	[0.0247]
Latin America	0.405***	-0.265***	-0.265***	-0.259***
	[0.0521]	[0.0249]	[0.0250]	[0.0249]
Eastern Europe	0.619***	-0.235***	-0.235***	-0.227***
	[0.0571]	[0.0262]	[0.0263]	[0.0262]
Rest of the world	0.0718	-0.353***	-0.353***	-0.340***
	[0.0608]	[0.0258]	[0.0258]	[0.0259]
Male	0.503***	0.290***	0.290***	0.288***
	[0.0316]	[0.0112]	[0.0112]	[0.0111]
Married	-0.129***	0.0216**	0.0217**	0.0224**
	[0.0335]	[0.00948]	[0.00950]	[0.00951]
Children	-0.108***			
	[0.0173]			
Language skills	0.358***			
	[0.0424]			
Intercept	-2.684***	4.461***	4.461***	4.456***
	[0.515]	[0.130]	[0.132]	[0.124]
Number of observations	8.585	4.885	4.885	4.885
Pseudo R^2 / Adjusted R^2	0.128	0.453	0.453	0.456

Notes: All estimates include controls for the region of residence.

Table A.3

	Developed countries	Less developed countries	Latin America	Eastern Europe	Rest of the world
Schooling years in Spain	0.0486*	0.0381***	0.0435***	0.0357**	0.0243*
	[0.0278]	[0.00804]	[0.00989]	[0.0179]	[0.0146]
Schooling years in home country	0.0596***	0.0148***	0.0175***	0.0109***	0.00417
	[0.00766]	[0.00167]	[0.00213]	[0.00329]	[0.00329]
Effective experience in Spain	0.0311	0.0242***	0.0354***	0.0122	-0.00979
	[0.0303]	[0.00778]	[0.00997]	[0.0150]	[0.0178]
Effective experience in Spain^2	-0.00176	-0.00111	-0.0019	0.000148	0.00222
	[0.00357]	[0.000883]	[0.00120]	[0.00182]	[0.00192]
Idle years in Spain	-0.111***	-0.00373	0.00539	-0.016	-0.000421
	[0.0244]	[0.00486]	[0.00629]	[0.00976]	[0.00938]
Potential experience in home country	0.0178**	0.00391**	0.00932***	0.00217	-0.00667
	[0.00865]	[0.00175]	[0.00236]	[0.00343]	[0.00493]
Potential experience in home country^2	-0.00019	-0.000130***	-0.000258***	-0.000126	0.000116
	[0.000252]	[4.93e-05]	[6.59e-05]	[9.75e-05]	[0.000149]
Labour experience in home country	-0.0274	0.0426***	0.0436**	0.0334	0.0396
	[0.0622]	[0.0155]	[0.0207]	[0.0288]	[0.0309]
Legal status	0.182**	0.130***	0.136***	0.133***	0.245***
	[0.0813]	[0.0156]	[0.0214]	[0.0239]	[0.0457]
Logarithm of the monthly worked hours	0.790***	0.539***	0.514***	0.561***	0.585***
	[0.0816]	[0.0205]	[0.0201]	[0.0264]	[0.0523]
Having more than one job	-0.0466	-0.0476**	-0.0621**	-0.0363	0.0485
	[0.0920]	[0.0202]	[0.0244]	[0.0352]	[0.0704]
Attributed wage	0.192***	-0.0368**	-0.0259	-0.00482	-0.0887***
	[0.0616]	[0.0162]	[0.0178]	[0.0246]	[0.0297]
Lambda	-0.0264	-0.0151	0.0457*	-0.0539	-0.0288
	[0.0594]	[0.0343]	[0.0272]	[0.0580]	[0.0468]
Male	0.193***	0.275***	0.293***	0.328***	0.179***
	[0.0502]	[0.0113]	[0.0134]	[0.0203]	[0.0355]
Married	0.0214	0.0235**	0.0182	0.0107	0.0656***
	[0.0472]	[0.00956]	[0.0126]	[0.0177]	[0.0250]
Intercept	2.830***	4.268***	4.275***	3.908***	4.250***
	[0.386]	[0.124]	[0.317]	[0.168]	[0.294]
Number of observations	381	4504	2586	1286	632
Adjusted R^2	0.506	0.446	0.437	0.545	0.384

Notes: All estimates include controls for the region of residence.