Internal Migration Patterns of Foreign-Born Immigrants in a Country of Recent Mass Immigration: Evidence from New Micro Data for Spain*

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ABSTRACT

This paper extends the literature on the internal migration patterns of the foreign-born by analyzing the situation in Spain, a country affected by recent but very significant migratory flows. We utilize a standard theoretical framework in order to assess the relative importance of human capital, economic and social capital indicators. To this end, we take advantage of a new micro database, the National Immigrant Survey (*Encuesta Nacional de Inmigrantes, ENI-2007*). Our findings suggest that the main theories explaining internal migration patterns of the foreign-born are at least partly true. Evidence is presented in support of the importance of education and knowledge of the native language, income, and networks based on the sharing of social capital among family members; though less so for those based on friends and acquaintances. Spanish citizenship and employment status seem to be less important in explaining the propensity to move within the country. We argue that the lack of significance of some indicators is due mainly to the fact that Spain has become a major destination only very recently as well as to the way different immigrant groups tend implement strategies for promotion and integration.

INTRODUCTION

The analysis of the internal migration patterns of the foreign-born sheds light on three important issues for migration research: the determinants of migration, its impact, and the process of integration of migrants into host societies. Any study of internal migration of non-natives is based on certain prior assumptions. (1) Non-natives are a unique group insofar as they have already undertaken at least one major migration (Nogle, 1994). (2) Information on the characteristics of immigrants and/or their location choices in the host country is important for the design of demographic, economic and social policies (*e.g.*, Bartel, 1989; Chiswick and Miller, 2004). (3) Internal mobility of immigrants has important economic and social implications both for movers and for host societies and economies. Internal migration may be an effective strategy by which the insertion of immigrants into the new country is achieved, much as recent reviews of spatial assimilation theories by Wright and Ellis (2000) and Goodwin-White (2007) show. According to these theories, immigrants tend at first to follow a process of racial or ethnic concentration and then one of dispersion (*e.g.*, Massey, 1985; Alba and Nee, 1997).[1]

In this paper, we deal with some of these relevant issues for the case of Spain, a relative newcomer as a major destination for international migration flows. As in the case of other Southern European nations, Spain was an emigrant country until the late 1970s. In a relatively short amount of time, however, economic growth converted it and other nations of this region into the destination for high numbers of immigrants (Massey *et al*, 1998; Venturini, 2004). This process began in earnest at the end of the twentieth century when Spain became an important destination of immigrants in Europe and one of the main destinations in the World (United Nations, 2006; Dolado and Vázquez, 2007; International Organization for Migration, 2008). About 500,000 immigrants have entered Spain each year since then, leading to dramatic changes in both their numbers and their relative importance within the

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[1] Wright and Ellis (2000) and Hardwick (2008) emphasize the complexities and variations of this process.

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Spanish population. In 1996 the stock of the foreign-born included about 1,000,000 individuals (2.6 per cent of the total population). By 2008 it had grown to more than 6,000,000 persons (13.1 per cent of the total population) (Instituto Nacional de Estadística, 2008).

The characteristics of internal movement within Spain, especially with regard to who moves and how often, constitute the main focus of this paper.[2] Logit regression models are estimated for our first outcome variable, a binary variable indicating whether or not the respondent moved out of the municipality of original residence. As a source of additional information, negative binomial models for the number of internal migrations experienced by the respondent have also been estimated. We use this set of analytical tools to assess a wide variety of factors affecting internal migration of the foreign-born. In the course of this analysis we shall contrast the importance of three main types of determinants of internal migration, as analyzed in studies at the micro level by Nogle (1994, 1997), Kritz and Nogle (1994), Gurak and Kritz (2000) and South *et al* (2005). These include: human capital, economic factors and social capital perspectives. Regression models are estimated with full sets of demographic, geographical and time-variant controls.

Since mass immigration in Spain is a recent phenomenon, our knowledge is less than adequate, especially with regard to factors affecting the spatial mobility of immigrant groups. The existing literature on the subject in Spain is often based on a data source that affords relatively little pertinent information. In this paper, we take advantage of a brand new retrospective micro database. The National Immigrant Survey (*Encuesta Nacional de Inmigrantes*, ENI), undertaken in 2007 and launched in July 2008, contains a battery of questions about movement across municipal boundaries within Spain, as well as a large amount of information on sociodemographic characteristics of foreign-born migrants. This database will enable us to address the pertinent issues affecting internal movement adequately.

This paper is organized as follows. The next section reviews the literature on the internal migration of the foreign-born in countries with dense migratory

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[2] In a companion paper, we will study spatial patterns in detail.

traditions. In the following two sections, recent mass immigration to Spain is portrayed and the main results obtained by the Spanish literature devoted to the study of the internal migration of immigrants are described. Further sections present this important new database, hypotheses, methods, variables and results. In the last sections, the main conclusions are discussed and summarized.

INTERNAL MIGRATION PATTERNS OF FOREIGN-BORN IMMIGRANTS IN COUNTRIES WITH DENSE MIGRATORY TRADITIONS.

The United States is by far the country where the literature on internal migration patterns of the foreign-born is most voluminous, due mainly to the persistently high levels of immigration over time. Scholars coming from the social sciences have undertaken both descriptive and analytical studies, based on macro, micro or a combination or both kinds of data. Descriptive research tends to show that immigrants display a higher propensity to move than natives do. Partly because of this, the spatial distribution of immigrants in host countries tends to be different and more concentrated than in the case of native-born persons (*e.g.*, Belanger and Rogers, 1992; Frey, 1996; Rogers and Henning, 1999; Chiswick and Miller, 2004). This process, however, may vary by national origin (*e.g.*, Newbold, 1999; Massey and Capoferro, 2008). The evidence on the eventual dispersion from original concentrations of foreign-born in ethnic enclaves is mixed. Recent literature suggests that many changes in location may occur quite late in the life cycle and that a tendency towards spatial concentration may tend to persist through the second generation (Ellis and Goodwin-White, 2006; Funkhouser, 2007; Goodwin-White, 2007).[3]

Scholars have also studied in detail the causes and constraints of internal migration of the foreign-born in the United States. Broadly speaking, this literature

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[3] Lieberson and Waters (1988) show that the spatial dispersion of national groups of immigrants arriving in the United States at the turn of the twentieth century has been slow. See also Massey (1985) for a long-run perspective and evidence for other countries.

usually addresses the impact of a set of variables that reflect the importance of human capital, economic factors and social capital in explaining the propensity to move (*e.g.,* Bartel, 1989; Kritz and Nogle, 1994; Nogle, 1997; Liaw and Frey, 1998; Gurak and Kritz, 2000; Ellis and Goodwin-White, 2006; Goodwin-White, 2007; Diaz McConnell, 2008).[4] The most important determinant of internal migration tends to be the presence of earlier immigrants of the same national origin, which is utilized as a proxy for the amount of social capital shared by the immigrants. Social capital refers to "the capacity of individuals to command scarce resources by virtue of their membership in networks or broader social structures" (Portes, 1995: 12).

The role played by economic and human capital factors in these studies is less conclusive. Economic conditions measured either at individual or aggregate levels, such as income, unemployment or economic growth, usually matter but their importance may decrease in the presence of other factors. Evidence on the extent and direction of the impact of human capital variables on the propensity to move is also mixed. Human capital may refer to attributes like education, native-language fluency or naturalization. More educated migrants, for example, may present different migratory patterns because of their increased employment opportunities. Language fluency and naturalization should also facilitate a better access to the labour market and information. Results, however, have not been conclusive on this point.

Two other nations with long migratory traditions, Canada and Australia, have also received considerable attention. Evidence on the spatial distribution patterns and the causes of internal migration of the foreign-born tends to be similar to the case of the United States (*e.g.,* Nogle, 1994; Moore and Rosenberg, 1995; Newbold, 1996; Chiswick *et al*, 2001; Krahn *et al*, 2005; Hyndman *et al*, 2006; Hugo, 2008; Le, 2008). The preponderance of social capital indicators, however, appears to be

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[4] Zavodny (1999) extends the traditional set of factors by considering the potential attraction of welfare benefits, but the author does not find a significant impact. South *et al* (2005) adopt a different perspective in order to contrast, among other things, the existence of discrimination experienced by immigrants.

less clear in Canada and Australia.[5] Economic factors and human capital characteristics, conversely, may play a more import role in explaining the reasons to move within these two countries. The reasons for these differences are not clear and much remains to be done on this subject.

The literature for European countries is abundant on issues such as differences in migration rates and spatial distribution of ethnic groups. For example, in the case of Britain, also an important historical destination for international migration, Robinson (1991), Finney and Simpson (2008) and Stillwell *et al* (2008) show that some specific groups display high propensities to move and important levels of spatial concentration. As far we know, however, empirical studies about the determinants of the internal migration of the foreign-born are relatively scarce. A recent study of ethnic groups in Britain points out the importance of some human capital characteristics and economic factors, as well as other sociodemographic and ethnic indicators, though it does not consider the effect of migratory networks (Finney and Simpson, 2008). Our understanding of the determinants of internal mobility of immigrants in other European countries is less than adequate.

SPAIN AS A COUNTRY OF RECENT IMMIGRATION

Mass emigration from Spain took place between the late nineteenth century and the second half of the 1970s (Sánchez-Alonso and Silvestre, 2008). The majority of emigrants from the 1880s to World War I had Latin American countries as their main destination. The disruption of international labour markets as well as the consequences of the Spanish Civil War (1936-1939) considerably reduced Spanish emigration between the two World Wars. Mass emigration to Latin America resumed in the late 1940s, but the flow rapidly changed its direction towards Germany, France, Switzerland and other rich European countries. The effects of the oil crisis

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[5] Scholars do not usually provide international comparisons. As an exception, data presented by Massey (1985) seem to confirm that the spatial concentration of the foreign-born in Canada and Australia has been lower than in the United States.

on traditional countries of destination for Spanish emigrants, first, and then growing prosperity at home from the mid-1980s onwards, which diminished economic gaps with other countries, reduced Spanish emigration to a minimum by the 1990s (Ródenas, 1994; Venturini, 2004; Bover and Velilla, 2005).

The counterpart of fading of emigration was the growth of mass immigration. In a recent review of European immigration, Hooghe *et al* (2008) noted that almost every European country received a considerable number of immigrants over the last two decades. The authors argue that these flows were reaction to economic incentives, mainly related to shortages in national labor supplies. Spain has played a very significant role in this process and has become a key destination in Europe in the last decade.

The evolution of immigration to Spain is characterized by three phases (Izquierdo, 1996; Arango, 2004; Cachón, 2006). Before 1985, the majority of immigrants were Europeans working for multinational companies or retirees, followed by Latin American political exiles. The total stock of foreign-born remained very low. Between 1985 and the end of the century both the amount and the variety of immigrants increased modestly. Spain gradually began to receive immigrants from Latin America, North Africa, Eastern Europe and, to a lesser extent, Asia, and immigration entered the political agenda. Immigration accelerated dramatically during the early years of the present century.[6] For the first time in recent Spanish history, moreover, immigration had become a structural phenomenon of Spanish society. The visible presence of the foreign-born has turned immigration into an important political, economic and social issue.[7]

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[6] The distribution of immigrant population according to its place of birth for the early years of the twenty-first century is as follows: European Union (not including Romania and Bulgaria): 24 per cent; Latin America: 34 per cent; Africa: 20 per cent; Eastern Europe: 13 per cent; Asia: 5 per cent; Rest of the world: 4 per cent (Dolado and Vázquez, 2007: 8).

[7] As in other Southern European countries, however, immigration in Spain has been characterized by the preponderance of illegal migration band weak governmental capacity to regulate inflows (Castles and Miller, 2003: 83; Arango, 2004; Solé, 2004; Martin *et al*, 2006: 120 and 128).

Demographic, human capital and economic characteristics of recent immigrants differ from those of natives (Izquierdo and Carrasco, 2005; Cachón, 2006; Dolado and Vázquez, 2007; Instituto Nacional de Estadística, 2007; Reher *et al*, 2008). The average age of immigrants (33.7) is around six years below the average age of natives (39.9), although the difference is larger if only non European Union immigrants are considered. Immigrant populations tend to be more masculinized than native ones (52% men as opposed to 49% respectively). The percentage of immigrants having graduated from high school (23) and university (10) tends to be lower that in the case of natives (28 and 21), though it is unquestionable that there are important segments of the immigrant population that are very highly educated. Immigrants also display higher labour force participation and unemployment rates (66 and 12) than natives (55 and 8).

At the moment of their departure for Spain, the type of economic activity of immigrants tended to be closely related to the socioeconomic structure of their countries of origin (Reher and Requena, 2009; Reher *et al*, 2008). Taken together, however, nearly 50 per cent of immigrants were occupied in the services sector in their countries of origin, with 20 per in industry and the rest in agriculture and construction. Although family-related reasons to emigrate may have increased in recent years, it is very clear that a significant part of immigration to Spain came for work-related reasons (Systeme d'Observation Permanente sur les Migrations, 2008).

As is the case in other countries, immigrants in Spain present high levels of sectorial and occupational segregation (Cachón, 2006; Reher *et al*, 2008; Simón *et al*, 2008). Three quarters of non European Union migrants concentrate in four sectors: construction, agriculture, food preparation and serving, and domestic service. These immigrants also tend to engage in higher levels of temporary and part-time work, as well as in the underground economy. Overall, immigrants face a higher incidence of over-qualification, and the quality of their jobs tends to be lower than that of jobs obtained by natives (Fernández and Ortega, 2008; Pérez and

Serrano, 2008).[8] Correspondingly, preliminary empirical analysis of the impact of immigrants on the employment rates and wages of native workers does not reveal significant effects (Carrasco *et al*, 2008).

INTERNAL MIGRATION PATTERNS OF IMMIGRANTS IN SPAIN: A BRIEF REVIEW OF EXISTING LITERATURE

The literature on the internal migration patterns of recent immigrants in Spain is not abundant. Descriptive research has normally made use of aggregate data, providing information about the propensity to move and the spatial concentration of foreigners.[9] Scholars have shown that, much as happens elsewhere, immigrants are three to four times more likely than natives to move within Spain (Recaño, 2002; García Coll, 2005; Lamela, 2006; Recaño and Domingo, 2006; Ródenas and Martí, 2006). This is due in part to the fact that the incidence of movement declines with age less among immigrants than it does among native Spaniards.

Dolado and Vázquez (2007) and especially Recaño (2002) and Recaño and Domingo (2006) have shown that the spatial patterns of concentration of immigrants are different from those of natives. According to the Spanish Statistical Office (Instituto Nacional de Estadística, 2007), three southern and eastern coastal regions (Cataluña, Valencia and Andalucía), together with the region embracing the capital city of Madrid, attract 67 per cent of the total immigration. These four regions, however, are also the main magnets for natives, since 57 per cent of

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[8] T**he studies cited show that while immigrants'** labor force participation and unemployment rates tend to converge with the rates of natives, this is not the case for the quality of jobs and the incidence of over-qualification.

[9] The Spanish studies cited here generally refer to foreigners (*extranjeros*), not to non-natives. The tables provided by the Spanish statistical office for the source generally used (the *Estadística de Variaciones Residenciales*, EVR) are all based on foreigners, independent of the place of birth or the number of years they have been in Spain (García Coll, 2005: 90). This, however, is not the case with the EVR microdata that include both country of origin and country of citizenship. See also Ródenas and Martí (2006) for the Spanish sources.

Spaniards live there.[10] If we consider all the Spanish provinces, the dissimilarity index calculated by Lamela (2006: 257) shows that the spatial concentration of immigrants is 14 percent points higher than that of natives. Immigrants and natives do not always choose the same provinces of destination (Recaño, 2002; Lamela, 2006). The coincidence in location choices tends to be higher among natives and immigrants coming from the most developed countries (Recaño, 2004). As shown in a detailed study by Recaño (2002), location choices and internal migratory flows may also vary considerably across national origin groups.

The literature on the internal migration patterns of immigrants in Spain tends to be based on movement between provinces, mostly because provinces are the basic unit of analysis in most official statistical sources. In these cases, it is not possible to look at intra-provincial, often rural-urban, movements. Some studies have pointed out the existence of this kind of short-distance internal migration among the immigrant population (*e.g.*, García Coll, 2005; López Trigal, 2008). Long- and medium distance internal migrations, however, have been shown to be predominant among immigrants (Recaño, 2002; Recaño and Domingo, 2006). Short-distance movement, on the other hand, may well have been predominant among the native population from the 1980s onwards (*e.g.*, Paluzie *et al*, 2009).

As far we know, there are only three recent and still unpublished, empirical analyses of the causes and constraints of the internal migration of immigrants. Recaño and Roig (2006) include a set of regressions based on aggregate (provincial) data provided by the Residential Variations Data (*Estadística de Variaciones Residenciales*, EVR) for the period 2003-2004. According to these authors, the most important constraint for internal movement among foreigners is the presence of earlier immigrants of the same origin. Economic factors such as income, job creation and unemployment seem to have a smaller impact. More recently and in contrast to these earlier conclusions, Martí and Ródenas (2008) emphasize economic factors as a main cause factor explaining the internal migration of immigrants for the period 2003-2005. The authors utilize the demographic factors

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[10] The limited ability to attract migrants of a number of inland and northern provinces is shown in Recaño and Domingo (2006) and López Trigal (2008).

provided by the EVR (sex and age), combined with some characteristics of the country of origin and the Spanish municipality and province of destination. Recaño (2008) has also utilized the available micro data provided by the 2001 Census. Apart from demographic, spatial and temporal controls, however, lack of sufficient data only enabled the author to contrast the impact of some human capital attributes as well as the presence of earlier immigrants of the same national origin. In comparison with the earlier study by the same author [Recaño and Roig (2006)], in this new study this last variable presents the opposite sign.

Other studies, often not based on strictly empirical data, have also evaluated the importance of some of these and other variables. Martínez Buján and Villares (2006: 144), for example, suggest that the presence of earlier immigrants from the same origin rather than economic factors is the most important factor explaining location choices of foreigners.[11] Recaño (2002) reports that Africans and Latin Americans show higher propensities to move than immigrants from other nationalities. The same author also suggests that the longer immigrants remain in Spain, the lower the propensity to move becomes.

This present contribution extends the Spanish literature by using a new nationally representative micro database. These new data enable us to examine the importance of different theoretical approaches. This analysis is based on non-native immigrants, thus enabling us to include citizenship as an independent variable. The data also enable us to consider all kind of migration, including inter- and intra-provincial movement.

A NEW MICRO DATABASE IN SPAIN: THE NATIONAL IMMIGRANT SURVEY

In this paper, we are able to take advantage of a brand new retrospective micro database that has been derived from the National Immigrant Survey

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[11] This result is based on a self-made survey compound of 60 respondents, 41 women and 19 men, located in six cities (Almería, Barcelona, La Coruña, Madrid, Málaga and Vigo).

(*Encuesta Nacional de Inmigrantes*, ENI-2007).[12] This major data source enables us to circumvent many of the shortcomings of the EVR, the source generally used. The survey was administered to approximately 15,500 non-native current residents of Spain between the months of November 2006 and February 2007. All persons 16 years and older who were born abroad and who had been in Spain for at least one year were eligible to be interviewed. For those who had been in Spain for less than a year, their intent to remain in the country for at least a year also qualified them for participation in the survey. A resident is a person who is present in the country without regard to his or her legal status. The Spanish Statistical Office designed the strategy for locating informants. This task was based on the existence of the Municipal Register or *Padrón Municipal*. A response rate with respect to the effective sample eligible respondents of 87.4% was obtained (15,465 interviews). The results of this survey are statistically representative for Spain, for the main migrant origins and for the major regions of the country. All results have been weighted according to the sample frame set up by the Spanish Statistical Office.[13]

The survey instrument covers an ample range of subjects including the sociodemographic characteristics of immigrants (including language skills, education, fertility, marital status and many other variables), household structures of their current place of residence, conditions upon departure from their countries of origin and arrival in Spain, personal migration histories, housing conditions during their stay in Spain, personal labor histories and relations with Spanish civil society and countries of origin. For the purposes of this study, data gathered on all changes of municipality excluding vacation time and lasting more than one month during their current stay in Spain has proved to be an invaluable source of information.

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[12] For a complete presentation of the main methodological aspects of this new source, see Reher and Requena (2009). Additional information, including the survey instrument and the microdata, can be found at the Spanish Statistical Office web site (www.ine.es). The main preliminary results of this survey can be found in Reher *et al* (2008).

[13] For additional information, see Reher and Requena (2009).

HYPOTHESES, METHODS AND MODEL SPECIFICATION

Main Hypotheses

Three main theoretical approaches are normally used in explaining the internal migration of the foreign-born: human capital, economic factors and social capital. In the human capital theory, individuals consider the costs and benefits of internal displacement (Sjaastad, 1962). From this perspective, acquired skills and training may lead to greater investment returns in the place of destination. Immigrant characteristics related to human capital include education and occupational status, as well as language fluency and naturalization.

The costs and benefits of spatial movement may also be shaped by economic factors. Employed people or those with high incomes are expected to be less likely to migrate (*e.g.*, Da Vanzo, 1981; Greenwood, 1997). Because migration is costly, however, certain levels of income may be necessary to meet the costs related to the displacement itself, to the entry into a new labour market, to the effort need to become integrated in a new place, and to the income foregone during the transition period.

Social capital affects migration decisions by providing access to information, assistance and resources. This process occurs by means of *migrant networks*. These **are "sets of interpersonal ties that connect migrants, former migrants, and non**-migrants in origin and destination areas through ties of kinship, friendship, and **shared community origin" (Massey** *et al*, 1998: 42). It has been pointed out that migrant networks may play a less important role for internal migration than they do for international migration, because of the costs of the former are usually lower (Gurak and Caces, 1992). Some groups of internal migrants, however, can display different propensities to rely on networks, which may vary according to their national origin or the specific amount of their acquired human capital.

Besides the evaluation of human capital, economic and social capital theories, empirical models also tend to consider a set of relevant controls. In our regression models, we will include socio-demographic attributes and other migrant

characteristics such as their place of origin and the year of arrival to Spain. We will also control for the place of residence at the time of the interview.

Data Sampling and Model Specification

Our original database is the entire sample of 15,465 individuals who were interviewed during the elaboration of the ENI. Because of estimating requisites, however, our final subsample is totals 7,185 individuals. This reduction is the result of the estimation requirements directly related to the theoretical underpinnings of our model. A key social capital variable, based on whether or not the informant had acquaintances prior to his/her immigration to Spain, was only asked of migrants arriving in Spain after 1990 (3,930 respondents eliminated). Our analysis only concentrates on immigrants aged 25-65 years old (inclusive) at the time of arrival in Spain (3,069 eliminated). The age 25 year old cutoff is necessary so as to exclude young people who may not have completed their education and/or generated sufficient personal income to be able to afford internal displacement.[14] Moreover, considering the retrospective nature of the ENI, some variables refer to events that may have occurred after, and not before, a specific internal migration. By using a minimum age (25), we hope to reduce the potential endogeneity of education to a minimum.[15] The age 65 cutoff excludes non-economic internal migrations. Finally, an additional 1,281 respondents were excluded who did not respond, or did so mistakenly, to relevant questions in our analysis.

Our purpose here is to examine the relative importance of a set of factors for determining migration propensities. To this end, two kinds of models have

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[14] This is the strategy followed by Kritz and Nogle (1994), Nogle (1997), Gurak and Kritz (2000) and Goodwin-White (2007). Relatively high age cutoffs have also been used by Newbold (1996), Liaw and Frey (1998) and Ellis and Goodwin-White (2006).

[15] It has also been shown that relatively mature immigrants acquire little schooling after their arrival in Spain (Fernández and Ortega, 2008). This gives additional support to our strategy used here. Earlier cutoff ages were also tried (16 and 20) and model results did not vary significantly. The higher age was preferred for the reasons explained in the text.

estimated. Both of these models are based on a definition of internal migration as a change of municipality of residence (thereby including both inter- and intra-provincial movements). In the first analysis, logistic regression models have been used in which the dependent variable is a dichotomous measure set equal to 1 if an individual has changed municipality. In the second model, we utilize negative binomial models to evaluate the determinants of the number of internal changes an immigrant has undertaken. The dependent variable here is a count specification. A count specification is used because of the nature of our second dependent variable, which takes only non-negative integer values and many respondents report no migration (see Nogle, 1994). A negative binomial model is preferred to a Poisson model since the Poisson model assumes that the conditional mean of the dependent variable equals its conditional variance. Since our data present overdispersion (variance greater than mean), we use the negative binomial model, which allows the mean and variance to differ.[16] Table 1 shows that, from our sample of 7,185 persons, 2,471 (34.5 per cent) have migrated within Spain since 1990. Of these internal migrants, 1.565 (21.8 per cent) did so once and 906 (12.6 per cent) were repeat migrants. The first part of Table 2 provides summary statistics for our two dependent variables.

[Insert Table 1 around here]

Table 2 provides a brief description and summary statistics of all explanatory variables used in the regression models. A first series of controls refer to demographic attributes of the foreign-born. Age (at the time of arrival in Spain) is expected to reduce the propensity to migrate. This is because age reduces economic returns to migration and increases attachment to family, friends and community. Both impacts are more than likely increased by the relatively high

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[16] We follow the test described by Cameron and Trivedi (1998: 71-72) and implemented in Stata 10.

imposed cutoff age.[17] The sign of the impact of gender (male = 1) is not clear *a priori*. We also include marital status and the number of children below 16 living at the same home as the respondent. It is true that family structure variables may be determined simultaneously with migration. Our focus, however, is on human capital, economic and social capital variables, and therefore the issue of the endogeneity of family structure variables becomes less important.

[Insert Table 2 around here]

We also include temporal and spatial controls. Although the main purpose of our models is to test the validity of certain key theoretical postulates, these controls broaden and deepen our understanding of internal migration in Spain. The year of arrival captures the process of acquiring information about labour markets and potential destinations. Because more recent immigrants have usually less information, we expect duration of residence (year of arrival) to be negatively correlated with the propensity to migrate (Kritz and Nogle, 1994). Since the ENI is a retrospective survey, we also control for the place of residence at the time of the interview. We divide Spain into six macro regions which vary by the importance of the stock of immigrants (Recaño and Domingo, 2006: 311). More than 10 per cent of the total population in Madrid (the reference), the Canary Islands and the Mediterranean is made up of immigrants. The stock is between 5 and 10 per cent in Ebro Valley and South, and below 5 per cent in the case of North. The place of birth of immigrants may reflect the impact of factors such as the development level, cultural and political ties, and ethnicity, regardless of human capital, economic factors and social capital (Kritz and Nogle, 1994; Nogle, 1997).

Regarding the accumulation of human capital, we include the level of completed education, as well as fluency in Spanish and Spanish citizenship.

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[17] We also evaluated whether age has a non-linear relation with migration. Age squared, however, was not statistically significant and reduced considerably the main impact of age.

Education is expected to increase migration, although a non-linear relationship may be also expected since the most educated migrants may have more opportunities available to them and thus be less inclined to move. The effects of other immigrant specific characteristics, however, are less clear, as shown in Kritz and Nogle (1994), Nogle (1994, 1997), South *et al* (2005) and works cited therein.[18]

Individual economic conditions are proxied by the employment status and the level of monthly income. Income squared has also been included in order to asses the possibility of a curvilinear impact on migration. Unemployed is a dummy variable scored 1 for respondents who have been *some time* unemployed since their arrival. We assume here that being unemployed precedes and may provide incentives for migration.

Income levels may also be considered as potentially endogenous to the migration process, as higher incomes may be the consequence of prior spatial displacement. We deal with this by using an instrumental variable estimate (Appendix 1). Here we assume that the level of monthly income can be captured by a set of dummy variables regarding occupation categories. We also assume that occupational status is correlated with the level of income, but it is not correlated with the error term in the migration equation. This latter assumption makes sense if we consider that immigrants in Spain present high levels of sectorial and occupational segregation, and inter-sectorial and inter-occupational mobility related to migration is very low (Cachón, 2006; Simón *et al*, 2008).

We finally include two variables aimed at reflecting the effect of social capital on the propensity to move. Lack of more precise data usually forces scholars to use a (macro) measure of native concentration as a proxy for the amount of social capital shared by the immigrant. The ENI, however, provides information about the establishment of two kinds of networks based respectively on kinship and on friendship/recruitment. The first dummy variable scores 1 for respondents whose

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[18] We do not include occupation variables as a further indicator of human capital, since we use these variables as instruments for income. See below for a detailed explanation. We have also tried to include self-employment, but many informants did not respond to this question.

reason to move to Spain was family regrouping, while the second dummy variable scores 1 for respondent with previous contacts upon arrival in Spain. These indicators are similar to those utilized by Nogle (1994) and they can be expected to reduce the propensity to move within Spain because the integration in networks decreases the necessity to make further 'experimental' migrations.

RESULTS AND DISCUSSION

Results

The results of the logit regression model are reported in Table 3 and those of the negative binomial regression model are reported in Table 4. Regressions in both tables are estimated using heteroskedasticity-robust standard errors and have been weighted according to the sampling frame. The highest correlation between explanatory variables is 0.58 (an exception is explained below). We summarize the findings by transforming the coefficients estimated into odd ratios (exp[b]), which express the likelihood that an internal move did occur, and present them in percent changes. The percentage change in the expected likelihood refers to a *unit* change in the explanatory variables, except in the case of income in which the percentage change refers to a *standard deviation* of change. In both tables, models 1 and 2 report the impact of the control variables, models 3 and 4 address the relationships for the human capital variables, models 5 and 6 concentrate on the relationships for the economic factors and social capital variables respectively, and model 7 combines all the covariates.[19]

In Table 3, our dependent variable is a binary variable capturing whether or not the respondent has changed his or her municipality of residence. This set of models yields several robust results. The impact of age is negative and significant, much as was expected. Each year of age reduces the propensity to move around 3

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[19] Regressions were estimated using Stata 10. Untransformed coefficients, confidence intervals and standard errors, as well as correlations between explanatory variables and other econometric details are available from the authors upon request.

per cent. There difference between males and females shows that males are less likely to migrate, though differences are not significant. Among the marital status variables, only respondents who declared a status different from single or married show significant results with a far higher likelihoods of internal movement among them. The impact of each year of arrival in Spain, as expected, is highly significant. Across all of the models shown in Table 3, the earlier immigrants arrived, the lower the propensity to move.

In comparison with residents in the region of Madrid (reference variable), only residents in the northern region at the time of the survey (2007) present far greater and consistently significant propensities to move. All regions, however, with the exception of the Canary Islands, show a greater likelihood of movement than Madrid, though this effect is not generally statistically significant. Considering that North has the lowest stock of foreign-born population together with the retrospective nature of the ENI, it may be possible that a positive and significant impact of the North coefficient means that North is not the preferred location as a choice of first residence, but rather as a destination of people moving away from their initial residence. In fact, the generally higher likelihoods of movement in most regions (with respect to Madrid) probably suggest that Madrid is the point of departure for many (or most) migrants, but not necessarily the point of destination. This is not surprising because Madrid is by far the most important point of entry for migrants into the country (Recaño and Domingo, 2006). The gradient of coefficients shown by different regions may be more an assessment of the first regions of residence than of the ability of any given region to attract migrants.

When looking at the likelihood of internal movement by country of origin, very strong and significant results emerge. All results shown in Table 3 are comparisons with movements among people from the more developed European countries (the reference variable). The results suggest that non-natives from the rest of Europe are the most likelihood to move, with likelihoods around 80-90 per cent more than other Europeans. Africans and Latin Americans, meanwhile, are around 55-70 and

30-40 per cent more likely to move.[20] It is worth noting here that most of these coefficients are highly significant, especially for foreign-born coming from the rest of Europe.

Models 3, 4 and 7 shown in Table 3 assess the impact of the human capital variables. The relationship between education and the propensity to move is positive, although the magnitude of the impact decreases in the case of the most highly educated. It is true that not all the coefficients for the levels of education are strictly significant at the usual levels. These coefficients, however, are very close to being significant at the 10 per cent level. The p-value was 0.056 and 0.057 in the case of Primary School (models 3 and 4), and the p-value was between 0.06 and 0.09 in the case of College or above (models 3, 4 and 7). The highest levels of movement can be observed for those of secondary school education, suggesting the **existence of an 'inverted U relationship' between education and the propensity to** move.

The rest of the human capital variables are, in principle, not significant (models 4 and 7). The impact of fluency in Spanish, however, is significant in other regressions (not shown here) in which the variable Latin America (whose correlation with fluency is 0.93) was removed; in other words, when persons with Spanish as a native language are not included in the model. Here, fluency in Spanish increases the likelihood of movement within Spain by 30 per cent. The effect of having the Spanish Citizenship, however, although positive is not significant.

The rest of variables are analyzed in models 5, 6 and 7. The first of our economic variables, employment status, has no effect on migration. The relationship between income and migration, on the contrary, is highly significant. Models 5 and 7 suggest that certain level of (monthly) income is necessary to migrate. An increase of one standard deviation (773 euros) raises the propensity to move by about one third. As expected, the existence of an inverted U-shaped relationship means that higher incomes decrease the propensity to move.

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[20] In models 4 and 7, Latin America is not significant because this variable is highly correlated with fluency in Spanish (0.93).

The coefficients of both network variables have the expected sign, although only family regrouping is significant. Respondents whose reason to migrate to Spain was family regrouping display about one-fourth lower propensities to move than do those who came for other reasons.

[Insert Table 3 around here]

In Table 4, the account variable capturing the number of internal migrations is used. Results for set of models included in Table 4 tend be similar to those obtained for the logit regression models in Table 3. The sign of the coefficients remains the same in almost all the cases. This time, however, there are more statistically significant regression coefficients. The magnitude of the impact for control variables is larger. It is worth noting that in these models women appear to be much more likely than men to be repeat migrants, a result not mirrored in the earlier set of models. Table 4 also suggests that Africans together with other Europeans display high likelihoods of being repeat migrants.

In this second set of models, the variables reflecting the three main theories of causality do not change substantially with respect to the set shown in Table 3. These results also hold for the impact of fluency in Spanish once persons from Latin America are removed from the model. The only difference worth mentioning is that the impact of our income variables appears to be smaller than in the logit regression models, but continues to be significant. Attributes such as education, for example, appear to be more important for repeat migration than they were for the existence of movement itself, since their impact in Table 4 is somewhat larger that it is in Table 3. Unlike the previous set of models (in Table 3), the network variable based on the existence of previous contact is significant in model 7. These results suggest that repeat migrants present some distinctive characteristics, though the fundamentals remain the same.

[Insert Table 4 around here]

In order to address the impact of the potential endogeneity of our income variable, two complementary models have been constructed for each of our dependent variables (Table 5). In order to do this, first, an ordinary least squares model has been constructed so as generate an instrumental variable in which income is regressed on three occupational variables (plus a reference variable) provided by the ENI (Appendix 1). All the occupation variables are very significant and they explain almost one-half of income variation. The new income variable was then introduced into our basic set of models and the results are reported in Table 5 (models in this Table correspond to the models 5 and 7 in Tables 3 and 4). According to regression models reported in Table 5, if this two-stage method is correct, the impact of income variables is even larger than it was in the case of earlier models shown in Tables 3 and 4.

[Insert Table 5 around here]

Discussion of main results

Our empirical analyses enable us to address the importance of a number of potential determinants of the internal migration of the foreign-born. In line with the international literature on the subject, we have utilized micro data and run multivariate models that include a number of indicators of the causes and constraints of internal movement, while controlling for other relevant variables. The results presented here refer to a country of recent mass immigration, itself an important innovation from previous studies that have by and large referred only to countries with rich migratory histories. This study also extends Spanish literature on the subject that tends to be based on data sources that afford relatively little pertinent information and often offers contradictory results regarding some main issues.

Our findings show that young migrants arriving recently in Spain recently are more likely to move within the country. Women appear to be much more likely than men to be repeat migrants. This result, which would have gone unnoticed had only the first set of models been used, may have considerable impact for design of social policies. It is also worth noting that the impact of the year of arrival, even after controlling for human capital, economic and social capital variables, remains high and significant. This result points to the importance of acquiring information, initially scarce, about labour markets and potential destinations in a country in which mass migration is a recent phenomenon.

The high and significant impact of the place of birth for three of the four regions points to a range of possible factors in the origins, such as the development level, ethnicity, and cultural and political ties among others (*e.g.*, Nogle, 1994, 1997). In comparison with immigrants from the developed European Union countries, persons from the rest of Europe tend to present the highest propensity to move, followed closely by Africans and Latin Americans.[21]

The category 'Rest of Europe' is dominated by the presence of Romanians, who by themselves account for 9.5 per cent of the survey.[22] Three important features of Romanian immigrants pointed out by Pajares (2007), a specialist in immigration from Eastern Europe, who also cites country of origin studies, help to clarify these high rates in the case of Spain. Cultural and linguistic proximity, as well as the prevalence of salaried work among Romanians in Spain, may help explain these results. We should remember that, as shown by Kritz and Nogle (1994), Gurak and Kritz (2000) and the works cited therein, self employment tends to have a strong negative effect on the internal migration of the foreign-born. Pajares

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[21] These results contrast with those obtained by Recaño (2002), who reports that African and Latin Americans present higher propensities to move than immigrants from other nationalities. The author, however, refers to a period in which immigration to Spain was relatively low.

[22] The first fifteen countries in importance in the ENI are the following: Morocco (11.9 per cent of the survey), Romania (9.5), Ecuador (8.2), Colombia (6.6), United Kingdom (6.0), Argentina (5.1), France (4.5), Germany (3.5), Bolivia (3.5), Peru (3.1), Venezuela (2.3), Bulgaria (2.2), Portugal (1.9), Brazil (1.8), and Cuba (1.8).

(2007) also discusses the existence of a 'culture of migration' in Romania as a whole. As explained by Massey *et al* (1998: 47) in this regard, **"as migration grows in prevalence within a community, it changes values and cultural perceptions in ways that increase the probability of future migration".**

The extent to which this combination of factors, in particular the existence of a culture of migration, holds in other groups included in this study is unclear. The high levels of internal migration (especially repeat migration) among Africans may indicate a similar culture among Moroccans who also dominate that category.[23] In addition to cultural characteristics specific to the place of origin, the way certain groups of immigrants integrate in the labour market of the destination may also be important in determining internal mobility patterns. As explained in the most recent Atlas of the Moroccan Immigration in Spain, many immigrants enrol in temporary work intensive jobs in the agriculture sector, in which changes of employer and location are very common (Carvajal and Pumares, 2004). Difficulties in settling into a new job may also be shaped by discrimination suffered by this collective, as pointed out in the same source (Cachón 2004: 401).

In any case, our results suggest that conditions holding prior to arrival, especially those related to the acquisition of human capital, in the form of education and knowledge of Spanish, play an important role in explaining the propensity to move of the foreign-born. Having the Spanish citizenship, however, is not significant in our models though it does show the expected sign. This last result reminds us, once again, of the importance of the specific characteristics of the country of destination. The great size of the underground Spanish economy, the relative inability of different governments to regulate migration inflows, as well as the recent period of strong economic growth and increasing demand for labour, help explain why naturalization has not contributed significantly to a better access to the labour market and information. It is also worth noting that, after all, language is a crucial tool, while citizenship is a legal status.

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[23] Morocco accounts for 11.9 per cent of the survey, whereas Algeria and Senegal, the following African countries in importance, account for 1.2 and 0.7 per cent respectively.

Relocation choices of immigrants in Spain also depend on economic factors. The negative and positive effects of income and income-squared reveal that immigrants with higher incomes are less likely to move, but also that certain level of income is necessary to undertake costly migrations. The instrumental variable estimate confirms the importance of this variable. Even though being unemployed affects the migration decision in the expected manner, it is not significant. This result is similar, in fact, to that the obtained for native Spaniards by Antolin and Bover (1997).[24]

The lack of a significant relationship between employment status of the foreign-born and their propensity to movement, in any event, may shed some light on the near future. The strong and steady economic growth that has characterized the Spanish economy since the mid-1990s came to an abrupt end in 2008. If our models are correct, the impact of the economic crisis on the intensity of internal migration of the foreign-born should not be very large.

Finally, results show that the access to information, assistance and resources provided by existing migratory networks based on family members tends to deter further movements once in Spain. The impact on internal migration decisions of networks based on friends or recruiters, however, is small but in the expected direction for the existence of movement and significant in one of our two models for the number of moves. Networks other than those based on family ties at best deter repeat migration, but do not prevent it. They do, however, tend to limit the number of moves. The fact that Spain is a rather new country of immigration may contribute to explaining this last result. It is plausible to think that migratory networks in Spain continue to be less developed than in other countries which a long and varied history of immigration. Networks based on family members appear to be robust, but this may not be still the case for other kind of networks. This result is compatible

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[24] As shown by Greenwood (1997) in his review of studies for a number of countries, the relationship between employment status and the propensity to move is very complicated. An important issue here is whether the unemployed person receives insurance benefits or not, as it is also suggested by Antolin and Bover (1997) for the case of Spanish natives. Unfortunately, the ENI does not provide this information.

with recent research done on migration networks in Spain which confirm their existence, but also their relatively weakness (Aparicio and Tornos, 2005: De Miguel *et al*, 2007).

CONCLUSIONS

During the last two decades, a number of studies have analyzed the internal migration patterns of the foreign-born in countries with dense migratory traditions. The concentration of interest in these countries is not surprising considering the importance of immigration both for their past and for their present. The existing literature on this subject has pointed to the causes and the impact of internal migration, as well as to the integration of migrants themselves. Scholars have assessed the relative importance of different theories for explaining the propensity to move in the new country of destination. Results on these points have not been uniform but there is now a sufficient body of literature to enable us to postulate fairly reasonable explanatory hypotheses.

In countries of more recent migratory tradition, interest in these issues has been sparse; again, not surprisingly. Here, however, the eruption of international migration as a social, economic and political phenomenon of capital importance has led to an awakening of interest in a plethora of subjects regarding migration. This paper extends the literature by means of a detailed analysis of the internal migration patters of recent immigrants in a new destination, Spain. Formerly a country of emigration, in recent times Spain has become a major destination for international migrants from different continents. As in other traditional destinations, the foreign-born in Spain display a high propensity to move within the country. Research on this issue, however, is scant, predominantly descriptive and based on relatively poor data.

In this paper, we have taken advantage of a brand new micro database that provides rich information about immigrants and their internal migration patterns, the National Immigrant Survey (Encuesta Nacional de Inmigrantes, ENI). A standard

theoretical framework based on the assessment of human capital, economic and social capital determinants has been used in this paper. To this end, multivariate models were estimated in order to evaluate the impact of a set of variables on the propensity to move.

Our results suggest that the impact of the year of arrival and the place of birth remain similar after controlling for other variables. These results point to country and time specific contexts, together with the way differences in origin seem to point to differences in strategies for promotion and integration. Further work is necessary to better understand the process of reallocation of recent immigrants, including the study of the spatial dimension and the differences by origin in a more comprehensive manner.

A major result of our study is that the results give further support to the validity, at least in part, of the three main theories used for explaining the internal migration patterns of the foreign-born. We find evidence for the importance of education and knowledge of the native language, income, and for networks based on the sharing of social capital among family members, though less so for those based on friends and acquaintances. Spanish citizenship and employment status however, seem to be less important in explaining the propensity to move within the country. We argue that the lack of significance of these indicators may be due to country specific characteristics such as the labour market performance and the fact that Spain has become a major destination very recently.

In this sense, a certain departure in Spain from the experience of countries with dense migratory traditions can be expected. These differences may also be related to spatial factors, vast in countries like Canada and the USA, but relatively minor in Spain. A systematic comparison of non-native internal migration patterns in **'large and old' and in 'small and new' migration countries warrants further attention.**

APPENDIX

[Insert Appendix 1 here]

[Insert Appendix 1 here]

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TABLE 1
INTERNAL MIGRATION PATTERNS FOR THE FOREIGN-BORN AGED 25-65, 1990-2007

	Number	Percentage
All	7,185	100
Non-migrants	4,714	65.6
Migrants	2,471	34.5
One movement	1,565	21.8
Two movements	604	8.4
Three movements	186	2.6
Four or more movements	116	1.6

Source: ENI.

TABLE 2
DESCRIPTION AND SUMMARY STATISTICS OF VARIABLES USED IN REGRESSION MODELS

Variable	Description	Mean	Std. Dev.	Min.	Max.
DEPENDENT VARIABLES					
Internal Migration	Change in municipality = 1	0.34	0.48	0	1
Number of Int. Migrations	Number of changes	0.54	0.97	0	12
EXPLANATORY VARIABLES					
Demographic Controls					
Age	Age at arrival in Spain (years)	34.49	9.61	25	65
Sex	Male = 1	0.54	0.49	0	1
[Single]	[Reference]	0.28	0.45	0	1
Married	Married = 1	0.59	0.49	0	1
Other	Other civil state = 1	0.13	0.34	0	1
Children < 16	No. of children < 16 at home	0.69	0.99	0	8
Year of Arrival	Year of arrival in Spain	2001	3.64	1990	2007
2007 Place of Residence					
[Madrid]	[Reference]	0.12	0.33	0	1
Canary Islands	Islas Canarias	0.04	0.20	0	1
Mediterranean	Cataluña, Baleares, Comunidad Valenciana, Murcia	0.38	0.48	0	1
Ebro Valley	Navarra, La Rioja, Aragón	0.15	0.36	0	1
South	Castilla-La Mancha, Extremadura, Andalucía, Ceuta, Melilla	0.16	0.36	0	1
North	Galicia, Asturias, Cantabria, País Vasco, Castilla-León	0.14	0.35	0	1
Place of Birth					
[More Developed Europe]	[Reference: Eur-14, Iceland, Liechtenstein, Norway, Switzerland]	0.17	0.37	0	1
Rest of Europe	Rest of European countries	0.20	0.40	0	1
Africa	African countries	0.14	0.35	0	1
Latin America	Latin American countries	0.46	0.49	0	1
Rest of the World	Rest of countries	0.03	0.17	0	1
Human Capital Variables					
[No Education]	[Reference]	0.09	0.28	0	1
Primary School	Primary school completed = 1	0.16	0.36	0	1
High School	High school completed = 1	0.49	0.50	0	1
College or Above	College completed = 1	0.26	0.44	0	1
Knowledge of Spanish	Fluency = 1	0.44	0.49	0	1
Spanish Citizenship	Acquisition of citizenship = 1	0.03	0.18	0	1
Economic Variables					
Unemployed	Unemployed = 1	0.11	0.32	0	1
Income	Level of monthly income	704.85	773.57	0	10,000
Income^2	Level of monthly income^2	1,095,136	3,961,987	0	1.0E+08
Use of Networks					
Family Regrouping	Family regrouping= 1	0.23	0.42	0	1
Previous Contact	Existence of friends/recruiters= 1	0.79	0.41	0	1

Notes: Number of observations = 7,185. Eur-14 refers to Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Sweden and United Kingdom (Spain is not included). Source: ENI.

TABLE 3

LOGIT REGRESSION MODELS OF INTERNAL MIGRATION FOR FOREIGN-BORN IMMIGRANTS
(RESULTS WEIGHTED AND PRESENTED AS PERCENT CHANGE IN THE ODDS RATIOS)

Dependent Variable: Change in municipality (1 = yes; 0 = no)

Explanatory Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Demographic Controls							
Age	-3.6***	-2.9***	-2.8***	-2.8***	-2.6***	-2.9***	-2.5***
Male	-9.8	-8.0	-6.8	-6.6	1.7	-2.6	8.3
[Single]							
Married	17.3	-1.8	-2.2	-2.6	-1.5	0.0	-0.4
Other	87.9***	54.0***	53.2***	53.1***	52.2***	52.8***	50.3**
Children < 16	9.2*	4.1	4.5	4.4	4.4	5.1	5.6
Year of Arrival		-12.3***	-12.4***	-12.4***	-12.2***	-12.0***	-12.1***
2007 Place of Residence							
[Madrid]							
Canary Islands		-4.4	-4.8	-6.0	-3.7	-5.2	-6.4
Mediterranean		12.1	14.0	13.9	13.8	12.6	15.6
Ebro Valley		25.4	25.7	25.7	27.4*	26.4	28.2*
South		17.0	18.4	18.1	20.0	17.4	20.9
North		43.9**	45.3**	44.2**	51.5***	46.6**	53.2***
Place of Birth							
[More Developed Europe]							
Rest of Europe		89.0***	88.6***	90.9***	79.5***	90.7***	83.3***
Africa		54.0**	68.4***	70.1***	54.4**	57.9**	73.5***
Latin America		39.6**	40.7**	25.0 [a]	30.7*	39.8**	19.3 [a]
Rest of the World		0.4	3.5	3.4	0.0	3.8	3.2
Human Capital Variables							
[No Education]							
Primary School			35.4	35.2			36.5*
High School			44.9*	43.9*			43.4*
College or Above			33.2	31.7			29.7
Knowledge of Spanish				13.3 [a]			11.7 [a]
Spanish Citizenship				25.0			29.4
Economic Variables							
Unemployed					9.1		8.4
Income					33.5*** [b]		30.9*** [b]
Income^2					-22.9*** [b]		-21.7*** [b]
Use of Networks							
Family Regrouping						-25.4**	-23.9**
Previous Contact						-1.7	-4.1
No. of Obs. = 7,185							
Log-Pseudolikehood	-4434.6	-4255.7	-4249.2	-4247.6	-4238.9	-4246.2	-4222.8

Notes: Regressions include an intercept term, are estimated using heteroskedasticity-robust standard errors and are weighted by sampling weights. * significantly different from zero at the 0.10 level; ** significantly different from zero at the 0.05 level; *** significantly different from zero at the 0.01 level. [a] Knowledge of Spanish is significantly different from zero at the usual levels, percent change in the odd ratio = 36.4 (column 4) and 29.3 (column 7), when Latin America as the Place of Birth is removed from regressions (the correlation between the two variables is 0.93). [b] The percentage change in the expected likelihood refers to a one standard deviation in Income and Income Squared.

TABLE 4
NEGATIVE BINOMIAL REGRESSION MODELS OF INTERNAL MIGRATION FOR FOREIGN-BORN IMMIGRANTS
(RESULTS WEIGHTED AND PRESENTED AS PERCENT CHANGE IN THE ODDS RATIOS)

Dependent Variable: Number of changes in municipality

Explanatory Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Demographic Controls							
Age	-3.2***	-2.6***	-2.5***	-2.5***	-2.4***	-2.6***	-2.3***
Male	-18.7***	-15.5**	-14.4**	-14.3**	-10.6*	-10.4*	-3.8
[Single]							
Married	11.1	-4.0	-4.1	-4.2	-3.8	-2.45	-2.6
Other	58.2***	34.3***	33.7**	33.7**	34.0**	32.7**	31.8**
Children < 16	4.7	-0.9	-0.5	-0.5	-0.8	0.0	0.4
Year of Arrival		-9.5***	-9.6***	-9.6***	-9.4***	-9.2***	-9.2***
2007 Place of Residence							
[Madrid]							
Canary Islands		-8.6	-9.8	-11.3	-8.1	-10.0	-12.5
Mediterranean		10.0	11.6	11.4	11.0	9.4	11.6
Ebro Valley		31.4**	30.5**	30.4**	32.6**	31.1*	31.1**
South		20.1	20.8	20.5	22.2*	18.8	21.1*
North		38.8***	39.7***	38.5***	42.6***	39.1***	42.1***
Place of Birth							
[More Developed Europe]							
Rest of Europe		53.2***	52.0***	53.4***	48.8***	54.3***	50.7***
Africa		53.7 ***	65.5***	67.0***	53.8***	56.3***	70.1***
Latin America		34.0**	34.0**	28.8 [a]	29.4**	36.0***	25.5 [a]
Rest of the World		0.1	2.3	2.2	0.3	3.9	6.5
Human Capital Variables							
[No Education]							
Primary School			40.5**	40.6**			42.6**
High School			47.2***	46.6***			47.1***
College or Above			31.6*	30.3*			30.5*
Knowledge of Spanish				4.0 [a]			5.0 [a]
Spanish Citizenship				25.0			29.4*
Economic Variables							
Unemployed					4.7		4.4
Income					18.5** [b]		17.8** [b]
Income^2					-14.8** [b]		-14.2** [b]
Use of Networks							
Family Regrouping						-22.8***	-22.1***
Previous Contact						-10.6	-12.1*
No. of Obs. = 7,185							
Log- Pseudolikehood	-2077396	-2019529	-2015728	-2015072	-2016430	-2014602	-2006880

Notes: Regressions include an intercept term, are estimated using heteroskedasticity-robust standard errors and are weighted by sampling weights. * significantly different from zero at the 0.10 level; ** significantly different from zero at the 0.05 level; *** significantly different from zero at the 0.01 level. [a] Knowledge of Spanish is significantly different from zero at the usual levels, percent change in the odd ratio = 28.3 (column 4) and 26.7 (column 7), when Latin America as the Place of Birth is removed from regressions (the correlation between the two variables is 0.93). [b] The percentage change in the expected likelihood refers to a one standard deviation in Income and Income Squared.

TABLE 5
SECOND-STAGE REGRESSION MODELS
(RESULTS WEIGHTED AND PRESENTED AS PERCENT CHANGE IN THE ODDS RATIOS)

Model:	Logit	Logit	Neg. Bin.	Neg. Bin.
	(1)	(2)	(3)	(4)
Explanatory Variables				
Demographic Controls				
Age	-2.5***	-2.4***	-2.4***	-2.3***
Male	-1.1	5.0	-12.1*	-6.0
[Single]				
Married	-0.2	0.7	-3.1	-2.0
Other	52.3***	50.6**	33.8**	31.8**
Children < 16	5.2	6.5	-0.2	1.0
Year of Arrival	-12.3***	-12.2***	-9.6***	-9.3***
2007 Place of Residence				
[Madrid]				
Canary Islands	-2.6	-5.1	-7.4	-11.7
Mediterranean	13.6	15.8	10.6	11.4
Ebro Valley	25.5	27.1	31.8**	30.7**
South	19.8	21.0	21.9*	21.0
North	48.2**	50.7**	40.8***	40.5***
Place of Birth				
[More Developed Europe]				
Rest of Europe	65.5***	70.8***	41.3**	44.96***
Africa	43.8**	63.3***	46.1***	63.4***
Latin America	21.7	10.7 [a]	23.6*	20.5 [a]
Rest of the World	8.3	-2.2	-5.2	1.0
Human Capital Variables				
[No Education]				
Primary School		35.2		42.0**
High School		43.4*		47.2***
College or Above		35.6		34.5**
Knowledge of Spanish		13.1 [a]		5.4 [a]
Spanish Citizenship		31.0		29.8*
Economic Variables				
Unemployed	23.4	21.1	13.7	115
[New] Income	94.5*** [b]	87.7*** [b]	53.4** [b]	47.3** [b]
[New] Income^2	-78.9** [b]	-78.9** [b]	-66.0** [b]	-62.3* [b]
Use of Networks				
Family Regrouping		-23.8**		-21.8***
Previous Contact		-4.1		-11.9*
No. of Obs. = 7,185				
Log- Pseudolikehood	-4239.0	-4223.2	-2016182	-2007046

Notes: Regressions include an intercept term, are estimated using heteroskedasticity-robust standard errors and are weighted by sampling weights. * significantly different from zero at the 0.10 level; ** significantly different from zero at the 0.05 level; *** significantly different from zero at the 0.01 level. [a] Knowledge of Spanish is significantly different from zero at the usual levels, percent change in the odd ratio = 22.8 (column 2) and 22.7 (column 4), when Latin America as the place of birth is removed from regressions (the correlation between the two variables is 0.93). [b] The percentage change in the expected likelihood refers to a one standard deviation in Income and Income Squared.

APPENDIX 1

FIRST-STAGE OLS REGRESSION MODEL TO OBTAIN INSTRUMENTS FOR INCOME

Dependent Variable: Income

Explanatory Variables: Occupation Categories	Coefficient	t-statistic
[Skilled, Non-manual]		
Skilled, Manual	-589.6	-6.28***
Unskilled, Non-Manual	-777.8	-8.12***
Unskilled, Manual	-949.4	-10.28***
No. of Obs. = 7,185		
R^2 = 0.448		

Notes: The regression includes an intercept term, is estimated using heteroskedasticity-robust standard errors and is weighted by sampling weights. *** significantly different from zero at the 0.01 level. The ENI includes a question about occupational status. In this regression, we utilize the occupational categories devised by Mikolaj Stanek, a member of the GEPS research team that proposed and carried out the ENI in collaboration with the Spanish Statistical Office. The regression also includes a control for those respondents who did not answer to this question. Summary statistics (mean plus standard deviation): skilled, non-manual = 0.07, 0.26; skilled, manual = 0.18, 0.39; unskilled, non-manual = 0.19, 0.39; unskilled, manual = 0.23, 0.42.