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FROM RAGS TO RICHES? IMMIGRATION AND POVERTY IN SPAIN

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**ABSTRACT** 

This article for first time explores the relationship between immigration and poverty in Spain.

Using recent Spanish household surveys, it is found, first, that both moderate and severe

poverty are more acute among immigrants than among nationals and social transfers play no

substantial role in reducing monetary deprivation in the case of foreign-born population; in

the second place, we perform an econometric analysis that shows that the different poverty

risk faced by local and immigrant households is not driven by differences in basic household

and demographic characteristics.

**KEYWORDS:** Immigration, Poverty, Spain.

**JEL** CLASSIFICATION: F22, O15, I32.

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## 1. Introduction<sup>1</sup>

Spain was a land of emigrants for a long time (Izquierdo 1997), being Latin America and Western Europe the main destination regions. This situation changed in the early 1990s, when the country became one the highest recipients of immigrants in the European Union (EU): in 2009 12 out of 100 residents in Spain is foreign.<sup>2</sup> Furthermore, there has been also a change in the countries of origin of foreigners: while the relative importance immigration flows from EU-15 countries has been decreasing from mid-1990s, people from the rest of Europe and Latin American and the Caribbean -that is, from countries with a lower level of development than Spain- have gained weight among the foreign population (Muñoz de Bustillo and Antón 2009a). Such a relevant shift has been also accompanied by a growing concern among the national public opinion about the social and economic implications of this impressive raise of immigration flows. In fact, according to surveys carried out before the financial and economic crisis busting, the massive and recent arrival of foreign workers was seen at the time as the major problem faced by Spaniards (CIS 2006).

The purpose and aimed contribution of this paper is to address, for the first time in Spain, the connection between immigration and poverty, determining the scope of deprivation among immigrants and contributing to the understanding of the differences in income deprivation among immigrants and locals. In order to do so, we have, first, carried out a traditional poverty analysis of both Spanish and immigrant households based on the exploitation of household surveys and, second, we have explored what drives the differences in the risk of deprivation among those groups, presenting detailed poverty profiles and carrying out a non-linear econometric decomposition technique that allow splitting the gap in poverty rates between migrants and nationals into the effects of social and demographic characteristics and the impact of different returns to the mentioned household endowments.

The main finding of the paper is that immigrants face a higher poverty risk than natives. In addition, it is showed that the gap in poverty rates among Spanish and immigrant households is not explained by a different household composition or differences in the main socioeconomic characteristics, such as human capital endowments. In other words, basic social and demographic characteristics of households do not contribute to explain the gap in poverty rates that exists between local and immigrant households. The possible explanation of this pattern might lie on difficulties faced by recent immigrants, in terms of access to social benefits, labour market assimilation and the limited transferability of skills acquired abroad. Although immigration is a fairly modern phenomenon in Spain, there is a growing literature in this field. Some authors have focused on purely demographic issues, mainly dealing with the quantitative measurement of migration trends and flows (Izquierdo and Martínez Buján 2003, Bover and Velilla 2005, Muñoz de Bustillo and Antón 2009a). Particularly, this body of literature highlights the impressive increase in immigration flows, unparalleled among developed countries. Other contributions has emphasized the impact of immigration on labour market outcomes of native workers, especially low-skilled ones (Dolado, Jimeno and Duce 1997, Carrasco, García-Serrano and Malo 2003, Carrasco, Jimeno and Ortega 2008, González and Ortega 2009), not finding large effect of migration flows on labour market outcomes of locals. The existence of earnings differentials among foreign and Spanish employees has been the centre of attention of the works of Simón, Sanromà and Ramos (2008), Canal-Domínguez and Rodríguez-Gutiérrez (2008) and Antón, Muñoz de Bustillo and Carrera (2010), who found the existence of relevant wage gaps not fully explained by human capital endowments. Furthermore, aiming to assess the impact of immigration on the financial sustainability of the Welfare State, some researchers have analysed take-up rates of social benefits and utilisation of health services, not finding, in general, substantial differentials between migrant and native patterns (Brücker et al. 2002, Hernández-Quevedo and Jiménez-Rubio 2009, Muñoz de Bustillo and Antón 2009b, Antón and Muñoz de Bustillo 2010). However, so far and to our knowledge, there is no relevant study about the link between poverty and immigration in Spain, probably because of both the lack of statistical sources available to perform this type of work until very recently and the novelty of the phenomenon.

Nevertheless, this topic has deserved some attention in other Western countries, like Sweden and Denmark (Blume et al. 2007), where poverty rate among immigrants is found to be substantially higher than among locals, a trend that has become more acute along time, being such gap severely affected by the demographic characteristics of foreign households. The works of Galloway and Aaberge (2005) and Galloway (2006) and Kazemipur and Halli (2001) focus on how immigrant poverty evolves over time of residence in the host country in Norway and Canada, respectively; while there is some evidence of 'assimilation' in the Nordic country, Canadian immigrants do not seem to face a lower risk of poverty with the increase in the length of stay in the host country. Finally, other papers for Canada (Ley and Smith 1997, Fleury 2007) and the United States (Chapman and Bernstein 2003, Raphael and Smolensky 2008), sharing the spirit of this article, have documented the extent of the association between immigration and poverty. In both countries, immigrants are in general poorer than natives, irrespective of the specific characteristics of the households compared. This paper unfolds in four sections that follow these introductory remarks. Section two briefly describes the database used in the paper, pointing out both their main strengths and limitations. The third section depicts the incidence, intensity and severity of poverty among migrants and natives and the role of social benefits transfers in reducing it among both immigrants and locals. The fourth one, aiming to contribute to the understanding of the differences in terms of monetary deprivation between both groups, compute poverty statistics for different types of households and decompose the gap in poverty rates between both groups of population using a statistical technique in the spirit of the Oaxaca-Blinder method. As usual, the last section summarizes the major conclusions of the article.

#### 2. DATABASE

The data source for our analysis is the Survey on Living Conditions (SLC) for the years 2004, 2005, 2006, 2007 and 2008. This cross-sectional household survey, which has replaced the former European Community Household Panel, has two relevant advantages over previous databases: first, it includes data on household income and socio-economic background of households referred to both nationals and foreign-born people; second, the size of the SLC has increased considerably compared to the ECHP, since each wave surveys more than 12,000 households, including roughly 500 headed by individuals born outside of the EU. This survey follows a two-stage and stratified sampling design (INE 2005), common features in modern household surveys.

Several issues related to the database must be commented on before begin the empirical analysis. The first relevant decision is to set the definition of immigrant, for which there are mainly two alternatives, country of origin or citizenship. The existence of markedly different naturalization rules depending on the country of origin -for example, at this respect, Spanish law especially favours Latin American and Caribbean immigrants over other foreign groupsis a strong argument in favour of the former criterion, as suggested by Castronova *et al.* (2001), Brücker *et al.* (2002) and Anastossova and Paligorova (2006). Secondly, following another common procedure in the literature (Borjas and Trejo 1991, Castronova *et al.* 2001, Hansen and Lofstrom 2003), the migrant status of the household head is allowed to be determined by the national or immigrant condition of the household. A third methodological issue refers to which foreigners should be considered immigrants. The SLC only allows

distinguishing between people born in Spain, some country of the EU-25, the rest of Europe and the rest of the world. We have considered as immigrants all those households headed by a person born outside Spain. In order to test the sensitivity of our results, we have repeated the analysis using an alternative definition of immigrant excluding all those born in the EU-25 (a group that consists to a large extent in people coming from high-income countries).<sup>3</sup> The results obtained when using this second concept of immigrant remain unchanged, so we only report in the paper the outcomes of the analysis based on the first definition.

Last, although shared with many household surveys of other countries, it is worth mentioning some limitations of the information of the Spanish one. Income data correspond to the year previous to the survey, while information on the demographic composition of households is referred to the time of the interview. In principle, the same also applies to information on activity status of households members; nevertheless, using a monthly calendar of activities in the previous year, we have constructed a variable capturing the most frequent activity status. However, this retrospective information is not available for type of contract, occupational level, working time, sector of activity and so on. As the occupational level is also reported for unemployed or inactive people (based on their last work), we have also used this information in order to refine our variable of activity status. Finally, unfortunately, the SLC does not include information about the year of arrival of immigrants or the time they have spent in Spain. Nevertheless, this shortcoming should not invalidate the analysis, since, according to the local censuses, immigration flows were relatively concentrated in time, with the bulk of foreign-born population arriving to Spain between 2000 and 2006.

All the data management and statistical calculations carried out here were performed using the software Stata 11. Both the databases and the codes applied in the empirical analysis are entirely available from the authors on request.

## 3. RISK OF POVERTY AND THE EFFECT OF SOCIAL TRANSFERS

In order to analyse the risk of poverty of population living in immigrant and Spanish households, we use the well-known measures proposed by Foster, Greer and Thorbecke (1984), i.e., the FGT index, which is formally defined as follows:

$$P_{\alpha}(y;z) = \frac{1}{n} \sum_{i=1}^{q} \left(\frac{g_i}{z}\right)^{\alpha} \tag{1}$$

where y denotes income; n, the number of households or individuals; z, the poverty line; q, the number of poor households or individuals (having an income below z), and  $g_i = z - y_i$ , the income shortfall of the i<sup>th</sup> household or individual.  $\alpha$  is a parameter that takes the value 0 for the Poverty Headcount Index (which measures the incidence of poverty); the value 1 for the Poverty Gap Index (which makes reference to the intensity of poverty, i.e., how poor are the poor) and the value 2 for the Squared Poverty Gap Index (which captures the severity of poverty, or, in other words, takes into account the inequality among poor people).

Adopting the criterion established by the European Union in 2001 -and followed by Spanish authorities when making reference to official any poverty figure-, the poverty line is set at 60 per cent of the national median equivalised disposable income using the OECD-modified equivalence scale.<sup>4</sup> Hence, as it is well-known, this means that a relative measure of poverty is in action. Moreover, as usual, a threshold for extreme poverty is defined at a half of the poverty line.

Along the guidelines presented above and with focus on individuals (not households), table 1 summarises the main results of the analysis of poverty risk for the period 2003-2007. Some relevant stylised facts are worth being highlighted. First, the incidence, intensity and severity

of both extreme and moderate poverty rates are higher for immigrants than for locals. While, for example, the incidence of poverty among Spaniards is roughly 18-19% over the period, in the case of immigrants, the percentage of people at risk of poverty gravitates around 30%. The figures obtained in the poverty analysis are remarkably constant across years, with the exception of the remarkable increase of Poverty Gap Index and the Squared Gap Index in 2007 for both groups. One can speculate with the possible cause of this apparently worse situation for poor people in the last year available in the survey making reference to the beginning of the actual economic downturn in Spain. Though, statistically speaking, the economic crisis did not arrive to Spain until the last quarter of 2008, it is possible that the first effects of the cooling economic growth were first felt at the bottom of the income distribution. The second interesting result arises from the analysis of the effect of social benefits on poverty: the incidence, intensity and severity of both extreme and moderate monetary deprivation before any social benefit is higher for nationals than for immigrants; while the headcount poverty is reduced to half by cash benefits for Spanish population (pensions are responsible for most of this effect), state benefits barely put 5 per cent of immigrants above the poverty line. An even more extreme pattern occurs in terms of severe deprivation, with the impact of social transfers on extreme poverty amounting to around 23 and 4 percentage points for nationals and foreigners, respectively. The interpretation of this apparently shocking fact is quite straightforward: the Spanish Welfare State covers mainly pensions and does not spend much on other types of benefits -like, for example, social assistance, housing or family benefits-, which explains why the immigrant population, concentrated in working ages, does not benefit very much from it. Though it might seem trivial and unimportant, to point out this circumstance is fully relevant as long as the Spanish Welfare State, in terms of cash benefits, excluding unemployment insurance payments, is basically an earnings-related pension scheme.

## [TABLE 1 ABOUT HERE]

### 4. EXPLORING WHAT DRIVES DIFFERENCES IN POVERTY RATES

This section presents poverty profiles for immigrant and Spanish households, trying to shed some light on the main determinants of the gap in poverty rates between both groups. In this spirit, table 2 presents the main characteristics of households headed by migrants and locals or EU citizens, pooling the years 2003-2007. In contrast to the aggregate figures computed in the previous section, the analysis presented here is performed in terms of households because the characteristics of their members and their interaction are the factors that determine the risk of poverty of population living in such units. These results make clear the very different characteristics of migrant and local households. Immigrant households are headed by younger and more educated persons (an apparently odd fact fully explained when taking into account the very low educational levels of the oldest Spanish-born cohorts), but they also are more hit by unemployment. Unsurprisingly, migrant households are larger, with a more extensive presence of children but a smaller proportion of elderly compared to national ones.

## [TABLE 2 ABOUT HERE]

The next step involves computing poverty rates for the different types of households presented above. The pattern that emerges is clear: for all kinds of family units, the risk of poverty is higher for migrant than for local households (table 3).

#### [TABLE 3 ABOUT HERE]

A third step of the analysis is to try to assess to what extent these non-negligible differences in poverty rates might respond to social and demographic characteristics of households or might be associated to deeper factors associated to different returns to the observable characteristics considered in this study. In order to do so, following the approach firstly proposed by Gomulka and Stern (1990) for studying female employment rates, an econometric decomposition of the probability of being poor as a function of some basic observable characteristics of households is performed. The procedure is in the spirit of the Oaxaca-Blinder decomposition (Oaxaca 1973, Blinder 1973) and unfolds as follows: first, estimate a binary variable model for the probability of being at risk of poverty separately for migrant and local households; second, predict that, on average, it would be observed for immigrant households if their observable characteristics where "rewarded" in the same way as local ones; third, the difference between the mentioned counterfactual migrant poverty rate and the actual local poverty rate is an indicator of the importance of the observable characteristics included in the analysis, while the remaining part of the gap (the difference between actual migrant deprivation risk and their counterfactual poverty rate) might be associated to different returns to the observable households endowments, related to assimilation or particular labour market performance of household members.

Although in principle one could choose among different types of binomial models, there is a case for *logit* here. As the main aim is to predict poverty rates, linear probability models should be rule out, because they can generate predicted probabilities above 1 and below 0. In addition, the average probabilities predicted by a *probit* model are only consistent, that is, unbiased in asymptotic terms, while *logit* ones exactly match the actual average poverty risk (Cameron and Trivedi 2005).

The dependent variable is a binary variable,  $P_i$ , which adopts value 1 for poor households and value 0 for non-poor ones. The model to be estimated is

$$P_i^j = F(X_i^j \beta^j)$$
  $i = 1, 2, ..., N^j ; j = n, m.$  (2)

where

F(.) = the logistic cumulative density function.

i =subscript that denotes the  $i^{th}$  household.

j = superscript denoting the population group (n = nationals; m = immigrants)

 $X_i^j$  = vector of observable characteristics of each household:

 $\beta^{j}$  = vector of coefficients for each characteristic.

As explanatory variables of the probability of being poor, we consider several household head and household socio-demographic characteristics. Among the former, we include gender, age, age squared. educational level, civil status and the most frequent activity status during the year, while the latter are household size, household size squared, number of children below 5 and between 5 and 14, number of people aged 65 or more, number of household members employed (others than the head), number of member with basic, medium and high education. Furthermore, an intercept six regional and four year dummies have been also included. The results of the estimation are showed in table 4.

In general, the sign the estimated marginal effects evaluated at the margin are similar in both population groups and are coherent with the descriptive analysis presented above: to have a male household head, head age, head education, to have an employed head (in the case of locals) and the number of members who are employed or are aged 65 years old and over decrease the risk of poverty, other things being equal. In turn, while household size, the number of children or having a household head unemployed or inactive (apart from being

retired) raise the probability of being poor. The other important point, already suggested by descriptive evidence, is the higher estimated effects of each household characteristic on the probability of being at risk of poverty.

## [TABLE 4 ABOUT HERE]

As mentioned above, being b the *logit* estimate of  $\beta$ , the mean of the variable -which, in this case, is coincident with the poverty rate- equals to average probability of being poor, that is:

$$\overline{P^k} = \frac{1}{N_i} \sum_{i=1}^{N_j} F\left(b^j X_i^j\right) \tag{3}$$

Therefore, one can write the difference in poverty rates as

$$\overline{P^{m}} - \overline{P^{n}} = \frac{1}{N_{m}} \sum_{i=1}^{N_{m}} F\left(b^{m} X_{i}^{m}\right) - \frac{1}{N_{n}} \sum_{i=1}^{N_{n}} F\left(b^{n} X_{i}^{n}\right)$$
(4)

Taking Spanish households as the reference group, the mean of predictions using the econometric coefficients of national households and the characteristics (covariates) of immigrant ones is computed and then added and subtracted to the above term, which results in the following expression:

$$P^{m} - P^{n} = \left[\frac{1}{N_{m}} \sum_{i=1}^{N_{m}} F\left(b^{n} X_{i}^{m}\right) - \frac{1}{N_{n}} \sum_{i=1}^{N_{n}} F\left(b^{n} X_{i}^{n}\right)\right] \rightarrow \text{Characteristics effect}$$

$$+ \left[\frac{1}{N_{m}} \sum_{i=1}^{N_{m}} F\left(b^{m} X_{i}^{m}\right) - \frac{1}{N_{m}} \sum_{i=1}^{N_{m}} F\left(b^{n} X_{i}^{m}\right)\right] \rightarrow \text{Coefficients effect}$$

$$(5)$$

Table 5 presents the results of the decomposition for the whole period 2003-2007 and for each of the years considered. They suggest that observable characteristics of households play no relevant role in explaining the differences in the probability of being at risk of poverty. On the contrary, the higher incidence of monetary deprivation among foreign households is entirely linked to the returns to observable characteristics or, if preferred, to deeper factors beyond simple demographic composition and educational levels of family units considered here. In fact, if one accounts only for the differences in the set of basic observable characteristics included in the model, the observed poverty rate would be higher for local families. In order to check the robustness of these results, we have estimated richer models that include number of pensioners in the household or the number of household members with basic, medium and high education. The results remained virtually the same.

It is not easy to disentangle the causal roots of these results, but a glance at previous research on the labour market outcomes of foreign-born population helps to shed some light on the issue (Canal-Domínguez and Rodríguez-Gutiérrez 2008, Simón, Sanromà and Ramos 2008, Antón, Muñoz de Bustillo and Carrera 2010). Existing studies on the topic reveal that immigrant population in Spain is employed in a larger proportion than nationals in temporary jobs, small firms, low occupational levels jobs and low-productivity sectors of activity (especially construction, hotels and restaurants and other activities like domestic service). However, once human capital endowments and occupational characteristics are taken into account, there is a remaining pay gap of around 20 per cent between foreign-born and native

employees. Such outcome very likely to be associated to the joint effect of the lack of language proficiency, occupational segregation, the limited transferability of skills acquired abroad or even differential treatment from employers (not necessarily associated to discrimination but more possibly to imperfect information about immigrants productivity) (Sanromà, Ramos and Simón 2009, Antón, Muñoz de Bustillo and Carrera 2010).

## [TABLE 5 ABOUT HERE]

## 5. CONCLUSIONS

This article has aimed to explore the association between immigration and poverty in Spain. The main contribution of this work is its pioneering character for Spain, a country that, in barely a decade, experienced an increase of foreign-born population by ten percentage points, becoming one of the main host countries in the European Union nowadays. In our view, this impressive change deserves attention not only from a national perspective but it reveals itself also interesting for an international audience.

From the analyses performed in the paper two main findings can be highlighted. Firstly, poverty incidence, intensity and severity in Spain are higher among immigrants than among Spaniards. In addition, social transfers do not seem to substantially amend this situation for the foreign population, in contrast with its large effect on poverty among locals. This stylised fact is closely related with the dominant role that public pensions play in terms of cash benefits in Spain.

In the second place, we have analysed the gap in poverty rates between locals and immigrants, finding that immigrant households face a higher risk of moderate poverty irrespective of the typology of households considered. The gap in poverty rates is between 7 and 9 percentual

points depending on the year. According to the econometric decomposition presented in section 4, is entirely alien to basic observable households characteristics. This result might well be driven by the very recent nature of Spanish immigration flows, which, according to recent labour market studies reviewed here, results in problems of occupational segregation, limited transferability of migrant skills acquired abroad or even differential treatment from employers.

This paper has some limitations as well. The main one is referred to the database used, which —though meaning a substantial progress over previous household surveys—do not allow knowing relevant information on migration flows, such as dates of immigrants' arrival or language proficiency. Nevertheless, this limiting factor is partially compensated by the concentration of migration flows in a very short and recent period of time. In addition, results are remarkably robust irrespective of the year considered.

A final reflection can be made. Though being at the bottom of income distribution, most of Spanish immigrants, with their actual income, would face an almost negligible poverty risk if they lived in their home countries. Some simple simulations using Parity Purchasing Power and relative national poverty lines illustrates this point: with their current income in Spain less than 5 per cent of immigrant population would be below the national poverty lines in Bolivia, Ecuador or Bulgaria, for example.<sup>6</sup> Therefore, if in the short run immigrants compare their living standards with those common in their home country, the higher "local" poverty rate of immigrants could hardly be taken by itself as a sign of failure of the migration process.

However, from a point of view of benevolent public authorities worried about guaranteeing social stability and avoiding ghettos, racism-driven problems and ethnic confrontations, to tackle the (relative) poverty risk of immigrants is without question a relevant policy issue. Moreover, as it is well-known from the insights of the Economics of Happiness, in terms of income, individuals care more about their relative than about their absolute position, being the

former a major determinant of subjective well-being, at least when a certain vital threshold has been crossed (Layard 2003). Therefore, as long as immigrants take as reference local citizens, then the above argument would be senseless to a great extent. If locals become the group of comparison of immigrants in the long run, then, the same, or even lower, poverty rate can have very different implications in terms of (subjective) well-being and social integration. In any case, it is reasonable to suppose that with the passing of time, locals will become more and more the comparison group of immigrants, too. When that moment arrives, the differences in poverty rates between locals and immigrants will come into their full meaning and implications. This interpretation is backed by the conclusions of a qualitative study on perceptions of discrimination and islamophobia recently released by the European Monitoring Centre on Racism and Xenophobia (2006). In their own words: "the interviews suggest that most Muslims see the second and third generations as [...] more integrated [...]. However, the expectations [...] are also greater".

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<sup>&</sup>lt;sup>2</sup> Three decades ago, at the height of its intensity, Spain had up to 3 million workers abroad (from a population of 34 millions) and around 10% of imports were financed with their remittances (Oporto del Olmo 1992). The impact of the economic crisis of 1973 in the host countries, and the modernization and development experienced by the Spanish economy since then reduced greatly, almost eliminating, the emigration of Spaniards workers abroad. On the receiving side, a decade ago Spain was one of the countries of the EU with a lower proportion of immigrants, as only roughly 1% of total population had born abroad. In sharp contrast to this and dwarfing all expectations, in the last few years Spain has witnessed an impressive increase in the number of immigrants. In barely a decade, the percentage of foreigners in Spain increased from 1.4% of total population in 1996 to around 12% nowadays, in 2009, making the country one of the most important hosts in the EU.

<sup>&</sup>lt;sup>3</sup> Note that immigrants from Bulgaria and Romania, which are two of the most important foreign population groups in Spain, are still included in the immigrant group, as these two countries joined the European Union later.

<sup>&</sup>lt;sup>4</sup> As it is well-known, the OECD-modified equivalence scale, first proposed by Hagenaars, De Vos and Zaidi (1994), computes the adult-equivalent household size assigning a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child aged 14 or less years old.

<sup>&</sup>lt;sup>5</sup> At this respect, one has to keep in mind that we are not assuming any refined behavioural counterfactual, an approach usually reserved for the analysis of very concrete government interventions. Although this strategy obviously yields non-realistic for the case of pensions (that is, in absence of pensions, it is quite likely that other sorts of familiar or private transfers would operate), it helps to illustrate the central role of pensions in the Spanish Welfare State, as showed in the main body of the article.

<sup>&</sup>lt;sup>6</sup> These calculations, based on SLC 2004 and national household surveys carried out around 2004, are available on request. See Muñoz de Bustillo and Antón (2007) for details.

Table 1. Poverty and social transfers in Spain (2003-2007)

|  |            | Poverty |       |       | Extreme poverty |       |       |       |       |       |       |
|--|------------|---------|-------|-------|-----------------|-------|-------|-------|-------|-------|-------|
|  | •          | 2003    | 2004  | 2005  | 2006            | 2007  | 2003  | 2004  | 2005  | 2006  | 2007  |
| Disposable income                          |            |         |       |       |                 |       |       |       |       |       |       |
| FGT(0)                                     | Spanish    | 0.190   | 0.190 | 0.191 | 0.183           | 0.182 | 0.042 | 0.040 | 0.039 | 0.037 | 0.035 |
|  | Immigrants | 0.315   | 0.279 | 0.288 | 0.296           | 0.310 | 0.101 | 0.069 | 0.133 | 0.100 | 0.069 |
| FGT(1)                                     | Spanish    | 0.061   | 0.060 | 0.060 | 0.056           | 0.063 | 0.018 | 0.018 | 0.017 | 0.017 | 0.031 |
|  | Immigrants | 0.118   | 0.109 | 0.122 | 0.113           | 0.111 | 0.042 | 0.041 | 0.046 | 0.037 | 0.052 |
| FGT(2)                                     | Spanish    | 0.032   | 0.031 | 0.031 | 0.030           | 0.063 | 0.014 | 0.013 | 0.012 | 0.014 | 0.119 |
|  | Immigrants | 0.067   | 0.064 | 0.073 | 0.065           | 0.102 | 0.028 | 0.032 | 0.029 | 0.027 | 0.177 |
| Before social benefits other than pension  | 18         |         |       |       |                 |       |       |       |       |       |       |
| FGT(0)                                     | Spanish    | 0.234   | 0.232 | 0.231 | 0.223           | 0.229 | 0.075 | 0.064 | 0.062 | 0.062 | 0.065 |
|  | Immigrants | 0.340   | 0.316 | 0.305 | 0.332           | 0.342 | 0.118 | 0.092 | 0.149 | 0.130 | 0.090 |
| FGT(1)                                     | Spanish    | 0.094   | 0.086 | 0.084 | 0.083           | 0.092 | 0.045 | 0.037 | 0.035 | 0.036 | 0.052 |
|  | Immigrants | 0.138   | 0.131 | 0.137 | 0.139           | 0.140 | 0.060 | 0.062 | 0.059 | 0.059 | 0.067 |
| FGT(2)                                     | Spanish    | 0.061   | 0.053 | 0.051 | 0.052           | 0.088 | 0.039 | 0.030 | 0.029 | 0.031 | 0.141 |
|  | Immigrants | 0.086   | 0.085 | 0.087 | 0.088           | 0.124 | 0.046 | 0.053 | 0.042 | 0.047 | 0.191 |
| Before all social benefits (pensions inclu | ıded)      |         |       |       |                 |       |       |       |       |       |       |
| FGT(0)                                     | Spanish    | 0.398   | 0.382 | 0.381 | 0.380           | 0.381 | 0.276 | 0.239 | 0.235 | 0.226 | 0.227 |
|  | Immigrants | 0.411   | 0.356 | 0.363 | 0.369           | 0.378 | 0.180 | 0.130 | 0.190 | 0.167 | 0.124 |
| FGT(1)                                     | Spanish    | 0.285   | 0.250 | 0.249 | 0.241           | 0.248 | 0.238 | 0.198 | 0.198 | 0.187 | 0.200 |
|  | Immigrants | 0.202   | 0.169 | 0.181 | 0.172           | 0.176 | 0.119 | 0.099 | 0.098 | 0.091 | 0.103 |
| FGT(2)                                     | Spanish    | 0.257   | 0.218 | 0.217 | 0.207           | 0.243 | 0.241 | 0.196 | 0.195 | 0.187 | 0.300 |
|  | Immigrants | 0.149   | 0.123 | 0.128 | 0.120           | 0.162 | 0.117 | 0.093 | 0.081 | 0.080 | 0.235 |

Source: Authors' analysis from SLC 2004-2008.

Table 2. Main characteristics of Spanish and immigrant households (2003-2007)

|  | Spanish households | Immigrant households |
|--|--------------------|----------------------|
| Households at risk of poverty (%)                              | 19.8               | 26.7                 |
| Household head characteristics                                 |                    |                      |
| Head sex (%)   |                    |                      |
| Male head  | 65.0               | 63.1                 |
| Female head  | 35.1               | 37.0                 |
| Head age (mean)  | 54.3               | 43.0                 |
| Head education   |                    |                      |
| Elementary   | 41.0               | 21.9                 |
| Basic  | 20.0               | 14.3                 |
| Medium   | 16.5               | 32.8                 |
| High   | 22.5               | 31.0                 |
| Head civil status (%)  |                    |                      |
| Single   | 14.6               | 26.8                 |
| Married  | 66.1               | 59.2                 |
| Divorced/separated   | 5.5                | 9.6                  |
| Widow/widower  | 13.8               | 4.5                  |
| Head activity status (%)                                       |                    |                      |
| White-collar high-skilled worker                               | 17.6               | 15.6                 |
| White-collar low-skilled worker                                | 10.5               | 13.4                 |
| Blue-collar high-skilled worker                                | 11.8               | 17.4                 |
| Blue-collar low-skilled worker                                 | 11.8               | 24.9                 |
| Unemployed   | 5.4                | 12.0                 |
| Retired  | 25.7               | 8.6                  |
| Other inactivity   | 17.3               | 8.3                  |
| Household characteristics                                      |                    |                      |
| Household size (mean)  | 2.76               | 3.10                 |
| No. of children aged less than 5 (mean)                        | 0.12               | 0.23                 |
| No. of children aged 5-14 (mean)                               | 0.25               | 0.42                 |
| No. of people aged 65 or more (mean)                           | 0.51               | 0.16                 |
| No. of household members employed (other than the head) (mean) | 0.59               | 0.71                 |
| No. of household members with elementary education (mean)      | 0.80               | 0.54                 |
| No. of household members with elementary education (mean)      | 0.52               | 0.44                 |
| No. of household members with elementary education (mean)      | 0.45               | 0.73                 |
| No. of household members with elementary education (mean)      | 0.51               | 0.56                 |

Source: Authors' analysis from SLC 2004-2008.

Table 3. Proportion of households at risk of poverty by household type (2003-2007)

|   | Spanish households | Immigrant households |
|---|--------------------|----------------------|
| Household head characteristics                          |                    |                      |
| Sex   |                    |                      |
| Man   | 0.176              | 0.255                |
| Woman   | 0.238              | 0.286                |
| Age   |                    |                      |
| 25 or less years old                                    | 0.248              | 0.310                |
| 26-45 years old   | 0.145              | 0.262                |
| 46-60 years old   | 0.158              | 0.244                |
| More than 60 years old                                  | 0.275              | 0.328                |
| Education   |                    |                      |
| Elementary  | 0.300              | 0.409                |
| Basic   | 0.199              | 0.306                |
| Medium  | 0.128              | 0.249                |
| High  | 0.064              | 0.163                |
| Civil status  |                    |                      |
| Single  | 0.178              | 0.227                |
| Married   | 0.178              | 0.261                |
| Divorced/separated                                      | 0.229              | 0.338                |
| Widow/widower   | 0.303              | 0.428                |
| Most frequent activity status                           |                    |                      |
| White-collar high-skilled worker                        | 0.075              | 0.145                |
| White-collar low-skilled worker                         | 0.083              | 0.172                |
| Blue-collar high-skilled worker                         | 0.163              | 0.224                |
| Blue-collar low-skilled worker                          | 0.137              | 0.268                |
| Unemployed  | 0.419              | 0.556                |
| Retired   | 0.241              | 0.251                |
| Other inactivity  | 0.368              | 0.490                |
| Household characteristics                               |                    |                      |
| Household size  |                    |                      |
| Three or less members                                   | 0.202              | 0.230                |
| More than three members                                 | 0.188              | 0.329                |
| No. of children aged less than 5                        |                    |                      |
| None  | 0.202              | 0.245                |
| One or more   | 0.159              | 0.351                |
| No. of children aged 5-14                               |                    |                      |
| None  | 0.195              | 0.225                |
| One or more   | 0.210              | 0.359                |
| No. of people aged 65 years old or more                 |                    |                      |
| None  | 0.158              | 0.262                |
| One or more   | 0.272              | 0.303                |
| No. of household members employed (other than the head) |                    |                      |
| None  | 0.300              | 0.418                |
| One or more   | 0.086              | 0.146                |

Source: Authors' analysis from SLC 2004-2008.

Table 4. *Logit* models for the probability of being poor (marginal effects evaluated at the mean of covariates) (2003-2007)

|   | Estimated          | Estimated coefficients |  |  |  |
|---|--------------------|------------------------|--|--|--|
|   | Spanish households | Immigrant households   |  |  |  |
| Household head characteristics            |                    |                        |  |  |  |
| Female head (male head = 0)               | 0.010 **           | 0.041 **               |  |  |  |
|   | (0.005)            | (0.020)                |  |  |  |
| Head age                                  | -0.011 ***         | -0.009 *               |  |  |  |
|   | (0.001)            | (0.005)                |  |  |  |
| Head age squared                          | 0.000 ***          | 0.000 **               |  |  |  |
|   | (0.000)            | (0.000)                |  |  |  |
| Head education (elementary education = 0) |                    |                        |  |  |  |
| Basic education                           | -0.026 ***         | 0.013                  |  |  |  |
|   | (0.007)            | (0.037)                |  |  |  |
| Medium education                          | -0.040 ***         | 0.022                  |  |  |  |
|   | (0.009)            | (0.034)                |  |  |  |
| High education                            | -0.096 ***         | -0.011                 |  |  |  |
|   | (0.011)            | (0.043)                |  |  |  |
| Head civil status (married = 0)           |                    |                        |  |  |  |
| Single                                    | 0.016 **           | 0.041) *               |  |  |  |
|   | (0.007)            | (0.024                 |  |  |  |
| Divorced/separated                        | 0.047 ***          | 0.080 ***              |  |  |  |
|   | (0.008)            | (0.030)                |  |  |  |
| Widow/widower                             | -0.049 ***         | 0.010                  |  |  |  |
|   | (0.007)            | (0.044)                |  |  |  |
| Head activity status                      |                    |                        |  |  |  |
| White-collar high-skilled worker          | -0.065 ***         | -0.003                 |  |  |  |
|   | (0.009)            | (0.047)                |  |  |  |
| White-collar low-skilled worker           | -0.103 ***         | 0.023                  |  |  |  |
|   | (0.009)            | (0.045)                |  |  |  |
| Blue-collar high-skilled worker           | -0.058 ***         | 0.011                  |  |  |  |
|   | (0.008)            | (0.045)                |  |  |  |
| Blue-collar low-skilled worker            | -0.091 ***         | 0.053                  |  |  |  |
|   | (0.008)            | (0.042)                |  |  |  |
| Unemployed                                | 0.137 ***          | 0.286 ***              |  |  |  |
|   | (0.009)            | (0.044)                |  |  |  |
| Other inactivity                          | 0.102 ***          | 0.206 ***              |  |  |  |
|   | (0.006)            | (0.039)                |  |  |  |

Table 4. *Logit* models for the probability of being poor (marginal effects evaluated at the mean of covariates) (2003-2007) (continued)

|   | Estimated coefficients |                      |  |  |
|---|------------------------|----------------------|--|--|
|   | Spanish households     | Immigrant households |  |  |
| Household characteristics                               |                        |                      |  |  |
| Household size  | 0.046 ***              | 0.043 *              |  |  |
|   | (0.008)                | (0.025)              |  |  |
| Household size squared                                  | 0.004 ***              | 0.007 ***            |  |  |
|   | (0.001)                | (0.003)              |  |  |
| No. of children aged less than 5                        | -0.032 ***             | -0.012               |  |  |
|   | (0.007)                | (0.021)              |  |  |
| No. of children aged 5-14                               | -0.009 **              | -0.005               |  |  |
|   | (0.004)                | (0.016)              |  |  |
| No. of people aged 65 or more                           | -0.073 ***             | -0.061 **            |  |  |
|   | (0.004)                | (0.027)              |  |  |
| No. of household members employed (other than the head) | -0.189 ***             | -0.240 ***           |  |  |
|   | (0.004)                | (0.017)              |  |  |
| No. of household members with basic education           | -0.016 ***             | -0.014               |  |  |
|   | (0.004)                | (0.019)              |  |  |
| No. of household members with medium education          | -0.043 ***             | -0.027               |  |  |
|   | (0.005)                | (0.018)              |  |  |
| No. of household members with high education            | -0.070 ***             | -0.055 **            |  |  |
|   | (0.006)                | (0.024)              |  |  |
| Observations  | 60,366                 | 3,413                |  |  |
| LR test: $\chi^2$ (34)                                  | 5,048.8 ***            | 382.6 ***            |  |  |
| McFadden R <sup>2</sup>                                 | 0.207                  | 0.259                |  |  |
| Correctly predicted (%)                                 |                        |                      |  |  |
| Non-poor  | 80.6                   | 78.1                 |  |  |
| Poor  | 24.7                   | 51.2                 |  |  |
| Total   | 95.9                   | 90.8                 |  |  |

Robust standard errors between parentheses. \*\*\* significant at 1%; \*\* significant at 5%; \* significant at 10%.

#### Notes

Source: Authors' analysis from the SLC 2004-2008.

<sup>-</sup> A constant and regional and year dummies are also included in the model. The estimated coefficients for these covariates are available from the authors upon request.

<sup>-</sup> The reference household is headed by a retired man living in a household in the North-West of Spain in 2003.

Table 5. Decomposition of the differences in poverty rates among Spanish and immigrant households (2003-2007)

|                              | 2003-2007                          | 2003       | 2004       | 2005       | 2006       | 2007       |
|------------------------------|------------------------------------|------------|------------|------------|------------|------------|
| Poverty headcount            |                                    |            |            |            |            |            |
| Spanish households           | 0.198                              | 0.186      | 0.201      | 0.205      | 0.200      | 0.197      |
| Immigrant households         | 0.267                              | 0.284      | 0.251      | 0.252      | 0.254      | 0.289      |
|                              |                                    |            |            |            |            |            |
| Raw difference               | 0.069                              | 0.098      | 0.050      | 0.047      | 0.054      | 0.092      |
| Due to endowments            | -0.032 ***                         | -0.012 *** | -0.041 *** | -0.039 *** | -0.032 *** | -0.028 *** |
|                              | (0.002)                            | (0.005)    | (0.005)    | (0.004)    | (0.005)    | (0.005)    |
| Due to returns to endowments | to returns to endowments 0.101 *** |            | 0.091 ***  | 0.086 ***  | 0.086 ***  | 0.120 ***  |
|                              | (0.007)                            | (0.015)    | (0.016)    | (0.015)    | (0.014)    | (0.015)    |

Delta standard errors between parentheses. \*\*\* significant at 1%; \*\* significant at 5%; \* significant at 10%.

Source: Authors' analysis from the SLC 2004-2008.