

ECONOMIC **D**ISCUSSION **P**PAPERS

EDP 2/2013

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A New Insight into the Home-Country Self-Employment

Hypothesis: The Case of Spain*

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Abstract

In this paper we test the home country self-employment hypothesis in Spain, i.e. whether immigrants coming from countries with a large self-employment sector are more likely to become self-employed. We find no significant effect of the size of the self-employment sector in the origin country. Moreover, we argue that the quality of the self-employment sector in the home country may be more important than its size. Using the size of the informal sector to proxy the low quality of self-employment, we find that immigrants from countries with a large informal sector exhibit a lower probability of becoming self-employed in Spain.

Key words Self-employment, Immigrants, Informal Sector, Specific Human Capital.

JEL classification J15, J61, L26

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*The authors acknowledge financial support by Spanish Ministry of Science and Innovation [MICINN-08-ECO2008-03468].

1. Introduction

Self-employment has traditionally represented an important means for immigrants to enter the labour market in the host country, favouring both economic and social integration of individuals. As small businesses are often intensive in labour, self-employment is a source of employment not only for the owner of the business but also for same-country immigrants. Besides, as Sanders and Nee (1996) acknowledge, co-ethnic employers may recognize the value of human capital acquired abroad more accurately than native employers, improving labour market efficiency and other immigrants' employment prospects. Furthermore, in addition to job creation, immigrant entrepreneurs also contribute to innovation and trade in the host country, and several countries have introduced specific policies to support them (OECD, 2011).

The importance of immigrant entrepreneurs in the host country self-employment sector differs across countries. In countries such as the USA, Australia and Northern Europe, with a long tradition of immigration, immigrants exhibit self-employment rates that are 1 to 3 percentage points higher relative to those of natives. The case of Southern European countries and Ireland is somehow different, with rates of self-employment that are greater for natives.¹ A possible explanation for this difference is that immigration in these countries is a recent phenomenon, and immigrants still lack the human, social and physical capital that are necessary in order to start a business. Moreover, it has been observed that the rates of self-employment differ substantially across immigrant groups. In most OECD countries, Asian migrants show the highest propensity to become self-employed, while the lowest entrepreneurship rates are found among immigrants from Africa and Latin America. In the economics and sociology

literatures two sets of factors have been given to explain the observed differences in self-employment rates across groups of workers (Parker, 2009; Le, 1999).

One set of explanations relates to the possibility that immigrants choose self-employment as a rational response to the barriers they meet in the labour market. These obstacles, or *push factors* are largely related with discrimination. Certain groups of immigrants may face discrimination in the labour market, reducing the opportunity cost of self-employment and increasing their presence in the self-employment sector. Similarly, immigrants may find it difficult to transfer the human capital acquired in their home country, as native employers may give a lower valuation to their skills earned abroad. Another push factor discussed in the literature relates to immigrants' language proficiency. Individuals who have difficulty in speaking the host country's language may have fewer opportunities in the wage sector, increasing their presence in the self-employment sector. A second set of explanations considers that certain groups of workers may have distinct characteristics that make them more inclined to self-employment. These are called *pull factors*, as they may make self-employment attractive to these groups. The existence of enclaves, where members of the same group concentrate in the same geographical location, may favour self-employment providing potential entrepreneurs a protected market for their goods, as well as access to capital and labour. It has also been emphasized the role of home country attributes in the decision of immigrants to enter self-employment. Individuals from different countries may have different entrepreneurial skills, as self-employment may be more or less common in their country of origin. This is known as the home country self-employment hypothesis.

In this paper we analyze the decision of immigrants to become self-employed in Spain, particularly focusing on the home country self-employment hypothesis. If this hypothesis holds, we should observe a positive relation between immigrants' propensity to start a business and the size of the self-employment sector in the country of origin. Furthermore, we extend the traditional analysis and argue that not only the size of the self-employment sector in the country of origin is important, but also the nature of the entrepreneurship. In fact, the highest self-employment rates are found in lower economic status countries. However, it is likely that the high rates of self employment in developing countries may mainly reflect subsistence self-employment, and do not provide individuals a real entrepreneurial culture that is valuable in a developed destination country. To proxy the quality of self-employment in the country of origin, we use the size of the informal sector, often identified with worse working conditions and lower job quality (Goldberg and Pavcnik, 2003).

The data used in our empirical analysis comes from the Immigrant National Survey (2007), carried out by the Spanish National Statistics Institute. This data base provides extensive information about the socio-economic history of immigrants in Spain. Our findings suggest that immigrants from countries with higher rates of self-employment are *not* more likely to be self-employed. Interestingly we find that, *ceteris paribus* the size of the self-employment sector, the larger the informal sector in the home country the lower the propensity to enter self-employment in Spain.

The structure of the paper is as follows. In Section 2 we review the previous empirical evidence on the home country self-employment hypothesis. In Section 3 we

describe the data and present the empirical analysis and the main results. Section 4 concludes.

2. The home country self-employment hypothesis

Frazier (1957) and Light (1984) were among the first to recognize the role of different traditions of business in the origin country in the decision of entrepreneurship, setting the basis of the home country self-employment hypothesis. From this perspective, immigrants coming from countries with a large self-employment sector are more likely to become self-employed in the host country. Presumably, these immigrants have a comparative advantage in starting a business, given their exposure to entrepreneurial culture in their home country. Besides, they are more likely to have been self-employed in the country of origin. Previous experience in self-employment may provide individuals sector-specific human capital, increasing their productivity in the self-employment sector and reduce start-up costs. Hence, these immigrants may be more efficient at starting a business.

Empirical support for this hypothesis is ambiguous. In the US, to explain the gap between immigrant and native self-employment rates, Yuengert (1995) estimates a self-employment equation including as a control the ratio of the individual's home country self-employment rate relative to the US rate. He finds that immigrants from countries with larger self-employment sectors are more likely to be self-employed. Fairlie and Meyer (1996) point out that a more powerful test "is to determine whether self-employment rates among immigrant groups in the United States are positively related to their home country rates", excluding natives from the sample. They extend Yuengert's

analysis by estimating two equations. First, they analyse the determinants of individuals' self-employment decision, including ethnicity/race as controls. Second, they explain the coefficient of ethnicity/race dummy variables obtained, using the self-employment rate for the home country of each group as a regressor. With data for immigrant males in the US, they do not find a significant effect of the home country self-employment rate. Using this strategy, Hammarstedt and Shukur (2009) either do not find empirical support for this hypothesis in Sweden. When they apply quantile regression techniques they find such support only for immigrants from countries with very high self-employment rates.

In a broader study, Tubergen (2005) collects data on 17 Western host countries from 1980 to 2002 to perform a cross-national analysis. Using multilevel techniques, he analyzes the effect of the characteristics of the country of origin, the country of destination, and the combination of both, on the probability of immigrants' self-employment. In his study he finds no significant evidence that countries with relatively large self-employment sectors facilitate self-employment in the destination country.

More recently, Oyelere and Belton (2012) extend the analysis by arguing that “similarity in the economic institutions of an immigrant’s home country compared to the United States” may be a more important factor in explaining the decision of self-employment than the actual size of the self-employment sector in the home country. They find that immigrants from developed countries, which tend to exhibit lower rates of self-employment, have a higher probability of self-employment. They conclude that, although developing countries have higher rates of self-employment, institutions may be

dissimilar from those in developed (destination) countries, limiting the transfer of skills and qualifications.

In sum, most previous empirical studies have tested the role of the home country in an aggregate way, by including different attributes of the country in the analysis. One fortunate feature of our database is that it provides information on whether the immigrant was self-employed in his country of origin before migration. This allows us to disentangle the two arguments presented above. We follow a two-stage procedure. In a first stage, we estimate the determinants of the decision of self-employment in Spain, controlling for the country of origin and including self-employment experience prior to migration as a regressor. With the inclusion of this variable we expect to capture the direct effect of *specific human capital* on the choice of self-employment. In a second stage, we test whether a more widespread *entrepreneurial culture* affects the probability of starting a business in the host country. To do so we use the size of the self-employment sector in the home country to explain the country-specific effects found in the first stage. Moreover, we also include measures of the economic status of the home country that may influence the transition to self-employment in the host country. Our analysis is closely related to that of Oyelere and Belton (2012), although there are some important differences. First, they perform a one-stage analysis of self-employment decision, including a dummy variable whether the immigrant comes from a developed or developing country. However, we prefer to include controls for the country of origin, as there are many country-specific forces at work, and the developed-developing country break will not reflect them.² Second, to explore the effect of the country of origin on the self-employment decision we highlight the size of the informal sector in the home country as a potential factor explaining the transmission of entrepreneurial

culture. While Oyelere and Belton (2012) acknowledge the role of informality in economic activity in developing countries, they do not explicitly address this issue.

3. Empirical Analysis

In this section we first describe the data used in the empirical analysis. Then we present the specification of the model and finally we discuss the main results.

3.1 Data

We use data provided by the Immigrant National Survey 2007, which was carried out by the Spanish National Statistics Institute. This survey is aimed at immigrants, understood as individuals whose country of origin is other than Spain, but have their habitual residence in Spain at the time of the interview. The survey was conducted between November 2006 and February 2007 and covered a wide range of topics on the immigrant community in Spain. The survey collects extensive information on household members, demographic characteristics, migration experience, labour market experience, housing conditions, their relationship with their country of origin, and among themselves in Spain, as well as their plans for the medium-term future. Regarding labour market experience, individuals were asked about their labour status before migration. This allows us to have information on whether the individual was previously self-employed in the home country, which is especially relevant for the aim of this study.

We have selected individuals between 18 and 65 years of age who were working at the time of the interview, either as self-employed or as salaried workers. To avoid

estimation problems due to the small sample size of several groups of immigrants, we have excluded individuals coming from countries from which there are less than 30 observations. Descriptive statistics are presented in Table 1. Our final sample comprises 8376 individuals from 29 countries, 52% of whom are females. The proportion of individuals who report being self-employed in Spain is 13.2%, which is slightly lower than the figure given by the social security records, 13.6% (see Table 2). About 10.5% of the immigrants were self-employed in their home country and this proportion more than doubles in the case of those who have chosen self-employment in Spain. Immigrants in the sample are relatively young: less than 20% of them are over 45 years of age, and self-employment is more common in this segment of age. In general, immigrants in the sample have a high level of education, especially those who are self-employment. On average, they have lived in Spain for 11 years. With respect to the distribution across origin country, most of them come from Central and South America (43.7%), especially from Ecuador (11.5%) and Colombia (8.3%), followed by EU-25 countries (20.6%).

3.2 Model Specification

To test whether differences in self-employment rates across groups of immigrants may be related to the rate of self-employment in their country of origin, we follow a two-stage procedure as in Fairlie and Meyer (1996).

In the first stage, we model the determinants of an individual's decision to become self-employed as follows:

$$\Pr(y_i = 1) = \Pr(y_i^* > 0) = \Phi(\alpha + \beta X_i + \delta Z_i + \gamma PE_i^{SE} + \zeta C_i) \quad (1)$$

where y_i is a binary indicator that takes the value 1 if the immigrant is self-employed and 0 if he is in the wage sector; X_i is a vector of individual characteristics that includes age, gender, educational level, whether he completed education in Spain, years since migration, skills in Spanish language, whether he has been previously unemployed in Spain, whether he is cohabiting and whether he has any children; vector Z_i includes controls for sector of activity, region of residence,³ and the proportion of immigrants from the same area of origin (UE 25, non-UE 25, Africa, Asia, USA/Canada, and Latin America) living in the same host region; PE_i^{SE} is a dummy variable indicating individual's previous experience in self-employment in the home country. This variable can be used as a proxy for sector-specific human capital of the immigrant. Finally, C_i is a vector of country of origin dummy variables, and ε_i captures any unobservable factors that affect individual's decisions regarding self-employment. Assuming that ε_i is independently and normally distributed with zero mean and constant variance, we estimate (1) using a probit model.

In the second stage, we estimate a regression in which the dependent variable is the coefficient of the country of origin j obtained from the estimation of (1):

$$\zeta_j = \lambda SE_j + \chi V_j + u_j \quad (2)$$

To explain these coefficients, we include the size of the self-employment sector, SE_j , as well as other attributes related to the economic status of the home country, V_j . As we have already controlled for previous experience in self-employment in the first stage, with the inclusion of SE_j we expect to measure to what extent exposure to entrepreneurial culture in the home country affects the probability of starting a business

in the host country. With V_j , we intend to differentiate the effect of the size of the self-employment sector according to two elements: the income level and the relative importance of the informal economy in the productive structure. These variables will proxy the quality of self-employment in the country which may be may relevant in the transmission of entrepreneurial culture.

3.3 Results

Marginal effects obtained from the estimation of a probit model for the probability of self-employment are displayed in Table 2. We find that men and older immigrants are more likely to be self-employed. Higher levels of education are associated with a higher probability of self-employment, but having completed education in Spain reduces this probability. This result may reflect the fact that the human capital acquired in the host country is more highly valued by national employers, increasing the opportunities in the salary sector. Living with a partner does not affect the probability of self-employment, and individuals who have children are significantly more likely to be self-employed. Time spent in Spain increases the probability of self-employment. This is consistent with the assimilation theory proposed by Borjas (1986): the longer an immigrant resides in the host country, the more likely he is to become familiar with local markets and administrative procedures, as well as to accumulate the necessary financial resources to set up a new business. Lack of Spanish language proficiency does not affect immigrants' decision to become self-employed. A greater proportion of immigrants from the same area of origin living in the same host region tend to increase small business opportunities. Despite the broad definition of the area of origin, this effect may be reflecting the existence of the enclave effect.

Regarding our main goal, we find a positive and significant effect of previous experience in self-employment in the home country. This result is consistent with one of the fundamentals supporting the home country self-employment hypothesis: immigrants from countries with large self-employment sectors are more likely to have been self-employed, and this specific human capital acquired can be transferred to the host country.

Next, in a second stage we test the other fundamentals of the hypothesis, i.e. whether exposure to different entrepreneurial cultures affect individuals' choice regarding self-employment. We run a regression where the dependent variable is the marginal effect on each home country dummy variable estimated in the first stage.⁴ Results are displayed in Table 3. First, we use the home country self-employment rate as the sole explanatory variable. As shown in column (1), the size of the self-employment sector does not explain the estimated effect for that country on the probability of self-employment. This suggests that high self-employment rates in the country of origin do not necessarily constitute a comparative advantage or a pull factor in immigrants' decision to become self-employed in Spain. This finding is in line with those in Fairlie and Meyer (1996), Tubergen (2005), Hammarstedt and Shukur (2009) and Oyelere and Belton (2012).

The rationale for this result may be that immigrants in Spain come mainly from developing countries. While in these countries, the self-employment sector represents a large share of the labour force, the nature of entrepreneurship may not favour its transmission. In developed countries, higher self-employment rates may represent a

further development of entrepreneurship, exploiting new opportunities, incorporating and improving products, production processes and means of distribution. On the contrary, in developing countries higher rates of self-employment may reflect limited development of formal economic and financial markets. This would favour self-employed activities among populations that cannot be absorbed by the labour market and have to meet, at least, basic needs. Because of this, higher rates of self-employment in developing countries may not necessarily provide a real entrepreneurial culture that favours the starting of a business in the host country. In this sense, using Mexican data, Temkin (2009) finds that personal characteristics of the informally self-employed are radically different from those usually attributed to the entrepreneurial individuals and is basically formed by people engaged in a survivalist strategy.

Hence, it is important to distinguish self-employment as a function of the status of the country of origin. As shown in Table 4, countries with lower levels of national income or a greater informal sector exhibit the highest rates of self-employment. Taking into account this perspective, we have included in our regression measures on the level of income and on the size of the informal sector in the country of origin. Results seem to support our previous discussion. In column (2) of Table 3 we find a significantly negative coefficient for the level of income, indicating that immigrants from poorer countries are less likely to choose self-employment in Spain. This result is similar to the findings in Oyelere and Belton (2012). Additionally, in Column (3) we include the size of the informal sector in the country of origin to assess the importance of subsistence self-employment i.e. that derived from restrictions originated by economic poverty and lack of financial infrastructure in developing countries. The estimated coefficient shows that countries with a greater informal sector present a negative effect on the probability

of becoming self-employed in Spain. These results may reflect the difficulty to transfer a largely precarious entrepreneurial culture from developing to developed countries.

4. Conclusions

In this paper we test the home country self-employment hypothesis, i.e. whether immigrants coming from countries with a large self-employment sector are more likely to become self-employed in the host country. Two main fundamentals support this hypothesis. On the one hand, these immigrants are more likely to have been self-employed in the country of origin increasing the probability of starting a business in the host country. On the other hand, they may have a comparative advantage in starting a business, given their exposure to entrepreneurial culture in their home country. Using the Spanish Immigrant National Survey 2007, we find support for the first argument, but not for the second. We argue that differences in the nature of self-employment between the origin and receiving countries can explain the latter result. High rates of self-employment in developing countries may mainly reflect scarcity of opportunities in the labour market and lack of financial infrastructure, and exposure to this entrepreneurial culture may not provide individuals the skills necessary to start a business in the host country. In fact, when we control for the national income level, or the size of the informal sector, we find that immigrants from developing countries exhibit the lowest probability of becoming self-employed, despite showing the highest rates of self-employment. In conclusion, it is not easy to transfer self-employment culture across countries when the nature of self-employment is different. From this perspective, the quality of the self-employment sector in the home country seems to be more important than its size.

A natural extension of this research would be to consider countries with a similar economic status when testing the home country self-employment hypothesis. It would also be interesting to perform a symmetric analysis, selecting a developing country as the host country and examine whether the same pattern of behaviour across immigrant groups holds.

Footnotes

¹ OECD, 2011

² They also estimate the model using a continuous measure of development. When they include both the dummy and the continuous variables, the latter becomes insignificant and they conclude that “differences in the level of development of immigrants’ home country do not really affect self-employment”.

³ We include dummies for the 17 Spanish Autonomous Communities.

⁴ Likelihood ratio test rejects, at the 1 per cent level, the hypothesis that these variables do not add to the explanation

References

Borjas, G (1986) "The Self-Employment Experience of Immigrants", *Journal of Human Resources*, 21(4): 487-506.

Clark, K and Drinkwater, S (2000) "Pushed out or Pulled in? Self-Employment among Ethnic Minorities in England and Wales", *Labour Economics*, 7: 603-28.

Fairlie, RW and Meyer, BD (1996) "Ethnic and Racial Self-Employment Differences and Possible Explanations", *Journal of Human Resources*, 31(4): 757-93.

Frazier, E. F. (1957) *The Negro in the United States*, Macmillan, New York.

Goldberg, PK and Pavcnik, N (2003) "The Response of the Informal Sector to Trade Liberalization", *Journal of Development Economics*, 72(2): 463-496.

Hammarstedt, M and Shukur, G (2009) "Testing the Home-Country Self-Employment Hypothesis on Immigrants in Sweden", *Applied Economics Letters*, 16: 745-48.

Le, AT (1999) “Empirical Studies of Self-Employment”, *American Sociological Review*, 61: 231-49.

Light, I. (1984) “Immigrant and Ethnic Enterprise in North America”, *Ethnic and Racial Studies*, 7: 195-216.

OECD (2010), *Open for Business: Migrant Entrepreneurship in OECD Countries*, OECD Publishing.

OECD (2011), *International Migration Outlook*, OECD Publishing.

Oyelere, RU and Belton, W (2009) “Coming to America: Does Immigrant’s Home Country Economic Status Impact the Probability of Self-Employment in the U.S.”, *IZA Discussion Papers* 4178, Institute for the Study of Labor (IZA).

Parker, SC (2009) *The Economics of Entrepreneurship*, Cambridge University Press.

Sanders, JM and Nee, V (1996) “Immigrant Self-Employment: The Family as Social Capital and the Value of Human Capital”, *American Sociological Review*, 61: 231-49.

Schneider, F (2002) “Size and Measurement of the Informal Economy in 110 countries around the world”, World Bank, Doing Business Project.

Temkin, B (2009) “Informal Self-Employment in Developing Countries: Entrepreneurship or Survivalist Strategy? Some Implications for Public Policy”, *Analyses of Social Issues and Public Policy*, 9: 135-56.

Tubergen, F (2005) “Self-Employment of Immigrants: A Cross-National Study of 17 Western Societies”, *Social Forces*, 84 (2): 709-32.

Yuengert, AM (1995) “Testing Hypotheses of Immigrant Self-Employment”, *Journal of Human Resources*, 30(1): 194-204.

Table 1. Descriptive Statistics

	Total sample		Self-employed		Salaried workers	
	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.
Male	0.519	0.500	0.512	0.500	0.521	0.500
Age 30-45	0.557	0.497	0.566	0.496	0.556	0.497
Age >45	0.184	0.388	0.295	0.456	0.167	0.373
Secondary school	0.553	0.497	0.524	0.500	0.558	0.497
University	0.227	0.419	0.290	0.454	0.218	0.413
Completed education in Spain	0.202	0.402	0.239	0.427	0.197	0.397
Years in Spain	11.627	11.486	15.594	12.823	11.021	11.146
Poor Spanish	0.079	0.270	0.070	0.256	0.081	0.272
Previously unemployed	0.652	0.476	0.573	0.495	0.664	0.472
Cohabiting	0.458	0.498	0.523	0.500	0.449	0.497
Children	0.657	0.475	0.729	0.445	0.646	0.478
Previous self-employment	0.106	0.308	0.220	0.414	0.089	0.284
% of immigrants in area	0.040	0.028	0.041	0.033	0.040	0.027
Agriculture	0.059	0.236	0.023	0.151	0.064	0.245
Manufacturing	0.119	0.324	0.061	0.240	0.128	0.334
Construction	0.182	0.386	0.138	0.345	0.189	0.391
Wholesale and retail trade	0.110	0.313	0.177	0.382	0.100	0.300
Hotels & restaurants	0.124	0.329	0.122	0.327	0.124	0.330
Transport	0.053	0.225	0.052	0.223	0.054	0.225
Real state & financial intermediation	0.097	0.296	0.139	0.346	0.090	0.287

Public administration, education & health	0.100	0.300	0.074	0.262	0.104	0.305
Activities of households as employers & other services	0.156	0.363	0.214	0.410	0.147	0.354
Belgium	0.009	0.094	0.013	0.112	0.008	0.090
Bulgaria	0.028	0.164	0.017	0.130	0.029	0.169
France	0.069	0.254	0.103	0.304	0.064	0.245
Italy	0.013	0.113	0.032	0.177	0.010	0.100
Poland	0.011	0.104	0.013	0.112	0.011	0.103
Portugal	0.030	0.171	0.040	0.195	0.029	0.168
United Kingdom	0.033	0.178	0.086	0.280	0.025	0.155
Germany	0.043	0.204	0.071	0.257	0.039	0.194
Romania	0.110	0.313	0.054	0.226	0.119	0.324
Switzerland	0.017	0.128	0.015	0.123	0.017	0.129
Ukraine	0.019	0.135	0.008	0.090	0.020	0.141
Russia	0.009	0.095	0.009	0.095	0.009	0.096
Algeria	0.013	0.114	0.013	0.112	0.013	0.115
Morocco	0.105	0.307	0.088	0.284	0.108	0.310
USA	0.007	0.084	0.008	0.090	0.007	0.083
Mexico	0.011	0.104	0.012	0.108	0.011	0.103
Cuba	0.018	0.133	0.022	0.146	0.017	0.131
Dominican Republic	0.021	0.145	0.015	0.123	0.022	0.148
Argentina	0.060	0.238	0.089	0.285	0.056	0.230
Bolivia	0.039	0.194	0.032	0.175	0.040	0.197
Brazil	0.022	0.147	0.026	0.160	0.022	0.145
Colombia	0.083	0.276	0.076	0.265	0.084	0.278
Chile	0.013	0.114	0.022	0.146	0.012	0.108
Ecuador	0.115	0.319	0.041	0.197	0.126	0.332
Paraguay	0.010	0.100	0.008	0.090	0.010	0.102
Peru	0.033	0.179	0.023	0.149	0.035	0.184
Uruguay	0.021	0.142	0.024	0.154	0.020	0.140
Venezuela	0.030	0.170	0.033	0.180	0.029	0.169
Pakistan	0.006	0.078	0.008	0.090	0.006	0.076
N	8376		1109		7267	

Table 2. Marginal Effects Estimated from Probit Equations for Self-Employment

	Total	
Male	0.016**	(0.008)
Age 30-45	0.010	(0.010)
Age >45	0.036***	(0.014)
Secondary school	0.020**	(0.009)
University	0.061***	(0.014)
Completed edu. in Spain	-0.036***	(0.009)
Years in Spain	0.010***	(0.001)
Years in Spain squared	-0.000***	(0.000)
Poor Spanish	0.001	(0.014)
Previously unemployed	-0.018	(0.011)
Cohabiting	0.008	(0.007)
Children	0.018**	(0.008)
% of immigrants in area	0.345**	(0.156)
Previous self-employment	0.176***	(0.017)
Bulgaria	-0.025	(0.032)
France	0.039	(0.040)
Italy	0.152***	(0.071)
Poland	0.032	(0.052)
Portugal	0.020	(0.041)
United Kingdom	0.137***	(0.059)
Germany	0.044	(0.043)
Romania	-0.023	(0.030)
Switzerland	-0.021	(0.033)
Ukraine	-0.049	(0.026)
Russia	-0.005	(0.045)
Algeria	-0.008	(0.040)
Morocco	-0.010	(0.031)
USA	0.006	(0.051)
Mexico	0.002	(0.043)
Cuba	0.011	(0.041)
Dominican Republic	-0.039	(0.027)
Argentina	0.023	(0.038)
Bolivia	-0.023	(0.031)
Brazil	0.006	(0.039)
Colombia	-0.018	(0.030)
Chile	0.060	(0.055)
Ecuador	-0.071***	(0.019)
Paraguay	-0.022	(0.039)
Peru	-0.043	(0.025)
Uruguay	-0.001	(0.037)
Venezuela	-0.005	(0.035)
Pakistan	0.095	(0.081)
Pseudo-R2	0.150	
N	8376	

Notes: Standard errors in parenthesis. All regressions include controls for sector of activity and region of residence. The omitted categories are for the dummy variables are: female, between 18 and 29 years of age, primary education, completed education in origin country, no problems with Spanish language, not previously unemployed in Spain, does not live with a partner, no children, not self-employed in the country of origin, Belgian. *significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3. Second-Stage Regressions for Country Dummies from Probit Equations

TOTAL			
	[1]	[2]	[3]
Total home country self-employment rate	-0.049 (0.054)	0.037 (0.056)	0.025 (0.059)
Upper middle income		-0.036 (0.025)	
Low middle income		-0.071*** (0.023)	
Informal sector (%GDP)			-0.160** (0.066)
N	29	29	29

Notes: Standard errors in parenthesis. *significant at 10%; ** significant at 5%; *** significant at 1%. The omitted category for the level of income is high level.

Table 4. Self-employment Rates and Economic Development Indicators by Country

Country	Self-employment rate (%)	Income level	Informal sector size (%)
Belgium (74)	14.1	1	23.2
Bulgaria (232)	21.3	3	36.9
France (579)	8.9	1	15.3
Italy (109)	26.3	1	27.0
Poland (92)	12.6	2	27.6
Portugal (254)	18.1	1	22.6
United Kingdom (275)	12.9	1	12.6
Germany (364)	9.8	1	16.3
Romania (923)	6.8	3	34.4
Switzerland (140)	19.3	1	8.8
Ukraine (156)	10.0	3	52.2
Russia (77)	4.9	3	46.1
Algeria (111)	39.1	3	34.1
Morocco (882)	37.5	3	36.4
USA (59)	6.8	1	8.8
Mexico (91)	25.0	2	30.1
Cuba (150)	10.5	3	40.0
Dominican Republic (180)	43.4	3	32.1
Argentina (506)	25.8	2	25.4
Bolivia (329)	55.0	3	67.1
Brazil (186)	39.5	2	39.8
Colombia (698)	52.1	3	39.1
Chile (110)	30.9	2	19.8
Ecuador (961)	45.8	3	34.4
Paraguay (85)	51.5	3	68.2
Peru (279)	53.8	3	59.9
Uruguay (173)	28.8	2	51.1
Venezuela (250)	44.8	2	33.6
Pakistan (51)	64.4	3	36.8

Source: Schneider (2002). Number of individuals in the sample in parenthesis.