Gemma LARRAMONA*

Out-migration of immigrants in Spain

Spain has an eventful migration history. After five decades as an emigration country from the 1950s to the 1990s, it become the leading immigration country of the European Union in the early twenty-first century, with annual net migration of more than 600,000 people between 2002 and 2007. The economic crisis of 2008 put an end to this situation, and net migration became negative in 2011. The number of entrants dwindled, and many residents –immigrants in particular– started leaving the country. This movement of "immigrant out-migration" is analysed here by Gemma LARRAMONA *using data from the Spanish population registers which record departures from the country. She distinguishes between return and non-return migration of immigrants, and analyses the determinants of these two types of out-migration: individual characteristics of migrants, economic characteristics of origin and destination countries.*

The decision to migrate to another country is not always a permanent one. As highlighted by Dumont and Spielvogel (2008), departures of immigrants from OECD countries represent between 20% and 75% of annual arrivals. However, most migration studies consider the phenomenon to be permanent, and when analysing migration from the perspective of the host country, the focus tends to be on primary migration. Departure of immigrants is not a widely-treated topic in the empirical literature for the majority of countries, primarily due to the lack of reliable data. Furthermore, the relatively few studies that have dealt with this topic focus their analysis on return migration, rather than dealing with the broader concept of out- migration of immigrants, which includes outflows from a country that are a return to the country of origin, as well as those that are not. This differentiation has been examined for internal migration (DaVanzo, 1976; Newbold, 1997; Newbold and Bell, 2001), but not for international migration.

Return migration has been extensively studied in Germany because that country has the advantage of the German Socio-Economic Panel (GSOEP), an

* University of Zaragoza, Spain.

Correspondence: Gemma Larramona, University of Zaragoza. Gran Vía, 2, 50005 Zaragoza, Spain, tel.: +34 976 762 789, fax: +34 976 761 996, e-mail: gemmalar@unizar.es.

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interdisciplinary and longitudinal study of private households that includes information on the countries of origin and destination. This database collects information at the micro level on individuals, households and families, during a sufficiently long period to allow for analysis of inter-generational relationships. Using this German database, Dustmann (2003, 2008) explores return migration motivated by concerns for children and for investment in their education, and concludes that these factors influence the parents' return plans. Constant and Massey (2003) conclude that fluency in German and holding a rewarding job significantly decrease the odds of returning, and Kirdar (2009) establishes that higher unemployment increases return migration for immigrants living in Germany.

The United States has also been studied, but with a less specific database. Borjas and Bratsberg (1996) and Zakharenko (2008) use the 1980 U.S. Census, or the Current Population Survey, as databases. Borjas and Bratsberg (1996) conclude that the skill composition of out-migrant flows depends on the type of selection that generated the immigrant flow in the first place, and Zakharenko (2008) studies various determinants of immigrant out-migration.

Taking a broader view, Constant and Massey (2002), using the German data, test the hypothesis for return migration given by the neoclassical model and the new economics of labour migration, finding some support for both perspectives.

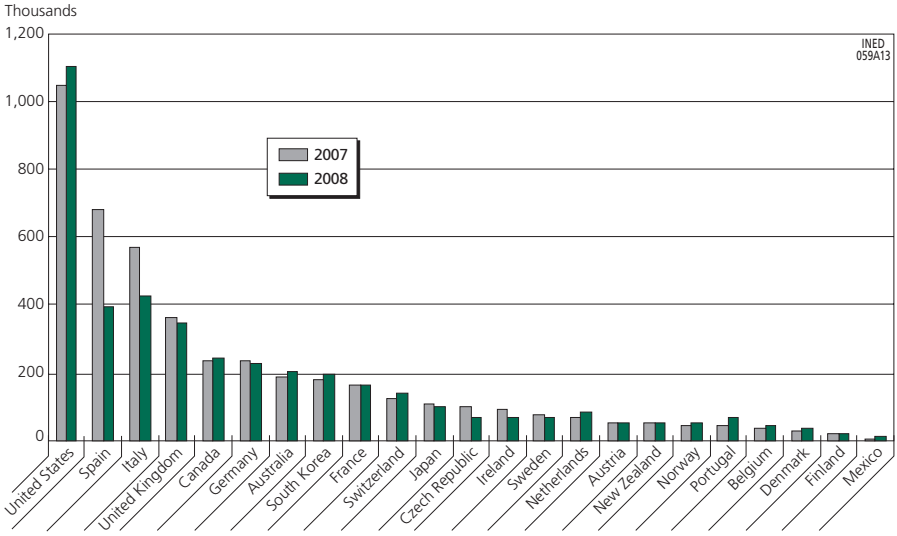
These studies all examine return migration from the perspective of the host country, although there are other countries and regions where return migration has been studied from the perspective of the country of origin, with specific databases (for the Philippines, Yang, 2006; for the Pacific, Gibbons and McKenzie, 2011; for Tunisia, Mesnard, 2004; for Hungary, Co et al., 1999).

Spain was a net emigration country from 1900 to the early 1970s. From 1900 to 1950, the principal destination was South America, while from 1950 to the 1970s, Spanish emigrants mainly went elsewhere in Europe. Return migration to Spain from the perspective of the country of origin has been considered elsewhere. Dustmann (1997) included some analysis of Spanish returned migrants whose host country was formerly Germany, and more extensive analyses were made by Castillo (1980), based on a survey of more than 1,500 returned Spanish international emigrants, examining aspects such as personal characteristics, integration, reasons for returning, the economic situation in the host country, and conditions in Spain after return.

Other studies of Spanish return migration consider only internal migration. Recaño, (2004, 2010) uses the 1991 census to analyse internal return migration from a family rather than individual perspective, analysing characteristics of the family, the migration background of family members, and gender differences.

In the 2000s, however, Spain became a major receiving country. In 1999, there were 650,000 foreign-born individuals in Spain (1.6% of the total population), while by 2009 their number had risen to 5,650,000 (12% of the total population). Figure 1 shows international migration inflows to various countries, ranked by the absolute value of year 2007. Spain ranks second in

Figure 1. Number of immigrants by country of destination, 2007 and 2008



Source: OECD, 2010, Table I.1.

2007 and third in 2008. On the basis of these migration stocks and flows, it would be interesting to analyse the phenomenon of out-migration from Spain as a host country in recent years.

As highlighted by DaVanzo (1976), it is important to treat return and non-return migration separately. Thus, the aim of this paper is to study the characteristics of out-migration, both return and non-return, and the effects of available socio-demographic variables of migrants, of time variables and of certain destination and origin variables, on the probability that an out-migration is a return or non-return outflow.

In the absence of a database similar to the GSOEP, or other surveys with current and relevant information capturing temporary migration, we rely on population register variables for this study.

The population register is described in the first section of this article, and its limitations and possibilities are presented. In the second section, various descriptive statistics are presented for Spain. The effects of certain variables on the probability of return out-migration are described in the third section, followed by our main conclusions.

I. Population register data

Defining immigrant out-migration

Under the definition given by the United Nations Statistics Division (UNSD, 1998), returning migrants are "persons returning to their country of citizenship

after having been international migrants (whether short term or long-term) in another country and who are intending to stay in their own country for at least a year". Extending this definition, we can say that out-migration corresponds to "movements of persons returning to their country of citizenship or another country after having been international migrants (whether short term or long-term) in another country and who are intending to stay in the destination country for at least a year". However, in the case of Spain, this would exclude those who attain Spanish nationality by giving up their original nationality or becoming dual-nationals with Spain.(1) Those migrants are not included in the definition cited above, since they are considered as Spanish citizens, but we consider that movements out of Spain by those individuals should be treated as out-migration. In the period 2002-2009, almost 17% of non Spanish-born migrants over age 18 had Spanish citizenship, and this proportion increases to almost 50% for migrants from Argentina. Therefore, in order to include these individuals in the analysis of out-migration, and due to the lack of data about intentions of staying in the destination country, the definition we will use is based on country of birth and not nationality: "out-migration corresponds to movements of persons returning to their country of birth or going to another country, after having been international migrants (whether short term or long-term) in Spain.(2) Migration that involves a return to the birth country is considered as return migration, while that involving a move to a third country is considered as non-return out-migration.

The residential variation statistics (EVR) and their limitations

In the absence of a database similar to the GSOEP, or other surveys with current and relevant information capturing out-migration, we make use of the residential variation statistics (Estadistica de Variaciones Residenciales, EVR) compiled from the Spanish population registers (Padrón municipal). Residents are required to register upon arrival in the country, and to de-register upon departure. The EVR thus counts entries to and exits from the country, and can be used to assess departures of natives and migrants, as well as migration of natives residing abroad. This information is collected by the Spanish Statistics Institute (Instituto Nacional de Estadística, INE) in the EVR database. The EVR micro-data published by INE is used in our analysis.(3)

The main limitation, highlighted by the OECD Outlook of 2008, is that individuals register and de-register on the basis of their planned length of stay in the country (for entries) or the planned length of absence from the country (for exits), so some individuals may leave the country without de-registering if they plan to return shortly. The same holds for those who deliberately fail

(1) Citizens of Argentina, Bolivia, Chile, Colombia, Costa Rica, Ecuador, Honduras, Nicaragua, Panama, Peru and the Dominican Republic are eligible for dual nationality with Spain.

(2) This definition will help us to test the assumption that the sample is unbiased, since the sample used to compare the results also uses the concept of return to the birth country.

(3) http://www.ine.es/prodyser/micro_varires.htm

to "sign out" so as not to lose certain entitlements associated with residency. INE attempted to correct this by requiring local authorities to de-register foreign immigrants if they do not confirm their residence within two years (this process began in 2006 and is called ENCSARP), or if they do de-register but do not record their destination (included since 2004). Since 1 January 2006, local authorities have applied a procedure to "delete" the registrations of foreign-born individuals – without EU residence and without authorization or a permanent residence permit – who do not renew their registration biennially. Once a registration is deleted, it is counted in the official data as a departure to an unspecified destination country. Data from 2006 thus includes not only return and non-return out-migrations for which the departure is registered, but also those resulting from non-renewal of residency within two years.

Another limitation, also pointed out by the OECD, is that population registers do not include illegal immigrants, who cannot be tracked or measured, either inside or outside the country. This limitation is much less significant in the case of Spain where, since 2000, registered immigrants, whatever their legal status, have been entitled to make use of the public health system and of public education with no risk of detention by the authorities (although the immigrant population is still undercounted, as pointed out by Devolder et al., 2003).

There is a third limitation, not mentioned by the OECD, in that the EVR counts migrations, not migrants. However, Ródenas and Martí (1997, 2002) compared the three Spanish databases dealing with migrants – EVR, Encuesta de Migrantes (Migration Survey) and the Census – and concluded that EVR is the most suitable database from which to study migration in Spain. These authors demonstrate that the Migration Survey based on the Spanish Labour Force Survey (Encuesta de Población Activa) has shown a low and decreasing intensity of migration flows in Spain over the past ten years, which suggests that mobility is seriously underestimated. The Census, for its part, only provides information on a ten-yearly basis.

In 2007, the National Immigrant Survey (Encuesta Nacional Inmigrantes, ENI) was conducted by INE on a sample of more than 15,000 immigrants, but it only has individual data for a single year. A further limitation is that the questions relating to return only concern future plans, not current actions. The responses show that only 6% of all immigrants were planning to return in the following five years, but there is no information on whether or not their plans were realized. In 1984, 72.8% of the migrants participating in the German GSOEP survey intended to return during their lifetime, although the realization rate in the 13 subsequent years was only 21.9% (Dustmann, 2003). These surveys are difficult to compare, however.

From 2002 to 2009, the EVR only includes data on age at the time of registration, gender, nationality, origin, destination, and size of the host locality. There is a lack of longitudinal data, which makes analysis problematic from a

household/couple perspective. There are no data on marital status or citizenship of the spouse, number of years in Spain, type of visa, residence permit, number of children and their residence, and other important variables.

The sample selected from the EVR includes the international movements of foreign-born individuals residing in Spain, including those who return to their birth country, and those who do not. To ensure that we only include movements based on individuals' own decisions, we restrict the sample to persons aged at least 18 years when they left Spain. In the sample, there is no distinction between legal or illegal immigrant outflows, so it is not necessary to differentiate EU nationals from third-country nationals, since the special characteristic of being an EU citizen will be controlled for in the econometric specification.

II. Characteristics of immigrants leaving Spain

Out-migration statistics

Out-migration is an increasingly large-scale phenomenon, due to Spain's recently-established role as a receiving country. Assuming that voluntary and institutional de-registration of immigrants in Spain both indicate out-migrations,[4] Table 1 summarizes all out-migrations, differentiating between EVR de-registrations with a known destination, those with an unknown destination (introduced from 2004), and those resulting from deletion due to non-renewal of residency (introduced from 2006). As foreigners often do not de-register, a legal reform (Organic Law 14/2003) was implemented in 2006, requiring non-EU foreign nationals who do not have permanent residence permits to renew their registration every two years and, if this renewal does not take place, requiring municipal councils to report expiry of the registration.

Table 1 shows that the additional procedure established in 2004 captures more than 25% of out-migrations in the period, and that the institutional de-registration established from 2006 captures more than 50%.

Figure 2 presents changes in the percentage of international out-migrations from Spain with respect to the stock of foreign-born residents, extracted from the municipal population registers (Padrón Municipal), indicating the percentages of out-migration with known destination, of out-migration with unknown destination, and of institutional deregistration.

There is an increasing trend in out-migration flows with known destination (this trend ceases in 2009 and is offset in that year by a significant increase in out-migration flows with unknown destination). Thanks to these improvements

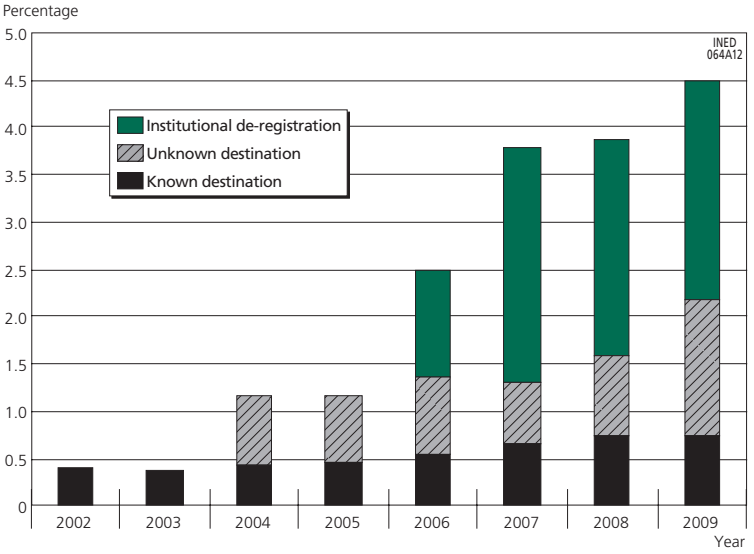
(4) It is reasonable to assume that if immigrants move to another part of Spain they will register for health services and education, so the movement can be considered as internal migration; if they do not move, the registration will be renewed for the same reasons. It is therefore assumed that if the migrants do not renew registration they have left Spain.

Table 1. Immigrants to Spain considered as out-migrants by type of de-registration, 2002-2009

	Known destination	Unknown destination	Institutional de-registration	Total
2002	10,350	–	–	10,350
2003	11,867	–	–	11,867
2004	15,469	27,382	–	42,851
2005	20,619	30,282	–	50,901
2006	26,739	39,725	54,561	121,025
2007	34,334	33,930	130,474	198,738
2008	44,978	51,078	137,444	233,500
2009	47,400	92,810	149,402	289,612
Total	211,756	275,207	471,881	958,844

Source: Author's estimations based on EVR, INE.

Figure 2. International out-migration rate of immigrants in Spain, 2002-2009



Note: The out-migration rate is the ratio between the number of immigrant out-migrations and the stock of immigrants in Spain.

Sources: EVR and Padrón municipal, INE.

in data collection, we can confidently estimate that out-migrations represent around 5% of the foreign-born population in Spain in 2009, and that the trend is upward. This value is quite similar to the intention to return captured in the ENI survey of 2007.

The aggregated data presented in Table 1 show 958,844 out-migrations over the period 2002-2009, although there are 275,207 migrations with unknown destination, and 471,881 de-registrations made by councils. In order to distinguish between return and non-return out-migration, only migrations made by foreign-born migrants with a known destination country are analysed. We then further limit our sample to movements by individuals with the capacity for self-decision, i.e. individuals aged 18 or older. Our sample thus comprises 182,458 migrations over the entire period 2002-2009. There are 153,130 return migrations to the birth country from 2002 to 2009, and 29,328 non-return out-migrations over the same period.

However, the sample could be biased if out-migrants who communicate destination are not distributed between return and non-return migrants in the same way as the total population of out-migrants. In order to assume a similar distribution for the large number of missing cases, the ENI survey is used. By considering the answers to the question "plans for the following 5 years"[5] of individuals who envisage an out-migration, it can be tested that 921 people plan to return to their country of birth, and 160 plan to go to another country; in other words, 85% of immigrants who have a plan to out-migrate, plan to return home. This proportion is similar to the results obtained in the EVR sample, where 84% of all out-migrations are a return to the birth country, indicating that the database can be considered as representative of all out-migrations. Martí and Ródenas (2012) also used the ENI to confirm the information obtained via the EVR.

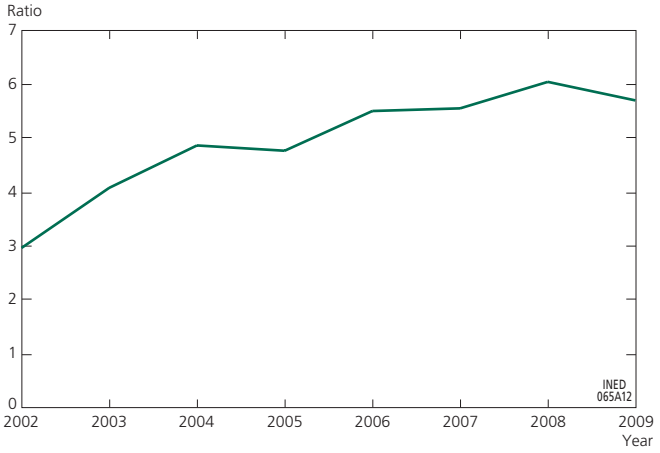
Return or non-return migration?

As very few out-migrations can be clearly identified as return or non-return migration because place of destination is unknown, the data will be analysed in relative terms. Figure 3 shows the ratio of return to non-return out-migration over the period for which data are available.

Figure 3 shows that out-migrations are mainly returns to the country of birth, and that return migration increases more than non-return out-migration. Furthermore, the trend presents three small peaks for the years 2004, 2006 and 2008, coinciding with new immigration policies and the economic crisis. The effects of policies are difficult to measure, but they are assumed to have an impact on out-migration patterns when they come into force. The fact that the PREVIE voluntary return programme (Programa de retorno voluntario de imigrantes desde España) came into effect in 2004 (the ruling was approved in November, 2003) may provide an explanation for the peak in that year. This plan provided monetary incentives (from the Spanish Labour and Immigration Ministry, through certain NGOs) to immigrants wishing to return to their

(5) There are four possible answers to the question (the number of respondents choosing each option is given in parentheses): 1. return home (921); 2. stay in Spain (12,826); 3. go to a third country (160); 0. don't know (1,558).

Figure 3. Ratio of return to non-return out-migration among immigrants living in Spain, 2002-2009



Source: Author's estimations based on EVR, INE.

country of origin. The peak in 2006 could be the consequence of the mass regularization of illegal immigrants approved in 2005. And the peak in 2008 could reflect the establishment in November of 2008 of a return assistance programme (Abono Anticipado de Prestación a Extranjeros, APRE) for immigrants who return to their birth countries and do not return to Spain for at least three years, and targeting citizens of twenty countries with which Spain has a bilateral agreement.(6) Another important explanatory factor for the increase in return with respect to non-return migration could be the onset of the global economic crisis.

Regional statistics

Trends are not homogeneous across the Spanish territory, however. Spain is made up of 17 separate regions and two autonomous cities (defined as NUTS2 in Eurostat).(7) The regions have the right of self-government for many public services, so Spain is a highly decentralized country. The regional governments are responsible for the administration of schools, universities, health, social services, culture, urban and rural development and, in some cases, policing. Public spending by the central government on the social security system represents approximately 50% of the total public expenditure, while almost 40% comes from the regional governments, and around 10% from local councils.

(6) Those countries are: Andorra, Argentina, Australia, Brazil, Canada, Chile, Colombia, Dominican Republic, Ecuador, Mexico, Morocco, Paraguay, Peru, Philippines, Russia, Tunisia, Ukraine, United States, Uruguay and Venezuela.

(7) Ceuta and Melilla, due to their location in Continental Africa, have special regulations and they are referred to as autonomous cities rather than autonomous communities (i.e. regions) . In our analysis, they are considered as a region.

Table 2 shows, for 2009, the number of foreign-born residents in Spain in each region (column 1), as a proportion of the total population of each region (column 2), and the percentage distribution of foreign-born residents in Spain by region (column 3). This information is taken from the Padrón Municipal of INE. Columns 4 and 5 show percentages of total out-migration with known destination registered in 2009 only, in each Spanish region, classified into return and non-return out-migration. The last two columns show the ratios of return and non-return migration. Thus, if the ratio is greater than 1, the region has a higher rate of return (or non-return) out-migration than the national mean.

Table 2. Estimated ratios of out-migration at regional level, 2009

	Foreign born in Spain	Foreign born (%)	Regional distribution			Ratio	
			of immigrants (%)	of return magration (%)	of non-return migration	of return migration	of non-return migration
	(1)	(2)	(3)	(4)	(%) (5)	(6)=(4)/(3)	(7)=(5)/(3)
Andalusia	778,372	9.37	12.04	8.62	8.12	0.72	0.67
Aragon	181,856	13.52	2.81	2.21	1.42	0.79	0.50
Asturias	70,499	6.50	1.09	0.96	1.02	0.88	0.94
Balearic Islands	261,125	23.84	4.04	3.54	3.74	0.88	0.93
Canary Islands	377,677	17.95	5.84	3.59	4.88	0.61	0.84
Cantabria	47,858	8.12	0.74	0.66	0.59	0.89	0.80
Castile-La Mancha	237,231	11.40	3.67	2.70	1.42	0.74	0.39
Castile-Leon	198,963	7.76	3.08	3.50	1.96	1.14	0.64
Catalonia	1,297,899	17.36	20.07	21.82	25.65	1.09	1.28
Ceuta and Melilla	23,129	15.20	0.36	0.36	0.73	1.01	2.04
Extremadura	45,082	4.09	0.70	1.16	1.29	1.66	1.85
Galicia	209,998	7.51	3.25	3.72	4.24	1.15	1.31
La Rioja	48,921	15.21	0.76	1.66	1.14	2.19	1.51
Madrid	1,235,087	19.34	19.10	21.16	26.71	1.11	1.40
Murcia	244,198	16.88	3.78	4.33	2.22	1.15	0.59
Navarre	83,830	13.29	1.30	1.21	0.87	0.93	0.67
Basque Country	159,637	7.35	2.47	4.34	3.88	1.76	1.57
Valencia	964,916	18.94	14.92	14.46	10.13	0.97	0.68
Total	6,466,278	12.08	100	100	100	1	1

Source: Author's estimations based on EVR and Padrón Municipal, INE.

The regions of Spain that attract most immigrants in absolute terms are Catalonia, Madrid and Valencia, although when the ratio of foreign-born to

total population is used, it can be seen that the Balearic Islands have the highest ratio, followed by Madrid and Valencia. Extremadura is apparently not very attractive for immigrants, as foreign-born residents account for less than 5% of the population. In this region, the return and non-return ratios are above 1, indicating a higher proportion of return or non-return out-migrations than the proportion of resident foreigners. Especially relevant is the case of Ceuta and Melilla, where the rate of non-return is very high, and much higher than the rate of return, because African migrants use these cities as the gateway to Europe. Extremadura and the Basque Country also present high rates of return and non-return, and both are also border regions. Andalusia, Aragon, Asturias, the Balearic and Canary Islands, Cantabria, Castile-La Mancha, Navarre and Valencia are regions with low rates of return and non-return, attracting migration that tends to remain in place.

Descriptive statistics

Table 3 shows the main statistics, classified in four categories, for total out-migration and return and non-return out-migration, in order to test whether the characteristics of non-return out-migration are different from those of return migration. The first category summarizes the socio-demographic variables, including four age ranges, sex, and the continent of birth. Also included is a dummy that reflects EU nationality, since citizens of the EU enjoy freedom of movement, which can, of course, influence migration. The EU nationality dummy has value of 1 for EU citizens and takes into account that Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia became members of the EU in 2004, followed by Bulgaria and Romania in 2007. The second category reflects time variables, one for each year between 2002 and 2009.

Destination variables are formed by the GDP per capita of the country of destination (provided by the World Bank) in the year in which migration is undertaken, to proxy the income attraction of the destination, and there are five dummy variables that group the destination of migrations by continent. These data are available for all destination countries for all the relevant years, so no data is lost in the EVR sample.

Finally, the origin variables category contains three dummies capturing the effect of living in a small town (below 10,000 inhabitants); a regional capital with more than 50,000 inhabitants (NUTS3 territorial level for European Statistics, under the Eurostat definition); and a medium-sized town with 10,000-50,000 inhabitants. There are three regional variables (defined as NUTS2 by Eurostat): mean unemployment rates provided by the Labour Force Survey; GDP per capita provided by the Spanish Regional Accounts (Contabilidad Regional de España); and the stock of total migrants in the region of departure for the year in which migration is undertaken, provided by the municipal registers (Padrón Municipal). These variables proxy labour market integration,

Table 3. Main characteristics of immigrants leaving Spain, period 2002-2009

	Total	Return migration	Non-return migration	Min	Max	*t*-statistic
	Mean (%)	Mean (%)	Mean (%)			Retur vs non-return
Sociodemographic variables						
Age group						
18-29	0.346	0.358	0.286	0	1	23.8***
30-44	0.404	0.390	0.476	0	1	– 27.4***
45-64	0.187	0.186	0.192	0	1	– 2.4
65+ (*Ref.*)	0.062	0.066	0.046	0	1	12.5***
Sex						
Man	0.551	0.554	0.543	0	1	3.3***
Woman (*Ref.*)	0.448	0.446	0.457	0	1	– 3.3***
Nationality						
European Union	0.459	0.425	0.636	0	1	– 67.4***
Non European Union (*Ref.*)	0.541	0.575	0.364	0	1	67.4***
Continent of birth						
Western Europe (*Ref.*)	0.196	0.197	0.189	0	1	3.1***
Eastern Europe	0.206	0.233	0.062	0	1	67.3***
Africa	0.129	0.110	0.228	0	1	– 55.5***
United States and Canada	0.010	0.010	0.014	0	1	– 6.3***
Rest of America	0.417	0.415	0.424	0	1	– 2.7***
Asia	0.040	0.033	0.080	0	1	– 37.1***
Oceania	0.001	0.001	0.003	0	1	– 5.0***
Time variables						
2002	0.051	0.046	0.080	0	1	– 24.8***
2003	0.057	0.055	0.070	0	1	– 10.1***
2004	0.074	0.073	0.079	0	1	– 3.2***
2005	0.097	0.096	0.105	0	1	– 4.8***
2006	0.129	0.130	0.123	0	1	3.1***
2007	0.165	0.166	0.156	0	1	4.1***
2008	0.210	0.215	0.185	0	1	11.4***
2009 (*Ref.*)	0.217	0.220	0.202	0	1	7.0***
Destination variables						
GDP per capita in thousands of $ (PPP)	10.12	7.75	22.51	0.08	116.77	– 240.0***
(standard deviation)	(11.1)	(9.4)	(10.9)			
Europe	0.474	0.431	0.700	0	1	– 86.3***
United States and Canada	0.028	0.010	0.125	0	1	– 110.0***
Rest of America	0.364	0.415	0.098	0	1	106.6***
Africa	0.099	0.110	0.039	0	1	37.5***
Asia	0.033	0.033	0.031	0	1	1.5
Oceania	0.002	0.001	0.007	0	1	– 17.7***
Origin variables						
Small town (< 10,000 population)	0.159	0.166	0.121	0	1	19.3***
Medium-sized town (10,000-50,000 population) (*Ref.*)	0.414	0.418	0.395	0	1	7.4***
City (> 50,000 population)	0.427	0.416	0.484	0	1	– 21.6***
Unemployment rate	10.90	10.94	10.77	4.76	26.19	5.4***
(standard deviation)	(4.80)	(4.81)	(4.68)			
GDP per capita in thousands of $ (PPP)	23.71	23.67	23.95	11.41	31.97	– 9.2***
(standard deviation)	(4.70)	(4.72)	(4.80)			
Proportion of immigrants	0.153	0.153	0.152	0.02	0.30	2.2**
(standard deviation)	(0.06)	(0.06)	(0.06)			
Regions						
Andalusia	0.084	0.085	0.082	0	1	1.6
Aragon	0.021	0.023	0.014	0	1	9.3***
Asturias	0.010	0.010	0.010	0	1	– 0.9
Balearic Islands	0.035	0.035	0.036	0	1	– 1.0
Canary Islands	0.036	0.034	0.050	0	1	– 13.1***
Cantabria	0.006	0.006	0.006	0	1	0.8
Castile-La Mancha	0.026	0.028	0.014	0	1	13.9***
Castile-Leon	0.033	0.036	0.020	0	1	13.9***
Catalonia	0.225	0.218	0.257	0	1	– 14.6***
Ceuta and Melilla	0.004	0.003	0.008	0	1	– 12.3***
Extremadura	0.012	0.012	0.013	0	1	– 1.5
Galicia	0.036	0.035	0.043	0	1	– 6.4***
La Rioja	0.016	0.017	0.012	0	1	7.0***
Madrid	0.222	0.214	0.265	0	1	– 19.3***
Murcia	0.041	0.044	0.023	0	1	17.0***
Navarre	0.011	0.012	0.009	0	1	5.2***
Basque Country	0.043	0.043	0.038	0	1	4.4***
Valencia	0.138	0.145	0.102	0	1	19.5***
Number of observations	182,458	153,130	29,328			

Note: The hypothesis tested is H_o: mean(non-return) – mean(return) = 0.
Significance levels: * 10%; ** 5%; *** 1%.
Sources: Author's estimation based on EVR, Padrón Municipal, Encuesta de Población Activa and Contabilidad Nacional de España, INE, and the World Bank.

income in the region of residence, and the networks established in this region, respectively. The networks are measured as the ratio of immigrants to population. All the aggregate variables are time-variant. There are also 18 dummy variables that group the sources of migration into regions and autonomous cities.

Table 3 shows a noticeably different behaviour for return and non-return out-migrations in most of the variables. The proportion of return migrations by older adults (age above 64) going back to their country of birth to retire is higher than the proportion of non-return migrations in this age group. Furthermore, most non-return out-migrations from Spain are by citizens of the 27 EU countries, while most of the return out-migrations are by non-EU citizens. With respect to the continent of birth, it is remarkable that although 20% of out-migration is undertaken by East European migrants, they only represent 6% of non-return out-migration. For African migrants, the situation is reversed: although they account for 13% of out-migration, this proportion increases to 22% for non-return out-migration.

Additionally, return and non-return out-migration behaviour varies over time. More than 70% of out-migrations took place after 2005, but while 73% of return migrations occurred from 2006 to 2009, only 66% of non-return migrations took place in this period. There are several possible triggers for this: the mass regularization programme of 2005, the APRE voluntary return programme, or the economic crisis. The econometric estimation includes annual indicators in order to estimate the marginal effects of each year separately and to provide some additional insights.

The greatest differences between non-return and return migration are revealed by the destination variables. The mean GDP per capita of the destination countries for non-return out-migration is three times that of the destination countries of return migration. Furthermore, when the destination is Mexico, Central and South America or Africa, the movements are primarily return migrations; and when the destination countries are in Europe or North America, the movements are primarily non-return out-migrations.

Origin characteristics reflect regional differences within the country, and rural-urban specificities. Means of locality size, regional unemployment, and GDP per capita do not change significantly between return and non-return migration, although there are regional differences between both variables, as shown in Table 2.

Age and gender

Special attention must be paid to the variables of age and gender. With respect to gender, Table 3 only shows the mean and the standard deviation of this variable for total out-migration, and for return and non-return migration, and the values are quite similar. In order to detect differences between the continents of birth, Table 4 presents the percentages of men and women by continent for total out-migration, and return and non-return migration.

Table 4 shows that out-migrations of immigrants in Spain are mainly made by men, especially those born in Africa, with the exception of those born in Mexico and Central and South America. This pattern is maintained in return migration. Among immigrants born in North, Central and South America, non-return migration mainly concerns women. However, this result has to be tested by controlling for other socioeconomic variables.

Table 4. Male-female distribution (%) of out-migration by continent of birth, 2002-2009

Continent of birth	Total		Return		Non-return	
	Women	Men	Women	Men	Women	Men
Western Europe	45	55	45	55	47	53
Eastern Europe	42	58	42	58	48	52
Africa	28	72	27	73	29	71
United States or Canada	49	51	48	52	51	49
Rest of America	52	48	51	49	54	46
Asia	38	62	36	64	43	58
Oceania	48	52	51	49	42	58

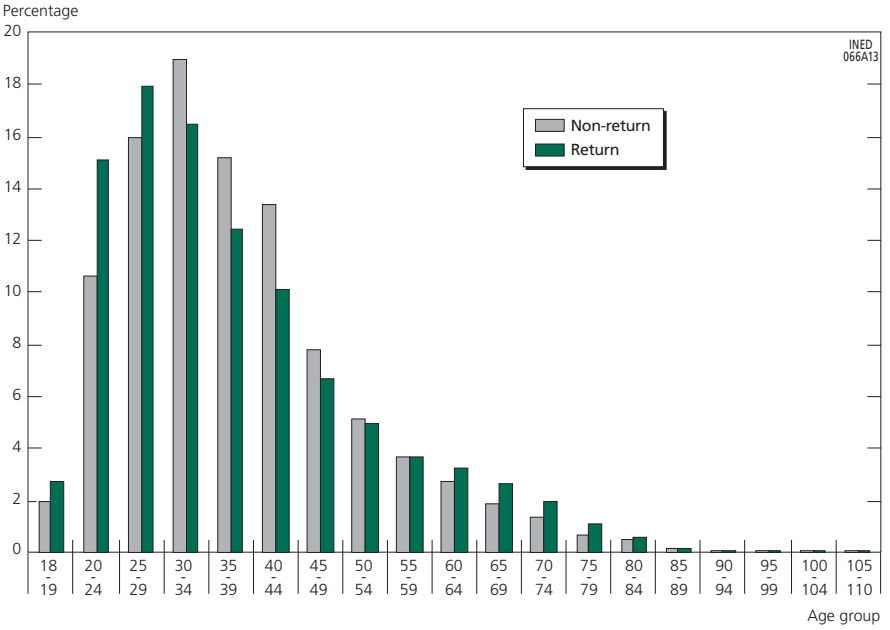
Source: Author's estimations based on EVR, INE.

Figures 4 and 5 and Table 5 enable us to analyse age in depth. Figure 4 shows the histogram of return and non-return migration by age group for the entire period 2002-2009. More than 70% of out-migrations, both return and non-return, take place at ages 20-44. However, immigrants in this age range represented less than 50% of the immigrant population in Spain in 2009, which suggests that out-migration occurs mainly in the early stages of the working life.

Figure 4 shows a higher frequency for return migration than non-return migration before age 30 and after age 60, and just the opposite for ages 30-60, i.e. at the main working ages. Another difference is that non-return migration is more frequent at ages 30-34, while return migration is more frequent at ages 25-29. Figure 4 summarizes the information on return and non-return migration for the overall period 2002-2009, but it might be useful to analyse whether this result is maintained for each year of the period for the age groups given in Table 3.

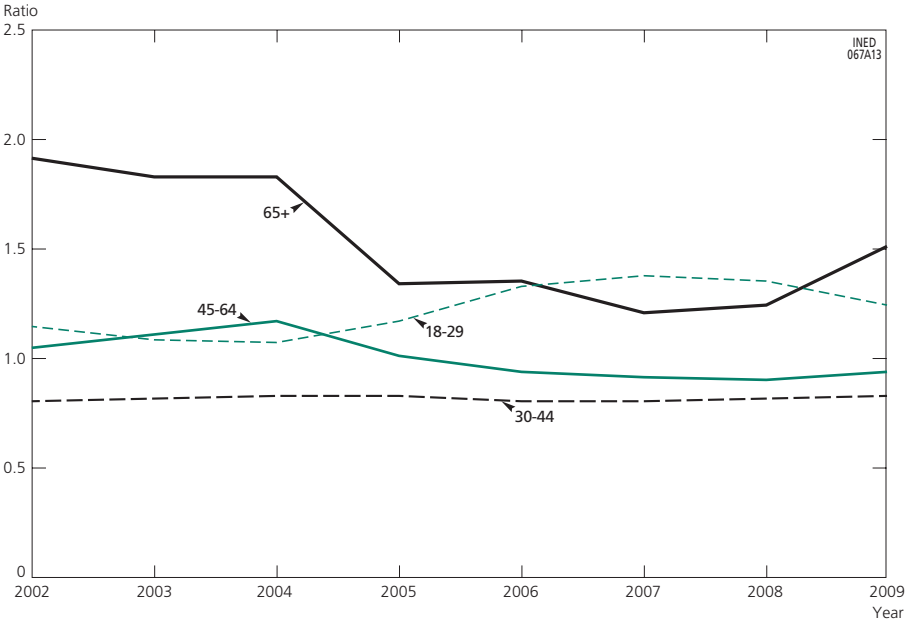
Figure 5 shows the ratio of return migration to non-return migration for each age group. A value above one indicates that return migration is more frequent in this age group than non-return migration. This is the case for ages 30-44. This confirms the results presented in Figure 4, and a specific time trend appears for ages above 45: the relative frequency of return migration, compared to non-return migration, declines after 2004. At ages 45-64, return migration becomes less frequent than non-return migration. The increase in return with respect to non-return migration during the period is greatest for out-migrants aged 18-29, who account for 35% of all movements during the period.

Figure 4. Distribution (%) of return and non-return migration by age, 2002-2009



Source: Author's estimations based on EVR, INE.

Figure 5. Ratio of return to non-return migrations by age group, 2002-2009



Source: Author's estimation based on EVR, INE.

Table 5. Mean age of out-migrating immigrants by continent of birth, 2002-2009

Continent of birth	Mean age	Standard deviation	95% confidence interval
Western Europe	41.64	16.70	[41.46 - 41.81]
Eastern Europe	34.31	11.43	[34.20 - 34.43]
Africa	36.04	12.45	[35.88 - 36.20]
United States or Canada	31.92	13.13	[31.32 - 32.51]
Rest of America	37.65	13.10	[37.55 - 37.75]
Asia	36.72	12.99	[36.43 - 37.02]
Oceania	33.08	10.49	[31.84 - 34.33]

Source: Author's estimations based on EVR, INE.

Mean age is lowest among out-migrants born in the USA and Canada (around 31 years) and highest among out-migrants born in Western Europe (around 41 years).

III. Econometric model and empirical results

The preceding section establishes that the characteristics of return out-migration are different from those of non-return migration. In this section, these differences are jointly analysed in a multivariate econometric model. The sample includes all out-migrations from Spain over the period 2002-2009 with known destination. The movements made by individuals over 18, and for whom the database has information on all socio-demographic, time, origin and destination variables used in the preceding section, provide us with a total of 181,378 migrations. The endogenous variable is the probability that an out-migration is a return, and the exogenous variables are those analysed in Table 3. Our analysis will determine the effect of socio-demographic variables, time variables, and origin and destination variables, on the probability that a Spanish international out-migration is a return.

However, there is a strong correlation between independent variables, inflating the variance of the parameter estimates. This multi-collinearity may also result in wrong signs and magnitudes of regression coefficient estimates, and may therefore lead to incorrect conclusions about relationships between the dependent and independent variables. The highest value of the variance inflation factor test is 823 and the mean value is 46.81, which suggests that multi-collinearity exists, so certain destination and origin variables are removed until we achieve a regression without multi-collinearity. Thus, the (latent) return propensity of out-migration is a linear function of the following variables:

$$Return_i = \alpha_0 + \alpha_1\, soc\_dem_i + \alpha_2\, time_i + \alpha_3\, destination_i + \alpha_4\, origin_i + u_i$$

where i is an index for the individual and *soc_dem*, *time*, *destination* and *origin* are vectors of variables reflecting socio-demographic factors (age, gender,

EU nationality, and place of birth, with Western Europe as a control variable), time dummies (a time dummy for every year, with 2009 as control variable), destination (GDP per capita in the destination country in thousands of international dollars), and origin variables (size of the locality of residence, with median locality size as a control variable, unemployment, GDP per capita, and total stock of migrants in the region where the migrant resides).

Table 6 presents the results of a probit model of return out-migration in Column 1, and, since the data suffers from heteroskedasticity, in Column 2, a heteroskedastic probit model is used to estimate the marginal effects at the means of the independent variables when they are not dummy (the marginal effect for the dummy indicates a discrete change from 0 to 1). This model fits a maximum-likelihood generalization of the probit model, since, as shown by the Wald test of heterokedasticity ($p = 0.0002$), there is an improvement in the model resulting from generalization. As the explanatory variables are defined at a higher level of aggregation than the dependent variable (individual), we apply the cluster option.

All the age ranges have a negative effect on the probability of return migration with respect to retirement age, the reference category. The greatest marginal value is between ages 30-44, indicating that out-migrations in this range are less likely to be returns to the birth country, while out-migrations at retirement age are less likely to be non-return migrations. Another demographic variable affecting return out-migration is gender: out-migrating women return to their country of birth more often than men. Persons born in the richest countries, the United States and Canada, are more likely to choose a return out-migration, while those born in Asia and Africa have the highest probability of embarking on a non-return out-migration. For migrants with EU nationality (for whom a residence permit is not required), the probability of a return is 11% lower.

As expected, an increase in GDP per capita in the destination country increases the probability of non-return out-migration, which is usually more motivated by economic factors than return migration. For the same reason, higher unemployment in the origin region raises the probability of a non-return, since labour market integration is more difficult, thereby increasing the probability of looking elsewhere for better employment opportunities.

The greater the share of migrants in the region of residence in Spain, the lower the probability of non-return out-migration, and hence the higher the probability of return migration.

The coefficients associated with a large or small locality of departure are positive and negative, respectively; this may be explained by the fact that migrants residing in a small town who do not achieve their objectives may move to a larger town or city that provides better job opportunities rather than undertaking another international migration.

Table 6. results of probit model applied to return out-migration

	Coefficients, probit model	Marginal effects, generalized model
Age group		
18-29	– 0.126	– 0.023
30-44	– 0.330	– 0.060
45-64	– 0.237	– 0.046
65+ (*Ref.*)	0.000	
Sex		
Man	– 0.032	– 0.006
Woman (*Ref.*)	0.000	
Nationality		
European Union	– 0.611	– 0.112
Non European Union (*Ref.*)	0.000	
Continent of birth		
Oceania	– 0.591	– 0.145
Eastern Europe	– 1.076	– 0.268
Africa	– 2.183	– 0.673
United States and Canada	0.192	0.030
Rest of America	– 1.533	– 0.322
Asia	– 1.880	– 0.612
Western Europe (*Ref.*)	0.000	
Year		
2002	– 0.463	– 0.104
2003	– 0.416	– 0.091
2004	– 0.330	– 0.069
2005	– 0.336	– 0.070
2006	– 0.247	– 0.049
2007	– 0.127	– 0.024
2008	– 0.036	– 0.006
2009 (*Ref.*)	0.000	
GDP per capita in destination country in thousands of $ (PPP)	– 0.887	– 0.016
Small town (< 10,000 population)	0.058	0.010
Medium-sized town (10,000-50,000 population) (*Ref.*)	– 0.059	– 0.011
City (> 50,000 population)	0.000	
Unemployment rate at origin	– 0.018	– 0.003
GDP per capita at origin	– 0.036	– 0.006
Proportion of immigrants	1.060	0.186
Constant	– 4.995	
Number of observations	18,1378	18,378
Pseudo R^2	0.4001	
Correctly classified	92.89 %	

Interpretation: The probability that an out-migration is a return is 2.3 percentage points lower (0.023) for migrants aged 18-29 than for those aged 65 and above "all other things being equal"; a GDP per capita that is $ 1,000 higher in the destination country corresponds to a 1.6 point decrease in the probability that that the out-migration is a return.
Note: All results are significant at the 5% level except year 2008.
Source: Author's estimations based on EVR, INE.

All the time variables have a negative effect on the probability that an out-migration is a return migration with respect to year 2009, used as a reference variable. This could be a result of the economic crisis or the APRE voluntary return programme. From 2006, the marginal effects on out-migration are negative, but smaller in each succeeding year, indicating that the probability that an out-migration is a return decreases with time, although it increases after 2005, perhaps as a consequence of the 2005 mass regularization.

Conclusion

Out-migration is an increasingly significant phenomenon in Spain. In the first decade of the twenty-first century, the role of Spain as a sending country changed, and it became a significant receiver of immigrants. The empirical literature, scant as it is, focuses on return migration rather than on the broader concept of international out-migration, and on international return migration from the perspective of Spain as a country of origin. In this paper we use population register variations to examine out-migration as a broader concept that includes return and non-return, with Spain as the host country.

The limitations of this study are clear. Above all, the database used (EVR) presents several problems for the analysis of out-migration. Some of these problems are also found in most other papers analysing Spanish migration, but others are specific to the analysis of out-migration. The improvement in data collection in 2004, and more especially in 2006, allows us to analyse overall out-migration, but not to differentiate between return and non-return migration in all cases of out-migration where the destination is unknown. However, the ENI survey was used to confirm that the remaining sample was not biased. Furthermore, certain important determinants of out-migration are not available in the database. Since there is no alternative database, this present study is only a first attempt to identify certain characteristics of international out-migration, with Spain as a host country, and the variety of patterns of return and non-return migration.

During the period 2002 to 2009, there was a greater increase in return migration than in non-return out-migration. The main conclusions can be summarized in five statements:

- Out-migration of immigrants mainly concerns men in the early stages of their working life, while non-return migration is more frequent among those aged 30-34, and return migration after age 65 and at ages 18-29.
- Asian, African and Latin-American immigrants leaving Spain are less likely to return to their birth country.
- An increase in GDP per capita in the destination country increases the probability of non-return out-migration, which is usually more motivated by economic factors than return migration.

- For the same reason, if the unemployment rate in the origin region increases, the probability of non-return out-migration increases, as labour market integration becomes more difficult.
- The greater the share of immigrants in the total population in the region of residence, the higher the likelihood that out-migrants will return home.

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Gemma Larramona • Out-Migration of Immigrants in Spain

Almost 5% of immigrants residing in Spain took the decision to leave the country in 2009. Spain has recently become a receiving country for international immigrants and the phenomenon of out-migration of this type is on the rise. However, not all out-migration involves a return to the country of origin. The aim of this paper is to provide some insights into the analysis of out-migration of Spanish immigrants, classifying it as either return or non-return out-migration, for the period 2002-2009. The effects of the available socio-demographic variables, and certain destination and origin variables of the migrants, on the probability of a return outflow of Spanish immigrants are analysed. The main results are that Asian, African and Latin-American out-migrants residing in Spain have lower probabilities of returning to their birth country. At the same time, an increase in GDP per capita in the destination country or an increase in the unemployment rate of the origin region increases the probability of non-return out-migration, which is usually more motivated by economic factors than return migration. Additionally, the greater the share of migrants in the population of the region of residence, the greater the probability that out-migrants will return home.

Gemma Larramona • Espagne : l'émigration des immigrés

Près de 5 % des immigrés résidant en Espagne ont décidé de quitter le pays en 2009. L'Espagne est récemment devenue à la fois un pays d'accueil des migrants internationaux et un point de départ pour les immigrés. Cette émigration n'implique toutefois pas systématiquement un retour au pays d'origine. L'article analyse l'émigration des immigrés résidant en Espagne, en distinguant les retours au pays des mouvements à destination d'un pays tiers, pour la période 2002-2009. À partir des changements de résidence répertoriés dans les registres de population (EVR), l'auteure étudie les caractéristiques sociodémographiques des immigrés et celles sur les pays de destination et d'origine des migrants, ainsi que leurs effets sur la probabilité de retour. Les immigrés venus d'Asie, d'Afrique et d'Amérique latine ont de moindres probabilités de rentrer dans leur pays de naissance. Les résultats montrent que plus le PNB par tête dans le pays de destination est important ou plus le taux de chômage dans la région d'origine est élevé, plus la probabilité d'émigration vers un pays tiers est forte ; plus l'effectif des immigrés est important par rapport à la population de la région d'accueil, plus la probabilité est forte que l'émigration se fasse vers le pays d'origine.

Gemma Larramona • España: la emigración de los inmigrantes

Cerca del 5% de los inmigrantes residentes en España decidieron abandonar el país en 2009. Durante las últimas décadas, España se ha transformado en un país de acogida para los migrantes internacionales, y ahora las salidas de este tipo de migrantes están aumentando. Sin embargo, estas salidas no constituyen forzosamente un retorno al país de origen. Este artículo analiza la emigración de los inmigrantes residentes en España, distinguiendo los retornos al país de origen de la emigración hacia otro país, durante el periodo 2002-2009. Se analizan los efectos que pueden tener sobre la probabilidad de retorno las variables socio demográficas disponibles así como ciertas variables sobre el destino y el origen de los migrantes. Los inmigrantes procedentes de Asia, de África y de América Latina tienen menos probabilidades de volver a su país de nacimiento. Al mismo tiempo, cuanto más elevado es el PNB por habitante del país de destino o cuanto más elevada es la tasa de paro en la región de origen, mayor es la probabilidad de emigrar hacia otro país que el de origen. Por otra parte, cuanto mayor es la proporción de inmigrantes en la región de residencia, mayor es la probabilidad que la emigración sea de retorno.

Keywords: Return migration, non-return migration, Spain, immigrants.