Transitions to the first marriage between the Foreign-born population in Spain: a process of integration in a recent destination society.

Daniela Vono [1]
(Centro de Estudios Demográficos – Universitat Autònoma de Barcelona
– dvono@ced.uab.es)
Alberto del Rey
(Universitat Autònoma de Barcelona – adelrey@ced.uab.es)

ABSTRACT

The main objective of this study is to analyze the endogamous and exogamous transition to first marriage of immigrants who arrived as singles in Spain. To complete our analysis we used a discrete-time logistic model. We included individuals from Colombia, Ecuador, Morocco, Romania and Argentina- the five developing countries that are most represented in Spain as per the 2007 Spanish National Immigration Survey. The results show varying patterns of marriage formation in relation to sex and type of marriage. The length of residence, educational level, access to Spanish citizenship and country of birth have are significant in the explanation of differences between the two types of marriage. With regard to the differences between sexes, the period of arrival and the existence of social networks are strong factors that influence the probability of getting married. In general, it was observed that individual preferences in conjunction with socio-demographic characteristics greatly affect the marriage market in terms of transition to marriage.

1- Introduction

Spain, traditionally a country of emigration, has become a country of immigration in the last two decades of the 20th century. This transition has occurred at a pace and magnitude that far exceeds previous experiences in developed countries. During the past decade, foreign residents have increased their number eightfold, exceeding five million people (11.3% of residents in 2008). The increase in immigration has lead to major changes in population dynamics within the country. In the year 2006, foreigners accounted for 19.3% of all births and 26.7% of internal mobility. Similarly, the proportion of intermarriage ˉ marriages involving at least one partner with foreign nationality - has tripled from 6.5% in 1989 to 21.2% in 2006 (Cabré et al., 2009).

---

[1] Both authors are affiliated to the Centro de Estudios Demográficos, Universidad Autónoma de Barcelona, Edificio E2, Bellaterra, 08193, Barcelona. Fax: 34 93 581 3060, Telephone: 34 93 581 3061.

While the scale of the phenomenon has become the source of great debate in Spain, discussions of its demographic dynamics have been much slower to emerge. This delay can be attributed to the scarce number of demographically measurable events produced by what has, until recently, been a relatively low migrant contingent. Additionally, the scarcity and the low quality of available data, especially longitudinal data, have been problematic.

In particular, marital unions involving foreigners has been a topic of very little interest among Spanish social researchers. The few existing demographic studies attempt to identify the evolution of union formation in the country and its characteristics. These studies have examined behavioral differences between natives and foreigners, as well as differences between the various foreign nationalities. In both cases, studies have used cross-sectional analysis (Cortina et al., 2008; Cortina et al., 2006).

The marriage patterns of immigrants and minority groups are much more studied in Anglo-Saxon countries, particularly in United States as opposed to European countries (Gordon, 1964; Coleman, 1994; Rosenfeld, 2002; Meng and Gregory, 2005; Nielsen et al., 2007). However, immigration processes and conditions of settlement differ significantly between United States and Europe, complicating the comparability between the two regions. It is for this reason, that attention has been called to the need for more studies of immigration in European countries (Dribe and Lundh, 2008). The case of Spain is particularly interesting due to its short history of immigration. This is a factor that may play an important role in the dynamics of marriage between natives and foreigners.

This analysis is based on the assumption that the transition to marriage in immigrant communities is the result of a sum of events that contribute to the individuals' life history (Lievens, 1999). The dynamics of immigrant's family constitution is strongly influenced by their characteristics both before migration and after migration. In the case of Spanish immigration, there are two important transitions to marriage: exogenous marriage with natives, and endogamous marriages with immigrants from the same country of origin.

In this study, cohabitation is not considered as the data source does not provide information regarding the temporal reference of the beginning of the union. Secondly, several studies have considered cohabitation to be a separate stage that occurs prior to marriages (Brines and Joyner, 1999) or to be a less stable relationship that has a higher

probability of dissolution (Bumpass and Sweet, 1989; Schoen, 1992; Domingo, 1997; Brown and Booth, 1996; Skinner et.al., 2002; Baizán, Aassve et.al., 2003).

The main objective of this paper is to analyze the immigrant's trajectories towards marriage, both with native population and with co-nationals, in Spain. Special attention is given to the impact of individual characteristics versus the structure of immigrant groups.

These factors are considered for men and women separately. In order to achieve the objective, we compare immigrants' trajectories towards marriage after migration by sex using Kaplan-Meier survival analysis for endogamous and exogamous marriages. We then analyze the factors that contribute to the probability of getting married – exogenously or endogenously - post migration to Spain. Again men and women are considered separately. We chose to focus on three sets of covariates: 1) temporal covariates that affect the formation of different types of unions as understood by the contemporary literature; 2) the structure of the immigrant groups over time, also known as the *marriage pool*; 3) covariates related to the immigrant's characteristics before migration and to their initial conditions in Spain[2].

Finally, the study will focus on foreign-born immigrants from Colombia, Ecuador, Morocco, Romania and Argentina, as these are the five developing countries most represented in contemporary Spanish immigration. Each one of these countries has its own specific characteristics and different marriage market structures.

2 – Theoretical framework:

2.1 - Composition and propensity to marriage

Traditional studies suggest that marriage is a result of two factors (Becker, 1973; Shoen and Kluegel, 1988): the composition or availability of potential marriage partners with desired characteristics; and the propensity to marry, also understood as the mutual attraction for marriage between males and females. . This propensity to marry includes individual preferences as well as the influence of prevailing social norms and social structures.

According to Becker (1983), as marriage is generally a voluntary decision each person tries to find the best mate, despite the restrictions created by the conditions of the

---

[2] Unfortunately labor variables are not present in the model due to the non-availability of temporal variables relating to employment trajectories.

marriage market. This is considered the key explanation for an adult's choice to marry or not, the kind of they union choose, age at marriage and the characteristics of mates with regard to education, wealth, religion, race, and other characteristics. (Spanier, 1983; Goldman et al., 1984; South and Lloyd, 1992; Angrist, 2002; Baizán et al., 2003; González-Ferrer, 2006; Cortina et al., 2008; Dribe and Lundh, 2008), Lucasen and Laarman, 2009).

Empirical studies have suggested that the number of partners available to men and women has profound effects on marriage, and specifically on partner selection (Goldman et al., 1984; South and Lloyd, 1992; Cabré, 1993; Lievens, 1998; Esteve et al., 2009). This supply plays an important role in determining the age at marriage as well as the proportion of individuals that remain definitively single. Other studies (Blau et al., 1982; Schoen and Kluegel, 1988; Angrist, 2002; Harris and Ono, 2005) have pointed out that union formation among minority, ethnic or immigrant groups is also strongly influenced by the size, composition and geographical distribution of the group, that is, its marriage pool.

Traditional receiving countries have developed an extensive body of literature about intermarriage as an indicator of integration of foreign-born populations in destination societies. The first investigation specifically addressing intermarriage between native and immigrant populations was completed by Gordon (1964), in the classic study "Assimilation in American Life". According to his findings, intermarriage between natives and immigrants is considered both a powerful motivator for assimilation as well as a sign that the final stages of assimilation had taken place. In contrast, endogamy is widely believed to reflect and perpetuate group divisions, social distance, and unequal power distributions in racially and ethnically diverse societies. Gordon states that the time spent in the receiving country is a key issue to access the integration level. The longer immigrants have lived in the host country prior to marriage, the more likely they are to entering in a union with a native partner. However, the duration of this process depends on the cultural, religious and socio-economic status in relation to that of the majority population. For example, more educated immigrants are more likely to move out of ethnic enclaves and to possess better language skills (Dribe and Lundh, 2008).

In the case of Spain, Cortina et.al. (2008) have shown, using data from 2001 Census that the duration of stay in the country increases the likelihood of marrying an individual with a different birth country, generally from the native population. Higher

educational levels also contribute to a higher probability of entering in an exogenous union. To date, there are no studies in Spain that take into account, directly or indirectly, the structure of the marriage market considering immigrant population.

2.2 The "marriage pool" of selected foreign-born immigrants in Spain

The size and the structure of the marriage market for each foreign group in Spain may affect the election of the partner and could be related to the probabilities of getting married with Spaniards.

With regard to marriages between Spaniards and foreigners, both national context and immigrants characteristics are key in understanding the atmosphere in which these unions occur. The increase in marriages between Spaniards and foreigners has created important changes in that marriage patterns at the national level. Firstly, the relative number of women in the marriage pool has decreased as a consequence of lower fertility rates of previous generations (Cabré, 1993). Additionally, the mean age at marriage has been delayed and the proportion of cohabitation, remarriage and divorce has increased, following the patterns described by the Second Demographic Transition Theory (Schoen, 1983; Van der Kaa, 1987; Lesthaegue, 1991; Castro, 1999; Esteve et al., 2009). A third aspect is related to changes in gender norms, with a tendency towards a more equilibrated system. This can partially be attributed to the increasing levels of schooling and the massive incorporation of women at the labour market. From a life-course approach, Baizán et.al. (2003) have shown that educational enrollment diminishes the propensity to form a marital union in Spain. Similarly, stable employment reduces the risk of marriage formation. However, having more than 3 years of work experience increases women's relative risk of entering in a union when compared to women without working experience.

In this context, the entrance of new "marriageable" partners through immigration flows has influenced the dynamics of the Spanish marriage pool, and intermarriage has become a significant aspect of the contemporary nuptial patterns within the country (Cabré et al., 2009; Cortina et al., 2009). Since 1989, the first year with available data (aggregated data) on intermarriages by nationality, intermarriage rates have been growing for both men and women.

The increase in immigration in Spain has provoked a transformation of the marriage market. Consequently, we expect that there will exist variations in the conditions surrounding marriage formation, both endogamous and exogamous. These

variations affect the different groups considered in the study, depending on the candidate stock, its evolution over time and its territorial distribution.

We first consider the total stock of immigrants according to their nationality (figure 1). As it can be seen in the figure 1, the number of people from the selected countries was very small in 1998, with the exception of the Moroccan population. Since this year, the stocks have shown a continuous growth, starting with the Ecuadorians and Colombians. From 2002 on, the increase of Romanians in the country can be observed. They are currently the largest immigrant group. To the contrary Argentineans were the second most represented nationality in 1998 and now demonstrate the most gradual increase over following the years.

Taking into consideration immigrants that were over the age 20 at the time of interview, 21% of Colombians, 32% of Ecuadorians, 31.6% of Moroccans, 44% of Romanians and 34% of Argentineans were married prior to their arrival in Spain. Differences based on the sex are particularly relevant in the case of Moroccans: the proportion of women that arrived already married (41%) was nearly twice that of men (21%). Moreover, Moroccan women show a higher concentration of marriage during the first year of migration, which characterizes a typical "marriage migration". We do not include these marriages in the analysis completed in this study. Between the other immigrant groups, there are a slightly higher proportion of married men in comparison to women, with the exception of Argentineans, where the proportion of married women is higher.

**Figure 1: Stocks of foreign immigrants by nationality, 1998-2008.**
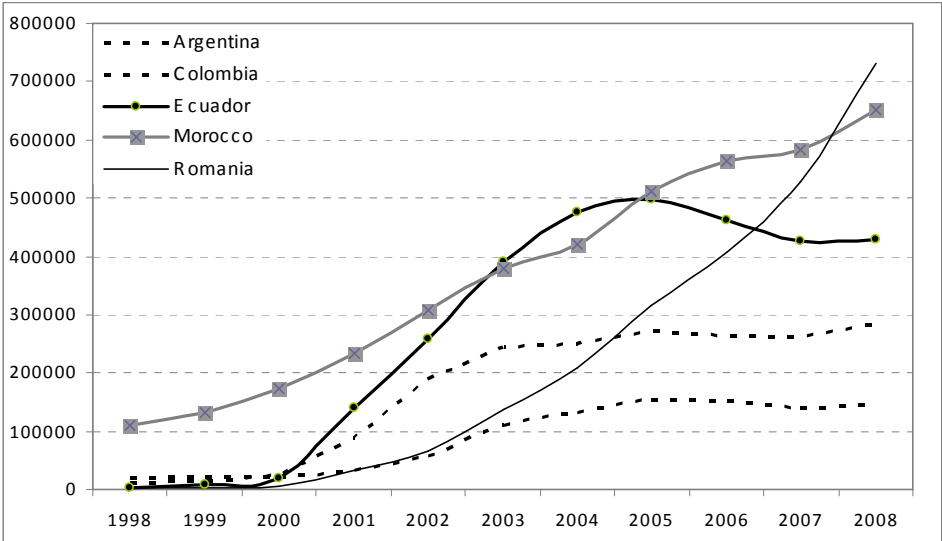
Source: Padron Municipal de Habitantes, INE, Spain.

The second consideration of this study is the sex ratio for each nationality (figure 2). Moroccan immigrants present a strong prevalence of men throughout the period of study. Men are also the majority in the case of Romanians, although the values are smaller. For the three Latin-American nationalities, until the beginning of this century women were more represented than men, especially in the cases of Ecuadorians and Colombians. With the increase of flows of immigration, beginning in the year 2001, the proportion of men has increased gradually. According to the most current data available, the number of men is now higher than the number of women in the Ecuadorians and Argentinean population. It is only in the community hailing from Colombia, that women remain more represented than men. (see figure 2).

The differences composition according to sex could play a significant role in the type of marriage for each origin (Angrist, 2002). For instance, Moroccan women, theoretically, have a higher probability of finding a Moroccan man in Spain than an Argentinean woman would have of finding an Argentinean man due to the available stocks of men for each case, excluding the option of finding a partner in the home country. Consequently, Argentinean woman are more likely to be married with a Spaniard. In the case of men, Moroccans would be more exposed to the risk of getting married with a Spaniard due to the relative scarcity of women in their group.

Figure 2: Sex ratio of foreign immigrants, by nationality, 1998-2008.
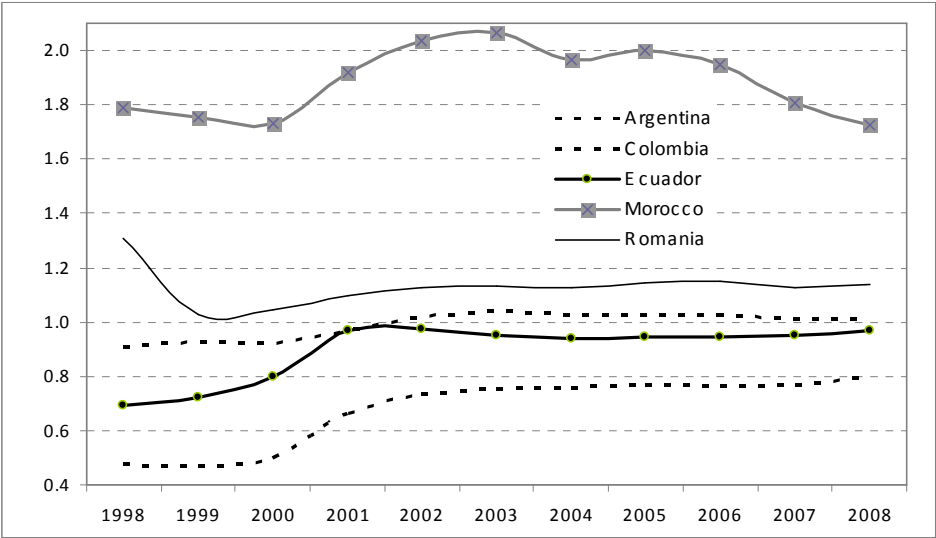
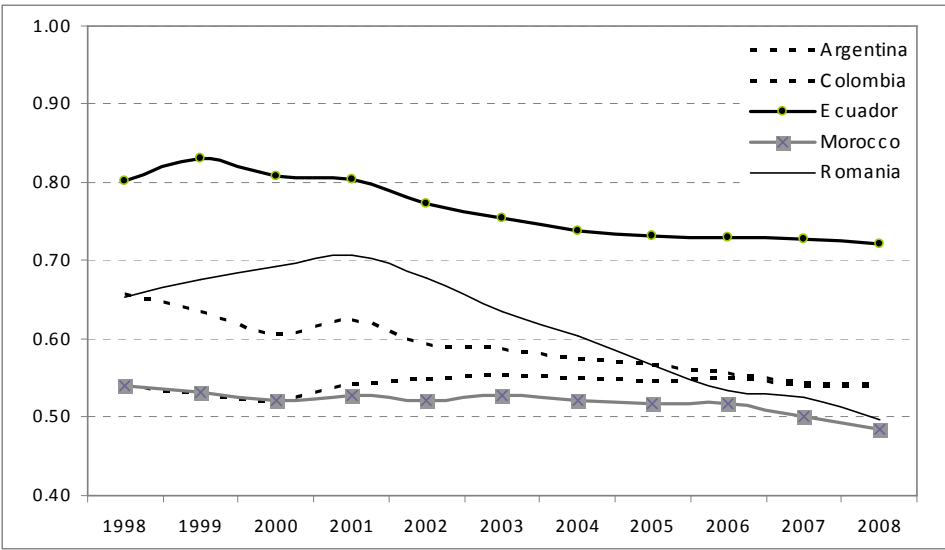*Source: Padron Municipal de Habitantes, INE, Spain.*

The third aspect is the geographical distribution of immigrants. We have presented this in terms of the index of concentration. The index is defined by the number of foreigners living in the Autonomous Communities of Madrid, Barcelona and Valencia – the regions with

the highest number of immigrants in the country – divided by the total number of foreigners of this nationality. Groups with the highest the index of concentration have the highest probability of entering in an endogamous marriage as there is a greater availability of candidates from the same country of origin[3] (see figure 3). Consequently, the geographical distributions of the different immigrant groups could affect the possibility of establishing contacts among candidates of their own nationality vs. those from other nationalities (Harris and Ono, 2005).

The marriage pool has changed significantly during the time period we evaluated. The currently available data indicate that these changes can be attributed not only to the increase of the total number of immigrants, but also to the sex ratio and territorial distribution of immigrants. This process has presented some particularities depending on the country of birth that must be taken into account in the analysis of our models. Based on the theoretical background and the characteristics of the national marriage pool, we should observe significant differences in the patterns of marriage between male and female immigrants over time.

The relative size of the immigrant groups, the sex ratio and the geographical distribution, are known to be key components of the marriage pool. However they were not directly included in the model as there is no population register that takes into account the exposition to marriage for each immigrant over time. Instead, we have incorporated two indirect indicators of marriage market: the period of arrival and their birth country.

Figure 3: Index of concentration of foreign immigrants, by nationality, 1998-2008.

Source: Padron Municipal de Habitantes, INE, Spain

---

[3]   However, a mating pool or a "marriage circle" may have geographical limitations similar to those found in neighborhoods, villages or cities (Goldman et.al., 1984).

3- Data, method and variables

The database used to analyze the transition to the first marriage among the foreign born population in Spain is the National Immigrant Survey (ENI) from 2007. It is the first database that provides retrospective information on social and demographic characteristics of immigrants in Spain (Reher and Requena, 2009). The ENI is based on a sample of 15,465 individuals, and allows for the study of transition to the first marriage, considering the year of arrival in Spain and the year of marriage. However, the ENI has important shortcomings that complicate the evaluation of marriage transitions. For example, the ENI does not contain the data necessary to simultaneously analyze marriage transition and mobility paths in Spain. For this reason, we could not directly study the effect of local or regional marriage market for each immigrant group.

In order to achieve the objectives of this study, two sets of discrete-time logistic regression models were executed: one to analyze the probability of entering in a marriage with a Spanish partner and another to analyze the probability of marrying a partner from the same birth country. Both models were run separately for men and women to better analyze the differences by sex. This model is defined as:

[1]

$$h(t|x) = 1 - \exp\{-\exp(\beta_{ot} + x'\beta)\}, \text{ and } x'\beta = (x_1\beta_1 + x_2\beta_2 + \ldots x_n\beta_n)$$

Where $h(t|x)$ is the conditional probability or the risk that a marriage occurs as a function of time (t), and a set of explanatory variables (x), being β its parameters.

Intermarriage was defined as any marriage between foreign-born immigrants and a person born in Spain. We did not include marriages between immigrants from different birth countries due to both the relative scarcity of cases in the survey (4%) and the different implication of this kind of marriage. The population was selected using as criteria of not having a partner before migration, and eliminating all the cases where the date of marriage was prior to the date of arrival in Spain. We also eliminated all the cases where the year of arrival was the same as that of marriage for both partners in an effort to avoid cases of marriage migration. Furthermore, we exclusively included individuals over the age of 19 at the in time of interview to avoid incomplete educational trajectories. The duration of the transition to marriage was calculated taking in account the date of arrival and the date of marriage, in

years[4], therefore requiring a discrete time model instead of continuous time model. All of the divorced and widowed population was eliminated from the sample due to the absence of temporal references for both transitions. Finally, only married couples living in the same dwelling (in Spain) were considered.

The covariates used in order in the analysis of factors affecting the transition to marriage include years of residence in Spain prior to marriage (exposure over time) and the age at arrival as temporal covariates. The period of arrival and the country of birth were counted as marriage market covariates. The possession of Spanish nationality before the marriage was considered a time-varying covariate,. Finally, the educational level and the existence of social contacts in Spain before migration were evaluated as characteristics of the immigrants before migration and their initial conditions in Spain (see table 1). We have assumed different hypothesis to each variable:

Table 1: Descriptive statistics of data:

Variables	Men	Women	Variables	Men	Women
Sample size	1410	1689	**Country of birth**		
			Colombia	12,06%	25,28%
Event			Ecuador	18,01%	19,72%
Intermarriage	15,74%	19,48%	Morocco	38,01%	24,04%
Endogamous marriages	6,88%	7,10%	Rumania	18,53%	18,53%
No event (single, widow or divorced)	77,38%	73,42%	Argentina	13,33%	12,43%
Years between arrival and marriage					
1-3 years	28,75%	47,08%	**Spanish nationality before wedding**		
4-6 years	24,75%	22,29%	Yes	17,67%	22,99%
7-10 years	16,75%	8,33%	No	82,39%	77,01%
11-15 years	9%	6,46%			
16 years and more	20,75%	15,83%			
			Education		
Age at arrival			Primary (completed or not)	32,91%	29,84%
Less than 18	26,81%	26,70%	Secondary (completed or not)	54,61%	54,88%
18-25	44,75%	34,81%	Tertiary (completed or not)	12,48%	15,28%
26-30	16,95%	13,68%			
31 and more	11,49%	24,81%			
			Social network		
Period of arrival			Had contacts in Spain before migration	67,52%	69,98%
Before 1996	23,76%	24,75%	Did not have contacts	32,48%	30,02%
1996-2000	25,53%	25,70%			
After 2000	50,71%	49,56%			

Source: National Immigrant Survey, INE Spain.

Years between arrival and marriage: Here we assume that there may be differences in the timing of marriage depending on the cultural similarities between the partners. In this scenario, it would take more time for a foreigner to achieve a marriage with a native in comparison with marriages between individuals from the same country. For this reason, the

---

[4] There is no data on days or months available for the date of birth. For date of marriage and date of migration, information is available by months and years, but the variable months present a significant number of missing data.

longer the period of residence in Spain as a single, the higher the probability of getting married with a native partner.

Age at arrival: The age at arrival in the country establishes a different risk of getting married. Individuals who arrive younger have more time to change the marital status in comparison to individuals who arrive with older ages. Nonetheless, in a country with a short history of immigration such as Spain, the arrival of minors is very recent. Therefore, their probability of getting married would be lower than that of individuals who arrive at working ages. In our analysis, most of the minors are censored cases.

Period of arrival: The period of arrival reflects the different stages of Spanish immigration process and the different characteristics of the "marriage pool". With regard to intermarriages, we expect that immigrants who arrived before 1996 would have a higher risk of engaging in intermarriage in comparison with immigrants who have arrived after that year. Similarly, we would expect a higher risk of endogamous marriage in those arrived after 1996 to the increase in the stock of immigrants. Nonetheless, changes in sex ratio and geographical distribution of each immigrant group could involve different risks in endogamous and exogamous marriage by sex.

Country of birth: The main objective of including the country of birth in the model is to analyze the significance of the origin of immigrants in their probabilities of getting married. Cultural elements may influence the decision of getting married as well as individual preferences derived from the social and religious values of a marriage in each birth country, i.e., unmeasured cultural factors. Additionally there may exist social constructs related to the person's country of origin that influence the risk of getting married.

For instance, in Moroccan tradition, marriage is a family matter rather than a union between two independent individuals. Some anthropological studies indicate that parents living abroad have a high preference for a partner from the same country of origin. This has been demonstrated in Belgium despite the higher prevalence of men, which otherwise might stimulate intermarriages with natives. Instead, endogamous marriage is promoted* in Moroccan families through the importation of wives (Lievens, 1999).

In turn, Romanian society highly values traditional marriages, despite the fact that cohabitation has increased in the last years [5](Muresan, 2007; Hoëm et.al., 2009). In the case of some Latin-American countries the proportion of couple's cohabitating surpasses that of legal marriages. However, although informal unions are widespread and socially recognized, they

---

[5] 74% of all the individuals who live in cohabitation get married before 5 years of living together (Rotariu, 2006).

have less social status than formal marriages and are more prevalent among the disadvantaged social strata (Castro, 2002). The prevalence of cohabitation could lead to lower levels of marriages among this population in Spain, both endogenously and exogenously. Another aspect that distinguishes Latin-Americans is the cultural and historical proximity with Spaniards. In comparison to Moroccans and Romanians, it is expected a higher probability of intermarriages. In this regard, we hypothesize that Latin-American immigrants are more likely to be intermarried. Finally, the country of birth was also used as an indirect indicator of the marriage pool that cannot be included in the model directly.

Spanish nationality: The possession of Spanish nationality before marriage has been included as time-varying covariate. This variable could be considered as an indicator of integration if it was acquired after migration or a characteristic that facilitates integration if it was acquired before migration, which is the case of many Latin-Americans,. We hypothesize that the tenancy of Spanish citizenship contributes to a higher probability of getting married with natives and a lower probability of getting married with co-nationals for both men and women.

Educational level: The education attainment has been considered by different scholars as a key variable to explain differences in marriage formation (Schoen and Kluegel, 1988). Different studies show that the higher the level of education, the higher the risk for both women and men to be intermarried (Goldman et.al., 1984). In accordance, our hypothesis is that the higher the educational level of immigrant, the higher the probability of marriage to a Spanish partner.

Social networks: In accordance with the hypothesis of marriage market (Blau et.al., 1982; Harris and Ono, 2005), the lack of social networks or contacts in the place of arrival, in our scenario family or friends, would lead to the construction of new social contacts with different groups. In this sense, we assume that the pre-existence of social networks increases the probability of endogamous marriages and decreases the probability of intermarriages.


4 – Results:

We present two different results according to the objectives of the analysis: first, the description of the timing of marriages and second, the analysis of the factors that contribute to each type of marriage for men and women.

Timing of marriages between endogamous and exogamous couples in Spain

In order to analyze the transition of the foreign-born population in Spain from their arrival in Spain until time of marriage, synthetic measures derived from Kaplan-Meier estimates of the survival functions were created. These estimates are based on the duration-specific probability of getting married according to sex and country of birth of the partner. As it can be observed in the figure 4, during the first 15 years of residence women show a higher risk of entering in intermarriage in comparison to men. This process is faster than in the case of men: the median duration until entering in intermarriage is 8.2 years for women and 12.5 years for men. After 20 years of residence, the risk for women to marry a Spaniard, however, is lower than in the case of men. It is important to highlight that the absolute numbers of individuals who get married after 20 years of residence in Spain is very low due to the recent character of the immigration in the country (see figure 4).

Figure 4: Survival estimates by sex of respondent - Intermarriage
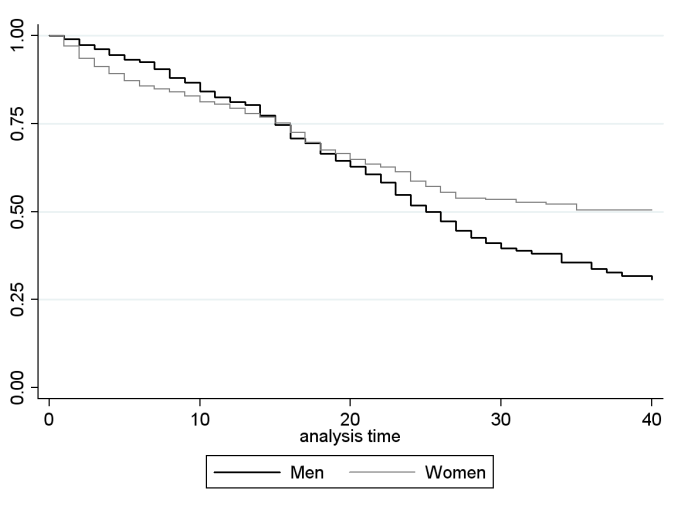
Source: Author calculations based on ENI (2007) data.

In the case of endogamous marriages, it can be observed that the risk of entering into endogamous marriage is much lower compared to the previous case (figure 5). However, for both men and women the transition is earlier when compared to intermarriages: the median time until entering into an endogamous marriage is 4.18 years for women and 6.67 years for men. It is important to note that the probability of entering in marriage with a co-national after 10 years of residence in Spain is very low in comparison with the pattern observed in intermarriages. Moreover, the patterns between men and women are quite similar (see figure 5).

Figure 5: Survival estimates by sex of respondent – Endogamous marriages
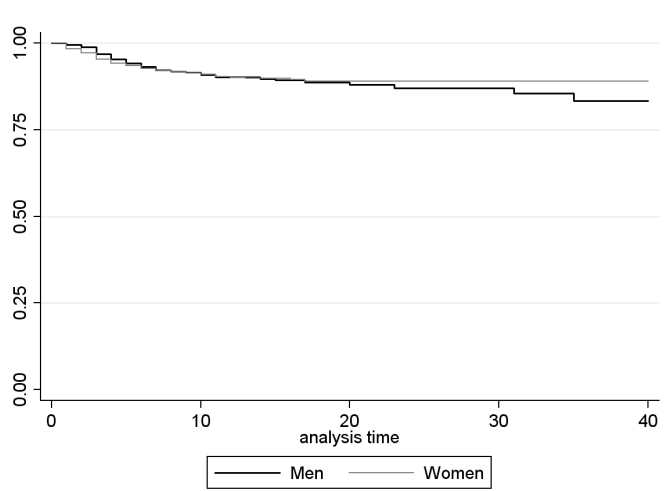
Source: Author calculations based on ENI (2007) data

From these results it can be concluded that foreign-born immigrants from Argentina, Colombia, Ecuador, Morocco and Rumania are more likely to get married with natives after moving to Spain than with their co-nationals. But it should be interpreted cautiously: it is not possible to have data relating to the date of the initiation of cohabitation due to survey limitations. The lower probability of endogamous marriages could hide a larger proportion of cohabitation in this kind of union.

These descriptive results confirm the hypothesis that the marriage with an individual from the same country of birth requires less exposition over time when compared to marriage with a native.

Factors that influence the probability of getting married: exogamous and endogamous marriages patterns

Four different discrete-time logistic models were utilized to analyze transition to intermarriage and endogamous marriage by sex (see table 2).

Table 2: Likelihood of entering in marriage, by sex and type of marriage.

	Men						Women					
	Model 1 - Intermarriage			Model 2 - Marriage same country			Model 3 - Intermarriage			Model 4 - Marriage same country		
	Odds ratio	p	significance	Odds ratio	p	significance	Odds ratio	p	significance	Odds ratio	p	significance
Years between arrival and marriage												
1-3 years			ref.cat.						ref.cat.			
4-6 years	0,9784	0,920		1,3302	0,223		0,7160	0,025	**	0,8326	0,401	
7-10 years	1,3506	0,188		1,0083	0,981		0,5051	0,002	***	0,5248	0,090	*
11-15 years	1,1616	0,567		1,1924	0,762		0,7332	0,207		0,6638	0,436	
16 years and more	2,0234	0,002	***	1,4421	0,569		1,4595	0,051	*	0,3008	0,121	
Age at arrival												
Less than 18			ref.cat.						ref.cat.			
18-25	3,2186	0,000	***	3,3962	0,001	***	1,9953	0,000	***	2,7148	0,000	***
26-30	3,3867	0,000	***	5,4477	0,000	***	2,2005	0,000	***	1,6070	0,132	
31 and more	2,4216	0,008	***	3,6931	0,004	***	1,3395	0,103		0,3460	0,018	**
Period of arrival												
Before 1996			ref.cat.						ref.cat.			
1996-2000	0,4961	0,013	**	1,1566	0,658		1,5031	0,107		2,0901	0,053	*
After 2000	0,4750	0,011	**	0,4774	0,074	*	1,7328	0,030	**	2,0247	0,087	*
Country of birth												
Colombia			ref.cat.						ref.cat.			
Ecuador	0,2880	0,011	**	2,1284	0,146		0,5472	0,003	***	1,5531	0,246	
Morocco	0,8964	0,671		2,0037	0,015	**	0,6285	0,016	**	5,7992	0,000	***
Rumania	0,8804	0,731		6,6302	0,000	***	0,6059	0,022	**	4,7390	0,000	***
Argentina	0,7020	0,231		1,1735	0,806		0,9051	0,606		2,0910	0,116	
Spanish nationality before wedding												
No			ref.cat.						ref.cat.			
Yes	1,5948	0,018	**	0,0676	0,006	***	1,1808	0,295		0,1383	0,002	***
Maximum level of education												
Primary (completed or not)			ref.cat.						ref.cat.			
Secondary (completed or not)	1,1687	0,038	**	1,1692	0,500		1,6433	0,003	***	0,9342	0,759	
Tertiary (completed or not)	1,3377	0,020	**	0,7561	0,513		1,7590	0,003	***	1,2357	0,479	
Social network												
Had contacts in Spain before migration			ref.cat.						ref.cat.			
Did not have contacts	1,2533	0,256		0,8691	0,595		1,3544	0,081	*	0,4887	0,027	**
N	10538			10538			13515			13515		
χ²	99,80			92,81			103,56			162,15		
Overall p	0,0000			0,0000			0,0000			0,0000		

Source: Author calculations based on ENI (2007) data. Discrete-time logistic regression models.

Model 1 – Intermarriage between foreign-born men and native women

Intermarriage between foreign-born men and Spanish women is significantly influenced by the temporal covariates included in the model - years between arrival and marriage as well as age at arrival. Utilizing residency as a single person in Spain for a period of 1 to 3 years as the reference category it can be observed that only after 15 years of residency the risk of getting married with a native increases significantly (2 times). The other categories are not statistically significant. The age at arrival in Spain is a very significant covariate in the model: considering as the reference category individuals less than 18 years old, it can be seen that the greater the age of arrival, the higher the probability of getting married.

The marriage market covariates are also significant in this trajectory. The period of arrival shows that immigrants who arrived before 1996 are at a higher risk to be intermarried in comparison to immigrants who arrived after this year. This result is in accordance with the marriage market structure. In recent periods, the greater stock of immigrants in the Spanish market has reduced the risk of entering in exogamous marriages.

The country of birth is significant only in the case of Colombians and Ecuadorians. From the perspective of the marriage market, the smaller sex ratio among Colombians would facilitate the formation of endogamous marriages for men. In this sense, it is expected a lower probability of entering in an exogamous marriage in comparison to the other origins. However,

Ecuadorians show a 71% lower probability of getting married with a woman who was born in Spain in comparison to Colombians. The explanation for this difference (ignoring individuals preferences) could lie on the fact that Ecuadorians show a very high level of territorial concentration in comparison to the other groups, which contributes to the formation of endogamous marriages. The lack of significant findings relating to other countries, including Argentineans, Romanians and especially Moroccans is important as it contradicts expected outcomes with regard to the anticipated effect of the structure of the marriage market. It would be expected that countries with higher sex ratio (and therefore less equal representation with regard to sex) are more likely to be intermarried. This would especially be true for the Moroccan population. Consequently, it can be said that the proportion of men to women observed in each marriage market does not explain the propensity to marry endogenously or exogenously, as we had anticipated. Instead, the role of cultural and individuals preferences must be considered..

With regard to the individual covariates we have observed that the access to Spanish citizenship has the same effect as our initial hypothesis: it increases the likelihood of being intermarried in comparison to individuals who are not Spanish citizens. The educational level is significant in the expected way: the higher the educational level, the higher the probability of entering in a union with a Spanish woman. Finally, social networks are not significant.

Model 2 – Marriages between foreign-born men and women from their same country of birth

In this model we analyzed the factors that influence the probability of getting married with a woman from the same country of birth. There exist important differences between this and the previous model.

First, we note that exposure over time it is not significant. However, the age at arrival is, again, very significant for all categories: individuals older than 18 years old have a higher probability of getting married as compared to the reference category. The impact of age at arrival in both models indicates that there are specific ages where the risk of getting married increases, independent of the type of marriage.

As for the period of arrival, the results indicate that immigrants who arrived after 2000, when the greatest increase in Spanish immigration was occurring, are less likely to marry a co-national woman when compared to individuals who arrived before 1996. This is the opposite of our initial hypothesis. The relationship between the period of arrival and the risk of getting married is similar in both the first and second model: the later the arrival in Spain, the lower the risk of getting married. From the perspective of the marriage market, we would expect the

arrival of more immigrants to increase the probability of marrying a person from the same country of birth.

In the case of Romanians and Moroccans the country of birth is significant. However, of all immigrant groups, the Colombian group has the greatest number of available women and consequently should have the greatest likelihood of marriage between co-nationals. Nonetheless, it is the Romanian and Moroccan groups that demonstrate the greatest probability of marriage with a co-national. This contradiction cannot be explained by their territorial distribution or migratory history, just as observed in the previous model. These unexpected findings reiterate the importance of cultural and personal preferences in decisions regarding marriage, regardless of foreign or native status. Findings regarding Argentineans and Ecuadorians are were not significant.

Possession of Spanish nationality has the opposite effect on marriage when compared to the first model. In this case, men who have Spanish nationality are less likely to be married with a woman from the same country of birth. This is a confirmation of our initial hypothesis. Additionally, educational level is insignificant as is the pre-existence of social networks.

Model 3 – Intermarriage between foreign-born women and native men

The exposure over time prior to marriage significantly affects the probability of foreign-born women to marry a native, thus confirming the initial hypothesis. In comparison to the reference category, the risk of getting married is not significant in the category 11 to 15 years. The risk between 4 to 10 years of residence is lower than that observed for immigrants with less than 3 years of exposure. Nonetheless, after 15 years of single status, women are more likely to be married (1.5 times higher). Here we observe the same pattern as in the case of intermarriages between foreign-born men and native women. The longer the residency as a single in Spain, the higher the risk of intermarriage.

The age at arrival shows a similar pattern when compared to the previously described models. Women who arrive at ages greater than 18 years old, specifically between 18 and 35 years old, are more likely to be married with a native as opposed to women who arrive as minors.

The period of arrival demonstrates a different pattern when compared to that of foreign-born men in the first model. Women arriving after the year 2000 are more likely to be married with a native than the women who arrived before 1996. This is the opposite of our expectations regarding the structure and transformation of the marriage market over time.

The country of birth affects the risk of getting married with a native. Ecuadorians, Moroccans and Romanians have a lower risk of getting married to a native in comparison to Colombian women. In this case there is coherence with the structure of the marriage market, and specifically with the sex ratio values. Populations from these countries have a higher proportion of men than the Colombian population, and consequently have a greater probability of endogamous marriage and less probability of exogamous marriage. However, the differences between Colombians and Argentineans, in Spain, are not significant.

In this model the educational level is significant. Results have shown that the higher the level of education, the higher the risk of intermarriage for women. This is in accordance with our initial hypothesis as well as results of previous studies (Cortina et al., 2008). In the case of social networks, our hypothesis was again confirmed. Immigrant women who did not have contacts in Spain at the time of arrival are at a greater risk of marriage with a native as opposed to women who came with contacts. Possession of Spanish nationality is not significant in this model.

Model 4 - Marriages between foreign-born women and men from their same country of birth

In the final model, we analyze women that married men from their birth country after migration to Spain. The exposure over time is not significant except for in the case of women with 4 to 6 years of exposure. These women are at a lower risk of marrying in comparison to the reference category.

The age at arrival shows that women who arrived between ages 18 and 25 have a greater risk of marriage than women who arrived under the age of eighteen. Nonetheless, women who were over 30 years-old at their time of arrival in Spain are at a lower risk compared to the reference category. Taking into account all the four models, we can observe that the marriages are concentrated among immigrants who arrived in Spain between the ages 18 and 30 years old.

The period of arrival is a significant covariate: women who arrived after 1996 have 2 times the risk to be married with men from the same country than women who arrived before 1996. In general terms, the increase in immigrant stock and the higher proportion of men as compared to women could be influencing the increase in endogenous marriage. In this sense, the observed pattern seems to confirm the existence of an effect derived from the proportion of men to women in the marriage pool.

With regard to country of birth, Moroccans and Romanians demonstrate higher risks of getting married to a co-national as compared to Colombians. In these cases the results are

consistent with the high sex ratios of these groups, especially in the case of Moroccans. Evaluations of the Ecuadorian and Argentinean populations do not yield significant results.

Women who have Spanish nationality have demonstrated a lower risk of getting married than foreign women. This again confirms one of our initial hypotheses. Immigrants with pre-existing networks in Spain show a higher risk of marriage with a co-national*, also confirming the initial hypothesis. The level of education is not significant.

5 – Conclusions

In this study we have analyzed the transition towards marriage for immigrants living in Spain. Our data came from the Spanish National Immigrant Survey. It is important to highlight the fact that the dramatic increase of immigration flows to Spain is new phenomena with a history that spans less than 10 years. For this reason, the exposure of our sampled individuals measured from the time of arrival and to time of wedding may not allow enough time in some cases. This insufficient exposure over time could contribute to the behavior of the variable age at arrival in our models; immigrants with greater age at arrival show more risk of marriage than immigrants that arrived before the age of eighteen.

Based our findings, we are able to deduce that there are strong differences in the trajectories of the exogenous and endogamous marriage formations. The survival curves show a strong concentration of endogamous marriages in the first years of residence in Spain and the permanence of the risk over time. Moreover, foreign-born immigrants who arrived as singles are more likely to get married with natives. Nonetheless, the absence of temporal reference with regard to cohabitation could be hiding an important proportion of individuals living in endogamous unions. Additionally, the exposure over time, educational level and possession of Spanish nationality contribute significantly in our findings. The initial hypothesis, that the longer the period of exposure, the higher the probability of exogamous marriages – was confirmed by the results of our analysis. We also found that higher educational level increases the probability of entering in an exogamous marriage. Additionally, Spanish nationality increases the risk of marriage with a Spaniard.

Important dissimilarities among men and women were observed, with regard to two variables: the period of arrival and the pre-existence of social networks in Spain. The period of arrival has opposite effects on the risk of marriage for men and women. For men that arrived in the earliest waves of immigration, there is a higher probability of getting married. However women exhibit the opposite tendency, as it is women who arrived after the year 2000 that

demonstrate a higher probability of marriage. The pre-existence of social networks has a positive effect on women but no effect on men.

The results have also shown that individual preferences and cultural elements are more important than the structural effects of the marriage pool in the explanation of transition towards marriage. By observing the variable period of arrival, we can observe that the evolution of the marriage pool (the increase in the immigrant stock) did not affect the risk of getting married over time. Moreover, with regard to country of birth we found that Moroccans and Romanians, both men and women, are at a higher risk of entering in endogenous marriages than Latin-Americans, independent of their sex ratio in Spain. We also found a lower risk of getting married with Spaniards for Ecuadorians when compared to Colombians, even though there is no structural effect that could explain this difference.

To conclude, the absence of a clear or direct relationship between the marriage market and marriage formation for the selected groups also may also be explained by the observation of these effects exclusively at a local level (Schoen and Kluegel, 1988), which is not possible to assess in the survey that has served as our data source. Additionally, informal unions were not considered here. This aspect may have especially affected findings regarding Latin-Americans and educated immigrants, as these are the groups where cohabitation is more common.

References

Angrist, Josh. (2002). "How Do Sex Ratios Affect Marriage and Labor Markets? Evidence From America's Second Generation", *Quarterly Journal of Economics*, 117(3): 997-1038.

Baizán, P., Aassve, A. and Billari, F. (2003), "Cohabitation, Marriage, and First Birth: The Interrelationship of Family Formation Events in Spain", *European Journal of Population*, 19: 147-169.

Blau, P., Blum, T. and Schwartz, J. (1982). "Heterogeneity and Intermarriage", *American Sociological Review*, 47 (1): 46-62.

Becker, G.S. (1973). "A Theory of Marriage: Part I", *Journal of Political Economy*, 81 (4): 813-46.

Brines, J. and Joyner, K. (1999) "The Ties That Bind: Principles of Cohesion in Cohabitation and Marriage", *American Sociological Review*, 64: 333-355.

Brown, S.L. and Booth, A. (1996). "Cohabitation versus Marriage: A Comparison of Relationship Quality", *Journal of Marriage and the Family*, 58 (3): 668-678.

Bumpass, L.L. and Sweet, A. (1989). "National Estimates of Cohabitation", *Demography,* 26 (4): 615-625.

Cabré, A. (1993). "Volverán Tórtolos y Cigüeñas". In Garrido, L. and Gil Calvo, E. (eds), *Estrategias familiares*. Madrid: Alianza Universidad, 113-131.

Cabré, A., Cortina, C. and Esteve, A. (2009), "¿Con quién se unen los latinoamericanos en España? Respuestas a partir de tres fuentes demográficas". *Notas de Población*, 86: 19-38.

Castro, T. (1999). "Pautas recientes en la formación de pareja: ampliando el concepto de nupcialidad a las uniones consensuales", *Revista Internacional de Sociología*, 23, 61-94.

Castro Martín, T. (2002). "Consensual Unions in Latin America: Persistence of a Dual Nuptiality System". *Journal of Comparative Family Studies,* 33 (1): 35-55.

Coleman, D. (1994): "Trends in fertility and intermarriage among immigrant populations in Western Europe as measures of integration", *Journal of Biosocial Science*, 26: 107-136.

Cortina, C., Esteve, A. and Domingo, A. (2008). "Marriage Patterns of the Foreign-Born Population in a New Country of Immigration: The Case of Spain", *International Migration Review*, 42 (4): 877-902.

Cortina, C., Esteve, A. and Jiménez, E. (2008b) "La delicada captación estadística de las uniones de los inmigrantes". *Índice*, 30: 18-20.

Cortina, C., Esteve, A. and Domingo, A. (2006), "Crecimiento y singularidades demográficas de los matrimonios de extranjeros en España", *Revista Migraciones*, 20: 75-105.

Domingo, A. (1997). *La formación de la pareja en tiempo de crisis: Madrid y Barcelona, 1975-1995*. Doctoral Thesis. Universidad Nacional de Educación a Distancia (UNED). Madrid.

Domínguez-Folgueras, M. and Castro-Martín, T. (2008). "Women's changing socioeconomic position and union formation in Spain and Portugal". *Demographic Research,* 19 (41): 1513-1550.

Dribe, M. and Lundh, C. (2008). "Intermarriage and Immigrant Integration in Sweden: An Exploratory Analysis", *Acta Sociologica*, 51 (4): 329-254.

Esteve, A., Cortina, C and Cabré, A. (2009). "Long Term Trends in Marital Age Homogamy Patterns: Spain, 1922-2006. *Population-E*, 64 (1): 173-202.

Goldman, N. Westoff, C. F. and Hammerslough, C. (1984). "Demography of the Marriage Market in the United States". *Population Index*, 50 (1): 5-25.

González-Ferrer, A. (2006). "Who Do Immigrants Marry? Partner Choice Among Immigrants in Germany". *European Sociological Review*, 22 (2): 171-185.

Gordon, M. (1964). *Assimilation in American Life: The Role of Race, Religion, and National Origins*, New York: Oxford University Press

Harris, D. R., and H. Ono. (2005). "How Many Interracial Marriages Would There Be If All Groups Were of Equal Size in All Places? A New Look at National Estimates of Interracial Marriage." *Social Science Research* 34: 236–251.

Hoëm , J.M., Kostova, D. Jasilioniene, A. and Muresan, C. (2009). "Traces of the Second Demographic Transition in four selected countries in Central and Eastern Europe: Union formation as a demographic manifestation", *European Journal of Population, 25: 239-255..*

Lesthaeghe, R. (1991). *The Second Demographic Transition in Western Countries: An Interpretation*. Brussels, Princeton University Library.

Lievens, John. (1999). "Family-Forming Migration from Turkey and Morocco to Belgium: The Demand for Marriage Partners from the Countries of Origin", *International Migration Review*, Vol. 33, No. 3 (Autumn): 717-744.

Lucassen, L and Laarman, C. (2009). "Immigration, intermarriage and the changing face of Europe in the post war period". *History of the Family* 14: 52–68

Martínez Veiga, U. (1997), *La integración social de los inmigrantes extranjeros en España.* Madrid: Trotta.

Martín Muñoz, G., García Castaño, F., López Sala, A. and Crespo, R. (2003), *Marroquíes en España. Estudio sobre su integración*. Madrid: Fundación Repsol YPF.

Massey, D. (1985). "Ethnic Residential Segregation: a Theoretical Synthesis and Empirical Review", *Sociology and Social Research*, 69: 315-350.

Muresan, C. (2007). "Family dynamics in pre- and post-transition Romania: a life-table description". *MPIDR WORKING PAPER WP* 2007-018.

Portes, A. and Zhou, M. (1993). "The new second generation: segmented assimilation and its variants", *The annals of the American Academy of Political and Social Sciences*, num. 530: 74-96.

Reher, D. and Requena, M. (2009). "The National Immigrant Survey of Spain. A new data source for migration studies in Europe". *Demographic Research*, 20 (12): 253-278.

Rotariu, T. (2006). "Romania and the Second Demographic Transition. The Traditional Value System and Low Fertility Rates". *International Journal of Sociology*, 36 (1): 10-27.

Roxero-Bixby, L. (1996). "Nuptiality Trends and Fertility Transition in Latin America" in Guzman, J.M., Singh, S., Rodriguez, G and Pantelides, E.(Ed.). *The Fertility Transition in Latin America*. Oxford, U.K. Oxford University Press.

Sandberg, N. (1973). *Ethnic Identity and Assimilation, the Polish Community*. New York: Praeger.

Schoen, R. (1983). "Measuring the tightness of a marriage squeeze". *Demography*, 20: 61-78.

Schoen, R. (1992). "First Unions and the Stability of First Marriages", *Journal of Marriage and the Family*, 54 (2): 281-284.

Schoen, R., and Kluegel, J. R. (1988). "The widening gap in black and white marriage rates: The impact of population composition and differential marriage propensities". *American Sociological Review*, 53: 895-907.

Skinner, K.B. Bahr, S,J. Crane, D.R. and Call, V.R.A. (2002). "Cohabitation, Marriage, and Remarriage: A Comparison of Relationship Quality Over Time". *Journal of Family Issues*, 23: 74 – 90.

South, S. J. and Lloyd, K. M. (1992). "Marriage Opportunities and Family Formation: Further Implications of Imbalanced Sex Ratios". *Journal of Marriage and the Family*, 54 (2): 440-451.

Spanier, Graham B. (1983). "Married and Unmarried Cohabitation in the United States". *Journal of Marriage and the Family* 45: 277-88.

Teachman, J. D., Thomas, J., and Paasch, K. (1991). Legal status and the stability of coresidential unions. *Demography*, 28: 571-586.

Van De Kaa, D. J. (1987). "Europe's Second Demographic Transition." *Population Bulletin*, 42(1): 1-57.