

Report: Country-specific case studies on mixed marriages

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Introduction

Country-Specific Case Studies on Mixed Marriages

Amparo González-Ferrer

Mixed marriages have long been considered important indicators of the social integration of immigrants, as well as potential factors of social and cultural change. Across Europe, for the period 2008-10, on average one in 12 married persons was in a mixed marriage. The range is from about one mixed married couple out of five in Switzerland and Latvia, to almost none in Romania, according to different estimates. The current report examines in depth the intermarriage dynamics among natives and immigrants in four countries (UK, Spain, Switzerland and Estonia), among persons belonging to different ethnic groups in Romania. When data allowed, the analyses also include a careful examination of the intermarriage behavior not only of immigrants but also of their descendants, which definitely adds a new angle to the research in this area. In addition, by analyzing jointly the determinants of mixed marriages for both immigrant origin partners and also their native counterparts, the report makes a step forward in opening new lines of research in this area. Finally, special attention has been paid in all the five case studies to the role that marriage market constraints and differences across gender and different origin and/or ethnic groups play in shaping the final distribution of couples in each of these countries.

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Mixed Marriages Among Immigrants and Their Descendants in the United Kingdom

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Abstract:

This study investigates formation of endogamous and exogamous marriages among immigrants and their descendants in the UK. While there is a growing literature on various aspects of ethnic minorities' lives in Britain, their marriage patterns have been little studied and understood. Applying event-history analysis to retrospective data from the Understanding Society study the analysis shows, first, significant differences among immigrants and their descendants in the likelihood of marrying within and outside of their ethnic groups. While immigrants from European countries have relatively high exogamous marriage rates, South Asians exhibit a high likelihood of marrying a partner from their own ethnic group. Second, the descendants of immigrants have lower endogamous and higher exogamous marriage rates than their parents; however, for some ethnic groups, particularly for South Asians the differences across generations are small. Third, the exogamy rates are high among ethnic minority women and men with better English skills, individuals who are less religious and those who are older at first marriage. Fourth, highly-educated native British men have an elevated likelihood of forming an inter-ethnic marriage; exogamous marriages are also formed at later ages among the native men and women.

Keywords: marriage, immigrants, the second generation, event history analysis, multiple imputation, United Kingdom

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1. Introduction

European countries are characterised by the growing ethnic and cultural heterogeneity of their populations. Western and Northern European countries witnessed significant labour migration streams as early as the 1950s and 1960s, whereas Southern European countries became immigration destinations in the late 1990s (Castles and Miller 2009; Rees et al. 2012). Although many post-war labour migrants later returned to their home countries, a significant number stayed and established their family lives in the destination societies. The share of the descendants of immigrants has increased over time. Recent studies show that immigrants and their descendants form one-fifth to one-fourth of the population in many Western and Northern European countries (Zimmermann 2005; Andersson and Scott 2014).

There is a large body of research investigating various aspects of immigrant and ethnic minorities' lives in European countries, including their legal status and citizenship, employment and education, and residential and housing patterns (Seifert 1997; Bauböck 2003; Musterd 2005; Adsera and Chiswick 2007; Arbaci 2008; Rendall et al. 2010). Recent research has also witnessed an increased interest in family and fertility dynamics among immigrants and their descendants. One stream of research investigates fertility and partnership patterns among immigrants and ethnic minorities with the aim of determining whether the fertility and family behaviour of immigrants and their descendants resembles that of the dominant behaviour in the origin or destination society (Andersson 2004; Toulemon 2004; Milewski 2007; Kulu and Milewski 2007; Coleman and Dubuc 2010; Goldscheider, Goldscheider, and Bernhardt 2011; Kulu et al. 2014; Kulu et al. 2015). Another stream of research has examined exogamous marriages among immigrants and ethnic minorities in various European countries with a focus on factors that influence the spread and stability of inter-ethnic marriages (Coleman 1994; González-Ferrer 2006; Kalmijn and Tubergen 2006; Dribe and Lundh 2012; Milewski and Kulu 2014). Given the importance of inter-ethnic unions both as a mechanism to and an indicator of integration, it is perhaps surprising that relatively little research has been conducted in Europe on this topic, e.g., in comparison to research on other aspects of immigrant and ethnic minorities' lives.

The aim of this study is to investigate the formation of exogamous and endogamous unions among immigrants and their descendants in the UK with a focus on the formation of first marriages. We extend previous research in the following ways. First, the analysis includes

both immigrants and their descendants. Most research either examines the marriages of immigrants or those of ethnic minorities; while the latter approach includes in the analysis the descendants of immigrants, it typically analyses only those individuals who identify themselves with a specific ethnic group, leaving out those who do not. This approach may underestimate the spread of mixed marriages among the descendants of immigrants. We include in the analysis all individuals whose parents (or at least one of them) were born outside of the UK, i.e., all individuals of the so-called ‘second generation’. Second, we analyse the formation of endogamous and exogamous marriages from the life-course perspective using longitudinal data. While the use of longitudinal data has become a standard for research on mixed marriages in many European countries, most studies in the UK have been conducted using cross-sectional data. The analysis of longitudinal data allows us to examine the effect of various factors on union formation and control for the fact that some individuals may not marry and their share may vary significantly across ethnic groups.

Third, we use the technique of multiple imputation to address the issue of missing information on the partner’s migration status. While longitudinal data normally contain all relevant information about partners, key information on partners is sometimes missing for part of the research population. This is particularly an issue with many recently launched panel studies, which may retrospectively collect information on partnership histories at the first or second wave, but detailed information (including origin) is available only for the current partner (if any). We show how multiple imputation can be used to address the issues of missing data and compare the results to those obtained using the conventional approach of deleting cases with missing information. Finally, we analyse the formation of exogamous marriages both among natives and immigrants and their descendants. Most studies focus only on factors influencing the spread of mixed marriages among immigrants or ethnic minorities; however, the study of mixed marriages among natives will improve our understanding of the mechanisms and determinants of integration processes.

2. Previous research on mixed marriages in Europe

Family research shows that partner choice is shaped by both, individual preferences and contextual factors (Kalmijn 1998). Preferences usually refer to the desired characteristics and resources attached to a potential partner. In addition to conventional physical attraction, these include socio-economic resources, particularly social status and education, and various

cultural characteristics. Research shows that individuals prefer to form a union and marry someone who is similar in socio-economic and cultural characteristics. Marital endogamy is thus seen as an unintended consequence of individual preferences for resources and characteristics related to a partner (Kalmijn 1998). The marriage market and opportunity structures also influence partner choice. The choice of a partner depends on the availability of potential partners with similar socio-economic and cultural characteristics, which is measured by the factors such as the group size (either age, socio-economic or cultural), sex-ratio and residential proximity, among other factors.

Individual preferences and contextual factors are equally relevant in the study of immigrant partner choice (González-Ferrer 2006; Kulu and González-Ferrer 2014). Endogamy is thus a natural outcome for immigrants and ethnic minorities who differ from the native population in socio-economic status, educational level and norms and values; the levels of exogamy, in contrast, are high when the group differences are small or have diminished over time and across migrant generations. The share of mixed marriages is expected to increase with declining migrant group size, an imbalanced sex ratio and decreasing residential segregation. Mixed marriages are thus an important indicator of the cultural and structural integration of immigrants and ethnic minorities; they also contribute to minority integration. Further, it can be argued that exogamous marriages are the ultimate litmus test of immigrant and ethnic minority integration (Song 2009; Kulu and González-Ferrer 2014).

Previous research in Europe has supported the importance of the above factors and specified their impact in various contexts. The study by González-Ferrer (2006) on post-war immigrants and ethnic minorities in Germany showed that immigrants with a high educational level were more likely to marry a German-born individual than those with a low educational level. The levels of exogamy were higher among smaller immigrant groups and among those with an unbalanced sex-ratio in the group. The analysis also supported the importance of the migrant generation; for both men and women, the descendants of immigrants were more likely to marry a native-born individual. Kalmijn and van Tubergen (2006) and van Tubergen and Maas (2007) investigated the spread of exogamous marriages among immigrants in the Netherlands and showed that the likelihood of intermarriage increased with educational level: it was higher among those who were born in the Netherlands or arrived at a younger age. Intermarriage also occurred more frequently when the group size was small and the group-specific sex ratio was uneven.

Studies by Safi and Rogers (2008), Safi (2010) and Hamel et al. (2013) on post-war immigrants and their descendants in France largely support previous findings; their analyses demonstrated higher exogamy rates among highly educated men and women, those who had better French language skills, the descendants of immigrants and in regions with an uneven sex ratio among immigrants and their descendants. Muttarak and Heath (2010) emphasised the importance of residential segregation. The study of inter-ethnic marriages in the UK showed a higher likelihood of ethnically mixed marriages in ethnically diverse areas. Dribe and Lundh (2008) reached similar conclusions in their study on Sweden; their analysis showed that exogamy was common outside the big cities where the share of immigrants was small. Several other studies have supported the importance of these individual and contextual factors in the spread of exogamy in various European countries, including Lievens (1998) in Belgium, Rodriguez-Garcia (2006) and Cortina et al. (2008) in Spain; Dribe and Lundh (2008; 2011) in Sweden, and van Ham and Tammaru (2011) in Estonia.

Research on inter-ethnic marriages shows that once we control for socio-economic characteristics, individuals' education and opportunity structures, significant differences across immigrant groups persist. This has led researchers to explicitly study the importance of cultural and normative factors and the role of religion in shaping patterns of inter-ethnic marriages. Using register data from Sweden, Dribe and Lundh (2011) showed that immigrants from countries culturally similar to Sweden with regards to values, language and religion were more likely to marry native Swedes than those from culturally more distant countries. Lucassen and Laarman (2009) investigated the role of religion in ethnic intermarriage among post-war immigrants to Europe and found that immigrants whose religion had no tradition in Western Europe had lower intermarriage levels than those whose religious background was similar to that in the country of destination. At the group level, Kalmijn and van Tubergen (2006) showed that Caribbeans had much higher intermarriage levels in the Netherlands than immigrants from North Africa and Turkey, which they attributed to similarities and differences in religion. In a study on attitudes towards ethnic intermarriage, Carol (2013) found that intermarriage is closely tied to the strength of religiosity; as expected, mixed marriages are more accepted among those immigrants who are less religious compared to those who have strong religious beliefs.

With the increase in ethnic minority populations in European countries, recent research has witnessed a larger interest in intermarriage among the descendants of immigrants. Most

previous studies report that the levels of exogamy are significantly higher among the descendants of immigrants than among immigrants themselves. González-Ferrer (2006) observed this pattern for ethnic minority populations in Germany, Tubergen and Maas (2007) in the Netherlands, and Safi (2010) in France. In contrast, Hartung et al. (2011), investigating marriage patterns of the descendants of Turkish and Moroccan immigrants in Belgium, found that many of them lived with a first-generation co-ethnic partner, suggesting that bringing partners from the parents' country of origin may exist among some ethnic minority groups, particularly among the male population (González-Ferrer 2006; Milewski and Hamel 2010). Interestingly, the analysis also revealed that most Belgian-born partners were the descendants of immigrants from the same ethnic group. These results suggest that marriage patterns among the descendants of immigrants may be more complex than previous studies have shown and be partially dependent on the size and composition of ethnic groups, although we may still expect intermarriage to be more common among the descendants of immigrants than among immigrants.

Research on intermarriage in Britain has focussed on the spread of exogamy across ethnic groups. In two seminal papers, Berrington (1994; 1996) investigated inter-ethnic unions using the UK Labour Force Survey data and the 1991 census micro-data. The analysis revealed significant ethnic differences in the prevalence of inter-ethnic unions. While a significant portion of Caribbeans, Sub-Saharan Africans and Chinese were married or cohabiting with a white British partner, few individuals of Indian, Pakistani or Bangladeshi origin were in exogamous relationships. The analysis also showed that the exogamy levels were higher among the descendants of immigrants and among those who cohabited, although among South Asians, the share of individuals in non-marital unions was negligible. Coleman (1994) reached very similar conclusions in his study on ethnic intermarriage in Britain and elsewhere in Europe; the study also showed that in all ethnic groups, men were more likely to have an ethnically different partner than were women. A recent study by Muttarak and Heath (2010) largely supported previous findings, and reported that South Asians, both men and women, were more likely to form endogamous partnerships than other ethnic groups, particularly Caribbeans, Africans and Chinese. The authors concluded that groups with a strong, cohesive community structure and norms supporting endogamy, i.e., South Asians, would tend to follow a pluralistic rather than an assimilatory path.

This study investigates the determinants of exogamous marriages among immigrants and their descendants in the UK using longitudinal data. In line with previous research from Britain, we

first expect to observe higher exogamy levels among immigrants from Caribbean and European countries and their descendants and low intermarriage levels among individuals of Indian, Pakistani and Bangladeshi origin. Second, we expect to find higher intermarriage rates among the descendants of immigrants than among immigrants. Third, we expect individual socio-economic and cultural characteristics (e.g., educational level, language skills, religiosity) to significantly shape patterns of exogamy both among ethnic minorities and the native British population; however, an interesting question is whether and how much these characteristics will explain expected differences in intermarriage levels across ethnic minority groups. Finally, we also expect to observe some gender differences, with ethnic minority men being more likely to form inter-ethnic unions than women, particularly among the British South Asian populations.

3. Data

This study uses data from the Understanding Society study (UoS), a large longitudinal study in the UK that was launched in 2009. The main ethnic minority groups in Britain were over-sampled in the study, thus providing a sufficient sample size to study ethnic differences in family behaviour. Retrospective partnership histories were collected at the first wave, which was conducted between January 2009 and December 2010. The dataset also contains information on the ethnicity and birthplace of respondents and their household members. In the first wave, data were collected on 50,994 individuals, including 27,792 women. Full interviews were conducted with 47,732 individuals, whereas the remaining interviews were proxy interviews for non-present household members. For the current study, only full interviews are used; 309 cases are excluded from the analysis because essential information is missing for those individuals. An additional 284 individuals are removed from the sample because some information vital to the analysis showed inaccurate values, indicating recording or reporting errors. The analysis is limited to the birth cohorts born between 1950 and 1994 (11,962 individuals are deleted from the sample). Further 50 cases are excluded from the sample because their records suggest that the first marriage happened before age 15. The final sample consists of 35,127 individuals; 19,840 women and 15,287 men.

The research population is divided into British ‘natives’, immigrants (the ‘first generation’) and descendants of immigrants (the ‘second generation’). ‘Natives’ are defined as individuals who were born and whose two parents were born in the UK; they form 70% of the

(unweighted) sample. Individuals who were born outside of the UK, independent of the origin of their parents, were classified as immigrants. In case their country of birth is ‘other country’ in the dataset, information on their parents is used to determine their migrant group. If a person was born in the UK but at least one of the parents was born outside of the UK, the individual is classified as a descendant of immigrant(s). If a descendant of immigrants has parents of different foreign origins, priority is given to the father’s country of birth. In case the country of birth is ‘other country’ for one parent, the country of birth for other parent is used to determine the migrant status of the individual.

Due to the small sample sizes, the following aggregated regions of origin are used in the analysis: 1) Europe and other Western/industrialised countries, 2) India, 3) Pakistan and Bangladesh, 4) Caribbean countries, and 5) all other origins. The last group contains individuals from many different countries and all continents. Although this group is large in comparison to the other sub-groups, no specific origin has a sufficient size to be analysed separately. The descendants of immigrants are grouped in the same way. Table 1 presents the distribution of the population by migrant status for the entire sample.

Mixed (exogamous) marriages are defined in this analysis as marriages between two individuals from different origins. For natives, that means any partner who was not born in the UK or whose one parent (at least) was not born in the UK. For immigrants and the descendants of immigrants, that means either a native partner or a partner with a different country of birth. Marriages between individuals from the same country but different immigration generations are considered as endogamous marriages in this analysis. For example, an immigrant from Pakistan in a marriage with a descendant from Pakistani parents would be defined as endogamous marriage, while the same person in a marriage with an immigrant from Bangladesh would be defined as exogamous marriage. For the group of ‘other’, marriage type is based on a detailed country of birth. Therefore, a marriage between e.g. a Chinese and a Kenyan person is classified as exogamous, although both belong to the same migrant group (‘other’). In case information on country of birth is missing for both partners, their marriage status was recoded as ‘missing’, because we cannot be sure whether their marriage is endogamous or not. Their marriage status is generated by multiple imputation, together with cases of missing marriage status which are due to the design of the longitudinal dataset. For some individuals information on their partner comes from a proxy interview; for such cases we know their partner’s place of birth but there is no information on

the partner's parents. In those cases the partners who were born in the UK are classified as natives.

4. Methods

4.1. Competing-risks event history model

We use a competing-risks event history model to study the formation of exogamous and endogamous marriages. The model is formalised as follows:

$$\begin{aligned}\ln \mu_i^{EN}(t) &= \ln \mu_0^{EN}(t) + \sum_j \beta_j^{EN} x_{ij}(t) \\ \ln \mu_i^{EX}(t) &= \ln \mu_0^{EX}(t) + \sum_j \beta_j^{EX} x_{ij}(t)\end{aligned}\tag{1}$$

where $\mu_i^{EN}(t)$ denotes the hazard of endogamous marriage for individual i and $\mu_i^{EX}(t)$ is the risk of exogamous marriage in the competing risks framework. In both equations, $x(t)$ represents the values of a variable measuring an individual's socio-demographic background including migrant status; β_j is the parameter estimate for the covariate with j covariates. Individuals are under risk of marriage beginning at age 15 and censored at age 45, the time of interview or the time when they experience the competing event (EX or EN , accordingly), whichever comes first.

We first investigate marriage formation by *migrant status* while controlling for *birth cohort* (1950-59, 1960-69, 1970-79, 1980 and later). We then include individuals' socio-economic and cultural characteristics in the analysis to measure the effect of these characteristics on the formation of endogamous/exogamous marriages and determine whether and how much those factors explain initial variation across ethnic groups. The models include individual *education level* (tertiary degree, other higher education, A-level, GSCE and no or lower qualifications); *English language skills* (speaks English as the first language, speaks English without problems, speaks English with problems) and the *importance of religion* in their lives (religion makes no difference, little difference, some difference and a great difference). The values of all three variables were measured at the first wave of the survey. For immigrants, we also included *migration history* (before or after migration to the UK). The distribution of exposure time and occurrences by *migrant status* for endogamous and exogamous first marriages is provided in Table 1.

Table 1: Descriptive statistics by migrant status for men and women

Women	Number of individuals	Person- months at risk	Endogamous	Exogamous	No information	All Marriages
Native	13633	1791190	3697	365	4060	8122
Immigrant						
<i>Europe</i>	705	101310	78	179	150	407
<i>India</i>	457	49415	233	47	105	385
<i>Pakistan/Bangladesh</i>	735	58522	444	31	188	663
<i>Caribbean</i>	220	44997	27	17	70	114
<i>Other</i>	1793	249671	224	218	693	1135
Descendant of Immigrants						
<i>Europe</i>	720	108862	16	189	248	453
<i>India</i>	349	42993	78	49	78	205
<i>Pakistan/Bangladesh</i>	490	36998	118	14	93	225
<i>Caribbean</i>	388	83991	34	29	75	138
<i>Other</i>	350	45907	18	48	55	121
Total	19840	2613857	4967	1186	5815	11968

Men	Number of individuals	Person- months at risk	Endogamous	Exogamous	No information	All Marriages
Native	10176	1588988	3013	393	2024	5430
Immigrant						
<i>Europe</i>	497	78275	62	94	98	254
<i>India</i>	508	69728	227	28	86	341
<i>Pakistan/Bangladesh</i>	792	100919	418	28	156	602
<i>Caribbean</i>	132	29011	23	6	39	68
<i>Other</i>	1433	230955	198	153	445	796
Descendant of Immigrants						
<i>Europe</i>	552	95310	17	188	115	320
<i>India</i>	287	38841	54	43	31	128
<i>Pakistan/Bangladesh</i>	381	32996	77	14	44	135
<i>Caribbean</i>	244	50554	23	23	22	68
<i>Other</i>	285	39059	16	36	18	70
Total	15287	2354637	4128	1006	3078	8212

4.2. Multiple imputation of missing values

Table 1 shows that some individuals have no information on the origin of their first spouse (missing type of first marriage). This is related to the design of the UoS study; while information was retrospectively collected for the start and end dates of all individuals' unions, information was gathered only on the characteristics of their current partner (if any). Therefore, data on partner's origins are available only for those first marriages that survived until the survey, i.e., individuals experienced neither separation nor the death of their partner, and for which both spouses were interviewed (for the reasons of missing information, see Appendix Table A1). There are three possible methods of analysing the data with missing information on the type of marriage (Andersen et al. 1996). First, one can delete individuals with the missing type of first marriage and then fit a competing-risks hazard regression model. Second, one can recode all the marriages with missing type as a separate category (besides endogamous and exogamous marriages) and conduct a competing-risks analysis with missing cases as one of the competing risks. Third, one can impute missing values using the technique

of multiple imputation. In this study, we adopt the latter approach; previous studies show that the first two approaches may be statistically less efficient (i.e., a smaller sample) and, more importantly, produce biased estimates as individuals with missing information may be a select group.

Multiple imputation consists of three steps (Bakoyannis et al. 2009). First, m data-sets are generated using a chosen imputation/regression model. Next, analysis is conducted separately for each completed dataset. Finally, the results obtained from m analyses are combined into a single result (e.g., the averages are calculated for coefficients). In this study, we follow the approach outlined by Bakoyannis et al. (2009): we apply a logistic regression model on the individuals with information on the type of their first marriage (i.e., the complete cases) and then use the estimated model to impute missing cases. The model is as follows:

$$\ln \frac{p_i}{1 - p_i} = \alpha + \beta T_i + \sum_j \gamma_j x_{ij} \quad (2)$$

where p_i denotes the probability of exogamous marriage for individual i . T is an individual's age at first marriage; x represents the values of a variable measuring an individual's socio-demographic background. The predictor variables in the model are thus the age at marriage (or time to event) and all variables that are used in the competing-risks event history analysis with completed cases. In preliminary analysis we experimented with the imputation model with different combination of background variables; the results were robust to different specifications. We use ten imputations ($m = 10$).

5. Results

Table 2 presents marriage rates from the multiple imputation model for natives, immigrants and their descendants without adjusting to any covariates. The unadjusted rates provide an overview of marriage patterns among population subgroups and the prevalence of exogamous marriages. First, we see that women from India, Pakistan and Bangladesh are significantly more likely to marry than most other groups, including natives, whereas marriage rates are low among Caribbean immigrants, indicating their higher age at marriage and low marriage levels. Marriage rates are lower for most descendants of immigrants, suggesting the postponement of marriage among younger generations. However, marriage rates are relatively

high among the descendants of immigrants from Pakistan and Bangladesh and low among people of Caribbean origin. The patterns for men are very similar, except that the differences in marriage levels between South Asians and other groups are smaller.

Table 2: Unadjusted rates for endogamous and exogamous marriages by migrant status (per 1,000)

Women	All Marriage	Endogamous	Exogamous	Relative rates (En/Ex)	
Native		4.7	4.2	0.4	9.9
Immigrant					
<i>Europe</i>		4.2	1.3	2.9	0.5
<i>India</i>		8.0	6.7	1.3	5.4
<i>Pakistan/Bangladesh</i>		11.4	10.7	0.7	15.3
<i>Caribbean</i>		2.7	2.0	0.7	2.8
<i>Other</i>		4.6	2.7	2.0	1.4
Descendant of Immigrants					
<i>Europe</i>		4.3	0.4	3.8	0.1
<i>India</i>		4.9	3.0	2.0	1.5
<i>Pakistan/Bangladesh</i>		6.2	5.5	0.7	7.9
<i>Caribbean</i>		1.7	1.0	0.7	1.3
<i>Other</i>		2.7	0.8	1.9	0.4

Men	All Marriage	Endogamous	Exogamous	Relative rates (En/Ex)	
Native		3.5	3.2	0.4	8.1
Immigrant					
<i>Europe</i>		3.4	1.3	2.1	0.6
<i>India</i>		5.0	4.4	0.6	7.2
<i>Pakistan/Bangladesh</i>		6.1	5.7	0.4	14.6
<i>Caribbean</i>		2.4	1.9	0.6	3.4
<i>Other</i>		3.6	2.0	1.5	1.3
Descendant of Immigrants					
<i>Europe</i>		3.5	0.3	3.2	0.1
<i>India</i>		3.4	2.0	1.5	1.3
<i>Pakistan/Bangladesh</i>		4.2	3.5	0.6	5.6
<i>Caribbean</i>		1.5	0.8	0.7	1.2
<i>Other</i>		1.9	0.6	1.3	0.4

We have also calculated marriage rates separately for endogamous and exogamous marriages and the rates of endogamous marriages relative to those of exogamous partnerships (or rate ratios). Native British women are 10 times more likely to marry within the group than outside of the group, which is expected (Table 2). There are significant differences among immigrants and their descendants. Immigrants from Europe are 50% less likely to marry endogamously than exogamously, showing a clear prevalence of inter-ethnic marriages. In contrast, those from India, Pakistan and Bangladesh are 5.4 and 15.3 times more likely to marry within the group, respectively. The corresponding figures for Caribbeans and other immigrants are 2.8 and 1.4. The descendants of immigrants have a higher prevalence of exogamous marriages

than immigrants, as expected, although the levels vary significantly across groups. While the descendants of European immigrants are 90% less likely to form an endogamous marriage than exogamous partnership, people of Pakistani and Bangladeshi origin are 7.9 times more likely to marry within the group than outside the group. Individuals of Indian descent are 1.5 and those with Caribbean origin 1.3 times more likely to marry endogamously. Again, the patterns are very similar for men.

Next, we analyse endogamous and exogamous marriages first for immigrants and their descendants and then for the native British population, calculating marriage rates adjusted to a number of individual characteristics. The results for the two former groups are presented in Table 3A. Model 1 controls for age and cohort; all rates are relative to those of immigrants from Europe. The results largely support what was previously observed. Women from non-European countries have higher risk of intra-group marriages than those from European countries. The levels are particularly high for those from India, Pakistan and Bangladesh, who are 5.6 and 9.8 times more likely to form an endogamous marriage than immigrants from European countries. The patterns also vary among the descendants of immigrants. People of Indian, Pakistani and Bangladeshi origin are 2.4 and 5.4 times more likely to marry endogamously than European immigrants, whereas those of European and Caribbean origin have 70% and 28% lower rates of endogamous marriage, respectively. Next, we also include in the analysis an individual's education, English language skills, importance of religion and the number of siblings (Model 2). The differences between the groups decline, particularly between South Asians and others, but significant differences persist. Our further analysis showed that language skills (for immigrants) and religiosity (for both immigrants and their descendants) explain part of the initially higher rates of endogamous marriages among South Asians. Finally, we also control for immigrants' migration history, and find that the patterns persist (Model 3). Again, for men, the results are similar, although differences across migrant groups are smaller than for women (Table 3B).

Table 3A: Relative risks of endogamous and exogamous marriages, non-native women

		Model 1		Women Model 2		Model 3	
		EN	EX	EN	EX	EN	EX
		HR	HR	HR	HR	HR	HR
Age							
	15-19 years	0.29 ***	0.16 ***	0.26 ***	0.16 ***	0.26 ***	0.18 ***
	20-24 years	0.71 ***	0.56 ***	0.70 ***	0.56 ***	0.69 ***	0.60 ***
	25-29 years	1	1	1	1	1	1
	30-34 years	0.67 ***	0.86	0.67 ***	0.86	0.67 ***	0.81 **
	35-39 years	0.31 ***	0.66 ***	0.31 ***	0.66 ***	0.31 ***	0.61 ***
	40-44 years	0.34 ***	0.46 ***	0.34 ***	0.47 ***	0.35 ***	0.43 ***
Cohort							
	1950-1959	1.19 **	1.45 ***	1.13	1.49 ***	1.13	1.46 ***
	1960-1969	1	1	1	1	1	1
	1970-1979	1.00	0.90	1.07	0.90	1.07	0.88
	1980+	0.95	0.87	1.08	0.87	1.09	0.78 **
Immigrant							
	Europe	1	1	1	1	1	1
	India	5.56 ***	0.53 ***	4.19 ***	0.54 ***	4.16 ***	0.58 ***
	Pakistan/Bangladesh	9.80 ***	0.34 ***	5.51 ***	0.38 ***	5.56 ***	0.35 ***
	Caribbean	1.37	0.18 ***	1.18	0.18 ***	1.18	0.17 ***
	Other	2.02 ***	0.69 ***	1.47 ***	0.72 ***	1.46 ***	0.75 ***
Descendant of immigrants							
	Europe	0.30 ***	1.22 **	0.32 ***	1.19	0.34 ***	0.97
	India	2.39 ***	0.77	2.35 ***	0.73 **	2.45 ***	0.58 ***
	Pakistan/Bangladesh	5.35 ***	0.38 ***	3.83 ***	0.38 ***	3.99 ***	0.30 ***
	Caribbean	0.72	0.22 ***	0.67 **	0.21 ***	0.69	0.18 ***
	Other	0.62 **	0.70 ***	0.66	0.70 **	0.69	0.56 ***
Education							
	No or lower qualifications			1.03	1.01	1.03	1.04
	GSCCE			1	1	1	1
	A-level/other higher degree			0.75 ***	1.02	0.75 ***	1.04
	Tertiary degree			0.62 ***	0.94	0.61 ***	0.99
English skills							
	English is first language			1	1	1	1
	Speaks without problems			1.31 ***	1.00	1.29 ***	1.14
	Speaks with problems			1.61 ***	0.65 **	1.56 ***	0.84
Religion makes a difference in life							
	No difference			1	1	1	1
	Little difference			1.26 **	1.05	1.26 **	1.04
	Some difference			1.32 ***	1.09	1.32 ***	1.09
	Great difference			1.69 ***	1.05	1.69 ***	1.07
Number of siblings							
	Only child			1	1	1	1
	1			0.93	1.30 **	0.93	1.31 **
	2-3			0.98	1.41 ***	0.98	1.41 ***
	4+			1.13	1.24 **	1.13	1.25 **
Migration history							
	Before arrival in UK					1.08	0.51 ***
	After arrival in UK					1	1
Constant		0.0023 ***	0.0057 ***	0.0021 ***	0.0044 ***	0.0019 ***	0.0067 ***

Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01

Table 3B: Relative risks of endogamous and exogamous marriages, non-native men

		Men					
		Model 1		Model 2		Model 3	
		EN	EX	EN	EX	EN	EX
		HR	HR	HR	HR	HR	HR
Age							
	15-19 years	0.08 ***	0.05 ***	0.07 ***	0.05 ***	0.07 ***	0.06 ***
	20-24 years	0.46 ***	0.47 ***	0.45 ***	0.47 ***	0.46 ***	0.51 ***
	25-29 years	1	1	1	1	1	1
	30-34 years	1.17 **	1.20 **	1.19 **	1.20 **	1.15	1.12
	35-39 years	0.63 ***	0.92	0.65 ***	0.91	0.62 ***	0.83
	40-44 years	0.72 **	1.00	0.75	1.00	0.70 **	0.89
Cohort							
	1950-1959	1.07	1.38 ***	1.03	1.37 ***	1.00	1.34 ***
	1960-1969	1	1	1	1	1	1
	1970-1979	1.05	0.92	1.10	0.94	1.08	0.91
	1980+	0.67 ***	0.79	0.74 ***	0.80	0.71 ***	0.73 **
Immigrant							
	Europe	1	1	1	1	1	1
	India	4.09 ***	0.36 ***	3.20 ***	0.39 ***	3.31 ***	0.45 ***
	Pakistan/Bangladesh	5.38 ***	0.23 ***	3.28 ***	0.29 ***	3.22 ***	0.27 ***
	Caribbean	1.18	0.18 ***	1.02	0.17 ***	1.02	0.16 ***
	Other	1.52 ***	0.71 ***	1.18	0.77 **	1.20	0.81
Descendant of immigrants							
	Europe	0.20 ***	1.28 **	0.22 ***	1.17	0.21 ***	0.98
	India	1.62 ***	0.78	1.70 ***	0.73	1.55 ***	0.59 ***
	Pakistan/Bangladesh	4.34 ***	0.51 **	3.48 ***	0.49 **	3.14 ***	0.38 ***
	Caribbean	0.54 ***	0.26 ***	0.50 ***	0.24 ***	0.47 ***	0.20 ***
	Other	0.45 ***	0.66 **	0.48 ***	0.61 ***	0.44 ***	0.50 ***
Education							
	No or lower qualifications			1.03	1.00	1.04	1.01
	GCSE			1	1	1	1
	A-level/other higher degree			0.80 **	1.06	0.81 **	1.04
	Tertiary degree			0.71 ***	1.02	0.73 ***	1.07
English skills							
	English is first language			1	1	1	1
	Speaks without problems			1.34 ***	0.83 **	1.40 ***	0.96
	Speaks with problems			1.42 ***	0.51 ***	1.58 ***	0.75
Religion makes a difference in life							
	No difference			1	1	1	1
	Little difference			1.13	0.95	1.14	0.95
	Some difference			1.30 ***	0.97	1.31 ***	0.98
	Great difference			1.69 ***	0.92	1.71 ***	0.98
Number of siblings							
	Only child			1	1	1	1
	1			0.94	0.98	0.94	0.99
	2-3			1.08	1.01	1.08	1.00
	4+			1.16	1.00	1.19 **	1.02
Migration history							
	Before arrival in UK					0.77 ***	0.40 ***
	After arrival in UK					1	1
Constant		0.0038 ***	0.0034 ***	0.0022 ***	0.0045 ***	0.0024 ***	0.0054 ***

Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01

The patterns for exogamous marriages are the opposite, as expected. All groups have lower rates of marrying outside of the group than immigrants from European countries, except descendants with European origin (Table 3A). The reasons very likely vary between the migrant groups. While relatively low levels of exogamous marriages among Pakistani and Bangladeshi women show the prevalence of intra-group marriages over extra-group marriages among these populations, relatively low levels among Caribbeans are explained by their low overall marriages levels. Previous research has shown that Caribbeans are more likely to form

non-marital unions or not to form any unions at all (Hannemann and Kulu 2015). The effects of other covariates are as follows. Endogamous marriage rates decline with increasing levels of education, indicating a later age at marriage among highly educated individuals. Better English language skills increase the propensity of forming an exogamous marriage and decrease the likelihood of endogamous marriage, as expected. Religious people are more likely to marry within a group than non-religious individuals, which is also expected. Individuals who come from large families are more likely to marry outside their ethnic group. Age-wise, endogamous marriages are more likely to be formed at younger ages and exogamous marriages at older ages. Finally, and interestingly, the levels of endogamous marriages have not changed across birth cohorts, whereas the levels of exogamous marriages have declined, which is perhaps surprising. One would expect some decline in both types of marriages due to the postponement of marriage to later ages; however, the finding may reflect the dynamics of group sizes and their effects. All ethnic groups have increased over time and the chances of finding a spouse from one's own ethnic group have therefore increased as well. As expected, the likelihood of forming an exogamous marriage is significantly lower prior to move to the UK (Model 3).

In the previous analysis, all exogamous marriages were considered as one group. To gain a better understanding of marriage patterns among immigrants and their descendants, we next distinguish between intermarriages with native British individuals (EX I) and those with other ethnic minorities (EX II). The analysis shows that women from non-European countries are 39% to 86% less likely to marry a native British person than immigrants from European countries (Table 4). The levels of intermarriage are relatively similar among the descendants of immigrants. Women of Indian descent are 56% less likely, those of Pakistani and Bangladeshi origin 71% less likely and Caribbeans 86% less likely to marry a native British man. In contrast, the descendants of European migrants have as high a likelihood of marrying natives as their parents' generation. The effects of other covariates show that the likelihood of marrying a native person is higher among individuals with better English language skills and those who are less religious.

Table 4: Relative risks of endogamous and exogamous marriages, non-native women and men

	Women			Men		
	EN HR	EX I HR	EX II HR	EN HR	EX I HR	EX II HR
Age						
15-19 years	0.25 ***	0.20 ***	0.20 ***	0.07 ***	0.08 ***	0.06 ***
20-24 years	0.66 ***	0.64 ***	0.64 **	0.45 ***	0.62 ***	0.43 ***
25-29 years	1	1	1	1	1	1
30-34 years	0.68 ***	0.88	0.70	1.17 *	1.04	1.22
35-39 years	0.34 ***	0.65 **	0.46 **	0.64 **	0.75	0.90
40-44 years	0.38 ***	0.43 ***	0.35 **	0.77	0.69	1.11
Cohort						
1950-1959	1.02	1.75 ***	1.31	0.95	1.46 **	1.34
1960-1969	1	1	1	1	1	1
1970-1979	1.08	0.91	0.80	1.09	0.84	0.94
1980+	1.13	0.78	0.65 *	0.73 **	0.68	0.75
Immigrant						
Europe	1	1	1	1	1	1
India	4.06 ***	0.16 ***	1.51	3.19 ***	0.10 ***	1.39
Pakistan/Bangladesh	5.37 ***	0.31 **	0.58 *	3.07 ***	0.22 ***	0.55 *
Caribbean	1.13	0.14 ***	0.37 *	1.00	0.15 ***	0.19 *
Other	1.43 **	0.61 ***	1.17	1.16	0.55 ***	1.61 *
Descendant of immigrants						
Europe	0.30 ***	1.00	0.59 *	0.20 ***	1.02	0.61 *
India	2.50 ***	0.44 ***	0.90	1.51 *	0.45 **	1.02
Pakistan/Bangladesh	3.98 ***	0.29 **	0.34 *	3.03 ***	0.32 **	0.58
Caribbean	0.71	0.14 ***	0.29 **	0.44 ***	0.18 ***	0.30 **
Other	0.69	0.43 ***	0.93	0.42 **	0.32 ***	1.05
Education						
No or lower qualifications	1.01	1.07	1.05	1.03	1.14	0.91
GCSE	1	1	1	1	1	1
A-level/other higher degree	0.75 ***	0.93	1.15	0.84 *	0.96	1.04
Tertiary degree	0.64 ***	0.90	0.97	0.77 **	1.08	0.90
English skills						
English is first language	1	1	1	1	1	1
Speaks without problems	1.34 ***	0.79 *	1.69 ***	1.41 ***	0.69 *	1.26
Speaks with problems	1.63 ***	0.44 **	1.45	1.61 ***	0.52	1.00
Religion makes a difference in life						
No difference	1	1	1	1	1	1
Little difference	1.36 *	0.89	1.40	1.16	0.80	1.51 *
Some difference	1.53 ***	0.89	1.30	1.43 **	0.72 **	1.48 *
Great difference	1.97 ***	0.76 *	1.44	1.87 ***	0.63 **	1.51 *
Number of siblings						
Only child	1	1	1	1	1	1
1	0.88	1.56 **	1.17	0.88	1.26	0.86
2-3	0.92	1.51 **	1.56 *	1.02	1.17	0.98
4+	1.10	1.21	1.34	1.16	1.03	1.03
Migration history						
Before arrival in UK	1.13 *	0.53 ***	0.42 ***	0.78 ***	0.44 ***	0.36 ***
After arrival in UK	1	1	1	1	1	1
Constant	0.0018 ***	0.0044 ***	0.0011 ***	0.0023 ***	0.0044 ***	0.0011 ***

Exogamous I: Marriage with a Native

Exogamous II: Marriage with an immigrant or descendant of immigrant from a different origin

Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01

There is some variation between ethnic groups in the likelihood of marrying an individual from another ethnic minority group. Indian women, particularly immigrants exhibit somewhat higher likelihood of marrying an individual from another country, whereas, again, those of Caribbean origin have low intermarriage rates, which is related to their low overall marriage levels. For women of Indian origin, it is possible that marriages between individuals from India and those of Indian descent from East Africa account for elevated intermarriage levels. The effects of covariates provide some indirect support for this: intermarriage seems to be high among religious people (i.e., with people of similar religious/ethnic backgrounds) and among those who come from large families. Again, the patterns of intermarriage are very similar among men, except that family of origin seem to play little role in exogamous marriages with other ethnic groups.

Finally, we also investigate determinants of endogamous and exogamous marriages among the native British population both for men and women. Table 5 shows that for women, both exogamous and endogamous marriage rates are lower among younger cohorts and higher among religious people. Exogamous marriages are formed at somewhat later ages. The patterns among men are similar, although with some interesting exceptions. First, the age differences in endogamous and exogamous marriages are more pronounced for men with exogamous marriages formed at significantly later ages. Second, highly educated men have an elevated propensity to marry someone from an ethnic minority group. Third, it seems that men who come from large families are more likely to form endogamous marriages.

Table 5: Relative risks of endogamous and exogamous marriages, native women and men

	Women		Men	
	EN HR	EX HR	EN HR	EX HR
Age				
15-19 years	0.27 ***	0.19 ***	0.08 ***	0.07 ***
20-24 years	0.94 **	0.68 ***	0.70 ***	0.53 ***
25-29 years	1	1	1	1
30-34 years	0.67 ***	0.81	0.83 ***	1.26 *
35-39 years	0.31 ***	0.35 ***	0.46 ***	0.93
40-44 years	0.31 ***	0.42 ***	0.47 ***	0.94
Cohort				
1950-1959	1.73 ***	1.47 ***	1.56 ***	1.21
1960-1969	1	1	1	1
1970-1979	0.69 ***	0.64 ***	0.76 ***	1.03
1980+	0.39 ***	0.47 ***	0.46 ***	0.60 **
Education				
No or lower qualifications	0.97	0.86	0.87 ***	0.81
GSCE	1	1	1	1
A-level/other higher degree	0.99	1.16	1.09 **	1.10
Tertiary degree	0.73 ***	1.09	0.87 ***	1.49 ***
Religion makes a difference in life				
No difference	1	1	1	1
Little difference	1.10 ***	1.08	1.02	1.03
Some difference	1.11 ***	1.26 *	1.07	1.42 ***
Great difference	1.15 ***	1.22	1.06	1.39 **
Number of siblings				
Only child	1	1	1	1
1	1.02	1.07	1.09 *	1.04
2-3	1.02	0.97	1.21 ***	1.02
4+	0.98	0.95	1.21 ***	1.20
Constant	0.0076 ***	0.0008 ***	0.0053 ***	0.0005 ***

Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01

In the previous analysis, exogamous marriages included all marriages with immigrants or their descendants (from the second generation). Next, we distinguish between the intermarriage of a native British person with an immigrant or with their descendant with no British parent (EX I) and between intermarriage with a descendant of one immigrant and one British parent (a ‘half-British’ (EX II)). The effects of covariates for women are relatively similar, i.e., there are no significant differences in the patterns of the two types of intermarriage (Table 6). For men, we detect an interesting and important difference. The effect of education is now even more pronounced: in comparison to others, highly educated men are significantly more likely to marry an immigrant or their descendant with no British mother or father; such marriages are also formed at later ages.

Table 6: Relative risks of endogamous and exogamous marriages, native women and men

	Women			Men		
	EN HR	EX I HR	EX II HR	EN HR	EX I HR	EX II HR
Age						
15-19 years	0.27 ***	0.16 ***	0.22 ***	0.08 ***	0.06 ***	0.09 ***
20-24 years	0.94 **	0.63 ***	0.78	0.70 ***	0.49 ***	0.62 **
25-29 years	1	1	1	1	1	1
30-34 years	0.67 ***	0.87	0.66	0.83 ***	1.45 **	0.98
35-39 years	0.31 ***	0.38 ***	0.26 ***	0.46 ***	1.10	0.63
40-44 years	0.31 ***	0.47 **	0.32 **	0.47 ***	1.15	0.75
Cohort						
1950-1959	1.73 ***	1.48 **	1.34	1.56 ***	1.18	1.31
1960-1969	1	1	1	1	1	1
1970-1979	0.69 ***	0.68 **	0.51 ***	0.76 ***	1.12	0.90
1980+	0.40 ***	0.56 **	0.25 ***	0.46 ***	0.70	0.41 **
Education						
No or lower qualifications	0.96	0.87	1.00	0.87 ***	0.80	0.91
GCSE	1	1	1	1	1	1
A-level/other higher degree	0.99	1.10	1.27	1.08 **	1.13	1.16
Tertiary degree	0.73 ***	1.14	1.02	0.87 ***	1.85 ***	1.03
Religion makes a difference in life						
No difference	1	1	1	1	1	1
Little difference	1.10 ***	1.08	1.10	1.03	1.10	0.86
Some difference	1.11 ***	1.14	1.58 ***	1.07 *	1.42 **	1.35
Great difference	1.15 ***	1.19	1.43	1.06	1.63 ***	1.17
Number of siblings						
Only child	1	1	1	1	1	1
1	1.01	0.95	1.55 *	1.08	1.19	1.04
2-3	1.02	0.85	1.32	1.20 ***	1.23	0.94
4+	0.98	0.82	1.04	1.21 ***	1.30	1.16
Constant	0.0076 ***	0.0005 ***	0.0003 ***	0.0054 ***	0.0002 ***	0.0002 ***

Exogamous I: Married with an immigrant or a descendant of immigrant (both parents born abroad)

Exogamous II: Married with a descendant of immigrant (one parent born in UK)

Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01

6. Summary and Discussion

This is the first study to analyse the formation of inter-ethnic marriages in the UK from a longitudinal perspective. Applying event-history analysis to life-history data from the Understanding Society study, the analysis showed the following. First, we observed significant differences among immigrants in the likelihood of marrying within and outside of their ethnic groups. While immigrants from European countries had relatively low endogamous and high exogamous marriage rates, the patterns were the opposite for those from India, Pakistan and Bangladesh; all South Asians exhibited a high propensity towards marrying a partner from their own ethnic group. Second, the descendants of immigrants had lower endogamous and higher exogamous marriage rates than their parents; however, for some ethnic groups, particularly for Pakistanis and Bangladeshis, the differences across generations were small. Further, among the second generation, the levels of endogamy were high and those of inter-marriage low. Third, once we controlled for the socio-demographic and cultural characteristics of individuals, the differences between various groups of

immigrants and their descendants decreased, but persisted. The endogamy rates were low and exogamy rates high both among women and men with better English skills, individuals who were less religious and those who were older at marriage. Fourth, highly educated men and women had lower marriage rates among the native British population, indicating later and lower marriage levels among them; however, highly educated men had an elevated likelihood of forming an inter-ethnic marriage. Exogamous marriages were also formed at later ages, particularly for men.

The analysis thus largely supported the findings of previous studies in Europe and the UK. It specified, however, the effect of various individual characteristics in the British context and revealed some important differences across population subgroups. While high levels of intra-group marriages among immigrants from non-European countries, particularly from South Asia, were not surprising, persistently high endogamy and low exogamy levels among the descendants of South Asian immigrants require research attention. Our further analysis revealed that often those who married outside the group formed a union with someone with an ethnic minority background rather than with a native British person. Our analysis also demonstrated that the main results persisted once we adjusted marital patterns to individual socio-demographic and cultural characteristics to control for the differences in population composition between the groups. Clearly, the observed marital patterns seem to support that South Asian communities in Britain, particularly Pakistanis and Bangladeshis, are relatively closed groups with few signs of marital assimilation or integration. Muttarak and Heath (2010) have called this a pluralistic path, whereas Peach (2005) has argued that South Asians in the UK, particularly Indians, follow the Jewish model of integration, maintaining its cultural distinctiveness despite more (Indians) or less (Pakistanis and Bangladeshis) successful economic integration. While previous studies have reported a gradual increase in exogamy among South Asians (Berrington 1994; 1996; Coleman 1994), our study shows that changes across generations among Pakistanis and Bangladeshis have been slower than expected.

In contrast, immigrants from Europe and their descendants have experienced rapid marital assimilation. European immigrants had a relatively low propensity of forming endogamous marriages and a high likelihood of marrying someone outside the group, mostly a native British person, which suggest that marriage migration may have played an important role. The descendants of European migrants were very likely to form an exogamous marriage. Previous

research suggests that the Caribbean population has followed the Irish model of economic and social integration (Peach 2005). Our analysis of marriage patterns showed some increase in the exogamy levels among the descendants of Caribbean immigrants, although this increase was not large because the share of mixed marriages was relatively high among Caribbean immigrants. Interestingly, however, further analysis revealed that Caribbeans were marrying both, natives and individuals of other ethnic minority groups. Another interesting finding was the fact that Caribbeans, both immigrants and their descendants, had both low endogamous and exogamous marriage rates, which suggests that particularly among the descendants of immigrants, they typically marry later or not at all. Considering these findings together with previous findings of high re-partnering levels among Caribbeans (Hannemann and Kulu 2015), we clearly see the diversity of marriage patterns among the Caribbean population. Their pluralistic model thus includes individuals who marry natives, those who marry other Caribbeans, those who marry individuals from other ethnic groups and those who do not marry (or form a union) at all.

The analysis showed that part of exogamous marriages among the native British population were those in which one spouse had one immigrant and one native parent; the analysis of ‘truly’ exogamous marriages showed that these were formed at later ages, particularly for men, which may be interpreted at least in two different ways. First, those individuals who do not find a suitable partner from their own ethnic group search for a partner from other groups; second, this is a select group of people in terms of their values, life experience and potentially also resources. The latter interpretation was indirectly supported by the finding that highly educated British natives had an elevated likelihood of marrying an immigrant or a descendant of two immigrants, although this pattern was observed only for men. Interestingly and surprisingly, the propensity for inter-marriage was also relatively high among more (rather than less) religious people, which seems to suggest the spread of marriages among natives in which spouses have the same religion, but may have different ethnic backgrounds.

We conducted a series of further analysis to determine how sensitive the results were to different model specifications. In our main analysis, we used the educational level measured at the survey, assuming that most individuals had completed their education before they married. We also fitted models in which we included education as a time-varying variable and imputed the age of completion of various educational levels following the general logic of the British educational system (e.g., GCSE at age 16; A-level at age 18; tertiary degree at age 21).

The comparison showed that the effects of other variables changed little no matter which specification of education was used; however, the impact of education itself slightly varied across the two specifications (see Appendix Table A2 and A3).

We also compared the results of our multiple imputation models to those obtained using conventional methods to analyse data with missing information (deleting missing cases or recoding them as a separate category). The comparison revealed some differences in the results, supporting the argument that conventional methods may introduce a bias. Interestingly, however, the main conclusions, i.e., significant differences in marriage rates across immigrants and their descendants were similar across three different strategies, despite the different magnitudes of the coefficients (see Appendix Table A4 and A5).

Using life-history data from the Understanding Society study, this study showed significant differences among immigrants and their descendants in the likelihood of marrying within and outside their ethnic groups. While immigrants from European countries and their descendants had relatively high exogamous marriage rates, South Asians exhibited a high likelihood of marrying a partner from their own ethnic group. Future research should also examine non-marital unions and investigate second and subsequent unions. This will allow us to gain further insights into partnership patterns among the Caribbean population, which has high cohabitation and re-partnering levels. One could also model the transitions to endogamous and exogamous unions jointly to allow an even better comparison of patterns across migrant groups.

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Appendix

Table A1: Reason for no information on type of marriage

Women									
Reasons for missing information	Widow		Divorce		Partner not interviewed		Marriage type not determined		Total
	N	%	N	%	N	%	N	%	N
Native	161	4.0	3016	74.3	883	21.7			4060
Immigrant									
<i>Europe</i>	6	4.0	110	73.3	34	22.7			150
<i>India</i>	13	12.4	38	36.2	54	51.4			105
<i>Pakistan/Bangladesh</i>	18	9.6	72	38.3	98	52.1			188
<i>Caribbean</i>	2	2.9	54	77.1	14	20.0			70
<i>Other</i>	26	3.8	256	36.9	187	27.0	224	32.3	693
Descendant of immigrants									
<i>Europe</i>	12	4.8	180	72.6	56	22.6			248
<i>India</i>	2	2.6	33	42.3	43	55.1			78
<i>Pakistan/Bangladesh</i>	3	3.2	43	46.2	47	50.5			93
<i>Caribbean</i>	4	5.3	61	81.3	10	13.3			75
<i>Other</i>	2	3.6	32	58.2	15	27.3	6	10.9	55
Men									
Reasons for missing information	Widow		Divorce		Partner not interviewed		Marriage type not determined		Total
	N	%	N	%	N	%	N	%	N
Native	59	2.9	1664	82.2	301	14.9			2024
Immigrant									
<i>Europe</i>	2	2.0	69	70.4	27	27.6			98
<i>India</i>	3	3.5	33	38.4	50	58.1			86
<i>Pakistan/Bangladesh</i>	2	1.3	48	30.8	106	67.9			156
<i>Caribbean</i>	0	0.0	33	84.6	6	15.4			39
<i>Other</i>	4	0.9	108	24.3	123	27.6	210	47.2	445
Descendant of immigrants									
<i>Europe</i>	4	3.5	85	73.9	26	22.6			115
<i>India</i>	1	3.2	17	54.8	13	41.9			31
<i>Pakistan/Bangladesh</i>	1	2.3	14	31.8	29	65.9			44
<i>Caribbean</i>	1	4.5	17	77.3	4	18.2			22
<i>Other</i>	0	0.0	9	50.0	4	22.2	5	27.8	18

Table A2: Comparison of education variable as time constant and time varying, Table 3A-3B

	Women				Men				
	Edu. time constant		Edu. time varying		Edu. time constant		Edu. time varying		
	EN	EX	EN	EX	EN	EX	EN	EX	
	HR	HR	HR	HR	HR	HR	HR	HR	
Age									
15-19 years	0.26 ***	0.18 ***	0.27 ***	0.20 ***	0.07 ***	0.06 ***	0.07 ***	0.07 ***	
20-24 years	0.69 ***	0.60 ***	0.70 ***	0.60 ***	0.46 ***	0.51 ***	0.47 ***	0.51 ***	
25-29 years	1	1	1	1	1	1	1	1	
30-34 years	0.67 ***	0.81 **	0.67 ***	0.82 **	1.15	1.12	1.15	1.12	
35-39 years	0.31 ***	0.61 ***	0.32 ***	0.62 ***	0.62 ***	0.83	0.62 ***	0.83	
40-44 years	0.35 ***	0.43 ***	0.34 ***	0.43 ***	0.70 **	0.89	0.70 **	0.89	
Cohort									
1950-1959	1.13	1.46 ***	1.16 **	1.47 ***	1.00	1.34 ***	1.01	1.34 ***	
1960-1969	1	1	1	1	1	1	1	1	
1970-1979	1.07	0.88	1.04	0.87	1.08	0.91	1.07	0.91	
1980+	1.09	0.78 **	1.03	0.77 **	0.71 ***	0.73 **	0.70 ***	0.73 **	
Immigrant									
Europe	1	1	1	1	1	1	1	1	
India	4.16 ***	0.58 ***	4.15 ***	0.57 ***	3.31 ***	0.45 ***	3.30 ***	0.45 ***	
Pakistan/Bangladesh	5.56 ***	0.35 ***	5.81 ***	0.36 ***	3.22 ***	0.27 ***	3.25 ***	0.28 ***	
Caribbean	1.18	0.17 ***	1.30	0.17 ***	1.02	0.16 ***	1.05	0.16 ***	
Other	1.46 ***	0.75 ***	1.48 ***	0.75 ***	1.20	0.81	1.20	0.81	
Descendant of immigrants									
Europe	0.34 ***	0.97	0.36 ***	0.99	0.21 ***	0.98	0.21 ***	0.98	
India	2.45 ***	0.58 ***	2.50 ***	0.58 ***	1.55 ***	0.59 ***	1.55 ***	0.59 ***	
Pakistan/Bangladesh	3.99 ***	0.30 ***	4.24 ***	0.30 ***	3.14 ***	0.38 ***	3.18 ***	0.38 ***	
Caribbean	0.69	0.18 ***	0.75	0.18 ***	0.47 ***	0.20 ***	0.48 ***	0.20 ***	
Other	0.69	0.56 ***	0.67	0.56 ***	0.44 ***	0.50 ***	0.44 ***	0.50 ***	
Education									
No or lower qualifications	1.03	1.04	1.04	1.04	1.04	1.01	1.07	1.01	
GCSE	1	1	1	1	1	1	1	1	
A-level/other higher degree	0.75 ***	1.04	1.00	1.27 **	0.81 **	1.04	0.89	1.09	
Tertiary degree	0.61 ***	0.99	0.96	1.25 **	0.73 ***	1.07	0.83 **	1.14	
English skills									
English is first language	1	1	1	1	1	1	1	1	
Speaks without problems	1.29 ***	1.14	1.36 ***	1.15	1.40 ***	0.96	1.41 ***	0.95	
Speaks with problems	1.56 ***	0.84	1.90 ***	0.90	1.58 ***	0.75	1.63 ***	0.77	
Religion makes a difference in life									
No difference	1	1	1	1	1	1	1	1	
Little difference	1.26 **	1.04	1.24	1.01	1.14	0.95	1.14	0.95	
Some difference	1.32 ***	1.09	1.30 ***	1.06	1.31 ***	0.98	1.30 ***	0.98	
Great difference	1.69 ***	1.07	1.70 ***	1.06	1.71 ***	0.98	1.71 ***	0.98	
Number of siblings									
Only child	1	1	1	1	1	1	1	1	
1	0.93	1.31 **	0.87	1.26 **	0.94	0.99	0.93	0.98	
2-3	0.98	1.41 ***	0.92	1.38 ***	1.08	1.00	1.07	1.00	
4+	1.13	1.25 **	1.11	1.26 **	1.19 **	1.02	1.18	1.02	
Migration history									
Before arrival in UK	1.08	0.51 ***	1.03	0.50 ***	0.77 ***	0.40 ***	0.76 ***	0.40 ***	
After arrival in UK	1	1	1	1	1	1	1	1	
Constant	0.0019 ***	0.0067 ***	0.0019 ***	0.0067 ***	0.0024 ***	0.0054 ***	0.0022 ***	0.0053 ***	

Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01

Table A3: Comparison of education variable as time constant and time varying, Table 5

	Women				Men				
	Edu. time constant		Edu. time varying		Edu. time constant		Edu. time varying		
	EN	EX	EN	EX	EN	EX	EN	EX	
	HR	HR	HR	HR	HR	HR	HR	HR	
Age									
15-19 years	0.27 ***	0.19 ***	0.27 ***	0.22 ***	0.08 ***	0.07 ***	0.08 ***	0.09 ***	
20-24 years	0.94 **	0.68 ***	0.94 **	0.68 ***	0.70 ***	0.53 ***	0.70 ***	0.53 ***	
25-29 years	1	1	1	1	1	1	1	1	
30-34 years	0.67 ***	0.81	0.67 ***	0.82	0.83 ***	1.26 *	0.83 ***	1.27 *	
35-39 years	0.31 ***	0.35 ***	0.31 ***	0.35 ***	0.46 ***	0.93	0.46 ***	0.93	
40-44 years	0.31 ***	0.42 ***	0.31 ***	0.42 ***	0.47 ***	0.94	0.47 ***	0.95	
Cohort									
1950-1959	1.73 ***	1.47 ***	1.75 ***	1.48 ***	1.56 ***	1.21	1.56 ***	1.22	
1960-1969	1	1	1	1	1	1	1	1	
1970-1979	0.69 ***	0.64 ***	0.67 ***	0.63 ***	0.76 ***	1.03	0.76 ***	1.03	
1980+	0.39 ***	0.47 ***	0.38 ***	0.47 ***	0.46 ***	0.60 **	0.45 ***	0.60 *	
Education									
No or lower qualifications	0.97	0.86	0.88 ***	0.78 *	0.87 ***	0.81	0.86 ***	0.79	
GCSE	1	1	1	1	1	1	1	1	
A-level/other higher degree	0.99	1.16	1.15 ***	1.31 **	1.09 **	1.10	1.16 ***	1.17	
Tertiary degree	0.73 ***	1.09	0.88 ***	1.29 *	0.87 ***	1.49 ***	0.93 *	1.57 ***	
Religion makes a difference in life									
No difference	1	1	1	1	1	1	1	1	
Little difference	1.10 ***	1.08	1.08 **	1.07	1.02	1.03	1.02	1.03	
Some difference	1.11 ***	1.26 *	1.07 **	1.23	1.07	1.42 ***	1.06	1.41 ***	
Great difference	1.15 ***	1.22	1.09 **	1.17	1.06	1.39 **	1.05	1.39 **	
Number of siblings									
Only child	1	1	1	1	1	1	1	1	
1	1.02	1.07	1.00	1.06	1.09 *	1.04	1.09	1.04	
2-3	1.02	0.97	1.03	0.97	1.21 ***	1.02	1.21 ***	1.03	
4+	0.98	0.95	1.03	0.99	1.21 ***	1.20	1.23 ***	1.22	
Constant	0.0076 ***	0.0008 ***	0.0072 ***	0.0008 ***	0.0053 ***	0.0005 ***	0.0052 ***	0.0005 ***	

Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01

Table A4: Comparison of analysis strategies, Model 3 Table 3A, women

Women	Analysis strategy							
	Recode			Delete no info		MI		EX
	EN	EX	No info	EN	EX	EN		
HR	HR	HR	HR	HR	HR	HR		
Age								
15-19 years	0.21 ***	0.11 ***	0.30 ***	0.23 ***	0.13 ***	0.26 ***	0.18 ***	
20-24 years	0.60 ***	0.54 ***	0.74 ***	0.65 ***	0.59 ***	0.69 ***	0.60 ***	
25-29 years	1	1	1	1	1	1	1	
30-34 years	0.69 ***	0.99	0.65 ***	0.62 ***	0.87	0.67 ***	0.81 **	
35-39 years	0.32 ***	0.85	0.36 ***	0.26 ***	0.68 ***	0.31 ***	0.61 ***	
40-44 years	0.37 ***	0.50 ***	0.36 ***	0.28 ***	0.38 ***	0.35 ***	0.43 ***	
Cohort								
1950-1959	0.97	1.34 ***	1.41 ***	1.08	1.53 ***	1.13	1.46 ***	
1960-1969	1	1	1	1	1	1	1	
1970-1979	1.27 ***	1.05	0.81 ***	1.14 *	0.92	1.07	0.88	
1980+	1.33 ***	0.93	0.77 ***	1.08	0.72 **	1.09	0.78 **	
Immigrant								
Europe	1	1	1	1	1	1	1	
India	5.10 ***	0.83	1.27 *	4.98 ***	0.82	4.16 ***	0.58 ***	
Pakistan/Bangladesh	7.01 ***	0.53 ***	1.61 ***	7.06 ***	0.52 ***	5.56 ***	0.35 ***	
Caribbean	0.72	0.17 ***	0.67 ***	0.77	0.17 ***	1.18	0.17 ***	
Other	0.85	0.58 ***	1.42 ***	1.03	0.66 ***	1.46 ***	0.75 ***	
Descendant of immigrants								
Europe	0.22 ***	0.74 ***	1.26 **	0.26 ***	0.80 *	0.34 ***	0.97	
India	2.46 ***	0.55 ***	1.22	2.77 ***	0.57 ***	2.45 ***	0.58 ***	
Pakistan/Bangladesh	3.78 ***	0.30 ***	1.65 ***	4.07 ***	0.30 ***	3.99 ***	0.30 ***	
Caribbean	0.51 ***	0.14 ***	0.47 ***	0.52 ***	0.14 ***	0.69	0.18 ***	
Other	0.55 **	0.50 ***	0.80	0.63 *	0.52 ***	0.69	0.56 ***	
Education								
No or lower qualifications	0.88	1.00	1.18 **	0.91	1.01	1.03	1.04	
GSCE	1	1	1	1	1	1	1	
A-level/other higher degree	0.66 ***	1.00	0.95	0.67 ***	1.04	0.75 ***	1.04	
Tertiary degree	0.61 ***	1.05	0.72 ***	0.62 ***	1.08	0.61 ***	0.99	
English skills								
English is first language	1	1	1	1	1	1	1	
Speaks without problems	1.20 **	1.11	1.29 ***	1.31 ***	1.16	1.29 ***	1.14	
Speaks with problems	1.55 ***	0.81	1.41 ***	1.57 ***	0.81	1.56 ***	0.84	
Religion makes a difference in life								
No difference	1	1	1	1	1	1	1	
Little difference	1.45 **	1.26 **	0.95	1.54 ***	1.23 *	1.26 **	1.04	
Some difference	1.64 ***	1.16	1.06	1.72 ***	1.15	1.32 ***	1.09	
Great difference	2.16 ***	1.12	1.21 ***	2.37 ***	1.15	1.69 ***	1.07	
Number of siblings								
Only child	1	1	1	1	1	1	1	
1	0.88	1.61 ***	1.02	0.86	1.62 ***	0.93	1.31 **	
2-3	0.94	1.71 ***	1.07	0.92	1.76 ***	0.98	1.41 ***	
4+	0.99	1.22	1.30 ***	1.04	1.30 *	1.13	1.25 **	
Migration history								
Before arrival in UK	1.12	0.48 ***	0.82 ***	1.23 ***	0.53 ***	1.08	0.51 ***	
After arrival in UK	1	1	1	1	1	1	1	
Constant	0.0012 ***	0.0025 ***	0.0029 ***	0.0012 ***	0.0029 ***	0.0019 ***	0.0067 ***	

Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01

Table A5: Comparison of analysis strategies, Model 3 Table 3B, men

Men	Analysis strategy							
	Recode			Delete no info		MI		EX
	EN	EX	No info	EN	EX	EN		
HR	HR	HR	HR	HR	HR	HR		
Age								
15-19 years	0.06 ***	0.04 ***	0.11 ***	0.06 ***	0.04 ***	0.07 ***	0.06 ***	
20-24 years	0.42 ***	0.44 ***	0.58 ***	0.43 ***	0.46 ***	0.46 ***	0.51 ***	
25-29 years	1	1	1	1	1	1	1	
30-34 years	1.24 **	1.25 **	0.99	1.17 *	1.18	1.15	1.12	
35-39 years	0.59 ***	0.80	0.78 *	0.52 ***	0.70 **	0.62 ***	0.83	
40-44 years	0.80	0.90	0.73 *	0.63 **	0.73 *	0.70 **	0.89	
Cohort								
1950-1959	0.81 **	1.23 *	1.42 ***	0.86	1.37 ***	1.00	1.34 ***	
1960-1969	1	1	1	1	1	1	1	
1970-1979	1.09	0.93	0.97	1.02	0.86	1.08	0.91	
1980+	0.70 ***	0.86	0.68 ***	0.56 ***	0.68 **	0.71 ***	0.73 **	
Immigrant								
Europe	1	1	1	1	1	1	1	
India	3.78 ***	0.60 **	1.08	3.66 ***	0.56 ***	3.31 ***	0.45 ***	
Pakistan/Bangladesh	3.48 ***	0.43 ***	1.08	3.42 ***	0.40 ***	3.22 ***	0.27 ***	
Caribbean	0.76	0.11 ***	0.62 **	0.75	0.10 ***	1.02	0.16 ***	
Other	0.76 *	0.70 **	1.29 **	0.93	0.74 **	1.20	0.81	
Descendant of immigrants								
Europe	0.20 ***	0.98	0.79 *	0.19 ***	0.92	0.21 ***	0.98	
India	1.62 **	0.70 *	0.72 *	1.51 **	0.65 **	1.55 ***	0.59 ***	
Pakistan/Bangladesh	2.91 ***	0.43 ***	1.37 *	2.82 ***	0.43 ***	3.14 ***	0.38 ***	
Caribbean	0.42 ***	0.22 ***	0.29 ***	0.38 ***	0.20 ***	0.47 ***	0.20 ***	
Other	0.47 ***	0.54 ***	0.41 ***	0.45 ***	0.51 ***	0.44 ***	0.50 ***	
Education								
No or lower qualifications	1.01	0.92	1.11	1.00	0.89	1.04	1.01	
GSCE	1	1	1	1	1	1	1	
A-level/other higher degree	0.82 *	1.03	0.90	0.83 *	1.05	0.81 **	1.04	
Tertiary degree	0.77 ***	1.04	0.83 *	0.77 ***	1.10	0.73 ***	1.07	
English skills								
English is first language	1	1	1	1	1	1	1	
Speaks without problems	1.35 ***	0.82 *	1.32 ***	1.39 ***	0.87	1.40 ***	0.96	
Speaks with problems	1.64 ***	0.59 *	1.30 **	1.57 ***	0.62 *	1.58 ***	0.75	
Religion makes a difference in life								
No difference	1	1	1	1	1	1	1	
Little difference	1.24	1.02	0.95	1.24	1.07	1.14	0.95	
Some difference	1.64 ***	0.96	1.00	1.64 ***	0.97	1.31 ***	0.98	
Great difference	2.21 ***	0.93	1.16 *	2.27 ***	0.96	1.71 ***	0.98	
Number of siblings								
Only child	1	1	1	1	1	1	1	
1	0.89	1.11	0.93	0.92	1.07	0.94	0.99	
2-3	1.08	1.07	1.01	1.09	1.06	1.08	1.00	
4+	1.19 *	0.98	1.14	1.21 *	1.01	1.19 **	1.02	
Migration history								
Before arrival in UK	0.72 ***	0.29 ***	0.72 ***	0.74 ***	0.32 ***	0.77 ***	0.40 ***	
After arrival in UK	1	1	1	1	1	1	1	
Constant	0.0014 ***	0.0035 ***	0.0027 ***	0.0018 ***	0.0043 ***	0.0024 ***	0.0054 ***	

Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01

Mixed Marriages Among Immigrants and Natives in Spain

Amparo González-Ferrer¹, Ognjen Obucina², Clara Cortina¹ and Teresa Castro¹

Abstract:

This study investigates formation of endogamous and exogamous marriages among immigrants and natives in Spain. The study combines data from the National Immigrant Survey (2007) and the Marriages Register (2008) to examine the factors underlying participation on mixed marriages of immigrants and natives, respectively. The first analysis focuses on the immigrants' patterns of exogamous versus endogamous marriages by introducing marriage market constraints indicators and some immigrant-specific factors, apart from the usual socio-demographic controls. The second analysis focuses on the natives' patterns of exogamous versus endogamous marriages by considering the role that ethnic differences across origin groups and potential exchange of traits, instead of homogamy, may play in explaining intermarriage patterns among native-born Spaniards.

Keywords: marriage, immigrants, natives, event history analysis, marriage market imbalances, Spain

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1. Introduction

Although a number of important studies have looked at mixed marriages between the communities who have lived in the same country for centuries (Hendrickx et al., 1991; O’Leary and Finnäs, 2002; Kalmijn et al., 2006), it can be argued that native-immigrant marriages currently dominate the European research on intermarriage. Spain is no exception to this pattern – the research on intermarriage in this country has almost exclusively focused on marriages with respect to nativity. A sizeable body of research on how preferences, marriage markets and third parties shape partner choices among immigrants in Western countries echoes widely accepted views on intermarriage as an indicator and agent of social integration of minorities (Coleman, 1994; Kalmijn, 1998). However, there are also some reasons to believe that the link between intermarriage and social integration is more complex than is commonly assumed. For instance, recent empirical evidence (see an overview in Kulu and González-Ferrer, 2014) shows that native-immigrant marriages are in general more likely to break up than endogamous marriages. Also, Song (2009) argues that intermarriage per se does not imply social acceptance since the experiences of intermarriage may vary across gender, class and region. In addition, some studies have attributed some of the integrative effects in the labour market to selection effects rather than a proper intermarriage premium (Kantarevic, 2004), although more recent analyses in other national contexts have challenged these conclusions (Meng and Gregory, 2005; Meng and Meurs, 2009). Moreover, the intermarriage premium has not been found for natives, which definitely poses interesting questions on why natives engage in mix-marriages, a topic that has received far less attention than the immigrants’ marital choices (Glowsky 2007; Huijnk et al. 2010; Kalmijn 1998; 2010).

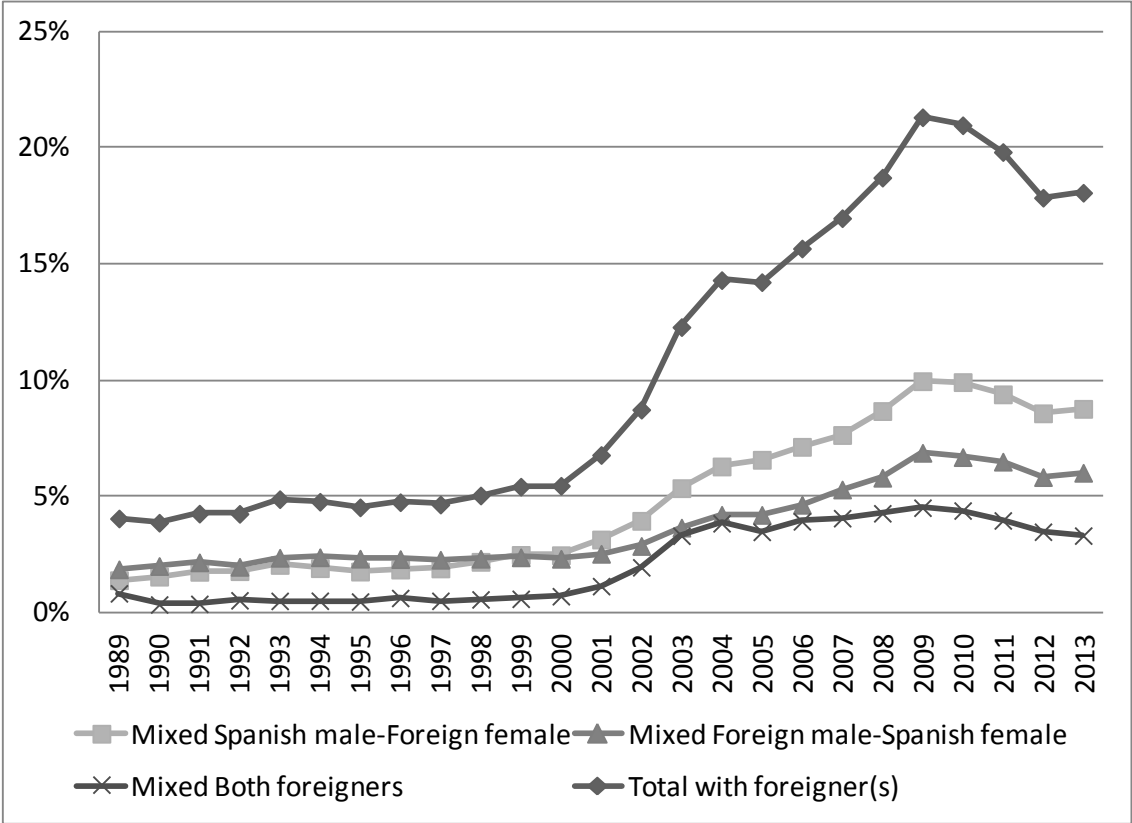
In this paper we will contribute to previous research by providing evidence on the recent dynamics of intermarriage in Spain, by analyzing simultaneously the determinants of marital choices made not only by immigrants but also by natives. For immigrants, we adopt an event history approach that represents a step forward in comparison to most of the previous studies, mostly based on the distribution of existing unions. Besides, apart from the common socio-demographic and ethnic explanations generally explored in those studies, here we also investigate the role of marriage market constraints separately by gender, largely ignored previous articles. Secondly, we develop the available evidence for immigrants with a complementary analysis of the mix-marriage choices made by native Spaniards, incorporating

again the role played by the structural conditions in local marriage markets strongly segmented by educational level, in order to shed some light on the differential incidence and composition by origin of mixed marriages recently formed in Spain.

2. Previous research on intermarriage in Spain

As a former emigration country which within relatively short time turned into an attractive destination country, Spain is considered a textbook example of migration transition (Castles et al., 2014). But, the peculiarity of the Spanish case in the story on migration in contemporary Europe does not only manifest in the speed of increase in migrant population. First, no other country in the 21st century Western Europe has had such a high share of immigrants who share mother tongue with the destination country. Second, Spain is one of the principal destinations of lifestyle migration in Europe, and a fair share of its immigrants originates from even wealthier countries. This heterogeneity in immigrant population has obviously affected the patterns of intermarriage formation in Spain, whose number strongly increased since 2000, as can be seen in Figure 1.

Figure 1. Proportion of mixed marriages by origin, Spain 1989-2013.



Source: Marriage records, 1989-2013

It is noteworthy that our knowledge on the patterns of intermarriage in Spain has mostly been acquired in an indirect way: previous research on partner choices among immigrants in this country has given somewhat more attention to the determinants of endogamous choices. Cortina et al. (2008) use the data from the 2001 Spanish census to study marriage formation among the foreign-born in Spain. This paper can be considered an early evidence of intermarriage patterns in Spain in the sense that immigration flows at that time were still recent and the crisis had not fuelled yet the return of many others. The authors focus on four groups in this paper, namely the immigrants born in the United Kingdom, Morocco, Colombia and Ecuador, and analyze which characteristics are associated with being in an endogamous marriage. According to their results, Ecuadorians show the highest, while the British-born show the lowest propensity for endogamy. Immigrants who were younger at arrival as well as immigrants with a longer duration of stay were less likely to enter endogamous marriages. Similar results have been found in other European studies, and the most likely mechanism behind these findings is a lower degree of socialization in the country or origin for immigrants who arrive at a young age, as well as greater opportunities of interaction with natives the longer the stay at destination (Kalmijn and Van Tubergen, 2006, Adserá and Ferrer, 2014). Cortina and colleagues also find that less educated immigrants, especially men, were more likely to be in endogamous unions. This finding is a mirror image of a very frequent result in European studies on intermarriage – that a higher education level implies a higher likelihood for immigrants to marry a native person (Lievens, 1998; González-Ferrer, 2006; Kalmijn and Van Tubergen, 2006; Dribe and Lundh, 2008; Hamel et al., 2013). The main limitation of this study is that, due to data constraints, the authors were not able to distinguish between unions formed before and those formed after migration. In the light of previously discussed views on the link between intermarriage and integration, social researchers have largely been interested in post-migration marital behavior. This is why the launch of the Spanish National Immigrant Survey (hereafter, NIS) in 2007 was very important for the subsequent research and additional insights on mixed nativity unions in Spain.

Sánchez-Domínguez et al. (2011) use NIS to explore endogamous marriages among immigrants from Morocco, Romania, Ecuador, Colombia and Argentina. They show that men are less likely to marry around the time of migration. This result is a strong indicator that marriage migration largely takes place according to a traditional pattern, i.e. male immigrant importing female partner from the country of origin. Marriage migration is an especially common practice among Moroccans in Spain (as well as in some other European countries,

see Lievens, 1999). The interplay of cultural and gender norms implies that the nature of intermarriage is also gendered (Dribe and Lundh, 2011; Lanzieri, 2012). Sánchez-Domínguez and colleagues show that, similar to other European destinations, endogamy is more common among immigrant men also in Spain. The only exception to this pattern are immigrants from Argentina – in this group the share of endogamously married immigrants is somewhat lower among men. Once the observable characteristics are taken into account the highest propensity for endogamy is found among Moroccan men and women and Romanian and Ecuadorian men. The results on the effect of education and age at migration on partner choice show somewhat more complex picture than in Cortina et al. (2008). In particular, whereas more educated immigrant men are clearly less likely to be married endogamously, this association is not statistically significant for immigrant women. Gender differences also emerge when looking at the effect of age. Immigrant men arriving young to Spain were less likely to marry endogamously, while the opposite is the case for women. Finally, the period of migration also matters: pre-2000 immigrants had a higher propensity to be married endogamously. The authors ascribe this effect to smaller ethnic marriage markets in the early stages of immigration to Spain. This interpretation is consistent with the evidence from other countries showing a positive association between group size and endogamy (Blau et al., 1982; Van Tubergen and Maas, 2007; Chiswick and Houseworth, 2011). Although more intense individual selection in the initial phases of migration flows has also been argued to be one factor underlying higher intermarriage rates when the flows initiate, compared to the more mature phases of the immigration process, when selection decreases and co-ethnic group size increases (Klein, 2001). In fact, immigrants who arrived to Spain before the late nineties, especially from Latin America, are known to have a substantially different profile in terms of reasons for migration (more political than economic), education and national origins, compared to the most recent ones.

Esteve and Bueno (2012) also used NIS to explore marital choices of Moroccan immigrants who migrated to Spain unmarried and after 1980 -in contrast to the Latin Americans, the profile of Moroccan immigrants to Spain have remained more unchanged over time (Cebolla and Requena, 2009). Moroccan men who marry endogamously typically do so three years after migration, while those marrying a non-Moroccan woman typically do so eight years following the move to Spain. When looking at Moroccan women, no clear link was identified between endogamy and duration of stay, whereas, somewhat surprisingly, an exogamous marriage is more likely to take place early after migration than some years later. This result

may suggest that the Spanish-born men also participate in transnational marriage markets. Building on the classical intermarriage literature on the influence of third parties and marriage markets on partner choices (Kalmijn, 1998; Jacobson and Heaton, 2008; Tolsma et al., 2008), Esteve and Bueno (2012) also find that chances of endogamous choice rise if migration decision was influenced by a relative or acquaintance, which in their interpretation indicates that immigrants' social networks promote endogamous marriages. The issue of individual networks on partner choices was also addressed by Del Rey Poveda and De Vilhena (2014). Using the same dataset, they focus on immigrants from Romania, Morocco, Argentina, Colombia and Ecuador and who had not been married prior to their arrival in Spain. Their study shows that the presence of family members or co-ethnic friends at the moment of arrival increases the likelihood of an endogamous partner choice for immigrant men and women as well as that it reduces the chances of marrying a native person. On a similar note, a higher degree of affiliation to Spain (operationalized by the possession of Spanish nationality) increases the chances of marrying a native.

A large majority of studies on mixed nativity marriages in Europe analyze the characteristics of the foreign-born who enter exogamous or endogamous marriages. However, it takes two to marry and it can be argued that our understanding of intermarriage is not complete without appropriate insights on the propensity to intermarry among natives. However, our understanding of the inter-marriage decisions of natives remains much more limited than that of immigrants, both in the international and Spanish literature. To our knowledge, only two studies have partially addressed this issue. Serret and Vitali (2014) compared the intermarriage patterns of natives in Spain in Italy with data from the Marriages Register. According to their results, native men who marry an immigrant from Eastern Europe, Africa, Asia and Latin America tend to be lower educated than those who marry a native spouse in both countries. In contrast, higher education is mostly positively associated with the likelihood of marrying a partner from Western Europe and North America, for both men and women. Medrano et al. (2014) found something similar when explored marriages between Spaniards and other Europeans, making a rough distinction between the natives of EU-15 countries and other EU countries (here labeled "new Europeans"): while higher education level implies a higher likelihood of marriage with an EU-15 spouse, it is lower educated Spaniards who have a tendency to marry immigrants from new EU members. In addition, they found that Spanish women more often marry a partner from EU-15 than Spanish men, while the opposite is the case when it comes to marrying a new European.

3. Theoretical expectations in the context of the changing local marriage market in Spain

Although they suggest very interesting results, the previously revised studies do not provide a convincing history of why men and women intermarriage at different rates and with different immigrant groups in Spain. According to the status homogamy theory (Becker, 1973, 1974), spouses in mixed marriages would have similar characteristics in terms of educational level and/or socio-economic status. This body of research basically concludes that people find mates who are similar to themselves in status, class, education and religion (Kalmijn, 1991, 1993, 1998), as well as race (Lieberson and Waters, 1988). In sum, that married partners tend to be the same on every dimension except gender. The assimilation hypothesis would predict the same but only in the highly-educated segment of the population, to the extent that higher education is believed to weaken attachments with the group of origin and, consequently, to blur the cultural barriers against marriage out of their own group (Hwang et al., 1995, cited in Kalmijn, 1998: 401).

By contrast, the ‘exchange’ theory of Merton (1941) required marriage partners to be different in at least two key dimensions (other than gender); without differences, the “exchange” cannot take place: the immigrant partner is expected to have some valuable trait to offer to the potential native partner in exchange for the cost of crossing racial, ethnic and/or cultural lines, which might be higher or lower depending on the perceived social distance previously established prejudices between majority and minority groups¹. In endogamous immigrant couples (i.e. made up of two immigrants with no importation of partners involved), status homogamy is expected to dominate since there is not a clear trait to be exchanged². In the case of mixed marriages, the status exchange theory would predict the immigrant partners to have a higher education and/or social status than their native partner in exchange for opportunities of more stable legal status, upward socio-economic mobility and access to a safer and richer social network on behalf of the the native partner.

However, as pointed out by Mafioli et al. (2013), the educational level of an immigrant person does not necessarily imply a possibility for status exchange, even if the immigrant’s

¹ See Rosenfeld (2005) for a thorough review and critique of the status-exchange theory.

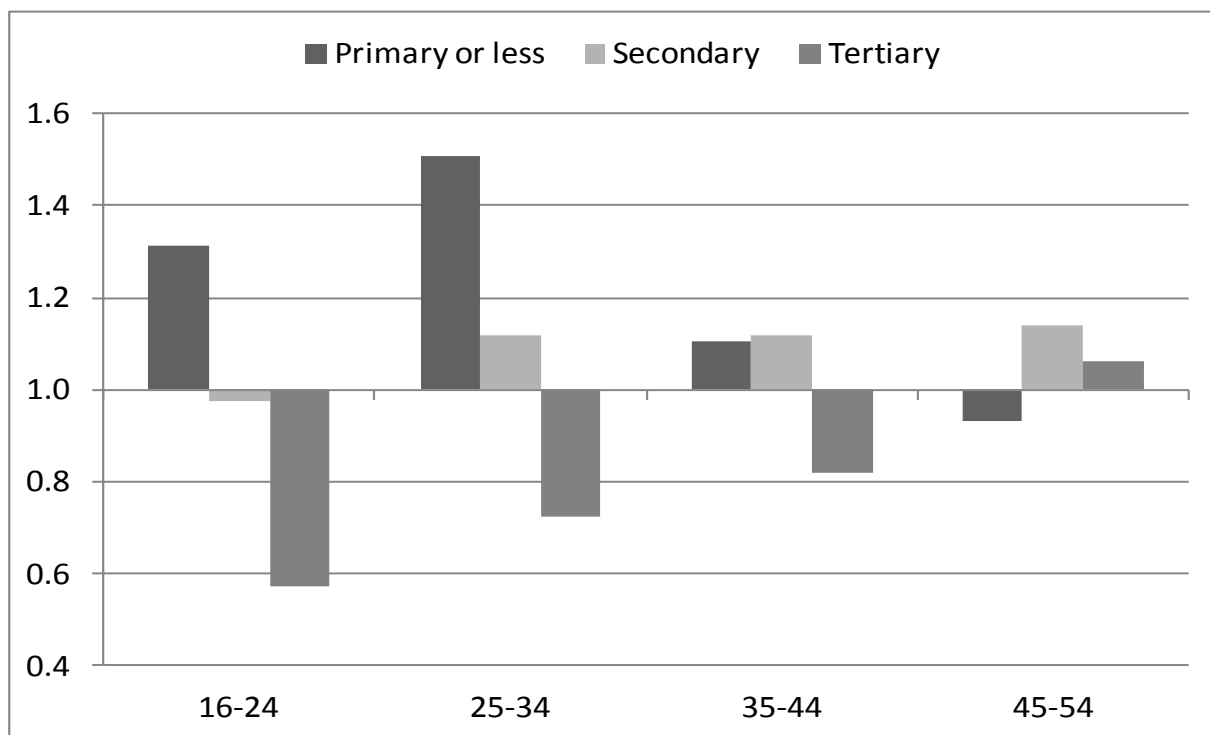
² In imported/marriage migration couples, the opposite thing occurs because the potential importer differs in one crucial aspect: the right of residence in the country of immigration. However, the terms of the exchange are likely to vary by gender of the pioneer partner.

educational level is higher than that of the native partner due to the limited transferability of qualifications across borders and their different rewards in destination labour markets. Education can still remain an important factor of exogamy, because it increases social contacts and relaxes traditional links, as the assimilation hypothesis argues, but other traits like physical appearance and younger age might be more important in a potential exchange than educational levels by themselves. A large age difference is, after all, an old and well-recognized system for balancing social differences in mate selection and men, as they age, are known to choose women who are increasingly younger (Alarie & Carmichael, 2015; England & McClintock, 2009; Shafer, 2013).

Beyond the partially contradictory predictions derived from the status homogamy and status exchange theories with regard to immigrant-native mixed marriages, it is important to remind that individual preferences regarding marital choices can be seriously constrained by the structural conditions of the marriage markets as the “opportunity theory” formulated by Blau (1977) emphasized. Among others, the constraints for individuals’ marital choices that derive from sex imbalances within the (partial) marriage market where individuals search for a partner, and the size of the own group within the local marriage market, are two of the most important ones. The larger the size of the own group, the more the (statistical) chances of endogamous contacts, and greater the sources of social control as well; accordingly, a negative relationship between the own group’s size and propensity to mix-marry is expected. On the contrary, sex imbalances within the own group are likely to increase intermarriage rates for the minority sex at least, since the less marriageable women (men) within the same group the more likely they will be to marry a woman (man) from outside.

Bearing all this in mind, it is clear that a proper understanding of the gender and ethnic differences in the intermarriage patterns in Spain requires to better frame any empirical analysis within the context of changing marriage markets. First of all, massive immigration flows to Spain started to arrive in Spain at a time when the local marriage market was already segmented by gender and educational levels, and developing some clear unbalances. Namely, in 2007, the year before immigrant annual entries peaked, young low educated single men clearly faced a clear shortage of ‘similar’ women (see sex ratios above 1 for dark bars - primary and less- in age groups younger 35, in Figure 2), while highly educated women faced a clear shortage of similarly educated Spanish-born available partners, especially in the youngest groups (see sex ratios below 1 for light-dark bars - tertiary -, in Figure 2).

Figure 2. Sex ratio of Spanish-born available spouses by age and educational level, Spain 2007.



Source: Labour Force Survey 2007.

Note: sex ratios are computed as the number of males available (single, divorced or widow) over number of females available in each group of age and education. Individuals in non-marital cohabitation are considered to be available here, which might affect the results.

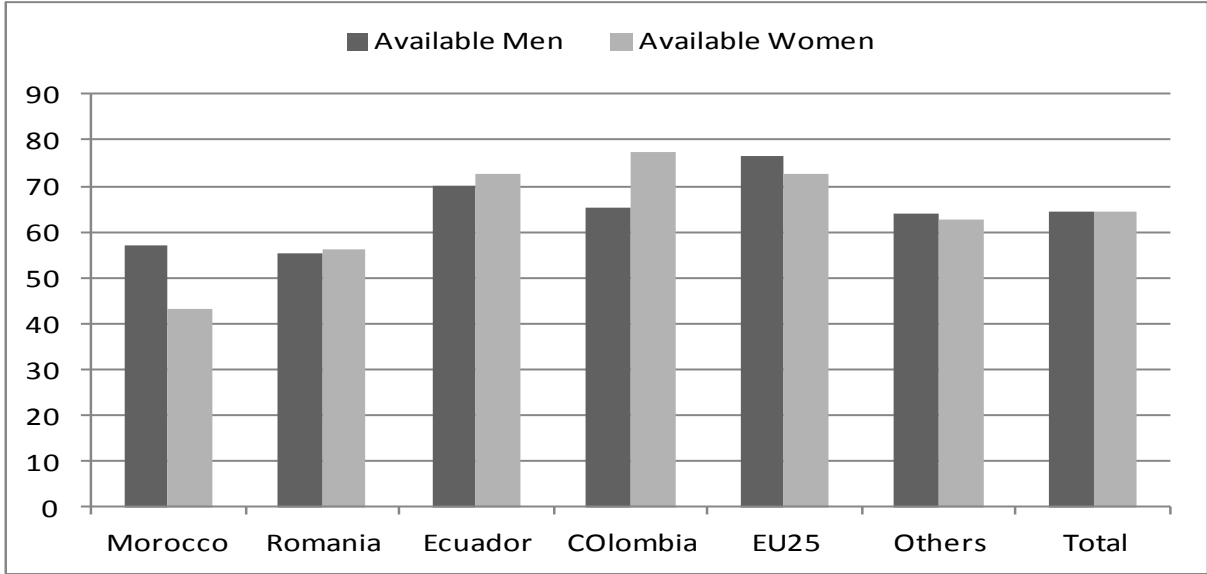
In absolute size, according to the Labour Force Survey data, the shortage for low-educated native men was much larger in 2007 (684,767 excess of available men in age groups 16-35) than for highly-educated women (365,501 excess of available women in age groups 16-35)³, which would predict a higher chance for mixed couples between native men and immigrant women, than the other way around. However, such expectation of a more likely matching between native men and immigrant women will be also dependent, obviously, on two other factors, at least: 1) the gender, marital status and educational level composition of the immigrant inflows that had been arriving during those years, 2) the differential propensity to cross homogamy lines by native men and women.

Firstly, regarding the composition of the immigrant inflows, by 2007, approximately 64 percent of total immigrants from any country of origin aged between 16 and 55 years old were potentially ‘available’ for marriage –meaning not married, as can be seen in Figure 3.

³ Excess of available native men and women has been calculated by comparing the number of native men and women of the educational levels in year 2007.

However, the extent of this availability varied across genders and origins: the proportion of potentially available partners was much lower among the Moroccan women (43 percent), while it was much higher among the Colombian women and EU25 men (77 percent). In other words, opportunities to find a partner among the recently arrived immigrants substantially varied across origin groups for available native men and women, even without taking into account their respective level of education.

Figure 3. Percentage of available partners among immigrants arrived to Spain between 1995 and 2007, by gender and origin.



Source: NIS 2007.

Secondly, we know in Spain there has been an increasing trend towards educational homogamy among the most educated; this pattern has been especially strong among more educated women, even there is some indications that the traditional prevalence of female hypergamy among heterogamous unions has started to decrease for the youngest cohorts (Esteve and Cortina, 2009). Accordingly, we should expect a stronger reluctance among native highly educated women to intermarriage with immigrants than among low-educated men, reinforcing the expected effect of the differential size of the gender and educational unbalances in the native marriage market and in the composition of the recent immigration inflows.

According to all the facts described so far, increasing immigrant inflows would increase intermarriage rates of Spanish-born women and immigrant men if a large number of the

newly arrived immigrants are single and relatively highly educated men, since this is the type of men in shortage in the Spanish marriage market; conversely, Spanish-born men will be more likely to engage in mixed couples with immigrants if immigration inflows are abundant in non-married woman of relatively young ages (younger than the Spanish unmarried men), and who do not mind to marry native low-educated men, regardless of their own educational level because they get in exchange other type of advantages such as a more secure legal status and a safer socio-economic position. Note that this reasoning is not necessarily dependent on differential preferences about more or less traditional gender orientations when choosing a partner (Safranoff, 2015). Single immigrant women, regardless of their own educational level and their preferences regarding gender roles within the couple, have lower bargaining power than Spanish-born women due to their more vulnerable legal and, generally, weaker socio-economic situation. At the same time, low-educated Spanish-born men may find them more attractive as potential partners when the local marriage market suffers from a clear shortage of native marriageable women for them.

In the next sections, we will explore a little further the characteristics of the endogamous and mixed couples formed in Spain since 1996 up to 2008. Unfortunately we cannot actually model marriage as a bilateral decision but just to find out whether patterns of status-exchange, status homogamy and assimilation can be traced back in each type of marital choice [(1) immigrant with native-born Spanish, (2) immigrant with immigrant], distinguishing by gender, education and national origin of each partner.

4. Data and methodology

4.1. Data and methodology for the analysis of immigrants' marital choices

The individual level data for the empirical analysis on the marital choices of immigrants are drawn from the 2007 National Immigrant Survey (NIS), released by the Spanish National Institute of Statistics. This partially retrospective survey covers a wide range of questions on socio-demographic characteristics and migration experience among the foreign-born in Spain. In total, 15,500 individuals born outside Spain were surveyed. In our analysis we only include immigrants who immigrated at marriageable age (16 and older) to Spain in 1995 and after, and younger than 55 years old at the time of the survey. Immigrants who married Spanish born partners before coming to Spain are excluded from our sample since the theoretical

reasoning developed to explain intermarriage decisions in immigration countries do not apply to them, and their marital decision was made in a different marriage market. Only individuals who had spent at least one year in Spain before marrying endogamously or exogamously are thus included. In addition, this decision guarantees comparability with the analyses carried out for natives' choices, which are based on data from the Spanish Marriage Register that does not include marriages celebrated abroad (see more below). The main characteristics of the immigrants included in our analysis sample from NIS 2007 are summarized in Table 1.

Table 1. Descriptives of the sample for analysis of immigrants' marital choices, by gender.

	Men	Women
Age at migration 16-20	0.23	0.20
21-25	0.32	0.30
26-30	0.25	0.22
31-35	0.11	0.12
36 or more	0.09	0.16
Years since migration (mean)	5.10	5.39
Education level primary or less	0.25	0.19
Secondary	0.57	0.57
More than secondary	0.18	0.24
Migration motivation economic	0.57	0.51
Student	0.07	0.08
Other	0.36	0.41
Had a child before migration	0.10	0.30
Has ever worked before migration	0.76	0.76
Spanish citizen	0.04	0.07
Home owner	0.17	0.20
Log of group size (mean)	12.02	12.07
Sex ratio within imm. group (mean)	0.90	0.97
Immigrant group EU25	0.13	0.11
Morocco	0.17	0.06
Romania	0.12	0.12
Ecuador	0.10	0.12
Colombia	0.07	0.16
Other Europe	0.06	0.06
Other Latin America	0.22	0.33
Other countries	0.14	0.04
N	1,675	1,649

Source: NIS 2007

Dependent variable is transition to the first marriage in Spain in year t . The origin of the partner is also taken into account so that each immigrant who migrates to Spain unmarried is at risk of two competing events: 1) marriage with a spouse born in the same country

(endogamous marriage), and 2) marriage with a Spanish-born spouse (exogamous marriage). Of course, some immigrants enter mixed immigrant marriages by marrying immigrants from other countries, but we do not analyze these marriages due to a very small number of events recorded in the survey. They were excluded from the analysis sample to avoid noise in the results.

Multivariate analysis is based on discrete-time multinomial logit or competing risk model. The time is measured in terms of years since migration and its squared term. Age at arrival is controlled for by a categorical variable with the following categories: 16-20, 21-25, 26-30, 31-35, and 36 years of age or more at arrival in Spain. Education level refers to the education received by the time of the survey and is categorized as: primary school or less, lower or upper secondary, and more than secondary. Migration motivation is divided into three categories: economic migrant, student and other. Two indicator variables, having child before migration and having work experience before migration, are introduced to control for the heterogeneity of immigrant population with respect to their pre-migration experiences. The model also controls for Spanish citizenship and home ownership in Spain.

The data on group size and sex composition of immigrant groups by country of birth stem from the Municipality Register which is administered by the Spanish National Institute of Statistics and includes most immigrants living in Spain regardless of their legal status. Group size denotes the number of individuals born in the same country and living in Spain in the year of observation. The log transformation is used to reduce skewness. Sex ratio measures the number of co-ethnics of the opposite sex divided by the number of co-ethnics of the same sex who live in Spain.

Finally, the heterogeneity of immigrant population with respect to social distance from native Spaniards is controlled for by a categorical variable that distinguishes between immigrants from: EU25, Morocco, Romania, Ecuador, Colombia, other European countries and other Latin American countries. All remaining foreign-born population is grouped into a residual heterogeneous category. The limited size of the sample did not allow to run separated models for each origin group. Duration of stay in Spain, Spanish citizenship, group size and sex ratio are time-varying variables and refer to year t . Home ownership is also a time-varying variable and refers to year $t-1$. All other variables are time invariant.

4.2. Data and methodology for the analyses of natives' marital choices

The empirical analysis of natives' marital choices is based on individual level data from the Spanish Marriage Register from the National Institute of Statistics for the year 2008. The year 2008 was chosen in order to maximize the number of relevant explanatory variables available for our goal –in previous years, the Marriage Register data lacked of information on educational level and type of activity status of each partner⁴; and also to be the closest one to the date when the NIS was carried out (2007, see above). It is important to emphasize that the use of this data implies a restriction only to marriages celebrated in Spain. This could lead to a certain underestimation of mixed marriages because an unknown part of them might have been celebrated abroad, even after migration of the immigrant partner. At the same time, these data exclude de facto couples (non-married ones), which are relatively common among some of the most important migrant groups in Spain (Cortina et al. 2010). Finally, the analysis concentrates only on heterosexual marriages (same-sex marriages are registered in Spain since 2005). In spite of these limitations, marriage records offer relatively detailed socio-demographic information for the two spouses, especially since 2008. Table 2 summarizes the characteristics of marriages' sample utilized for the analyses of natives' marital choices.

⁴ Unfortunately, although included since 2008, this information was initially not very well recorded and remained missed for between 17 and 35% of the cases depending on the group and the variable. In addition, the distribution of the missing cases was not random across regions; for this reason a missing category is included in the multivariate analyses.

Table 2. Descriptives of the sample for analysis of natives' marital choices, by gender

	Men	Women
Origin of the spouses		
Both Spanish born	91.1%	94.0%
Spanish-Moroccan	0.5%	0.8%
Spanish-Rumanian	0.5%	0.1%
Spanish-Ecuadorian	0.4%	0.1%
Spanish-Colombian	0.8%	0.2%
Spanish-EU25	1.1%	1.6%
Spanish-rest of Europe	0.9%	0.3%
Spanish-other foreign born	4.7%	2.8%
Marriage order		
2nd order	17.1%	15.2%
1st order	82.9%	84.8%
Educational level		
Missing	37.2%	37.5%
Less than primary	6.6%	4.6%
Primary completed	18.0%	13.9%
Secondary completed	22.3%	21.3%
University	15.9%	22.8%
Occupation		
Missing	17.8%	17.8%
Inactive	1.3%	7.8%
Unemployed	1.0%	3.2%
Non skilled and manual workers	6.7%	5.2%
Skilled workers	49.4%	40.5%
Highly skilled workers	23.7%	25.5%
Educational composition		
Man higher education	11.4%	11.0%
Women higher education	21.1%	20.8%
Educational homogamy	67.5%	68.2%
Age composition		
Man older	52.9%	51.4%
Woman older	14.7%	15.5%
Age homogamy 0 1 years dif	32.3%	33.2%
N	174,148	168,777

Source: Spanish Marriage Register 2008.

We conduct multinomial regression models to estimate the likelihood of natives (men and women separately) to have married a foreign born spouse from a particular country/region of birth (Morocco, Romania, Ecuador, Colombia, EU25, Rest of Europe and Other) instead of

another native. Accounting for the country of birth instead of the citizenship reduces the potential bias introduced by the increasing rate of naturalizations occurring in Spain over the last fifteen years. In addition, due to the very small size of the second generation of adult age in Spain in 2008, this decision seems adequate.

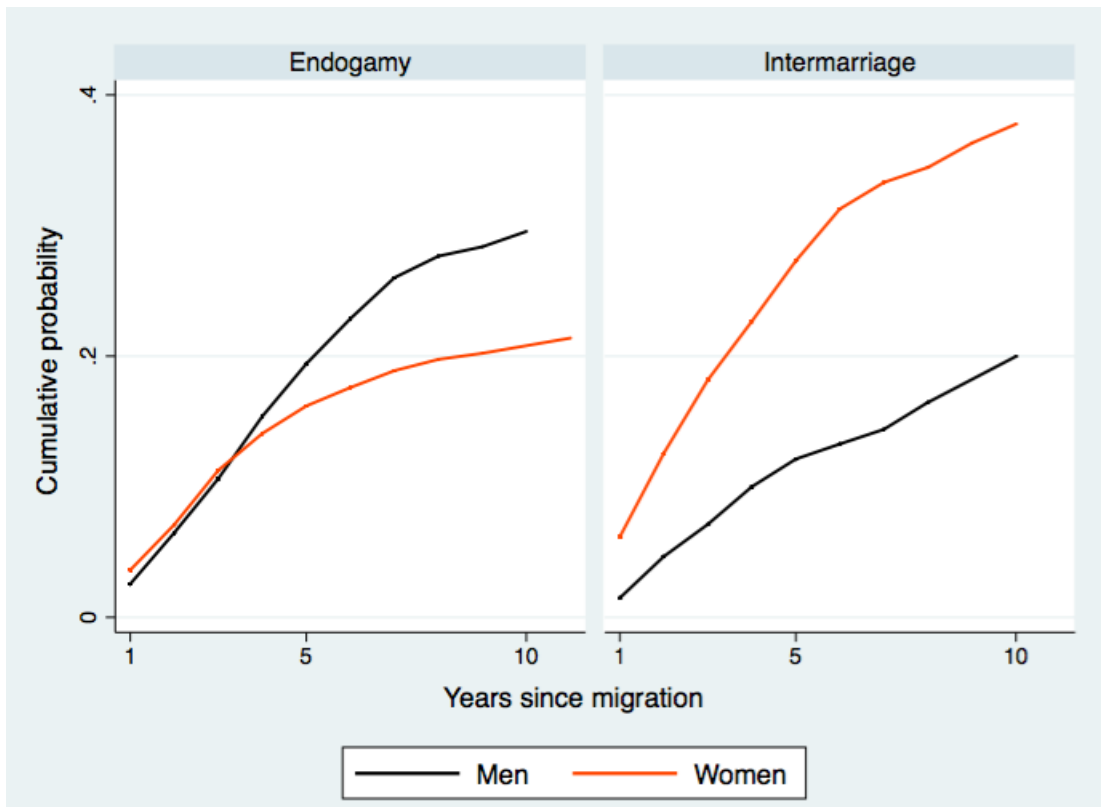
In the multivariate models we first control for the main individual characteristics of the native spouse: age (in quadratic form), education, occupational status. Secondly, we introduce the marriage order, defined according to the marital status of the native spouse (first order when he/she was single before marrying, and second when he/she was widowed or divorced). Finally, we also take into account the characteristics of the couple: age gap (up to one year of age difference between the spouses, older man, and older woman) and educational homogamy (same educational level, higher for him or higher for her) in order to explore the extent to which some sort of exchange seems to be taking place in this type of mixed marriages.

5. Results

5.1. Immigrants' marital choices

Since we are dealing with competing risks, the patterns of post-migration marriage formation can be analyzed using the cumulative incidence approach described in Coviello and Boggess (2004). Figure 1 shows that endogamy is a prevailing choice for immigrant men. Around 30 percent of immigrant men marry a co-ethnic within the first ten years since migration to Spain. Cumulative probability of the formation of endogamous marriage is roughly the same for men and women in the first three years following migration, but from that point on women opt for a co-ethnic partner less frequently than men. In accordance with the previous literature but also in line with the largest size of the shortage of potential native female partners for low-educated men, immigrant women enter intermarriage with natives more often than men and more often than they marry a co-ethnic. These patterns are already visible since the first year after the arrival. The share of those who marry a native partner - roughly 40 percent within the first ten years in Spain - is almost twice higher among women than among men.

Figure 4. Cumulative probability of the formation of endogamous marriage and intermarriage for immigrant men and women.



Source: NIS, own calculations.

Table 3 displays the results of the discrete-time multivariate analysis for immigrants' marital choices in Spain. The results show that the association between duration of stay in Spain and marriage formation has an inverted U-shape. The risk of marriage increases with duration in the initial period following the arrival, and then it starts to decrease. As far as the migration motivation is concerned, economic migrants -both male and female- are less likely to enter a native-immigrant marriage than an endogamous one. Having a child before migration increases the probability of entering both types of marriage, although not all coefficients are statistically significant. We are not able to control for marriage order, but this result may suggest that people who already experienced a union dissolution are more likely to form unions following migration. Having at least some pre-migration work experience implies a higher likelihood of marrying a native Spaniard. Importantly, there is no statistically significant association between the possession of Spanish citizenship and marriage formation. On the other hand, home owners, which are likely to be individuals with larger economic resources, are more likely to marry, and this association is especially strong when it comes to

the risk of marrying a native. Differences across immigrant groups are substantial, even after controlling for observable characteristics. Immigrant men and women from the EU25 countries are the least likely to enter an endogamous marriage, in spite of their relatively smaller social distance with natives, whereas Moroccans, Romanians and immigrants from European countries outside the EU25 show a particularly high propensity for endogamy.

All findings discussed so far are characterized by a modest degree of gender differences. However, some other results show more pronounced gender patterns. For instance, age at migration matters more for immigrant men than women. Men who are of age 16-20 at arrival are less likely to marry than other men, especially when it comes to marrying a co-ethnic. The most likely explanation is that many of these men were very young (and consequently, unmarried) at the time of the survey too. Interestingly, gender patterns also arise looking at the impact of education. In particular, more educated immigrant men are more likely to start a marriage. This association is particularly strong as far as the risk of intermarriage is concerned – immigrant men with some post-secondary education are three times more likely to marry a native as compared to men with primary school or less. This result is clearly in line with the expectations derived from both the assimilation approach and the characteristics of the native marriage market in Spain, as described in previous sections. In contrast, the association between education and marriage of either type is almost inexistent among immigrant women, which reinforces our expectation that education of immigrants is not necessarily the most sought for trait by natives willing to cross ethnic lines to find a partner, especially if they are low-educated men, the ones suffering from the largest shortage of potential partners in the local marriage market.

The highest propensity for endogamy among men is found among male economic migrants and female migrants who did come to Spain for non-economic and non-educational reasons. Gender differences can also be identified when looking at the impact of structural factors on partner choice. Among men, somewhat surprisingly, there is no association between the size of own group and the likelihood of entering endogamous or exogamous marriage. A favorable sex ratio increases the risk of endogamous marriage, but this coefficient is not statistically significant either. In contrast, among women, belonging to a larger group implied an increased risk of endogamy as well as a lower risk of exogamy. Also, there is a statistically significant association between a favorable sex ratio for immigrant women and the chances of marrying a co-ethnic man. Whereas distinguishing between men and women is not of a

particular importance when it comes to the propensity for endogamy across immigrant groups, such is not the case when comparing the propensity to intermarry. Men from the EU25 countries are characterized by the highest likelihood of marrying a native spouse, and the difference is particularly pronounced when a comparison is made with men from Ecuador or Eastern Europe. This result is again in accordance with our expectations bearing in mind the type of shortage in the local marriage market for native (highly-educated) women. In contrast, when looking at immigrant women, and after controlling for observables, several groups show a higher likelihood of intermarriage with native men than the EU25 migrants; this is especially the case with women from Colombia, Romania and other non-EU Europe.

Table 3. Discrete-time multinomial logit model, first post-migration marriage among immigrants in Spain (base outcome: staying unmarried). Odds ratio.

	MEN		WOMEN	
	endogamy	intermarriage	endogamy	Intermarriage
Age at migration (ref: 16-20)				
21-25	2.97***	1.93**	1.37	1.17
26-30	3.14***	2.06**	1.17	1.08
31-35	3.33***	1.66	0.70	0.90
36 or more	1.76	0.67	0.32	0.73
Years since migration	1.74***	1.47***	1.26*	1.27***
Years since migration squared	0.94***	0.95***	0.96***	0.96***
Education level (ref: primary or less)				
Secondary	1.53***	1.74**	0.94	1.11
More than secondary	1.16	2.99***	0.94	1.12
Migration motivation (ref.: economic)				
Student	0.45*	1.55	0.69	1.83***
Other	0.79	2.06***	1.51***	1.71***
Had a child before migration	1.75***	1.40	1.25	1.67***
Has ever worked before migration	1.12	2.23***	1.19	1.49**
Spanish citizen	0.52	0.82	0.70	0.58
Home owner	1.65*	3.52***	1.87**	3.54***
Group size (log)	0.94	0.94	1.42***	0.90**
Sex ratio within immigrant group	1.53	0.99	1.77***	0.77
Immigrant group (ref.: EU25)				
Morocco	3.97***	0.60	3.13***	1.33
Romania	4.39***	0.55	3.50***	1.63*
Ecuador	2.31**	0.11***	1.51	1.01
Colombia	1.90*	0.84	1.61	1.65**
Other Europe	2.62***	0.29**	4.02***	1.77**
Other Latin America	1.47	0.94	1.83*	1.37*
Other countries	1.63	0.71	4.03***	0.51*
N	1,675		1,649	
Person-years	6,869		6,538	

Source: NIS 2007, own calculations

Note: *p<0.10; **p<0.05; ***p<0.01.

5.2. Natives' marital choices

Tables 4 and 5 display the results of the multivariate analysis for natives' marital choices in Spain, for men and women respectively. In the case of native men, results in the table clearly indicate a decreasing probability of intermarriage as their educational level increases, regardless of the specific origin of the immigrant partners with only one exception: marriages between Spanish-born men and EU25 women, for which the probability of intermarriage is higher than an endogamous marriage if the native man has higher education. A similar pattern is observed with regard to the occupational status, with non-skilled and manual native workers and unemployed native men being the most likely to intermarriage with any immigrant group but EU25 women, instead of marrying endogamously. Finally, the set of indicators devoted to explore the role of homogamy versus potential exchanges in intermarriages between native Spanish men and immigrant women do not support the idea this type of intermarriages are more likely if the immigrant woman can compensate the lack of /lower socio-economic status in Spain being more educated than their native husbands. In fact, a husband more educated than his wife is clearly associated with a higher probability of intermarriage with immigrant women from any of the non-privileged immigrant groups (Moroccans, Romanians, Ecuadorians and Colombians), than endogamous couples (base outcome). An alternative exchange might occur with younger age on behalf of the immigrant woman, even if the husband is not only native but also more educated than her. The results in Table 4 support this possibility only for intermarriages with both Moroccan and Romanian women but clearly not for intermarriages with women from EU25 or Colombia.

Table 4. Multinomial regression model, marital choices among male native-born Spaniards in 2008 (base outcome: marrying a native). Odds ratio.

	Morocco	Romania	Ecuador	Colombia	EU25	Rest Europe	Other FB
Age	1,09***	1,07**	1,08***	1,11***	1,16***	1,13***	1,08***
Age Sq.	1,00***	1,00**	1,00*	1,00***	1,00***	1,00***	1,00***
University (ref.)							
Less than primary	14,68***	5,93***	4,75***	2,96***	,76**	1,23**	2,27***
Primary completed	4,13***	3,40***	2,89***	2,08***	,75**	,96	1,68***
Secondary completed	1,96***	1,51**	1,89***	1,64***	,83**	,89	1,25***
Missing	2,07***	1,65**	2,05***	1,97***	1,65***	1,59***	1,69***
Highly skilled workers (ref.)							
Inactive	1,29	1,71*	1,23	1,45**	1,08	1,16	1,40***
Unemployed	2,40**	1,61	2,26**	1,50*	1,52**	1,76**	1,73***
Non skilled & manual workers	2,11***	1,87***	1,97***	1,29*	1,10	1,14	1,44***
Skilled workers	1,31**	1,41**	1,42**	1,02	,93	1,14**	1,06
1st order (ref.)							
2nd order	3,05***	4,34***	2,67***	3,20***	1,20**	3,96***	2,06***
Missing	1,83***	1,01	,88	,58***	,32***	,44***	,49***
Educational homogamy (ref.)							
Man higher education	3,86***	2,55***	2,31***	1,54***	1,04	1,08	1,70***
Women higher education	,47***	,84*	,97	,97	1,14**	1,75***	1,06**
Age homogamy 0-1 dif (ref.)							
Man older	2,50***	3,85***	1,79***	1,54***	1,02	2,08***	1,94***
Woman older	1,46**	,71*	1,57**	2,30***	1,65***	1,45***	2,07***
N				174,148			

Source: Marriage Register 2008.

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

In the case of native women, results in Table 5 suggest a more diverse intermarriage dynamics than in the case of their male counterparts. First of all, the probability of intermarriage is increasing with the native partners' education only if the immigrant spouse is from EU25 or the Rest of Europe, excluding Romania. In contrast, the probability of intermarriage with Moroccan, Romanian and Ecuadorian men increases with lower educational level of the native wife; while education of the native woman seems to be irrelevant in predicting intermarriage with Colombian men. In the case of native women, their occupational status also show a less clear effect on intermarriage probabilities: this variable plays no role in explaining intermarriage with Romanian and Ecuadorian men; in contrast, native women are

more likely to marry an EU25 man than another Spanish born if they are highly-skilled, and precisely the opposite when intermarriage happens with Moroccan, Colombian and Rest of Europe men. Again, as in the men's case, intermarriage with Moroccans and Romanians is most likely when the native woman is more educated than them, which clearly contradicts again the most simplistic interpretation of the status exchange approach. In contrast, intermarriage with Colombian, EU25 and Rest of Europe men, is more likely than endogamous marriages when those immigrant men are more educated than the Spanish-born wife. Interestingly, the role of age differential is much clearer and stronger in this case than among native men-immigrant women marriages: an age differential against the woman (woman older than man) appears systematically associated with higher probability of intermarriage with any immigrant group compared to endogamous marriages, with only one exception: immigrants from EU25. In other words, Spanish native women are the ones who seem to be exchanging their higher educational, occupational or social status, by younger age among their immigrant husbands.

Table 5. Multinomial regression model, marital choices among female native-born Spaniards in 2008 (base outcome: marrying a native). Odds ratio.

	Morocco	Rumania	Ecuador	Colombia	EU25	Rest Europe	Other FB
Age	,74***	,75***	,67***	,78***	1,23	1,04	,84***
Age Sq.	1,00***	1,00***	1,00***	1,00***	1,00	1,00	1,00***
University (ref.)							
Less than primary	10,52***	2,61**	4,83***	1,23	,44***	,43**	1,53***
Primary completed	3,64***	2,86***	2,55**	1,02	,47***	,67**	1,04
Secondary completed	1,35**	1,25	1,46	,94	,65***	,73*	,96
Missing	2,91***	1,33	1,71*	1,73**	1,47***	2,28***	1,51***
Highly skilled workers (ref.)							
Inactive	2,08***	1,08	1,18	1,02	,99	1,25	,93
Unemployed	2,68***	1,57	1,38	,59	,91	,90	1,05
Non skilled & manual workers	2,62***	1,63	1,26	1,73**	1,00	1,69**	1,57***
Skilled workers	1,39**	1,04	,81	1,32**	,88**	1,21**	,94
1st order (ref.)							
2nd order	3,15***	2,84***	5,38***	3,28***	,99***	1,74***	2,59***
Missing	,99	,74	,87	,39***	,22***	,19***	,38***
Educational homogamy (ref.)							
Man higher education	,80**	1,69**	1,44*	1,90***	1,24**	1,61***	1,32***
Women higher education	2,28***	2,50***	1,52*	,71**	,71***	,87	1,07**
Age homogamy 0-1 dif (ref.)							
Man older	1,05	,51**	,81	1,72***	1,45***	1,07	1,20***
Woman older	5,88***	5,49***	3,64***	5,15***	1,34***	1,98***	4,18***
N	168,777						

Source: Marriage Register 2008.
 Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

6. Summary and Conclusions

This is the first study on intermarriages in Spain that combines a longitudinal perspective for explaining immigrants' choices with a cross-sectional approach in examining natives' intermarriage choices within a similar period of time (right before the immigration inflows peaked in 2008). Applying event-history analysis to life-history data from the National Immigrant Survey 2007, the analysis showed the following. First, even after controlling for multiple socio-demographic and immigration-specific variables, as well as marriage market constraints indicators, we observed significant differences among immigrant groups in the likelihood of marrying within and outside of their own groups. Immigrants from EU25

countries had lower probability of endogamous marriages and higher probability of exogamous ones, but this pattern was much clearer among men than women. In fact, a strongly gendered pattern in the intermarriage dynamic has been clearly revealed beyond gender differences across origin groups. First of all, educational level appeared irrelevant in explaining the intermarriage propensity of immigrant women, while higher education clearly increased the propensity to intermarriage with native women among immigrant men. Secondly, age at migration was again a non-significant predictor of intermarriage for immigrant women, while the likelihood of intermarriage tended to decrease as the immigrant man's ages. And thirdly, indicators for immigrants' marriage market constraints, which have been added to the analyses of union formation among immigrants for the first time in Spain to our knowledge, revealed to be important only for women but non-significant for men.

As a matter of fact, the role of marriage market structure has been considered a crucial driver of both immigrants' and natives' marital intermarriage decisions in this paper. By identifying and measuring the main imbalances in both the male and female immigrant and native marriage markets, we were able to formulate relatively precise expectations regarding the role that the status homogamy and the status exchange approaches might be playing in the intermarriage landscape in Spain. And the empirical analysis developed for male and female natives' choices largely supported them. First of all, the status exchange hypotheses systematically fail to explain propensity to intermarriage of Spanish natives when the exchange had to operate to high(er) educational and/or occupational level on behalf the immigrant partner. However, some nuances could be introduced if exchange was allowed for other traits like younger age of the immigrant partners, especially immigrant men.

The analyses presented here are, of course, no without limitations, most of which are related to the type of data available. First of all, there is no dataset in Spain that allows to jointly analyze the marital choices of immigrants and natives; in addition, the data utilized for natives' choices are only cross-sectional and have only a limited number of explanatory variables available that do not include, for instance, the length of stay or the language fluency of the immigrant partner for the case of intermarriages. Moreover, the no inclusion of marriages celebrated abroad and of cohabiting couples might bias some of the obtained results in directions difficult to advance, especially because mixed couples are more likely to be unmarried than endogamous couples are. In the case of the data utilized for studying immigrants' choices, the limited size of the sample for analysis prevented a proper exam of different dynamics across origin groups by running separated regression models for each of them.

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