

# Becoming American: How Context Shaped Inter-marriage during the Great Migration to the United States at the Turn of the Twentieth Century

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# **Becoming American: How Context Shaped Intermarriage during the Great Migration to the United States at the Turn of the Twentieth Century**

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## **Abstract**

Although intermarriage is a commonly used indicator of immigrant integration into host societies, most research has focused on how individual characteristics determine intermarriage. This study uses the 1-910 IPUMS census sample to analyze how contextual factors affected intermarriage among European immigrants in the United States. We use newly-available complete-count census microdata to construct contextual measures at a much lower level of aggregation than in previous studies. Our results confirm most findings in previous research relating to individual-level variables. We also find important associations between contextual factors and different marital outcomes. The relative size and sex ratio of the origin group, ethnic diversity, the share of the native born white population, and the proportion of life time spent by immigrants in the U.S. are all associated with exogamy. These patterns are highly similar across genders and immigrant generations.

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## INTRODUCTION

During the “classic” period of largely unrestricted immigration between the Civil War and the introduction of stringent numerical quotas in the 1920s, the United States received over 30 million immigrants. The foreign-born population composed between 13 and 15 percent of the overall population during this period, until recently the highest percentages in U.S. history. Much higher percentages could be found in ethnic enclaves, such as New York City’s 14th Ward in lower Manhattan, where over 90 percent of the population in 1900 was Italian (Todd 2002; Barde et al. 2006).

The integration of these immigrants into American society has been an important research topic for over a century (e.g. Walker 1891; Drachsler 1920; Gordon 1964). There is wide recognition in the literature that intermarriage is a core indicator of the integration process and that trajectories differed markedly across immigrant groups. Because marriage involves both intimacy and close connections to culture through family life, intermarriage is a kind of ultimate test of the strength of social boundaries (Merton 1941, Kennedy 1944; Gordon 1964, Alba and Golden 1986; Alba and Nee 2003; see also Rodríguez-García 2015 for a recent comparative contribution). This makes intermarriage crucial to understanding immigrant integration, and much research has also been devoted to study intermarriage in the United States, both historically and contemporary (e.g., Alba and Golden 1986; Lieberman and Waters 1988; Pagnini and Morgan 1990; Kalmijn 1993; McCaa 1993; Qian and Lichter 2001; Wildsmith et al. 2003; Sassler 2005; Lichter et al. 2007).

Much of this research has focused on the impact of immigrant characteristics, such as social status, language proficiency, time in the U.S., generation, religion, etc. More recently, there has also been increasing focus on different forms of community impact; how the context where the immigrants live shapes intermarriage patterns (e.g. Lichter et al. 1991; Harris and Ono

2005; Okamoto 2007; Kalmijn and Van Tubergen 2010). This also relates to earlier work by Peter Blau and his associates stressing that structural factors are crucial for intermarriage, by shaping the opportunity structure in terms of meeting spouses with different characteristics (Blau 1977, Blau et al. 1982; Blau et al. 1984). In most research, however, the approach has been to control for these structural conditions rather than trying to assess the importance of contextual factors. The frequent use of log linear models in much of this research is a case in point, as they are designed to deal with these kinds of structural factors.

There has not been as much focus on how context and community affects intermarriage patterns for immigrants during the great migration between 1850 and 1930. A recent exception is a study by Logan and Shin (2012a), which examines the first wave of British, Irish and German migrants in the 1880 census. In this study we extend this research by studying contextual determinants of intermarriage for a somewhat later period, looking at the 1910 census. This enables us to capture the second wave of immigration from southern and eastern Europe, which gained momentum around the turn of the twentieth century, along with the first wave of immigration, which continued from northern Europe.

Previous research using the early public use sample of the 1910 census was limited by the low sample density (e.g. Pagnini and Morgan 1990; Sassler 2005). Sassler (2005), for example, was forced to estimate the impact of contextual effects on intermarriage at the state level. New data sources represent an excellent opportunity to reexamine the intermarriage patterns at the turn of the twentieth century. Our study relies on a new, high-density IPUMS sample of the 1910 census (Ruggles et al. 2010). The new 1.4 percent 1910 IPUMS sample is nearly four times larger than the original 1910 PUS (Strong et al. 1989). With these data we are able to take a closer look at differentials in intermarriage by nativity and generation for 11 different European countries of origin. Moreover, newly available complete-count datasets

collected by Ancestry.com and the Minnesota Population Center allows us to construct contextual measures at a lower level of aggregation than in previous studies, and will thus provide a more accurate picture of the conditions in actual marriage markets (see Harris and Ono 2005).

## IMMIGRANT INTERMARRIAGE IN THE UNITED STATES

Intermarriage has long been used by social scientists as an indicator of adaptation and assimilation. In his study of intermarriage in New York City, for example, Julian Drachler (1921) found low rates of exogamous marriage among first generation immigrants, but higher rates among their U.S.-born children, which he interpreted as the weakening of cultural or racial consciousness and declining group cohesion among the second generation (see also, Oberly 2014). More recent research based on public use census microdata samples has confirmed low levels of intermarriage among first generation immigrants, particularly among Jews and the “new” immigrants from Southern and Eastern Europe, whose religion added an additional dimension of social distance to most other groups (Pagnini and Morgan 1990; McCaa 1993; Sassler and Qian 2003; Sassler 2005).

In their study of long-run patterns of assimilation and intermarriage, Wildsmith et al. (2003) reported striking parallels between historical patterns of intermarriage among Italians and Mexicans, two “new” immigrant groups noted for high rates of endogamy and close and intimate family relationships. Both groups were attributed by critics with similar characteristics. In contrast, groups with a longer history of immigration to the United States, such as Irish and Swedish immigrants, had lower rates of endogamy. Alba and Golden (1986) give a similar picture from their analysis of the 1979 Current Population Survey. Most groups of European origin showed high rates of intermarriage, and there had been a clear trend over time to more intermarriage and less endogamy (see also Lieberson and Waters 1988; Kalmijn 1993). At the

same time there was very little intermarriage between groups of European and non-European origin.

Looking at interracial marriages more generally, Qian and Lichter (2007) also found clear trends over time towards more intermarriage (see also Qian 1997), even though the old patterns of low intermarriage frequencies, especially between whites and blacks, persisted at the end of the twentieth century. At the same time, however, they also noted declining intermarriage rates in the 1990s between foreign born and native born, indicating the complicated nature of contemporary integration processes in U.S. society where race, ethnicity (country of origin) and education all interact (see also Alba and Nee 2003; Alba and Foner 2015; Lichter et al. 2015).

Not all origins are the same when it comes to intermarriage. Prior research has indicated dramatic differences in intermarriage propensities across different origin groups. Immigrants from southern and eastern Europe, for example, were much more homogamous than immigrants from Northern and Western Europe (Pagnini and Morgan 1990), paralleling the geography of “strong” and “weak” family systems (Reher 1998). Similar differences are still visible today, but much less pronounced than at the turn of the twentieth century (Alba and Golden 1986; Lieberman and Waters 1988; Alba and Foner 2015; Lichter et al. 2015).

Previous research has also identified marked differences across immigrant generations. Pagnini and Morgan (1990) found strong generational endogamy. First generation immigrants tended to marry other first generation immigrants, while second generation immigrants married each other. Second generation immigrants were also more likely to intermarry with natives compared to first generation immigrants and have become increasingly more likely to do so over time (e.g., Kalmijn 1993; Wildsmith et al. 2003). There was also a trend towards more exogamy and intermarriage over generations, with the second generation being more exogamous than the first generation. Some studies have also shown that foreign born who arrived in the United States

as children—sometimes referred to as the “1.5 generation”—were more exogamous than the first generation (those who came in their teens or as adults) (Sassler 2005). In most research third generation immigrants are treated as natives (hence the commonly used term “native born of native parentage”), but in a study of a linked sample of the 1880 and 1910 censuses Logan and Shin (2012b) demonstrated that even in this third generation of immigrants there is still a tendency towards endogamy, and hence that marital assimilation was not complete even by the third generation. Related to this point, mixed ancestry has often been connected to exogamy (Alba and Golden 1986). Because it is related by definition to intermarriage of the parents, it could be expected that mixed ancestry serves to lower boundaries between origin groups, and this has also been confirmed in historical studies (e.g., Logan and Shin 2012b).

Age at marriage is also an important predictor of heterogamy more generally, the idea being that people who delay marriage may have to search wider to find a spouse (Lichter 1990; Chiswick and Houseworth 2011). In terms of intermarriage we would then expect older migrants to be increasingly willing to marry outside the group, but the extent to which this is successful will of course also depend on the willingness of the majority population (or a different immigrant group) to marry an older immigrant. In her analysis of the 1910 census, Sassler (2005) found higher ages at marriage to be associated with higher chances of marrying a native.

The likelihood of intermarriage also varies by the size and diversity of the marriage market. Interaction between different groups requires exposure to each other and this is conditioned upon the group structure of communities where people live. Hence, greater heterogeneity in the marriage market is related to more exogamy, and more specifically the larger one’s own group in relative terms, the lower the likelihood of marrying outside the group (see Blau 1977; Blau et al. 1982; Blau et al. 1984). Moreover, group size is also connected to the influence of third parties, such as parents, churches, and community leaders, which can be of



great importance for marital outcomes, including exogamy. Overall we expect stronger third party influence or pressure from the local community to be related to more endogamy and less intermarriage (Kalmijn 1998). Living in a context with a stronger presence of co-ethnics can be expected to increase the influence from these kinds of third parties. In terms of intermarriage, this means that the size of different immigrant groups in the marriage market should have a strong impact on the intermarriage frequencies, which is often also confirmed in empirical studies of different contexts and historical periods (Pagnini and Morgan 1990; Lichter et al. 1991; Sassler 1995; Hwang et al. 1997; Wildsmith et al. 2003; Okamoto 2007; Kalmijn and van Tubergen 2010; Logan and Shin 2012a).

A related aspect of the marriage market is the gender distribution in the population, which determines the availability of potential spouses of the opposite sex. Due mainly to selective migration, the sex ratio in a given locality can vary dramatically, creating an over-supply or a shortage of potential spouses. In turn, such imbalances can affect both overall marriage timing (e.g. Landale and Tolnay 1993; Angrist 2002; Hacker 2008) and the likelihood of intermarriage. As an example of the former, Wilson (1987) argued that a shortage of black men with economic means to marry was a main explanation behind delayed marriage among black women in the 1970s and 1980s (see also Lichter et al. 1992). There is also empirical evidence that the group-specific sex ratio affected the likelihood of intermarriage in the U.S. in different historical periods (Hwang et al. 1997; Wildsmith et al. 2003; Okamoto 2007), but also some counter evidence indicating that it was not very important (Kalmijn and Van Tubergen 2010; Logan and Shin 2012). The problem is that few historical studies have been able to measure these structural factors at a level of aggregation that is low enough.

An additional factor that has received relatively little attention from investigators is the potential influence of the native-born population on immigrant assimilation. All else being equal,

we might expect that immigrants living in areas with a higher proportion of native-born white population of native parentage (NWNP) would learn English faster and be more likely to intermarry than immigrants living among their fellow countrymen in segregated neighborhoods.

Clearly, different groups experienced different levels of exposure to the NWNP population.

White et al. (1994) found that, on average, the British and Irish experienced relatively low levels of segregation from the NWNP population, Germans moderate levels, while new immigrant groups, including Italians and Poles, experienced maximum levels of isolation and residential segregation. Wildsmith et al. (2003) operationalized one aspect of residential segregation – ethnic group percentage – at the state economic area (SEA) level. They reported that ethnic groups' relative size was positively correlated with endogamous marriage for both sexes, even after controlling for ethnic sex ratios.

Finally there are often important gender differences in intermarriage patterns. In the contemporary United States, for example, it is more common for Asian-American women to marry white men than for Asian-American men to marry white women, while the opposite seems to be true for black-white intermarriage, where black man-white woman couples are more common than black woman-white man couples (e.g. Qian 1997; Labov and Jacobs 2002). There are also gender differences in the determinants of intermarriage, but the gender patterns differ across origins making a simple interpretation difficult (Sassler 2005).

In this study we focus most of our attention on the importance of the community-level factors on intermarriage, in other words how the conditions in the communities where the immigrants lived shaped their marriage outcomes. We expect both the relative group size and the origin group-specific sex ratio to be important constraints affecting the opportunity of endogamy. We also expect the time spent in the United States by these foreign origin groups to be associated with the likelihood of exogamy, and in particular intermarriage with the native population.

Finally, the diversity in terms of immigrant origins in the community is expected to promote exogamy with other immigrants, while a greater proportion of native born whites should increase intermarriage.

## DATA AND METHODS

Our data sources include the 1910 IPUMS census sample (Ruggles et al. 2010) and the 1910 complete-count microdata collected by Ancestry.com, recently made available by the Minnesota Population Center. Conducted during the high point of European immigration, the 1910 census includes information on birthplace and parental birthplaces, duration of marriage, ability to speak English, year of immigration, and citizenship status. It also includes variables on the number of times married, language spoken, mother tongue, and mothers' and fathers' mother tongue.

We rely on the complete count data to investigate the influence of contextual characteristics on immigrant behavior. Prior studies based on low density samples have struggled to operationalize measures of these kinds of contextual effects. Where contextual variables have been estimated, as for example, by Wildsmith et al. (2003), low sample densities have limited their construction to the state or state economic area (SEA) level, which is an aggregation of two or more contiguous counties with similar economic orientations (see also Sassler 2005). Logan and Shin (2012a), in their study using the 1880 census, instead looked at contextual effects in 66 cities with a population over 25,000. The complete-count dataset allow us to estimate contextual variables at a lower level of geography than either of these prior studies. Although the 1910 complete-count data contains a limited number of variables and does not identify neighborhood or census tract, it does identify individuals' residence location by census enumeration district and county. The 1910 census included about 70,000 unique census enumeration districts containing an average of about 1,300 inhabitants. Although states or SEAs are too big to constitute a

marriage market, our exploratory analysis suggested that the enumeration district was too small. We instead use county as the main geographical level. A major advantage of using the complete-count data is that we can calculate contextual variables based on the total population which avoids problems of small numbers. These contextual variables at the county level in the 1910 complete-count file are matched to the 1910 IPUMS sample, resulting in a dataset with about 70,000 individuals aged 20-29 in 1,837 counties (see table 1). The county populations range from about 800 to 3.8 million, with a mean of just over 50 thousand. In contrast, the average population of a SEA was over 184 thousand.

We constructed several contextual variables for each county. Relative *group size* is defined as the proportion of foreign born from the country group of origin in relation to the total population aged 20-29. The *proportion NWNP* is the share of the population in the district that is white and born in the U. S. with two native born parents. The origin-specific *sex ratio* is defined as the number of foreign-born men divided by the number of foreign-born women of the same origin group in the age range 20-29. As we look at marriages in a cross section, these measures were deemed more relevant than using only the single population of marriageable age. They serve as proxies for the marriage market in the area where people lived in the census. The *diversity index* ( $D_i$ ) indicates the inverse probability that two randomly chosen individuals in community  $i$  are from the same country of origin  $j$ :

$$D_i = 1 - \sum_{j=1}^k p_{ij}^2$$

Where  $p_{ij}$  is the proportion of origin group  $j$  in the immigrant population of community  $i$ . The diversity index ranges from 0 (no diversity) to 1 (complete diversity). It originates from

Simpson's studies of habitat biodiversity (1949), but has been used also in a large number of applications in economics (often under the term fractionalization, see, e.g., Alesina et al. 2003). It was calculated based only on the population of foreign born to avoid high correlation with the proportion of the native born population. Finally, the *proportion of life time spent in the U.S.* by the country group of origin is calculated as the total person years lived in the U.S. by the population (first generation) in the origin group divided by the total person years lived by the population of the origin group (inside and outside the U. S.). It is based on information on age and year of immigration collected by the census.

We analyze the experience of 11 different immigrant groups of European origin: immigrants born in Denmark, Norway, Sweden, Britain (England, Scotland and Wales), Ireland, France, Switzerland, Italy, Austria, Germany, and the Russian Empire (Czarist Russia). These were the most numerous European immigrant groups at the time, and included the most intermarriages with NWNP. Other countries were too small to analyze (we excluded countries with fewer than 25 intermarriages with NWNP among individuals age 20-29 in the 1910 IPUMS sample). The analytical sample includes the never married and the currently married populations, and thus excludes all previously married (remarried as well as widows, widowers and divorcees). We categorize marital outcomes into five different categories based on origin and immigrant generation:

- Endogamy: married to a spouse born in the same country of origin (first generation) or born in the U.S. with at least one parent born in the same country of origin (second generation).
- NWNP Exogamy: married to a U.S.-born white spouse with two U.S.-born parents.

- Other Exogamy: married to any other spouse, including foreign born, second generation immigrants from different origins, and U.S.-born blacks.

In using the country of origin in analyzing intermarriage we follow some previous U.S. studies (e.g. Pagnini and Morgan 1990; Kalmijn and Van Tubergen 2010), where race or ethnicity is most often what is being analyzed. We are not able to identify third and higher generations in the data, but this does not imply that assimilation was necessarily complete by the third generation, as was previously pointed out (see Logan and Shin 2012b).

We estimate two sets of models: a binary logit model of being married vs. being never married and a multinomial logit model of the outcomes defined above with endogamy as the base outcome. In this way we study overall marriage and different marriage outcomes using the same set of explanatory variables. In order to facilitate comparisons, we transform the contextual variables to z-scores (with mean=0 and standard deviation=1).

A number of variables at the individual level are included to capture the factors most often shown to be important determinants of intermarriage. Country of origin is included to measure differences across immigrant groups in intermarriage propensities. We distinguish three different immigrant generations: 1G (foreign born arriving in the U.S. after the age of 12), 1.5G (foreign born arriving in the U.S. at age 12 or younger), and 2G (U.S. born with at least one foreign born parent). We further split the second generation to distinguish mixed and single ancestry (2G mixed, 2G single). For the second generation of mixed ancestry we based origin on the origin of the father, except in cases where the father was U.S. born when we based it on mother's origin. Place of residence distinguishes rural areas from urban areas of different sizes (2,500-9,999, 10,000-99,999, 100,000 or more). We also include a variable indicating if the immigrant could not speak English, which should be an important factor in meeting potential

marriage partners, and thus in finding an exogamous spouse. In a similar way we include a variable indicating if the immigrant was literate or not. We also include occupation score, a measure of the median earnings of the occupation in 1950 in hundreds of dollars and an assumed proxy for socioeconomic status in 1910 (Sobek 1995). Finally, we control for age and age at marriage (linear and squared terms) in the models (age in the models of overall marriage and age at marriage in the exogamy models).

## DESCRIPTIVE ANALYSIS

Table 1 shows the descriptive statistics of the linked sample. The universe consists of never married and currently first married, first and second generation men and women aged 20-29 from 11 identified groups of European origin. Among first generation immigrants only those who married after their arrival to the United States are included. In total 38,479 men and 32,358 women are included with full information on all variables. Germans form about 30 percent of the sample and British and Irish about 10-20 percent each. These are the most numerous immigrant groups followed by Russians, Austrians, and Italians, each at around 10 percent among men (somewhat less for women), while the other groups constitute 1-5 percent each. It should also be noted that Jews form a substantial part of the immigrants from the Russian Empire (Lieberson and Waters 1988, 25-27; Watkins 1994).

Table 1 here

Turning to generation, 38 percent of men and 26 percent of women in the analytical sample are first-generation immigrants (1G), while 9 percent and 10 percent, respectively, are foreign born who immigrated as children (1.5G), and 53 percent and 64 percent, respectively, are second generation immigrants (2G). The gender difference in the proportion of immigrants by generation reflects the proportional dominance of young adult males among immigrants prior to

numerical restrictions in the 1920s (Bard et al. 2006, 535). About two thirds of the second generation immigrants are from single ancestry, and one third from mixed ancestry. Among immigrants from mixed ancestry a large majority (about 85 percent) has a U.S.-born parent.

Table 2 is a cross tabulation of origin and generation. It shows high proportions of the first generation among immigrants from Italy, Austria, and Russia while the second generation dominates among immigrants from Britain, Ireland, and, Germany reflecting well-known differences in immigration flows between these origin groups.

Table 2 here

Among men 73 percent are never married, and among women it is 49 percent. About 60 percent of married men and women in the sample are endogamously married (see Table 1). A bit more than 20 percent of the currently married were intermarried with natives (NWNP)—some of whom were likely third generation members of the same ethnic group—leaving about 20 percent exogamously married to other immigrants or to other non-white U.S.-born ethnic groups. This clearly supports the conclusions from previous research about the strong endogamy among turn of the century immigrants in the United States.

In Table 3 we look in more detail at the marriage outcomes across origin groups. Male immigrants from Scandinavia, France, Ireland, Italy, Austria, and Russia are more likely to be never married. Women from Italy, Austria and Russia have lower than average rates of celibacy, which reflects a male dominance among the immigrants from these countries. Immigrants from these countries (Italy, Austria, and Russia) are also the most endogamous. Immigrants from Britain have the highest intermarriage rates (with NWNP). In contrast, the most endogamous immigrants from Italy, Austria, and Russia are also highly unlikely to be intermarried with natives in 1910 (only 1-2 percent of the whole sample). These differences across countries of



origin are well in line with the standard narrative of immigrant assimilation in turn of the twentieth century United States.

Table 3 here

About 14 percent of men and 9 percent of women in our sample do not speak English, and 6-7 percent are illiterate (table 1). Two thirds live in an urban area, and over 40 percent live in the Northeast census region (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont), while only 6 percent live in the South. The big difference in occupational income score between men and women is explained by the low number of employed married women. In this analysis we include this variable mainly as a control for socioeconomic status and will not attach much interpretation to it.

Finally, looking at the contextual variables in table 1, the diversity index has a mean of about 0.8, which points to a high degree of diversity in immigrant origins in many counties. The average proportion of natives is under 40 percent in counties where immigrants live, which indicates a high degree of residential segregation. About half of the total life time of immigrants, on average, has been spent in the United States, but of course there are big differences across country groups. The male dominance of much immigration in the decades prior to 1910 among peak marriage ages is also clearly visible in the average sex ratio. Men age 20-29 resided in counties with an average of almost two men for each woman; women resided in counties with an average of 1.3 men for each woman.

More detailed statistics of the contextual variables can be found in table 4, which shows means and standard deviations of the different variables across country of origin groups. Relative group size varies from less than 1 percent to about 10 percent. The county sex ratio for men varies from about 1.2 men per woman for Ireland to almost 4 men per woman for Italy. For women the sex ratios are much lower, varying between 0.8 for Ireland to 2.1 for Italy. There are

also considerable differences in the proportion of aggregate time spent by (first generation) immigrants in the United States, reflecting both differences in age at migration and when the majority of immigrants arrived.

Table 4 here

## REGRESSION ANALYSIS

Table 5 shows exponentiated coefficients from a binary logit model and a multinomial logit model for men and women separately. The exponentiated coefficients can be interpreted as odds ratios of marriage outcomes relative to the base outcome of being never married. In the binary logit model we focus on overall chances of being married in 1910, while in the multinomial model we compare different marriage outcomes. The coefficients for the contextual variables are standardized and express the impact on the marriage outcome of a one standard deviation change in the contextual variable. Looking first at origin, with Britain as the reference category, men from Italy, Austria and Russia are most likely to be married, and also most likely to be endogamously married. British, French and Swiss men are clearly most likely to be intermarried with native whites, and compared to them all other immigrants are much less likely to be intermarried. Relative to endogamy, relative risk ratios for Scandinavians, Irish and Germans are 0.4-0.5 compared to the British, and for immigrants from Italy, Russia, and Austria they are 0.08-0.16. For women (panel B) the patterns are quite similar, but especially women from Italy are relatively (compared to the British) much more likely to be married than men from the same origins.

Table 5 here

Turning to immigrant generation, first generation immigrants are least likely to be married, and the 1.5G immigrants are most likely to be married in these ages. The 1.5G and the 2G immigrants are also more likely to intermarry both with natives and other immigrants

compared to the 1G immigrants. Second generation men of mixed ancestry are relatively more likely to intermarry with natives and to immigrants from different origins, than are single-ancestry second generation immigrants. These findings are in accordance with expectations from basic assimilation theory. The patterns are highly similar for men and women.

In general urban immigrants are less endogamous. For men the biggest differences are found for other exogamy, while for women they are more likely also to be married to natives. Non-English speaking men are both less likely to be married overall, and less likely to be exogamously married, as expected from assimilation theory. Non-English speaking women, on the other hand, are more likely to be married, but much less likely to be intermarried. The patterns are similar for literacy; both results point to the important role language proficiency plays in the assimilation process. A higher occupational score for men is associated with a higher likelihood of being married, and also a somewhat higher chance of being intermarried with natives and other immigrants, but the latter difference is small. For women a higher occupational score is associated with less marriage overall, while there is no association with native intermarriage.

We now turn to the contextual effects, which are measured at the county level. Looking first at the diversity index, a greater diversity of the immigrant population in the district is associated with lower overall marriage chances for men, and lower chances of endogamy. For women, overall marriage chances are not associated with diversity, while it is associated with more exogamy relative to endogamy, just as for men. A larger relative group size is associated with more marriage overall, for both men and women. As expected, it also affects different marital outcomes, but in a markedly different way. Specifically, it increases the chances of endogamy and reduces the chances of exogamy, both with natives and other immigrants. The relative risk ratio for intermarriage with native whites of native parentage versus endogamy is

about 0.6, and is also similar for other exogamy. This clearly shows the great role played by the marriage market structure in shaping marriage patterns, and is well in line with expectations from structural marriage market theory (e.g. Blau et al. 1982). A similar indication is given by the association between the origin-specific sex ratio and marriage outcomes. A higher sex ratio (more men relative to women) lowers overall marriage chances for men. At the same time the likelihood of intermarriage with natives, relative to endogamy, increases substantially (relative risk ratio of 1.9), and the pattern is similar for other exogamy. For women the pattern is the opposite, with a higher chance of overall marriage, while there is no statistically significant relationship with intermarriage.

A higher proportion of native whites of native parentage in the district increases marriage overall for both men and women. This association is at least partly a result of the marriage market structure, i.e. that there are more natives in the marriage market from which to find a spouse. However, it may also be related to assimilation in the sense that being more exposed to the native white population reduces boundaries between groups, which in turn promotes intermarriage. Finally, the better connected the immigrant group of origin in the county is to U.S. society—which we measure by the proportion of total life time spent in the U.S. by immigrants from the same origin living in the same county—the higher the overall marriage chances for men, but the lower they are for women. Overall the association with exogamy is weak.

Table 6 explores possible differences in the impact of the contextual level variables between generations. For simplicity we only distinguish between the foreign born (1G/1.5) and the second generation (2G). The patterns are highly similar across generations, both in terms of overall marriage and exogamy, even though the magnitudes of the associations differ in some cases. The only major exception to this is proportion of life time spent in the U.S. by the

immigrants of the same origin in the county. For the foreign born (1G/1.5G) a stronger connection to the U.S. is associated with higher intermarriage rates (not statistically significant for men), while the opposite is the case for the second generation where it is associated with lower changes of exogamy. Apparently stronger connections to the U.S., and hence an assumed better integration by the immigrants of the same origin into U.S. society, lower the chances that the second generation marries natives while it increases intermarriage probabilities among the foreign born. Thus, generally speaking, the context appears to affect marriage outcomes for immigrants of both generations in a similar, but not identical, way. This strongly suggests that second generation immigrants were affected by the same community factors as their first generation counterparts. In other words, even though the second generation was more integrated into U.S. society than the first generation, it was by no means fully assimilated.

Table 6 here

## CONCLUSIONS

Exogamy has for a long time been viewed as an important indicator through which social relations in society can be studied. In particular when it comes to racial and ethnic stratification, it has proven a highly valuable tool for social scientists. Previous research in the field has highlighted the role played by various individual-level factors in determining intermarriage, or exogamy more generally, such as age, origin, generation, socioeconomic status, language proficiency, etc. Our analysis of U.S. immigrants at the turn of the twentieth century, based on the 1910 census, confirmed most of these previous findings. Second generation immigrants were much more likely to intermarry, and we even found foreign born who arrived as children (the 1.5 generation) to be more prone to intermarriage than the first generation who came in their teens or as adults. Ability to speak English, literacy and higher socioeconomic status were also linked to

more intermarriage. We also confirm the previous findings about major differences across origins, with immigrants from eastern and southern Europe being least prone to intermarriage, even after controlling for generation, socioeconomic status, and other variables.

The main focus of the analysis, however, was on how different contextual variables were associated with intermarriage. In other words, how the local marriage market in terms of country of origin and age shaped marital outcomes for immigrants from 11 large immigrant groups. Thanks to new micro-level census data that have recently been made available to research, we were able to measure these contextual associations at a low level of aggregation: the county. The results showed that the relative size of the origin group in the community had an important impact on intermarriage. More fellow countrymen in the local area meant greater opportunity to marry overall, and also increased the chances of being endogamously married. If finding a spouse was completely random, the chances would be larger if there were more people around from the same origin. In addition, however, a larger community of people from the same origin is likely to imply that more of the original language, religion, and culture would survive in the new destination, which could further contribute to endogamy. We have no direct evidence of the strength of this kind of national culture and the extent to which it is related to the size of the community, so it is impossible to tell how much of the pattern we found that is explained by simple matching probabilities, and how much that is explained by a local culture and preferences to endogamy. The supply of potential spouses from the same origin in the marriage market was also associated with partner choice in expected ways. For immigrant men a greater abundance of women from the same country of origin increased marriage chances overall and also promoted endogamy, while the opposite situation instead lowered marriage chances overall and increased exogamy. For immigrant women the availability of men of the same origin in the county of

residence did not affect their marriage choices as it did for men, which could be related to the overall abundance of men due to the male dominance among the immigrants.

Similar to the relative group size, we also found the diversity of the community in general, in terms of country of origin, to be related to exogamy. Immigrants in more diverse communities were more likely to marry natives and immigrants from different origins, than immigrants in less diverse communities, and we believe this to be related to a greater exposure to different immigrant groups in the more diverse places. Similarly, immigrants living in areas with a higher proportion natives were more likely to intermarry and less likely to marry other immigrants.

Moreover, the history of the origin group in the United States also mattered, but in different ways depending on immigrant generation. Among the foreign born (1G/1.5G) living in a community in which the origin group had spent, on average, a longer time in the United States meant higher chances of intermarriage and exogamy with other immigrants, while the opposite was the case for the second generation.

Apart from this difference, contextual factors affected exogamy patterns independent of generation, which show that community characteristics did not only affect recently arrived immigrants but had a long-lasting impact. We also found little consistent evidence for large gender differences in these patterns. Overall, men and women were remarkably similar in how community contexts interacted with intermarriage, and also in terms of the differences across origin groups and associations with individual variables the similarities are more striking than the differences.

Our analysis of immigrant marriage patterns at the turn of the twentieth century in the United States show how individual and community factors interacted in shaping marital opportunities. Even if intermarriage overall can be seen as an important indicator of immigrant

social integration, it is evident that it was not an easy and uncomplicated process. There were indeed systematic links between intermarriage and generation, language proficiency, and demographic characteristics consistent with simple assimilation theory. But there were also differences across origins in terms of the strength of cultural ties and boundaries to surrounding society as well as important influences of the local community that hindered or accelerated the process of marital assimilation. A better knowledge of these contextual patterns contributes to a better understanding of how immigrants integrate into host societies.



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Table 1. Descriptive statistics of the analytical sample (first and second generation immigrants, 20-29 years in 1910).

	Men	Women
<b>Exogamy (%)</b>		
Never married	72.6	48.6
Endogamy	16.3	30.3
NWNP Exogamy	6.2	11.4
Other Exogamy	4.8	9.7
<b>Origin (%)</b>		
Denmark	1.9	1.6
Norway	4.7	4.2
Sweden	5.8	5.5
Great Britain	11.6	12.8
Ireland	13.6	18.9
France	1.2	1.3
Switzerland	1.1	1.2
Italy	10.8	5.8
Austria	10.0	7.5
Germany	27.8	32.3
Russian empire	11.7	9.0
<b>Generation (%)</b>		
1G	37.8	26.1
1.5G	9.1	10.2
2G mixed ancestry	20.4	25.2
2G single ancestry	32.8	38.5
Age	24.4	24.3
Age at marriage*	22.9	20.8
<b>Urban (%)</b>		
Rural	33.9	28.0
Urban pop 2500-9999	7.4	6.9
urban pop 1000-9999	17.5	18.6
urban pop 100000 +	41.2	46.6
<b>English speaker (%)</b>		
No	14.2	9.0
Yes	85.8	91.0
<b>Literate (%)</b>		
No	7.3	5.6
Yes	92.7	94.4
<b>Region (%)</b>		
Northeast	41.5	44.9
Midwest	39.2	40.2

South	6.0	6.2
West	13.4	8.8
Occ. Income score (mean)	22.3	6.8
<b>Contextual variables (means)</b>		
Diversity Index	0.81	0.81
Group Size	0.05	0.04
Prop. of lifetime in US	0.48	0.52
Sex Ratio	1.94	1.29
Proportion NWNP	0.37	0.37
Individuals	38479	32358
Counties	1837	1837

\* Only for currently married



Table 2. Immigrant generation by country of origin (%).

A. Men

	1G	1.5G	2G mixed ancestry	2G single ancestry	Total	N
Denmark	35	10	17	38	100	730
Norway	39	6	13	41	100	1792
Sweden	41	11	10	38	100	2248
Great Britain	22	11	40	27	100	4479
Ireland	16	4	34	46	100	5216
France	30	11	41	18	100	455
Switzerland	25	9	35	30	100	404
Italy	79	11	2	9	100	4137
Austria	74	8	4	14	100	3839
Germany	10	8	29	52	100	10678
Russian empire	76	13	2	9	100	4501
Total	38	9	20	33	100	38479

B. Women

	1G	1.5G	2G mixed ancestry	2G single ancestry	Total	N
Denmark	20	9	23	47	100	525
Norway	23	7	16	55	100	1355
Sweden	33	11	11	45	100	1770
Great Britain	14	12	45	29	100	4127
Ireland	22	6	31	41	100	6122
France	17	12	50	21	100	413
Switzerland	18	9	46	27	100	377
Italy	63	18	3	16	100	1888
Austria	60	11	6	22	100	2439
Germany	8	8	30	53	100	10442
Russian empire	64	20	3	13	100	2900
Total	26	10	25	39	100	32358

Table 3. Marital outcomes by country of origin (%).

A. Men

	Never married	Endogamy	NWNP Exogamy	Other Exogamy	Total	N
Denmark	76	10	6	8	100	730
Norway	83	10	4	3	100	1792
Sweden	81	10	4	4	100	2248
Great Britain	69	9	14	8	100	4479
Ireland	79	9	6	5	100	5216
France	76	5	9	10	100	455
Switzerland	70	6	11	13	100	404
Italy	73	24	1	2	100	4137
Austria	70	26	1	3	100	3839
Germany	70	16	10	5	100	10678
Russian empire	69	27	1	4	100	4501
Total	73	16	6	5	100	38479

B. Women

	Never married	Endogamy	NWNP Exogamy	Other Exogamy	Total	N
Denmark	47	21	14	19	100	525
Norway	56	26	7	11	100	1355
Sweden	59	22	8	11	100	1770
Great Britain	49	14	23	14	100	4127
Ireland	67	14	10	9	100	6122
France	52	10	15	23	100	413
Switzerland	53	10	21	17	100	377
Italy	24	71	1	4	100	1888
Austria	31	56	2	11	100	2439
Germany	47	29	15	9	100	10442
Russian empire	36	58	1	5	100	2900
Total	49	30	11	10	100	32358

Table 4. Descriptive statistics of the contextual variables by country of origin.

A. Men

	Diversity Index		Group Size		Prop. of life in US		Sex Ratio		Proportion NWNP	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	St. Dev	Mean	St. Dev	Mean	Std. Dev.
Denmark	0.81	0.10	0.01	0.02	0.50	0.05	2.23	2.91	0.39	0.15
Norway	0.79	0.11	0.05	0.05	0.50	0.07	2.87	3.51	0.32	0.13
Sweden	0.82	0.11	0.04	0.04	0.49	0.05	2.44	6.31	0.35	0.15
Great Britain	0.82	0.10	0.02	0.02	0.56	0.06	1.73	1.86	0.41	0.19
Ireland	0.83	0.07	0.03	0.03	0.60	0.05	1.18	3.64	0.36	0.16
France	0.82	0.14	0.00	0.01	0.50	0.10	1.87	3.50	0.39	0.17
Switzerland	0.81	0.11	0.01	0.02	0.55	0.07	1.86	1.49	0.45	0.18
Italy	0.84	0.07	0.07	0.04	0.28	0.06	3.87	15.45	0.37	0.18
Austria	0.83	0.07	0.07	0.04	0.33	0.10	2.56	5.01	0.35	0.17
Germany	0.78	0.13	0.03	0.02	0.59	0.04	1.25	1.10	0.40	0.18
Russian empire	0.83	0.07	0.09	0.06	0.31	0.06	1.73	1.79	0.32	0.16
Total	0.81	0.10	0.05	0.04	0.48	0.14	1.94	5.92	0.37	0.17

## B. Women

	Diversity Index		Group Size		Prop. of life in US		Sex Ratio		Proportion NWNP	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	St. Dev	Mean	St. Dev	Mean	Std. Dev.
Denmark	0.81	0.10	0.01	0.02	0.51	0.05	1.84	1.88	0.40	0.15
Norway	0.77	0.11	0.05	0.05	0.52	0.07	1.76	1.69	0.31	0.12
Sweden	0.81	0.10	0.04	0.04	0.49	0.05	1.60	3.68	0.35	0.16
Great Britain	0.82	0.09	0.02	0.02	0.57	0.06	1.41	1.20	0.41	0.18
Ireland	0.83	0.07	0.03	0.03	0.60	0.05	0.78	1.44	0.35	0.16
France	0.81	0.14	0.00	0.00	0.53	0.09	1.15	1.28	0.38	0.17
Switzerland	0.81	0.09	0.01	0.02	0.56	0.07	1.45	0.97	0.43	0.17
Italy	0.83	0.07	0.07	0.03	0.30	0.05	2.05	2.46	0.32	0.15
Austria	0.83	0.07	0.06	0.04	0.35	0.09	1.55	1.05	0.32	0.16
Germany	0.78	0.13	0.03	0.02	0.59	0.04	1.15	0.71	0.40	0.18
Russian empire	0.83	0.08	0.10	0.06	0.32	0.06	1.47	0.97	0.30	0.15
Total	0.81	0.10	0.04	0.04	0.52	0.12	1.29	1.53	0.37	0.17

Table 5. Determinants of marital outcomes (exponentiated coefficients from binary and multinomial logit models).

A. Men

	Logit		Mlogit (endogamy baseoutcome)			
	Currently married		Exogamy NWNP		Other exogamy	
	OR	p	OR	p	OR	p
<b>Origin</b>						
Denmark	0.93	0.47	0.44	0.00	1.04	0.86
Norway	0.59	0.00	0.44	0.00	0.61	0.01
Sweden	0.62	0.00	0.51	0.00	0.66	0.01
Great Britain	1.00	ref	1.00	ref	1.00	ref
Ireland	0.41	0.00	0.51	0.00	0.67	0.00
France	0.81	0.09	1.23	0.50	2.06	0.01
Switzerland	1.11	0.40	1.13	0.68	2.86	0.00
Italy	1.55	0.00	0.16	0.00	0.20	0.00
Austria	1.56	0.00	0.08	0.00	0.35	0.00
Germany	0.86	0.00	0.42	0.00	0.42	0.00
Russian empire	1.36	0.00	0.09	0.00	0.49	0.00
<b>Generation</b>						
1G	1.00	ref	1.00	ref	1.00	ref
1.5G	1.40	0.00	3.13	0.00	2.38	0.00
2G mixed ancestry	1.06	0.18	11.78	0.00	6.27	0.00
2G single ancestry	1.21	0.00	5.54	0.00	3.12	0.00
Age / age at marriage	6.49	0.00	1.08	0.42	0.90	0.29
Age/age at married squared	0.97	0.00	1.00	0.27	1.00	0.30
<b>Urban</b>						
Rural	1.00	ref	1.00	ref	1.00	ref
Urban pop 2500-9999	0.96	0.39	0.97	0.81	1.12	0.37
urban pop 1000-99999	0.95	0.24	1.07	0.48	1.36	0.00
urban pop 100000 +	0.99	0.78	1.02	0.80	1.33	0.00
<b>English speaker (%)</b>						
No	0.57	0.00	0.15	0.00	0.57	0.00
Yes	1.00	ref	1.00	ref	1.00	ref
<b>Literate (%)</b>						
No	1.04	0.45	0.59	0.04	0.62	0.01
Yes	1.00	ref	1.00	ref	1.00	ref
<b>Region (%)</b>						
Northeast	1.00	ref	1.00	ref	1.00	ref
Midwest	0.99	0.65	0.79	0.00	0.79	0.00
South	1.09	0.13	1.23	0.09	0.94	0.64
West	0.65	0.00	0.90	0.37	0.98	0.85
Occupational income score	1.03	0.00	1.02	0.00	1.01	0.00

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<b>Contextual variables</b>						
Diversity Index	0.96	0.01	1.04	0.27	1.06	0.08
Group Size	1.09	0.00	0.64	0.00	0.60	0.00
Prop. of lifetime in US	1.07	0.04	0.89	0.16	0.86	0.06
Sex Ratio	0.44	0.00	1.91	0.00	1.86	0.00
Proportion NWNP	1.11	0.00	1.53	0.00	0.79	0.00
Constant	0.00	0.00	0.11	0.04	0.59	0.64
N	38479				10527	
Overall p	0.000				0.000	
Log likelihood	-18880				-7735	

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## B. Women

	Logit		Mlogit (endogamy baseoutcome)			
	Currently married		Exogamy NWNP		Other exogamy	
	OR	p	OR	p	OR	p
<b>Origin</b>						
Denmark	0.87	0.26	0.51	0.00	1.01	0.93
Norway	0.48	0.00	0.44	0.00	0.73	0.02
Sweden	0.41	0.00	0.44	0.00	0.77	0.03
Great Britain	1.00	ref	1.00	ref	1.00	ref
Ireland	0.54	0.00	0.63	0.00	0.77	0.00
France	0.67	0.00	0.90	0.64	2.12	0.00
Switzerland	0.65	0.00	1.45	0.10	1.91	0.01
Italy	2.53	0.00	0.05	0.00	0.16	0.00
Austria	1.21	0.06	0.09	0.00	0.60	0.00
Germany	0.99	0.92	0.42	0.00	0.43	0.00
Russian empire	1.10	0.39	0.04	0.00	0.33	0.00
<b>Generation</b>						
1G	1.00	ref	1.00	ref	1.00	ref
1.5G	1.46	0.00	2.67	0.00	2.11	0.00
2G mixed ancestry	1.04	0.43	8.57	0.00	4.44	0.00
2G single ancestry	1.17	0.00	4.44	0.00	2.69	0.00
Age / age at marriage	3.76	0.00	0.91	0.16	0.97	0.68
Age/age at married squared	0.98	0.00	1.00	0.16	1.00	0.82
<b>Urban</b>						
Rural	1.00	ref	1.00	ref	1.00	ref
Urban pop 2500-9999	1.19	0.01	1.11	0.27	1.30	0.01
urban pop 1000-99999	1.05	0.33	1.49	0.00	1.38	0.00
urban pop 100000 +	0.99	0.74	1.13	0.07	1.19	0.01
<b>English speaker (%)</b>						
No	2.22	0.00	0.10	0.00	0.43	0.00
Yes	1.00	ref	1.00	ref	1.00	ref
<b>Literate (%)</b>						
No	1.46	0.00	0.56	0.02	0.80	0.09
Yes	1.00	ref	1.00	ref	1.00	ref
<b>Region (%)</b>						
Northeast	1.00	ref	1.00	ref	1.00	ref
Midwest	1.21	0.00	0.85	0.01	0.96	0.43
South	1.34	0.00	1.02	0.82	1.20	0.10
West	1.25	0.00	1.12	0.17	1.32	0.00
Occupational income score	0.81	0.00	1.00	0.76	1.01	0.01
<b>Contextual variables</b>						
Diversity Index	1.00	0.81	1.10	0.00	1.17	0.00
Group Size	1.03	0.22	0.60	0.00	0.60	0.00

Prop. of lifetime in US	0.64	0.00	0.90	0.16	0.91	0.14
Sex Ratio	1.09	0.16	1.07	0.26	1.02	0.72
Proportion NWNP	1.06	0.01	1.44	0.00	0.80	0.00
Constant	0.00	0.00	0.57	0.41	0.36	0.16
N	32358				16627	
Overall p	0.000				0.000	
Log likelihood	-12988				-12574	



Table 6. Impact of contextual variables for first (1G/1.5G) and second (2G) generation immigrants (exponentiated coefficients from binary and multinomial logit models).

A. Men

	Logit		Mlogit (endogamy baseoutcome)			
	Currently married		Exogamy NWNP		Other exogamy	
	OR	p	OR	p	OR	p
<b>1G/1.5G</b>						
Diversity Index	0.93	0.00	0.98	0.79	1.11	0.13
Group Size	1.06	0.01	0.73	0.00	0.66	0.00
Prop. of lifetime in US	1.09	0.12	1.28	0.13	1.17	0.21
Sex Ratio	0.31	0.00	2.13	0.00	2.01	0.00
Proportion NWNP	1.07	0.01	1.48	0.00	0.71	0.00
N	18026				5086	
Overall p	0.000				0.000	
Log likelihood	-8874				-2566	
<b>2G</b>						
Diversity Index	0.97	0.08	1.00	0.91	0.99	0.86
Group Size	1.13	0.00	0.52	0.00	0.46	0.00
Prop. of lifetime in US	1.03	0.65	0.72	0.00	0.61	0.00
Sex Ratio	0.72	0.00	1.66	0.01	1.63	0.01
Proportion NWNP	1.15	0.00	1.60	0.00	0.85	0.00
N	20453				5441	
Overall p	0.000				0.000	
Log likelihood	-9912				-5183	

## B. Women

	Logit		Mlogit (endogamy baseoutcome)			
	Currently married		Exogamy NWNP		Other exogamy	
	OR	p	OR	p	OR	p
<b>1G/1.5G</b>						
Diversity Index	0.82	0.00	1.05	0.47	1.16	0.01
Group Size	1.05	0.24	0.66	0.00	0.69	0.00
Prop. of lifetime in US	0.56	0.00	1.71	0.00	1.58	0.00
Sex Ratio	1.09	0.40	0.82	0.46	0.94	0.50
Proportion NWNP	1.04	0.33	1.39	0.00	0.68	0.00
N	11729				6997	
Overall p	0.000				0.000	
Log likelihood	-4367				-3371	
<b>2G</b>						
Diversity Index	1.04	0.09	1.06	0.05	1.11	0.00
Group Size	1.02	0.53	0.52	0.00	0.49	0.00
Prop. of lifetime in US	0.74	0.00	0.67	0.00	0.61	0.00
Sex Ratio	1.10	0.21	1.30	0.02	1.23	0.06
Proportion NWNP	1.03	0.18	1.53	0.00	0.89	0.00
N	20629				9630	
Overall p	0.000				0.000	
Log likelihood	-8511				-9201	