When Ethnic Roots Blend: the Family and Market Outcomes of Second Generation from Intermarried Immigrant Households[§]

Ho-Po Crystal Wong
National Tsing Hua University

April 2017

Abstract

This paper investigates how the life outcomes of second generation immigrants are affected by inter-ethnic marriage of their parents. Conceptually there are two major mechanisms producing opposite effects: the marital surplus mechanism suggests that children of intermarriage would receive less effective parental inputs, which could negatively affect child development. The human capital and identity mechanism suggests that children of mixed heritages could be more disconnected from their ethnic roots. Such detachment could enhance general human capital acquisition over ethnic specific human capital, which tends to be beneficial to the market success of immigrants. The historical evidence from the United States reveals that second generation immigrants of inter-ethnic marriages have less stable marriage among females but better market prospects particularly among males.

Keywords Intermarriage · Labor Market Outcomes· Second Generation Immigrants· Marriage. Divorce· Children· Ethnic Identity

JEL Classification D1· J12· J15

1 Introduction

For the past decades, the establishment and enlargements of the European Union (EU) have largely promoted interaction and social contact of people from different EU member countries. These increased human interactions give rise to more intermarriage between citizens of the EU.[1] At the same time, continuous warfare in Middle East and Africa has driven millions of refugees to Europe. A substantial portion of these refugees would remain and form their new families in the receiving countries. Immigrants' assimilation into the host countries has (once again) become a major concern of policy makers and social scientists. Increasingly more marriages in this world would be expected to involve spouses of different ethnic roots. What comes with these marriages is their offspring, which will of no doubt also grow in number. Understanding the effects of intermarriages on their descendants is therefore both timely and important.

Specifically this paper seeks to understand the family and market outcomes of second generation immigrants born to cross-ethnic marriages in comparison with their counterparts of same-ethnic marriages. Based on the findings in Wong (2016), same-ethnic marriages produce more favorable family outcomes including a higher probability to own home and have children (which are both considered as household public goods). In line with this hypothesis, same-ethnic marriage could enhance the wellbeing and development of children because of the higher marital surplus yielded relative to their intermarried counterparts.

Despite the unfavorable family outcomes associated with intermarriage, children growing up in intermarried families might still benefit from it in several ways: first, they might build up human capital unique to the multi-cultural setting of their families. In addition, their weaker ethnic identities reduce the payoff in investing in ethnic-specific human capital over general human capital (Chiswick 2009). The latter would better enhance immigrants' future market success.

It is thus curious to investigate to what extent and in what direction children of intermarriage would be affected by the ethnic differences in their parents in terms of later life outcomes, and whether children grown in intermarriage indeed would possess an advantage in

---

[1] Haandrikman (2013) for instance, found that the EU expansion has given rise to more intermarriages between native Swedish men and women from countries that recently joined the EU has increased during 1991-2008.

the labor market over their counterparts of same-ethnic marriages due to their unique identity and human capital developed from a multi-cultural family environment. The findings could provide important insights into the role of intermarriage in the process of assimilation as well as its potential social cost and benefit.

I adopt an instrumental variable method to estimate the casual relationship between intermarriage and the life outcomes of children of intermarriage. The instruments employed are based on Wong (2016), which made use of the variation in number and sources of immigrants in the United States from 1900-1930. Such variation produced exogenous changes in the marriage market condition in the United States, which altered the probability of intermarriage. A similar set of instrument had also been adopted by Angrist (2002) in predicting the sex ratios of the ethnic immigrant population. The drastic changes in immigration flows during this period were primarily driven by the First World War in Europe and the imposition of a series of quota acts on immigrants from Europe in the United States. Arguably these variations in immigration flows were uncorrelated with the behavior of immigrant households as they were driven primarily by changes in political condition outside the United States and new immigration policies in the United States (see Wong 2016 for details of the background of the immigration quota laws.)

Interestingly I find contrasting effects of intermarriage on the offspring in the family and market dimensions: intermarriage negatively affects the marriage of children growing up in intermarried families as they become adults but enhances their labor market performance and upward social mobility.

2 Literature review

Globalization and the large-scale international migration in recent years have generated an increasing amount of research effort and public interest on immigration and its consequences. Economic research on the effects of intermarriage primarily concentrates on intermarriage with the natives (see for instance, Meng & Gregory 2005; Furtado 2009; Furtado & Trejo 2013; Basu 2015). While the impact of intermarriage with the natives plays an important role in the social integration of immigrants into the mainstream society, intermarriage between immigrants of different ethnic groups could also be beneficial to assimilation, as the social networks of immigrants become less confined to their own ethnic groups through intermarriage, and they

could also as a result be more open to social interaction with people outside their ethnic groups. This paper adds to this literature by investigating whether there are economic benefits associated with intermarriage of immigrants akin to those between immigrants and natives. This enables us to better understand whether ethnic intermarriage– as an institution that gives rise to intimate social interactions between individuals of two ethnic groups, enhances immigrants' social integration and assimilation, net of any potential positive effects of native premiums. Furthermore, native-immigrant intermarriage might also affect family outcomes through intra-household allocation of resources in favor of the native partner (Grossbard et al. 2014). The exclusion of natives permits a better understanding of the pure effects of intermarriage that are not potentially confounded by one partner having a native advantage.

There are studies on assimilation of immigrants to the host country (Neidert &Farley 1985; Farley 1991; Kalmijn 1993, 1995; Perez & Hirschman 2009). Most of these studies come from the sociology literature. One key subject this literature examines is the evolution of ethnic boundaries (mostly in the United States and Europe) and how intermarriage blurs ethnic boundaries over time (Alba & Golden 1986; Pagnini & Morgan 1990; Wildsmith et. al. 2003).

Despite the socio-economic outcomes of descendants of intermarried immigrants can significantly improve our understanding on the social cost and benefit of intermarriage as a pathway to social assimilation and integration of immigrants into the mainstream society, few studies have specifically compared the socio-economic outcomes of children of intermarriage to those of same-ethnic marriage. Some exceptions include Furtado (2009) and Basu & Insler (2016) (for sociological studies on children of intermarriage, see also Kalmijn 2010, 2015). But again, their analyses were confined to intermarriage between the natives and the immigrants and for Basu & Insler (2016) in particular, the effects found are specific to Asian-native intermarriages. This paper complements their works by providing additional insight on how intermarriage *among immigrants* in a diverse ethnic environment could affect the life outcomes of their descendants relative to those from same-ethnic immigrant households.

One interesting aspect of second generation immigrants is their identity. Sociologists have long recognized the identity difficulties facing second generation immigrants. For instance, Kalmij (1993) pointed out that the American-born children of immigrants are "born into a world that is dominated by American norms and values, and they are raised in a home that is at least

partly oriented toward the culture of a country they have never known themselves". He argued that there is a possible conflict of loyalties for these children as they can be caught between an orientation towards the country of origins of their family and the expected position in the social hierarchy of the mainstream society. The ethnic identity of immigrant children of intermarriage is further blurred by the fact that they essentially belong to two ethnic groups and they might as a result develop less attachment to their parents' ethnic groups and lean toward the culture of the host country instead.

This paper is related to a growing body of work that links immigrants' ethnic identity to their socio-economic achievements in the host country (Ainsworth-Darnell & Downey 1998; Akerlof & Kranton 2000, 2002; Constant & Zimmermann 2008; Battu & Zenou; Casey and Dustmann 2010; Bisin et al.). In particular Akerlof & Kranton (2000) developed an economic model that shows how identity can substantially affect behavior. They propose a utility function which links individuals' identity to different social categories and the utility from certain behavior depends on the social category of the individual.

Applying this framework into the context of ethnic identity, individuals, especially ethnic minorities, might deviate from the mainstream norms in the host country, even when this act to display ethnic loyalty involves a tradeoff with their economic success. As such, ethnic identity attachment can be conducive to the slow assimilation or even isolation of some minority ethnic groups in the host country.

Schüller (2015) found a linkage between parental ethnic identity and the educational success of the second generation in Germany. One possible pathway for such intergenerational effects is that parents passed on their sense of identity (to the host country and their own ethnic group) to their children, which could alter the human capital accumulation and levels of feelings of self-esteem of their children. As parents of intermarriage come from different ethnic groups, it is conceivably more difficult for interethnic parents to transmit their own ethnic identity to their children and this might have important implications on the human capital accumulation of their children.

This study adds to this growing literature by further investigating to what extent the conceivably weaker ethnic identity of second generation children of intermarriage could affect their socioeconomic outcomes.

3 Mechanisms for the effects of intermarriage on descendants

The pathways through which intermarriage could alter the later life outcomes of children born to these families are complex. Several mechanisms can be at play at the same time. First, children raised in intermarriage might be negatively affected by the relatively less complementary ethnic traits of their parents in the family. Under Becker's (1973) martial sorting framework, holding other things constant, intermarriage would generate less marital surplus because spouses that come from different ethnic groups are less complementary in household production. This means that for each unit of household public goods inter-married spouses invest in, less marital surplus would be generated. Furthermore the less effective household production function of inter-married households would lower spouses' incentives to invest in their families, which would further drive down the marital surplus from intermarriage.

In Wong (2016), I provided evidence that spouses who married *endogamously* are more likely to own homes and they are more likely to have children, both of which are household public goods. Wives from same-ethnic marriages were also less likely to participate in the labor force, which could be explained by the more intensified household specialization in these households. If these effects are causal, it would mean that children of intermarriage would be raised in households with lower marital surplus compared with their counterparts growing up in same-ethnic households. This could have important implications on their individual development and thus their later life outcomes.

In addition, studies from the literature of psychology and sociology suggest that children raised in intermarriage have higher levels of antisocial behavior and emotional problems (for example Campbell & Eggerling-Boeck 2006; Cooney & Radina 2000). Pearce-Morris and King (2012) found that relative to children growing up in same-ethnic families, children with interethnic parents are more likely to develop negative emotions such as feeling depressed or anxious and losing temper easily. Also Platt (2012) found that having parents of different ethnic roots is associated with a higher probability of lone parenthood. This indicates that intermarried

spouses are less compatible and their relationships can be more stressful and fragile. Parental separation and the stress of their relationship can be detrimental to the later life outcomes of their children.

In contrast, from a human capital perspective, intermarriage could give rise to human capital investment and accumulation that enhance the upward social mobility of the offspring. Drawn on the theoretical work of Chiswick (2009) that studied the economic determinants of ethnic assimilation, we can distinguish ethnic-specific human capital from general human capital. Conceivably the descendants of intermarriage have a weaker preference for ethnic goods in any specific ethnic group and might be more oriented toward moving up the social ladder than being recognized by their ethnic peers. They would therefore invest more in general human capital rather than ethnic-specific human capital. The former usually yields a higher rate of return in the labor market and its acquisition would facilitate immigrants' assimilation into the mainstream society.

Chiswick & Houseworth (2011) further argued that if ethnic and US-specific human capital are competitive and the acquisition of one precludes devoting time to developing the other, children that are accustomed to the American cultures would be less inclined to invest in ethnic human capital and take part in ethnic-specific customs. This is likely to be the case for children of intermarriage, as they have less to gain from "ethnic compatibility", as termed by the authors.

Some ethnic-specific human capital is also less rewarding for an inter-ethnic household. For instance, each parent speaks a different ethnic language and to communicate effectively at home, family members in an inter-ethnic household usually communicate with each other in the host country's language (Chiswick & Houseworth 2011) and they might also consume less ethnic public goods. This would reduce parents' investment in their children's ethnic-specific human capital and would further lower their children's attachment to the ethnic group of either parent. Parents of intermarriages are then less likely to transmit their ethnic identities to their children (Castonguay 1982; Alba et. al 2002).

Steven (1985) found that children of intermarriage whose parents spoke different non-English languages had high rates of mother tongue shift to English whereas those from ethnically

endogamous marriages were more likely to retain their non-English mother tongue of their parents. Thus linguistic-assimilation would be easier for children born to intermarried families and proficiency in the native language of the host country is largely favorable to the labor market and other socio-economic outcomes of immigrants (for example, Rivera-Batiz 1990; Chiswick 1991; Dustmann 1994; Shields and Price 2001; Dustmann and Fabbri 2003).

At the same time, as children from intermarriage are exposed to three sets of cultures, they could develop unique intermarriage-specific human capital that allows them to better adapt to multi-cultural social settings and this social adaptiveness tends to be favorable to the later socio-economic standing of these second generation immigrants.

In addition, the ethnic identity of the second generation immigrants could directly influence their socio economic outcomes (Akerlof & Kranton 2000; 2002). In Akerlof & Kranton (2002), students choose their effort in marketable skills and social category that maximizes their utility in an economic model of students and schools. They argue that the motivation of students can derive from their own ethnic background (identity) and the match between these students and their schools. The identity payoffs in the utility function of students depend on the "prescription" which gives the ideal attributes and behavior for the social category they have chosen.

Following their line of reasoning, if we are to divide individuals' social categories by ethnicity and nativity, an individual growing up in households of mixed parentage might optimally adopt a mainstream (native) identity and choose actions that would in expectation produce a higher social status and fit in the ideal of the mainstream category. In contrast, individuals coming from same-ethnic households, might have a stronger sense of loyalty to the ethnicity of their parents and would derive more utility from identifying themselves as being in the same social category as their parents even though the ideal characteristics associated with that social category might carry lower social status. This could occur because children from same-ethnic households face stronger peer or parental pressure to behave in a way that is in conformity with the norm of their ethnic category (Kalmijn 1993).

Given such complexity in the pathways through which intermarriage influences the life outcomes of its offspring, it is important to test empirically which of the mechanisms proposed

above might play a bigger role in the life path of children from intermarriage and in what dimensions.

One reasonable conjecture is that the marital surplus mechanism is likely to be more important in determining the marital and family outcomes of children from intermarriage. Conceivably children of intermarriage receive less parental input in real and in effective terms and they are also more likely to experience parental conflicts in the family arising out of the cultural differences of their parents. This could negatively affect their perception of marriage and also their future roles as partners and parents in the future.

In contrast, the potential positive effect of intermarriage tends to operate through the market by means of higher education achievement and the subsequent labor market success. Intermarriage at least partially leads to weaker ethnic identity and would discourage the offspring from investing in ethnic-specific human capital. They might also find it more rewarding to invest in human capital that would promote their upward social mobility.

Yet one second order effect of market success is that it would enhance the attractiveness of individuals coming from intermarriage in the marriage market and could result in better marital matches in other traits such as education, which could produce more stable marriage. The findings in the paper will thus provide insight on whether this positive labor market effect could outweigh the negative effect of intermarriage on the family outcomes of individuals born to intermarriage. These results will enrich our understanding on the assimilation process of immigrants as a whole.

4 Econometric strategy and data

4.1 The instrumental variable method

In estimating the effects of intermarriage on the life outcomes of its descendants in two main dimensions namely the family and market, I adopt a two-stage-least square method using a Probit model in the first stage based on Newey (1990), Wooldridge (2002) and Angrist & Pischke (2009). The original ordinary least square (OLS) regression model takes the following form:

$$Y_{ijst} = X_i'\beta + \psi intermar_i + \alpha_s + \sigma_t + \mu_j + \varepsilon_i$$

(1)

where Y_{ijst} of individual i from ethnic group j (as determined by the father's ethnicity) residing in state s in census year t, is an outcome variable including marital status, labor supply, whether the respondents reside in the same state as where he/she was born, occupational score, home ownership status of the respondent and whether he/she has children for i in ethnic group j (as determined by the father's ethnicity). X_i is a vector of control variables including the education and age groups of the respondent; whether he/she resides in a metropolitan area, dummies for his/her residence state at birth, cohort dummies; $intermar_i$ is an intermarriage dummy variable that takes the value one if the parents of the respondents are from different ethnic groups and zero otherwise. α_s, σ_t and μ_j control for the state, census year and ethnicity fixed effects respectively and ε_i is the error term.

Wong (2016) as well as previous studies (e.g. Qian 1997; Chiswick & Houseworth 2011) suggest that individuals select positively into intermarriage, i.e. intermarried couples are compensated by other traits that enhance the gain to marriage. Therefore without tackling the endogeneity issue of $intermarr$, which is the variable of interest, any negative effect found of intermarriage on the outcomes of individuals is likely to bias downward in magnitude, and so is the potential positive effect of intermarriage. I therefore address the endogeneity of $Intermarr$ by performing an instrumental variable procedure. The instruments I refer to as the "male surplus ratio" is constructed as follows:

$$MaleSurplus_{j,b} = \frac{\sum_{t=b-5}^{b-1}(male\ immigrants_{j,t} - female\ immigrants_{j,t})}{\frac{1}{5}\sum_{t=b-5}^{b-1}(male\ population_{j,t} - female\ population_{j,t})}$$

(2)

The numerator captures the male surplus of immigrants arrived in the United States during the past five years prior to the birth of individual in year b. The denominator measures the

size of the male surplus of the foreign born ethnic stock. For instance if the individual is born in 1905, the ethnic immigrant flows used as the instruments for the probability of intermarriage of his/her parent would be those that arrived during 1900-1904. And the net male foreign-born ethnic population will be the estimated average net male foreign-born ethnic population during 1900-1904. This instrument serves to capture the size of the male surplus of the newly-arriving immigrants relative to that of the foreign-born ethnic stock. The trans-Atlantic migration during that period was largely sex-biased towards males, therefore for most ethnic groups, a surplus of male immigrants arriving in the United States would lower the chance of same-ethnic marriage for male immigrants actively seeking mates in the American marriage market. We would expect the larger the value of the male surplus ratio, the stronger would be the effect of the newly arriving immigrant flows on the probability of intermarriage of the parents of the respondent.

In the first stage, a Probit model is estimated as follows:

$$P(Intermarr_i = 1 | X_i, MaleSurplus_{j,b}ethnic_j', state_s, year_t, ethnic_j)$$
$$= F_i(X_i, MaleSurplus_{j,b}ethnic_j', state_s, year_t, ethnic_j; \gamma)$$

(3)

where $MaleSurplus_{j,b}$ is the male surplus ratio of the individual of ethnic group j during the 5 years prior to the year of birth of respondent j ,denoted as b; $ethnic$ is a vector of dummy variable equal to 1 for the ethnic group to which the father of the respondent belongs and zero otherwise.

This specification allows for differential effects of the male-surplus ratio across ethnic groups. The advantage is that it provides for the flexibility for the responsiveness of the ethnic marriage markets to the ethnic male surplus to differ for reasons such as ethnic differences in the preference for same-ethnic mates and their group sizes.

Using equation (3), I obtain the fitted probabilities denoted as $\hat{F}$ in the first stage. In the second stage, the fitted probabilities are used as the instruments for intermarriage together with other control variables $X, state, year, ethnic$ in a standard two-stage least squares (2SLS) method to estimate to effect of intermarriage on life outcomes of descendants. This procedure will produce more efficient estimates compared to the standard two-stage least squares model

when the endogenous variable is binary Probit model (see Newey 1990; Wooldridge 2002; Angrist & Pischke 2009).[2]

The instruments constructed based on the variation in the number and sources of immigrants primarily from Europe during 1900-1930 are exogenous changes that alter the ethnic choice of spouses as these changes were mainly driven by the first world war in Europe, famine and poverty in some European countries such as Italy and Ireland as well as the imposition of a series of immigration quotas with an aim to restrict the number of immigrants arriving from Eastern Europe in the 1920's (see Wong 2016 for details of these quota acts).

The immigrant sex ratio would not be a valid instrument if the ethnic sex ratio in the marriage market facing the parents of these second generation immigrants could affect the life outcomes of these second generation population. This would require the sex ratio to alter the bargaining power of mothers and fathers within marriage in a way that would affect the development of their children. Angrist (2002) argued that the sex ratio of immigrants might affect household outcomes by changing the bargaining power of the wife. But this is unlikely to be the channel through which the imbalances in immigrant sex ratios in the marriage market affect family outcomes during the period 1900-1930, as I argued in Wong (2016). Considering that divorce was very uncommon, once individuals in the marriage market formed their unions, the sex ratios in the marriage market at the time of the marital match are very likely to be irrelevant in determining the resource allocation within the households, as remarriage is not considered an outside option by most in that period. Any effect of the immigrant sex ratio on family outcomes is likely to operate through how its impact on the probability of intermarriage.

4.2 The data

The data on the number of immigrant arrivals by country of origin from 1900-1929 come from the Annual Report of the Commissioner General of Immigration prepared by the Department of Commerce and Labor.

---

[2] And under the assumption that the Probit model in the first stage can provide a better fit for the first stage conditional expectation function than using a standard OLS model (see Newey 1990; Wooldridge 2002; Angrist & Pischke 2009).

The above immigration data are matched to the 1940 and 1950 Census IPUMS, one percent sample. The Census data of these 2 census years contain information on the parental country of birth of the respondents that are second generation immigrants. This information is crucial to my analysis as it enables me to identify whether the parents of the respondents were from the same ethnic group (i.e. married endogmously). I focus on second generation immigrants aged 21-46 in the 1940 and 1950 Census data because the marital decision of the parents of these adults were more likely to be affected by the variations in the immigration flows during the period 1900-1930. The parents of all the individuals in the sample are foreign-born. This precludes any effects found of intermarriage on the descendants to be the effect of native premium of one parent (Meng & Gregory 2005; Çelikaksoy 2006).

The birth cohorts in the sample were restricted to year 1905-1930. This aims to match the immigrant arrivals from 1900-1929. The ethnic immigrant flows arriving from 1900-1904 is matched to the corresponding ethnicity of the father of the respondents born in 1905 and 1901-1905 and so on. Admittedly this is not the most ideal approach to match the immigrant flows to the individuals in the Census data but unfortunately data on the age of marriage of, the age of the respondents' parents and their year of arrival in the United States are not available in the Census data. Presumably newly arriving immigrants would form marriage and have children quite soon and therefore it is not unreasonable to assume that the cumulative immigrant flows five years prior to the year of birth of the sample respondents to be the relevant ethnic immigrant flows that affected the ethnic choice in partner selection of their parents.

Figure 1 presents the average intermarriage rates of parents of respondents by year of birth and broadly defined ethnic groups. We see that intermarriage rates for most ethnic groups followed an upward trend during the First World War and the enforcement of the 1921 and 1924 Quota Acts. The exogenous events had also altered the stability of the ethnic marriage market as shown by the increased volatility of intermarriage rates induced by these events. This is related to that some individuals that are used to calculate the estimates of parental intermarriage rates were higher order births. And so when there were exogenous events that changed the stability in the availability of same-ethnic mates in the marriage market, the estimates of intermarriage rates of parents would be more affected by the birth order of the individuals, as the parental intermarriage rates were more stable in earlier periods. This could explain for the increased

volatility in parental intermarriage rates in later periods in the figure. Overall, it is clear that the ethnic partner choice of parents of the second generation immigrants in the data were influenced by the variation in immigrant flows created by the First World War and the series of quota acts.

The annual foreign-born ethnic population is estimated using the 1900, 1910, 1920 and 1930 Census data, 1 percent sample. I make use of the information on number of years since arrival in the United States to estimate the population stock of the 9 years prior to a Census year. For example, I estimated the population stock in 1901 using Census 1910 by counting the number of individuals reported to have arrived the United States for at least 9 years, weighed by the person weight. One shortcoming of this counting method is that it cannot account for the individuals that had returned to their home country prior to the Census was conducted. I therefore use the 5-year average population size to match the immigrant flows arrived during each 5-year interval to average out the underestimation. Also it should be those immigrants remaining in the United States that competed with the newly arrived immigrants for mates in the American marriage market.

The birth cohorts of individuals are broken into five cohort dummies in the econometric analysis by the birth years "1905-1909", "1910-1914", "1915-1919", "1920-1924" and "1925-1930".

The age effects on life outcomes are captured by age dummy groups "21-25", "26-30", "31-35", "36-40" and "41-45".

I consider individuals I broadly categorize into 15 ethnic groups include: Dutch, English, Finnish, Austro-Hungarian, French, German, Greek, Italian, Polish, Portuguese, Romanian, Russian, Scandinavian, Spanish and Turkish (for details of the grouping, see Wong 2016).

The education achievement of individuals is captured by the following education dummies: "grade 8 or below", "grade 9-grade11", "high school graduates", "some college" and "college graduates or above".

Table 1 presents the summary statistics. The raw data indicate that adults that come from intermarriage on average are more likely to be divorced and fewer number of children. They are also less likely to reside in states in which they were born, better educated and have a higher

occupational score. The occupational score is constructed by Census based on the relative economic standing of the occupation. It reflects occupational prestige and is highly correlated with income. Interestingly despite the better average labor market outcome, they have a lower home ownership rate.

In Section 6, I provide a complementary analysis that attempts to understand to what extent the relationships found using the historical data can be applicable to contemporary America. I perform the same OLS analysis using data from the monthly Current Population Survey (IPUMS-CPS) from January 1994- October 2016. The CPS began to introduce questions regarding the birthplaces of the respondents' parents and their nativity since 1994. This enables me to perform empirical investigation similar to the main analysis.

The control variables in the contemporary analysis using CPS are very similar except that whether the household was located in a metropolitan area is more finely grouped as "central city", "outside central city" and "not in metro area". The 10 birth cohorts of individuals include the birth years "1945-1949", "1950-1954"…up to "1990-1994".

The outcome variables include whether the respondent is currently married and divorced, labor supply, home ownership status, whether the respondent has at least one child and at least 2 children in the household respectively, whether the respondent has at least some college and college or above (when education controls are excluded). On top of that, for respondents that are married, I also examine whether the respondent's spouse has college education or above, and whether she/he is a native and whether they have a non-native spouse from father's ethnicity and mother's ethnicity respectively.

5 The main results

5.1 The first stage results

To provide a rough picture of the changes in the immigrant flows used as the instruments of this paper during the sample period, Tables 2 and 3 report the number and sex ratios of new immigrants and estimated average population by gender respectively for the ethnic groups under study during the period 1906-1910, 1916-1920 and 1926-1930. The third column of Table 2 in each period illustrates the values of the instruments for the specified period. For instance, the

estimated values of the instruments during 1906-1910 would be used to match respondents born in 1911 in the corresponding ethnic groups and so on. The data suggests that the number of immigrant arrivals and their sex ratios had indeed varied substantially during the first 3 decades of the 20th century. In particular, we see that the sex ratios for the new immigrant ethnic groups (i.e. immigrants from Italy and other Eastern European countries) were substantially higher at the onset of the twentieth century but reduced sharply after the mid-1920s. This is largely a result of the series of immigration quota acts in the 1920s that favored female immigrants. The effect of the quota acts that disfavored the "new immigrant group" is also felt in the net surplus ratios. Table 3 shows that the male surplus of arriving immigrants as a fraction of that of the foreign-born ethnic stocks declined substantially in magnitude relative to the "old immigrant group" that comprises migrants arriving from Northwestern Europe such as England, Germany and Scandinavia. These variations produced profound changes in the availability of same-ethnic spouses in the ethnic marriage markets over the sample period.

Table 4 displays the OLS estimates of the first stage regression to illuminate the relationship between the probability of intermarriage and the male surplus ratios by ethnicity. The F-statistics for the instruments is 27.71, which far exceeds the threshold for weak instruments. The estimated coefficients for most ethnic groups take the expected sign except the French, Austro-Hungarian and Portuguese immigrants. Overall when the male surplus ratio goes up, the probability of parental intermarriage would increase but the magnitude varies by ethnic groups. This confirms that it is important to allow for the effects of the instruments to differ by ethnicity.

5.2 Results by gender

The outcomes of individuals can be discussed in two broad dimensions: outcomes that are more related to the functioning of family and outcomes that are more strongly related to market success of individuals. The comparison between the OLS and the 3SLS estimates of the effects of intermarriage is important because it provides useful insight on the extent to which the potential negative impact of intermarriage on the family outcomes of individuals can be counteracted by the potential selection into intermarriage, as revealed in Wong (2016).

Since gender division of labor was very pronounced among most households during the sample period, the effect of parental intermarriage could differ by gender. I therefore estimate the results by gender. Table 5 presents the main results. Specification (1) produces the estimates from the standard OLS model. Specification (2) offers estimates of the effects using the 3SLS model without adding education controls. Specification (3) includes education controls. Since education achievement of respondents could depend on whether they come from intermarriage, education could therefore be endogenous to whether the respondents were raised in an intermarriage family, but at the same time, individual education achievement could be an important proxy for parental education level due to intergenerational transmission of human capital. It is therefore useful to examine how the effects of intermarriage might differ with and without the education controls and the potential bias induced by the addition of educational controls.

Interestingly the OLS estimates suggest that women from intermarriage are more likely to be married but at the same time, they are more likely to be divorced. Their likelihood to have at least one child and two children are also larger. The fact that parents positively select into intermarriage might have increased the probability of their female offspring of being in married and have children but after the selection effect is taken into account in the 3SLS estimates, the effects of intermarriage on the probability of being married for the female descendants vanish but their probability of marital breakdown increases both in size and statistical significance. This is consistent with the marital surplus hypothesis that parents of intermarriage are less complimentary in marital production and this could negative affect the future marriage of their children. There is no evidence that parental intermarriage affects the labor supply of female descendants. The 3SLS estimate of the likelihood for female descendants to have one child or more increased substantially but the effect is not robust to exclusion of education controls.

In terms of the outcomes that are related to market success and mobility of individuals, the OLS result indicates that the occupation score of female descendants of intermarriage conditional on labor force participation is 3.2 percent higher than their counterparts of same-ethnic marriage and they are also 4.7 percent more likely to have received at least some college education. But the effects become statistically insignificant in the 3SLS estimates. Women grown in intermarriage are less likely to reside in their states at birth across all specifications and after

17

taking into account the positive selection of intermarriage of their parents, the magnitude of the effect increased substantially. Yet there is no evidence that being raised in an intermarried household affects female descendants' likelihood to own homes.

Turning to the male descendants, the 3SLS estimates surprisingly show that men grown in intermarriage are more likely to be married and the effect of the intermarriage background on their divorce probability is statistically insignificant across all specifications. This could be related to their better market prospects, which make them more attractive to potential spouses in the marriage market. So any negative effect of having intermarried parents on marital outcomes might have been dominated by its positive effects on market prospects.

There is no evidence that their labor supply of men is affected by whether they come from an intermarried family. As for the demand for children, similar to the results on female descendants, male descendants of intermarriage appear to be more likely to have at least one child only in the 3SLS estimate that includes educational controls. No statistically significant effects are found in other specifications and measure of the demand for children.

In the context of market success and locational mobility, men coming from intermarriage again appear to be more mobile. The OLS estimate suggests that they are 5.3 percentage points less likely to reside in their residence state at birth. The estimated effect increases very substantially by magnitude to -35.7 percentage points with educational controls and -43.1 percentage points without educational controls after taking into account positive selection into intermarriage of their parents.

It is somewhat puzzling that the effects appear to be stronger after accounting for the endogeneity of parents' intermarriage. One conjecture is that if parents were randomly assigned to same-ethnic and intermarriage, there would be less positive gain from parents' ethnic networks and children would develop an even weaker ethnic identity and they would thus devote more effort to acquiring human capital that would enhance their socio-economic position in the mainstream society as opposed to ethnic-specific human capital, which is usually less rewarding in the labor market. This locational mobility might also facilitate their labor market success.

The OLS estimate suggests that the occupational score of male descendants of intermarriage is about 3.5 percent higher than that of the second generation immigrants from

18

same-ethnic marriage. The 3SLS estimate increases to 18.7 percentage point without educational controls but become statistically insignificant when educational controls are included. This could imply that some of the occupational prestige enjoyed by male descendants of intermarriage is a result of their higher educational achievement.

In connection with the occupational achievement of immigrants, I investigate whether growing up in an intermarried family would affect the likelihood of individuals completing at least one year of college education. The OLS estimate indicates that male descendants of intermarriage were 8.1 percentage points more likely to have received at least some college education and the size of the effect increases substantially to 29.2 percentage point using the 3SLS procedure. Both estimates offer strong evidence that being raised in an intermarried household is highly beneficial to the education outcomes of males.

Despite the labor market and educational advantage found among men born to intermarriage, they appear to be less likely to own homes in the OLS estimate, although the effect becomes statistically insignificant in 3SLS estimates in specifications (2) and (3).

5.3 Results excluding English ancestries

As language proficiency in the native language will enhance the socio-economic outcomes of immigrants, this subsection investigates how the estimated effects of intermarriage would change when the sample is confined to individuals with no English ancestries. Also the English group might be closer to the native group as arguably many American cultures and institutions were strongly influenced by the British ones.   Note that this exclusion means individuals of mixed ancestries with one parent being English are also excluded from the analysis. The findings allow us to understand better to what extent the effects previously found might be driven the more established social position of the English migrants.

For the interest of space I only present the OLS estimates and the 3SLS estimates that include the education controls (i.e. specification (3)) in this analysis except for the outcome variable "At least some college". This is a preferred specification as education attainment is an important individual characteristic that affects the life outcomes of individuals and it can proxy for parental characteristics that are correlated with the education of their children such as parental education and income. Also since specifications (2) and (3) produce very similar results

in most cases, the possible bias induced by the potential endogeneity of education should not be large.

Table 7 shows that among the second generation immigrants that come from non-English intermarriage, women are 3.2 percentage points more likely to be married using OLS model. But once their parents' positive selection into intermarriage is taken into account, such positive effect disappears. And for non-English men, the 3SLS estimate suggests that their probability of being married would go up by 25.8 percentage points if they were raised in an intermarriage. Given result could mean that non-English men coming from an intermarriage might be able to form marriage at a younger age, as they were more attractive in the marriage market given better social standing relative to their non-English counterparts of same-ethnic marriage.

Similar to the main results by gender, intermarriage is found to increase the probability of divorce for the female descendants only. A comparison of the OLS and 3SLS estimates suggests that the parent's positive selection into intermarriage partially reduce the negative effect of intermarriage on the marriage of their offspring. As women are more likely to specialize in home production after getting married, they would benefit less from the favorable market outcomes of being raised in an intermarriage. The marital surplus hypothesis might therefore play a more important role for women than men.

As for the probability of having children, women of non-English origins coming from intermarriage appear to be more likely to have children in the OLS estimates but there is no such relationship statistically in the 3SLS estimates. For non-English men, there is no evidence that mixed heritage affects the demand for children.

Regarding the locational mobility in terms of their likelihood to remain in their residence state at birth of the non-English second generation immigrants, we obtain a similar picture as the main results but the 3SLS estimates increase quite substantially, which suggest that for non-English female immigrants, they were much more likely to leave their home state possibly to seek better socio-economic prospects and mates if they were from intermarriage. This also implies that they are less inclined to stick to their original ethnic enclaves. For men, the 3SLS estimate is smaller than that of the male full sample but the difference is smaller. Overall there is

very strong evidence that second generation immigrants of intermarriage are geographically more mobile. And this could be an important key to their assimilation.

With respect to outcomes related to market success, conditional on working, being raised in a non-English intermarried household would increase the occupational score by a substantial 43.9 percentage points relative to non-English women raised in a same-ethnic family. As for non-English men, the effect is only statistically insignificant for both the OLS and 3SLS estimates. Once again mixed heritage does not appear to affect the labor supply of second generation immigrants in this subsample.

In terms of human capital accumulation, the OLS estimate suggests that non-English women grown up in intermarriage were 6 percentage points more likely to have at least one year of college education. Yet this effect might be largely a result of that parents of intermarriage were better educated, as the effect becomes statistically insignificant when selection of intermarriage is taken into account. In contrast, men of mixed heritage appear to be much more motivated to acquire education. The OLS estimate indicates that they are 9.1 percentage points more likely to have at least some college education and the effect actually magnifies to 35.9 percentage point in the 3SLS estimate.

When confining the sample to individuals without English roots, the negative effects of mixed ethnic heritage on home ownership becomes significant for men of intermarriage in both OLS and 3SLS estimates. This lower inclination to own homes might be partially explained by their residential mobility. Consistent with the result on the likelihood to reside in the state at birth, men of intermarriage might be more willing to move around to seek better economic prospects and as a result be less likely to own homes. No statistically significant relationship is found between home ownership and being raised in intermarriage among non-English women. It is not very surprising considering that most women specialized in home production upon getting married during that period, therefore the economic status of their husbands might have a larger role to play in the decision to own homes.

6 Intermarriage and Life Outcomes of Descendants: Contemporary America

6.1 The raw data statistics

To shed light on understanding the extent to which the relationships found in the historical data might be applicable to contemporary America and how they might have changed in modern context, I further perform OLS estimates of the relationship between mixed heritages and family outcomes using IPUMS CPS data from 1994-2016.

One major drawback of this contemporary analysis is there are no similar instruments to identity the causal effects of intermarriage on descendants as there has been no similar changes in the immigration policies or events that exogenously altered the flows of European immigrants arriving in the United States. Therefore the relationships found in this section are just associations. Yet a comparison of the OLS results here with those using historical data could provide important insights on whether similar relationships hold in a contemporary context.

To make the results more comparable, I confine the sample to the same ethnic-groups as in the historical analysis. But the end of immigrant waves from Europe since the 1930s would arguably reduce the likelihood of European immigrants to marry a same-ethnic mate in the United States and more of them might marry natives. This could make the sample selection in the contemporary period very different from the historical data. Tables I.1 and I.2 of Appendix I compares the historical and contemporary marital sorting of the foreign-born mothers and fathers of the respondents. Note that the respondents with parents that married natives are actually excluded from the samples in the estimates. We do see that overall it is much more common for European immigrants, especially those from Northern and Western Europe to marry into the native population in contemporary America. And for those that married immigrants, a dominating majority are less likely to marry endogmously compared to the samples of respondents' parents in the 1940 and 1950 Censuses (excluding Romanian mothers and fathers and Russian fathers). There is mounting empirical evidence that immigrants select positively into marriages with natives (for example, Meng & Gregory 2005;González-Ferrer 2006; Kalmijn & van Tubergen 2006). In the context here, this might mean that immigrants select less positively into intermarrying with immigrants of other ethnic groups compared to the historical sample. As such, we should bear in mind this more negative sample selection in the contemporary data when interpreting the results.

Table 8 reports the summary statistics of the contemporary data. Despite the possible differences in the selection of the samples in the contemporary and historical data, we observe

quite similar patterns in the differences in sample means of the outcome variables by the type of marriages of the respondents' parents as in the historical data. In particular, regardless of gender, individuals born to intermarriage are much more likely to be divorced, better educated and less likely to own homes.

Descendants of intermarriage are less likely to be married but for men, they have more children on average and fewer for women. Individuals of mixed heritages are more likely to have spouses that are native In addition, women born to intermarriage are more likely to have spouses that have at least college education. Noticeably, only 0.2 and 0.3 percent of men and women of intermarriage married foreign spouses that came from their mothers' ethnic groups, compared to 4.6 and 6.2 percent for men and women of same-ethnic marriage. The sample means of the former are 20 times less. And 0.07 percent of men and zero women in the sample of mixed heritage married foreign spouses of their father's ethnicity (compared to 4.6 percent for men and 6.2 percent for women of same-ethnic marriage). This is consistent with that individuals of intermarriage have weaker ethnic identities and they have a lower inclination to marry non-native spouses that share the same ethnic roots with their parents compared to second generation immigrants of same-ethnic marriage.

6.2 The OLS results

Table 9 provides the OLS estimates of the relationships between intermarriage and socio-economic outcomes of descendants. The results appear to suggest that the offspring of intermarriage are less family-oriented in the sense that they have less likely to be married and have children. Similarly to the estimates using the historical data, intermarriage statistically increases the likelihood of divorce among female descendants only.

In terms of market-related outcomes, male descendants of intermarriage were about 2 percentage points less likely to participate in the workforce. Men of mixed heritages also appear to be less likely to own homes in specification (1) but the estimate becomes statistically insignificant when education controls are added. There is no evidence that intermarriage affects the educational achievement of descendants, after controlling for their observable demographic characteristics of the individuals.

In addition, I examine the relationship between intermarriage and descendants' marital sorting using the contemporary data. There is no strong evidence that descendants of intermarriage marry up (or down) in terms of education. If anything, women born in intermarriage are less likely to marry spouses with at least college education. And although the point estimates suggest that descendants of intermarriages are more likely to marry native born spouses, the effects are all statistically insignificant.

To further examine whether descendants of intermarriages are more distant from their ethnic heritages in mate selection, I look at whether intermarriage reduces the likelihood of descendants to marry a foreign-born mate of their parents' ethnic origins. The results confirm this conjecture. Men and women raised in intermarriages are 3.7 and 3.5 percentage points less likely to marry a mate with the same ethnic heritage as their fathers in specification (2). These amount to 90.2 and 77.8 percent of the sample means, which are 4.1 and 4.5 percent respectively. Also, men and women of intermarriages are 3.7 and 3.5 percentage points less likely to marry a foreign mate of their mother's ethnicity. These are 86 percent and 63.6 percent of the sample means (4.3 and 5.5 percent for men and women respectively). The gender comparison additionally suggests that relative to women, men raised in intermarriages display a stronger inclination to marry out.

7 Discussion

The findings of this paper reveal that intermarriage of immigrants produces intergenerational effects on the later life outcomes of their descendants. Such connection has surprisingly been given relatively attention in the literature despite that the large amount of scholarly interest in the socio-economic standing of the second generation immigrants, which serves as a key indicator of the degree of social assimilation and integration of immigrants. Evidence from the historical data suggests that as a group, the offspring of intermarriage appears to be geographically more mobile and less tied to land. They tend to work towards improving their social standing as indicated by the higher occupational prestige they enjoy.

In Wong (2016), I found substantial positive selection into intermarriage for couples during 1900-1930. This implies that the parents of the individuals in inter-ethnic households in this study are compensated by unobservable traits that would enhance marital surplus. The OLS

24

estimates on the effects of intermarriage on marriage outcomes for women suggest that, even with this positive selection, girls raised in intermarriage would experience a higher chance of marital breakdown as adults. And this effect persists using contemporary data. In addition the IV estimates that filter out the selection effect of intermarriage indicate such negative effect of intermarriage on the marital stability is even larger, which is consistent with the marital surplus hypothesis. These results also suggest that the positive selection into intermarriage can undo some negative impact of intermarriage on the marriage outcomes of its offspring, although not entirely. Such finding is important in understanding the process of assimilation of immigrants. One might also question why such effect is only found among women of mixed heritage but not their male counterparts. The answer appears to be closely related to the economic benefits associated with mixed heritage. With high degree of gender specialization in market work and home production during the sample period, the economic advantages associated with growing up in intermarriage could bring more benefits to men as the breadwinners of their homes.

Indeed intermarriage is found to be beneficial to the market success of the male offspring. Remarkably this positive effect on market-oriented outcomes cannot be accounted for by the marital surplus mechanism. Conceivably children from intermarriage have less to gain from investing in ethnic specific human capital (such as the ethnic languages spoken by their parents) and would rationally devote more time to acquiring general human capital that would better facilitate their upward social mobility.

What is more striking is the IV estimates for a variety of market-related outcome variables suggest that the positive effects of mixed heritage gain in size substantially after the selection of the intermarriage of their parents has been accounted for. Since couples were found to positively select into intermarriage for unobservable traits that enhance marital surplus, intuitively the OLS estimates should be biased upward rather than the opposite. There are two economic reasons to that could explain for the findings here. First, if parents were randomly matched into intermarriage, they would have spent more resources on their children that enhance their later market outcomes to compensate for the deficiency of intermarriage than couples that selected positively into intermarriage. Also in Wong (2016), I found that intermarried couples had fewer children during 1900-1930. Similar to the finding here, the IV estimates were substantially larger than the OLS estimates. Intermarried couples might invest more in the

quality of their children as a result of their lower family size. This could produce positive impact on the educational attainment and the future socioeconomic outcomes of their children.

Cheng and Powell (2007) hypothesized that biracial parents would increase their investment in their children to compensate for their disadvantage of being raised in a more culturally complicated environment with diverse traditions in the family. They found empirical evidence that biracial parents allocate more economic and cultural resources to the education of their children than do monoracial parents.[3] If this compensating investment strategy also applies to children of ethnic intermarriage, the descendants of intermarriage might also benefit from the higher parental investment in their human capital.

Secondly, second generation immigrants of mixed heritage have a self-identity that is more independent from their parents' ethnic ancestries, and this turns out to be highly favorable to their upward social mobility. The effect appears to be even stronger if parents were randomly matched into intermarriage. One important channel for mixed heritage to produce positive socioeconomic outcomes as revealed by the results is the enhanced geographical mobility of the descendants. The results in this paper indicate that mixed-heritage individuals are less tied to their residence state at birth, which can be a result of stronger willingness to move out of their parents' ethnic enclaves to seek better opportunities due to their weaker ethnic preference. These individuals might be able to create wider social networks not confined to their parents' ethnic groups, which allowed them to move up the social ladder more easily.

The above findings are consistent with recent studies on the negative effect of strong ethnic/minority identity on labor market outcomes (e.g. Akerlof and Kranton 2002; Austen-Smith & Fryer 2005; Battu & Zenou 2010; Bisin et al. 2011). In addition, Abramitzky et. al (2016) found that second generation immigrants with less foreign names during the mass migration period were associated with higher levels of education and they also earned more and were less likely to be unemployed. Noticeably the rate at which children of intermarriage shifted to less foreign names in subsequent births were nearly twice as fast as those from endogamous marriages. In sum, weaker foreign ethnic identities appear to be beneficial to socio-economic outcomes of the offspring of immigrants.

---

[3] For instance, a biracial child typically possesses more educational goods and is more likely to participate in reading and cultural activities than do a monoracial child from a comparable household.

One related finding that is worth highlighting is that mixed-heritage male individuals appear to be less likely to own homes even though they have better market prospects in comparison to second generation immigrants of same-ethnic marriage. Constant et al. (2009) studied the effect of ethnic identity on home ownership and found that immigrants with a stronger commitment to the host countries are more likely to own homes even after controlling for a wide range of socioeconomic and demographic characters.

Conceivably individuals growing up in intermarriage have weaker ethnic identities and should therefore be more likely to own homes compared with those growing up in ethnically endogamous marriage. Yet the general findings of this paper mostly point to the other direction, especially among male immigrants. This could imply that the identity of mixed ethnic roots might have loosened individuals' tie to land. Such effect cannot be explained by the standard ethnic identity framework, which suggests that weaker ethnic identities of immigrants tend to produce favorable economic outcomes. As home ownership is an important indicator of immigrants' economic success and progress in the host country, it is important to further explore whether this effect of mixed parentage would persist among the third and how this identity effect could get weakened across generations.

8 Conclusion

Despite the data employed in the main analysis of this paper is largely historical, the identity difficulties facing children from intermarried families and the potential cultural conflicts of their parents are no less relevant in today's society. The complementary analysis using data confined to the same European ethnic groups in contemporary America produces similar evidence that intermarriage is negatively related to the marital outcomes of descendants. In addition, their own marital choices reflect that they are considerably more detached from their ethnic roots. This weaker ethnic identity can play an important role in the choices they make in their lives.

Global scale migration has increased ethnic differences, so the task of social integration of immigrants will undoubtedly become more difficult. Immigrants today are more heterogeneous in their religions, physical appearances and cultures than those arrived in the United States a century ago. Arguably the cultural and identity difficulties children from intermarriage experience nowadays are even more intense.

Gordan (1964, 29) described peoplehood as "the social-psychological element of a special sense of both ancestral and future-oriented identification with the group'. Inter-ethnic marriage by definition is a union of merged ethnicities and mixed peoplehood. The descendants of these unions tend to lose their ancestral ethnic identity and embrace the identity of becoming "members of the core society" (Ibid, 80). This process of assimilation can be favorable to the socio-economic outcomes of their descendants as they strive to advance their social status in the mainstream society.

From a social perspective, as international migration has increasingly become a global challenge, it is important to understand the potential mechanisms that would facilitate intergenerational assimilation of immigrants into the host countries. The results drawn from the historical data suggest that intermarriage as a "final stage of assimilation" could enhance the upward social mobility of the second generation immigrants, which could come at a cost of lower marital stability. But the good news is that the positive selection into intermarriage of their parents would undo some of the negative immigrants on the future marriage of their offspring, especially for the primary income earners.

Also how the relationships found between intermarriages and the socio-economic outcomes of the descendants are applicable to contemporary Europe remains an important area for future research. The findings could provide important insight into the migration issues currently facing many European countries.

Figure 1
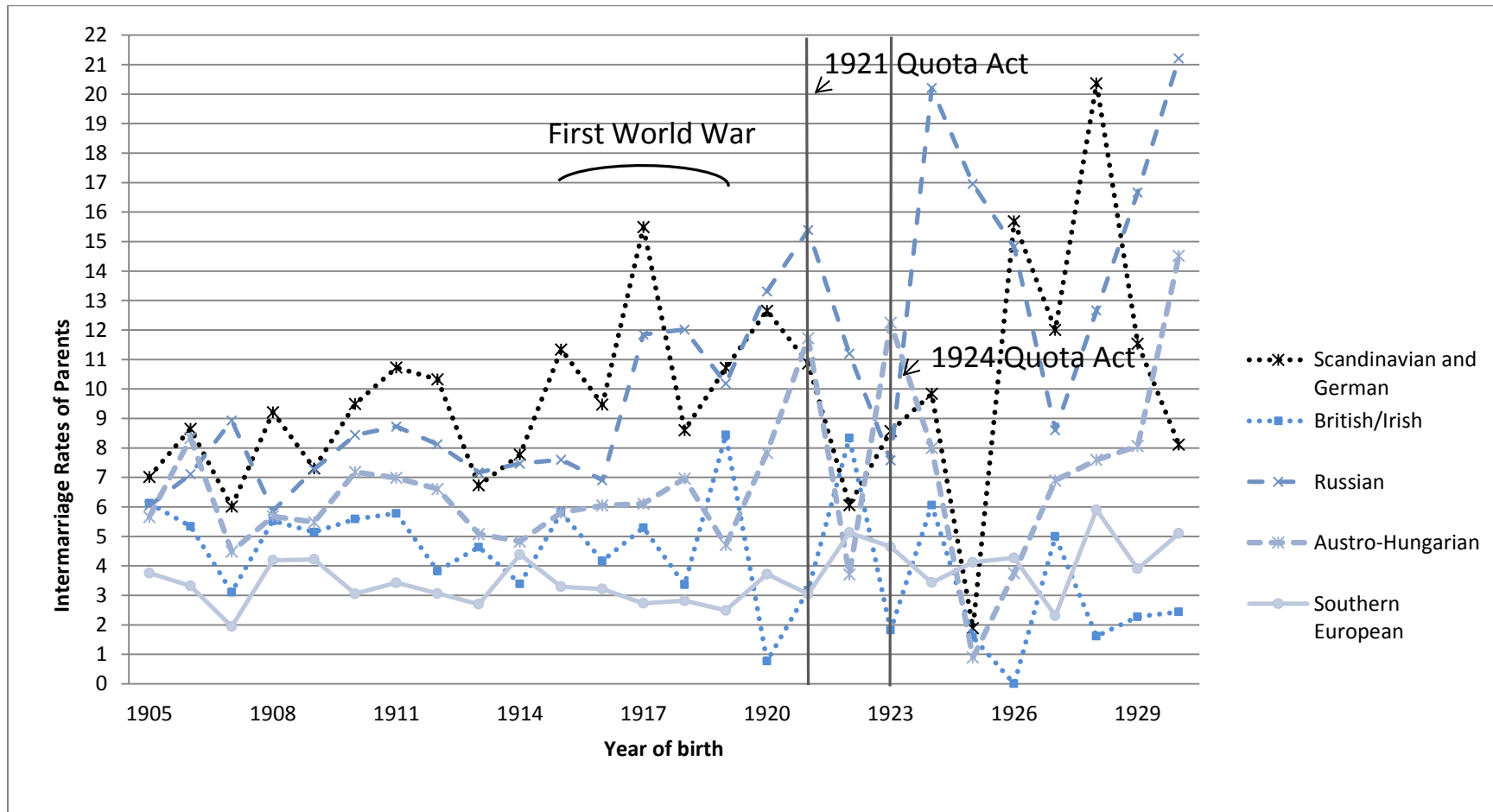
Notes: Estimated using 1940 and 1950 Census of Population, Public Use Microdata, one percent sample.

Table 1

Summary Statistics

| | Second generation immigrants | | | |
	Men born to same-ethnic marriage	intermarriage	Women born to same-ethnic marriage	intermarriage
Age	31.8	31.5	31.8	31.6
	(6.74)	(6.75)	(6.83)	(6.90)
Married	0.589	0.577	0.667	0.676
	(0.492)	(0.494)	(0.471)	(0.468)
Divorced	0.029	0.038	0.037	0.056
	(0.167)	(0.191)	(0.189)	(0.231)
Number of children	0.645	0.572	0.784	0.768
	(1.004)	(0.925)	(1.082)	(1.037)
Labor supply	0.852	0.860	0.420	0.411
	(0.355)	(0.347)	(0.494)	(0.492)
Same state as birth	0.743	0.646	0.752	0.671
	(0.437)	(0.478)	(0.432)	(0.470)
At least some college	0.171	0.292	0.118	0.186
	(0.377)	(0.455)	(0.322)	(0.389)
Occupational score	25.08	26.96	9.987	10.34
	(12.23)	(14.12)	(12.00)	(12.58)
Metropolitan area	0.514	0.558	0.534	0.601
	(0.500)	(0.497)	(0.499)	(0.490)
N	16,032	1,016	16,147	1,076

Notes: Standard errors are in parentheses. The means are weighted by the household weight; Data source: 1940 and 1950 Census of Population, Public Use Microdata, one percent sample.

Table 1 (cont'd)

Summary Statistics

	Second generation immigrants			
	Men born to same-ethnic marriage	intermarriage	Women born to same-ethnic marriage	intermarriage
Own home	0.296	0.239	0.292	0.262
	(0.456)	(0.427)	(0.455)	(0.440)
N	6,461	390	5,688	402

Notes: Standard errors are in parentheses. The means are weighted by the household weight; Data source: 1940 Census of Population, Public Use Microdata, one percent sample. The data on home ownership is not available in the 1950 Census.

Table 2

Ethnic Immigrant Flows and Sex Ratios

Ethnicity	1906-1910			1916-1920			1926-1930		
	Male immigrants	Female immigrants	Sex ratio of immigrants	Male immigrants	Female immigrants	Sex ratio of immigrants	Male immigrants	Female immigrants	Sex ratio of immigrants
Dutch	34,550	18,304	1.89	17,535	11,966	1.47	9,468	7,355	1.29
English	312,277	218,481	1.43	146,100	150,341	0.971	257,932	250,306	1.03
Finnish	42,059	21,106	1.99	10,073	5,848	1.72	1,221	1,691	0.722
Former Austro-Hungarian	430,563	152,395	2.83	14,316	5,698	2.51	13,233	15,827	0.84
French	41,493	31,689	1.31	50,820	39,931	1.27	49,499	40,742	1.21
German	224,916	157,785	1.43	18,223	14,181	1.285	138,111	121,354	1.14
Greek	149,203	8,412	17.74	56,229	13,895	4.05	4,328	9,280	0.466
Italian	879,408	250,565	3.510	98,654	86,591	1.14	35,576	53,266	0.672
Polish	352,649	155,237	2.27	6,614	4,916	1.35	9,821	10,272	0.96
Portuguese	22,700	14,749	1.54	26,382	15,087	1.75	2,512	1,601	1.57
Romanian	56,456	6,038	9.35	6,614	4,916	1.35	9,821	10,272	0.96
Russian	192,487	62,793	3.07	14,336	4,437	3.23	4,831	6,060	0.80
Scandinavian	145,758	85,630	1.70	44,084	28,427	1.55	51,922	33,301	1.56
Spanish	26,177	6,062	4.32	51,823	8,182	6.34	2,704	2,146	1.26
Turkish	8084	281	28.77	793	59	13.44	251	403	0.623

Source: The Annual Report of the Commissioner General of Immigration 1900-1929

Table 3

Average Ethnic Population and Net Male Surplus of Immigrant Flows Relative to Net Male Surplus of Population

Ethnicity	1906-1910			1916-1920			1926-1930		
	Average male population	Average female population	Male surplus ratio	Average male population	Average female population	Male surplus ratio	Average male population	Average female population	Male surplus ratio
Dutch	61,361	48,726	1.285	79,830	54,955	0.224	78,324	57,809	0.103
English	1,235,510	1280,954	-2.064	1,058,768	1,116,225	0.074	998,322	1075,975	-0.098
Finnish	68,088	47,405	1.013	83,862	63,114	0.204	74,048	64,879	-0.051
Former Austro-Hungarian	872,499	577,152	0.942	720,458	604,104	0.074	583,152	544,478	-0.067
French	68,347	52,792	0.630	79,728	66,976	0.854	67,471	69,012	-5.684
German	1,304,954	1,138,390	0.403	864,707	750,524	0.035	801,071	746,548	0.307
Greek	63,619	5,292	2.414	134,782	28,062	0.397	126,930	43,047	-0.059
Italian	737,741	408,632	1.911	944,996	638,091	0.039	1,042,567	744,416	-0.059
Polish	42,599	29,693	15.30	692,678	546,383	0.012	675,972	574,226	-0.004
Portuguese	37,558	23,112	0.550	64,799	47,696	0.660	67,132	44,204	0.040
Romanian	26,987	21,481	9.158	588,660	46,751	0.056	70,023	64,358	-0.110
Russian	791,997	585,848	0.629	866,458	676,820	0.052	740,804	623,965	-0.011
Scandinavian	698,568	527,357	0.355	651,288	517,828	0.117	626,730	479,426	0.126
Spanish	13,568	3,653	2.029	34,535	12,444	1.976	39,897	18,029	0.026
Turkish	43,871	16,817	0.288	14,117	6,648	0.098	33,037	19,977	-0.012

Source: The estimates of the average population in five-year intervals are based on 1940 and 1950 Census of Population, Public Use Microdata, one percent sample.

Table 4

OLS First Stage Regression

	Coefficients of the instruments	
Ethnic male-surplus ratio	(1)	
Dutch Immigrants	0.118***	(0.025)
English Immigrants	0.039***	(0.006)
Finnish Immigrants	-0.132	(0.021)
Former Austro-Hungarian Immigrants	-0.030***	(0.006)
French Immigrants	-0.004***	(0.001)
German Immigrants	0.109***	(0.017)
Scandinavian Immigrants	0.137***	(0.032)
Greek Immigrants	0.093***	(0.013)
Italian Immigrants	0.019***	(0.003)
Polish Immigrants	0.0002	(0.0005)
Portuguese Immigrants	-0.082*	(0.048)
Romanian Immigrants	0.003	(0.002)
Russian Immigrants	0.058***	(0.010)
Spanish Immigrants	0.041*	(0.022)
Turkish Immigrants	0.285***	(0.067)
Observations	34,872	
F-statistics (OLS) for inclusion of the instruments	27.71	

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Standard errors are in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, census year dummy, state of residence dummies, state of birth dummies, dummy if in metropolitan area and age dummies.

Table 5

Estimates of the Effects of Intermarriage on Descendants: Women

	OLS	IV	IV	OLS	IV	IV	OLS	IV	IV
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
		(No education controls)			(No education controls)			(No education controls)	
Dependent variables:	**Married**			**Divorced**			**Work**		
	0.033***	-0.121	-0.016	0.015***	0.117**	0.104**	-0.034	0.109	0.032
	(0.011)	(0.102)	(0.069)	(0.005)	(0.048)	(0.046)	(0.021)	(0.080)	(0.084)
Observations	17,233			17,233			17,233		
Dependent variables:	**Child>=1**			**Child>=2**			**ln(Occupational score)**		
	0.039***	0.043	0.153	0.034***	0.020	0.080	0.032**	0.190	0.245
	(0.010)	(0.097)	(0.099)	(0.011)	(0.086)	(0.058)	(0.015)	(0.194)	(0.217)
Observations	17,233			17,233			7,056		
Dependent variables:	**Same state**			**Home Ownership**			**At least some college**		
	-0.045***	-0.290***	-0.303***	-0.018	-0.090	-0.160	0.047**	0.016	-
	(0.014)	(0.096)	(0.102)	(0.031)	(0.080)	(0.109)	(0.019)	(0.080)	
Observations	17,233			6,587			17,233		

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Robust standard errors clustered by ethnicity in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, census year dummy, state of residence dummies, state of birth dummies, dummy if in metropolitan area and age dummies.

Table 6

Estimates of the Effects of Intermarriage on Descendants: Men

	OLS	IV	IV	OLS	IV	IV	OLS	IV	IV
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
		(No education controls)			(No education controls)			(No education controls)	
Dependent variables:	**Married**			**Divorced**			**Work**		
	0.001	0.211	0.267	0.007	0.001	0.019	0.002	0.050	0.044
	(0.020)	(0.129)	(0.156)	(0.010)	(0.038)	(0.037)	(0.012)	(0.087)	(0.078)
Observations	17,048			17,048			17,048		
Dependent variables:	**Child>=1**			**Child>=2**			**ln(Occupational score**		
	-0.007	0.153	0.225	-0.006	0.079	0.093	0.035**	0.182***	0.121*
	(0.018)	(0.130)	(0.165)	(0.010)	(0.075)	(0.082)	(0.014)	(0.063)	(0.066)
Observations	17,048			17,048			15,859		
Dependent variables:	**Same state**			**Home Ownership**			**At least some college**		
	-0.053***	-0.428*	-0.353**	-0.042**	-0.031	-0.156	0.081**	0.301***	-
	(0.011)	(0.217)	(0.162)	(0.015)	(0.101)	(0.122)	(0.038)	(0.089)	
Observations	17,048			6,851			17,048		

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Robust standard errors clustered by ethnicity in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, census year dummy, state of residence dummies, state of birth dummies, dummy if in metropolitan area and age dummies.

Table 7

Estimates of the Effects of Intermarriage on Descendants (No English)

	OLS	IV	OLS	IV	OLS	IV	OLS	IV
	Women		Men		Women		Men	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Dependent variables:	**Married**				**Divorced**			
	0.033***	0.002	0.0002	0.268	0.016**	0.121	-0.00003	0.024
	(0.010)	(0.058)	(0.024)	(0.174)	(0.006)	(0.058)	(0.008)	(0.026)
Observations	15,416		15,192		15,416		15,192	
Dependent variables:	**Child>=1**				**Child>=2**			
	0.035**	0.117	-0.0001	0.155	0.028*	0.073	-0.0008	0.064
	(0.013)	(0.122)	(0.017)	(0.137)	(0.013)	(0.092)	(0.011)	(0.080)
Observations	15,416		15,192		15,416		15,192	
Dependent variables:	**Same state**				**Work**			
	-0.045***	-0.552**	-0.055***	-0.281	-0.031	-0.007	0.00007	0.013
	(0.013)	(0.208)	(0.010)	(0.171)	(0.018)	(0.079)	(0.014)	(0.060)
Observations	15,416		15,192		15,416		15,192	

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Robust standard errors clustered by ethnicity in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, census year dummy, state of residence dummies, state of birth dummies, dummy if in metropolitan area and age dummies.

Table 7 (Cont'd)

Estimates of the Effects of Intermarriage on Descendants (No English)

	OLS	IV	OLS	IV	OLS	IV	OLS	IV
	Women		Men		Women		Men	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Dependent variables:	**ln(Occupat-ional score**				**Home Ownership**			
	0.051***	0.430*	0.026	0.115	-0.021	-0.152	-0.041**	-0.244**
	(0.012)	(0.226)	(0.016)	(0.076)	(0.036)	(0.118)	(0.018)	(0.100)
Observations	6,226		14,146		5844		6071	
	At least some college							
	0.060***	0.133	0.091**	0.366**				
	(0.018)	(0.117)	(0.037)	(0.133)				
Observations	15,416		15,192					

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Robust standard errors clustered by ethnicity in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, census year dummy, state of residence dummies, state of birth dummies, dummy if in metropolitan area and age dummies.

Table 8

Summary Statistics

| | Second generation immigrants | | | |
	Men born to same-ethnic marriage	intermarriage	Women born to same-ethnic marriage	intermarriage
Age	36.6	36.6	36.7	38.8
	(8.34)	(8.34)	(8.34)	(7.85)
Married	0.551	0.539	0.590	0.547
	(0.497)	(0.498)	(0.491)	(0.498)
Divorced	0.059	0.095	0.087	0.148
	(0.236)	(0.293)	(0.282)	(0.356)
Number of children	0.923	0.981	1.103	1.043
	(1.190)	(1.280)	(1.229)	(1.220)
Labor supply	0.842	0.827	0.712	0.714
	(0.365)	(0.378)	(0.453)	(0.452)
At least some college/Associate degree or above	0.730	0.757	0.771	0.809
	(0.444)	(0.429)	(0.420)	(0.393)
College or above	0.452	0.477	0.482	0.529
	(0.498)	(0.499)	(0.499)	(0.500)
Central city	0.403	0.425	0.401	0.423
	(0.491)	(0.494)	(0.490)	(0.494)
Outside central city	0.482	0.456	0.485	0.447
	(0.500)	(0.498)	(0.500)	(0.497)
N	35,096	5,394	34,587	4,956

Notes: Standard errors are in parentheses. The means are weighted by the household weight; Data source: 1994-2016 (Jan-Dec) Current Population Survey, Public Use Microdata.

Table 8 (cont'd)

Summary Statistics

	Second generation immigrants			
	Men born to same-ethnic marriage	intermarriage	Women born to same-ethnic marriage	intermarriage
Own home	0.782	0.725	0.771	0.769
	(0.412)	(0.447)	(0.421)	(0.421)
N	3,899	593	3,853	563
Spousal education: college or above	0.469	0.463	0.635	0.657
	(0.499)	(0.499)	(0.481)	(0.475)
N	19,104	2,903	20,234	2,778
Native spouse	0.874	0.889	0.851	0.887
	(0.332)	(0.314)	(0.336)	(0.316)
Non-native spouse from father's ethnicity	0.046	0.007	0.061	0
	(0.210)	(0.082)	(0.240)	-
Non-native spouse from mother's ethnicity	0.046	0.002	0.062	0.003
	(0.209)	(0.049)	(0.240)	(0.055)
N	19,104	2,903	20,234	2,778

Notes: Standard errors are in parentheses. Native spouse is defined as the respondent having a spouse that was born in the United States. Data source: 1994-2016 Current Population Survey: Annual Social and Economic Supplement, Public Use Microdata.

Table 9

OLS Estimates of the Effects of Contemporary Intermarriage on Descendants

	Women (No education controls)		Men (No education controls)		Women (No education controls)		Men (No education controls)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Dependent variables:	**Married**				**Divorced**			
	-0.081***	-0.082***	-0.054***	-0.053***	0.041*	0.042*	0.023	0.023
	(0.025)	(0.023)	(0.017)	(0.016)	(0.022)	(0.021)	(0.014)	(0.014)
Observations	39,543		40,490		39,543		40,490	
Dependent variables:	**Child>=1**				**Child>=2**			
	-0.049***	-0.047***	-0.029**	-0.029*	-0.067***	-0.067***	-0.022	-0.021
	(0.010)	(0.009)	(0.013)	(0.013)	(0.017)	(0.018)	(0.016)	(0.017)
Observations	39,543		40,490		39,543		40,490	
Dependent variables:	**Work**				**Home Ownership**			
	0.005	0.004	-0.026***	-0.023***	-0.001	-0.005	-0.052*	-0.047
	(0.014)	(0.014)	(0.009)	(0.010)	(0.018)	(0.015)	(0.029)	(0.028)
Observations	39,543		40,490		4,416		4,492	

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Robust standard errors clustered by ethnicity in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, year dummies, state of residence dummies, dummy if in central city and outside central city and age dummies.

Table 9 (cont'd)

OLS Estimates of the Effects of Contemporary Intermarriage on Descendants

	Women (No education controls)		Men (No education controls)		Women (No education controls)		Men (No education controls)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Dependent variables:	At least some college				**College or above**			
	0.021	-	0.004	-	0.026		-0.006	
	(0.021)		(0.020)		(0.028)		(0.026)	
Observations	39,543		40,490		39,543		40,490	
Dependent variables:	Spousal education: college or above	**-**		**-**	**Native spouse**			
	-0.005	-0.027*	-0.009	-0.009	0.016	0.015	0.014	0.016
	(0.036)	(0.014)	(0.038)	(0.026)	(0.020)	(0.020)	(0.026)	(0.025)
Observations	23,012		22,007		23,012		22,007	

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Robust standard errors clustered by ethnicity in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, year dummies, state of residence dummies, dummy if in central city and outside central city and age dummies. Native spouse is defined as the respondent having a spouse that was born in the United States.

Table 9 (cont'd)

OLS Estimates of the Effects of Contemporary Intermarriage on Descendants

	Women (No education controls)		Men (No education controls)		Women (No education controls)		Men (No education controls)	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Dependent variables:	Non-native spouse from father's ethnicity				Non-native spouse from mother's ethnicity			
	-0.036***	-0.035***	-0.037***	-0.037***	-0.036***	-0.035***	-0.037***	-0.037***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Observations	23,012		22,007		23,012		22,007	

Notes. * denotes statistical significance at the 10% level, ** at the 5% level and *** at the 1% level. Robust standard errors clustered by ethnicity in parentheses. Controls include ethnicity of the father of the individual, birth cohort, education dummies, year dummies, state of residence dummies, dummy if in central city and outside central city and age dummies.

Table I.1

By Ethnicity: Historical and Contemporary Marital Sorting of Foreign-born Mothers of Respondents

Ethnicity	Census 1940 and 1950 Foreign-born mothers				CPS 1994-2016 Foreign-born mothers			
	N	Percentage of marrying native	Percentage of same-ethnic marriage	Percentage of intermarriage	N	Percentage of marrying native	Percentage of same-ethnic marriage	Percentage of intermarriage
Dutch	793	11.18	80.81	8.008	8,778	31.89	54.69	15.71
English	12,087	19.35	73.22	7.431	89,514	38.97	52.92	8.110
Finnish	975	3.412	89.64	6.947	2,034	28.37	55.92	15.71
Former Austro-Hungarian	8,071	3.816	86.07	10.11	19,652	24.25	61.07	14.69
French	807	14.40	59.64	25.97	14,843	37.71	45.91	16.37
German	10,217	15.93	75.48	8.584	76,697	55.58	33.63	10.80
Greek	859	1.141	96.61	2.252	13,819	11.84	83.14	5.021
Italian	12,951	1.185	97.84	0.976	48,636	24.51	69.19	6.297
Polish	9,299	2.366	90.84	6.796	39,259	9.375	84.20	6.428
Portuguese	652	3.195	94.49	2.405	21,533	7.866	87.82	4.317
Romanian	674	1.528	80.53	17.94	8,268	3.744	88.55	7.703
Russian	9,396	2.280	91.40	6.323	50,056	4.933	88.90	6.163
Scandinavian	6,387	11.62	83.52	4.856	10,971	38.45	50.83	10.72
Spanish	319	2.920	86.95	10.13	9,105	24.46	53.70	21.85
Turkish	407	0.156	98.41	1.430	7,223	5.452	82.01	12.54

Source: Census 1940 and 1950 1% sample; Current Population Survey 1994-2016 (Jan-Dec).

Table I.2

By Ethnicity: Historical and Contemporary Marital Sorting of Foreign-born Fathers of Respondents

Ethnicity	Census 1940 and 1950 Foreign-born fathers				CPS 1994-2016 Foreign-born fathers			
	N	Percentage of marrying native	Percentage of same-ethnic marriage	Percentage of intermarriage	N	Percentage of marrying native	Percentage of same-ethnic marriage	Percentage of intermarriage
Dutch	941	22.16	68.15	9.688	8,889	31.06	54.92	14.02
English	12,678	23.21	69.85	6.938	70,853	25.85	64.84	9.303
Finnish	969	5.220	90.56	4.222	1,600	25.65	67.97	6.378
Former Austro-Hungarian	8,288	7.984	83.78	8.234	21,419	28.44	55.02	16.53
French	873	22.60	55.90	21.51	11,845	25.23	55.28	19.49
German	12,001	26.73	64.62	8.654	50,444	36.61	51.17	12.22
Greek	966	8.028	85.73	6.240	16,662	23.62	68.42	7.951
Italian	14,227	8.016	89.15	2.833	58,620	33.43	57.54	9.023
Polish	9,655	6.527	87.82	5.655	41,288	11.83	80.48	7.690
Portuguese	727	12.14	83.87	3.984	22,857	11.74	82.61	5.654
Romanian	697	6.026	76.71	17.26	8,694	5.678	85.06	9.258
Russian	10,092	5.828	84.63	9.544	52,874	8.237	84.84	6.921
Scandinavian	7,227	21.36	73.58	5.060	10,490	37.04	53.58	9.382
Spanish	372	11.60	75.23	13.17	9,810	17.53	50.03	32.45
Turkish	444	3.342	89.52	7.135	7,002	8.006	83.15	8.849

Source: Census 1940 and 1950 1% sample; Current Population Survey 1994-2016 (Jan-Dec).

References

Akerlof, G.A. and Kranton R.E. (2000). ' Economics and identity', *Quarterly Journal of Economics*, vol. 115 (3), pp. 715−753.

Akerlof, G.A. and Kranton R.E. (2002). ' Identity and schooling: some lessons for the economics of education', *Journal of Economic Literature*, vol. 40 (4), pp. 1167−1201.

Alba, R.D. and Golden, R.M. (1986). 'Patterns of ethnic intermarriage in the United States', *Social Forces*, vol. 65 (1), pp. 202−223.

Alba, R.D., Logan, J., Lutz, A., and Stults, B. (2002). 'Only English by the third generation? Loss and preservation of the mother tongue among the grandchildren of contemporary immigrants', *Demography*, vol.39(3), pp. 467−484.

Algan, Y., Dustmann, C., Glitz, A. and Manning, A. (2010). 'The economic situation of first and second-generation immigrants in France, Germany and the United Kingdom', *Economic Journal*, vol. 120(542), pp. F4−F30.

Abramitzky, R., Boustan, L.P., and Eriksson, K. (2016). 'Cultural Assimilation during the Age of Mass Migration', NBER Working Paper 22381.

Austen-Smith, D. and Fryer, Jr. R.D. (2005). 'An economic analysis of "acting white"', *Quarterly Journal of Economics*, vol. 120(2), pp. 551−583.

Basu, S. (2015). 'Intermarriage and the labor market outcomes of Asian women', *Economic Inquiry*, vol.53(4), 1718−1734.

Basu, S. and Insler, M. (2016). 'Education outcomes of children of Asian intermarriages: does gender of the immigrant parent matter?', Working Paper.

Battu, H., McDonald, M and Zenou, Y.(2007). 'Oppositional identities and the labor market', *Journal of Population Economics*, vol. 20(3), pp. 643−667.

Battu, H. and Zenou, Y. (2010). 'Oppositional identities and employment for ethnic minorities: evidence from England', *Economic Journal*, vol. 120(542), pp. F52−F71.

Bauer, T.K., Braun, S. and Kvasnicka, M. (2013). 'The economic integration of forced migrants: evidence for post-war Germany', *Economic Journal*, vol. 123(571), pp. 998−1024.

Bisin, A., Patacchini, E., Verdier, T. and Zenou, Y. (2011). 'Ethnic identity and labour market outcomes of immigrants in Europe', *Economic Policy*, vol 26(65), pp. 57−92.

Campbell, M. E., and Eggerling-Boeck, J. (2006). 'What about the children? The psychological and social well-being of multiracial adolescents', *Sociological Quarterly,* vol.47(1) 147−173.

Casey, T and Dustmann, C.(2010). 'Immigrants' identity, economic outcomes and the transmission of identity across generations', *Economic Journal*, vol. 120(542), pp. F31−F51.

Castonguay, C. (1982). 'Intermarriage and language shift in Canada, 1971 and 1976', *Canadian Journal of Sociology*, vol.7(3), pp. 263−277

Cheng, S. and Powell, B.(2007). 'Under and beyond constraints: resource allocation to young children from biracial families', *American Journal of Sociology*, vol.112(4), pp. 1044−1094.

Choi, Y., Harachi, T. W., Gillmore, M. R., and Catalano, R. F. (2006). 'Are multiracial adolescents at greater risk? Comparisons of rates, patterns, and correlates of substance use and violence between monoracial and multiracial adolescents', *American Journal of Orthopsychiatry*, vol.*76*(1), pp. 86−97.

Çelikaksoy, A. (2006). 'A wage premium or penalty: an analysis of endogamous marriage effects among the children of immigrants?", *Danish Journal of Economics*, vol.145(3), pp. 288−311.

Chiswick, B.R.(1991). 'Speaking, reading, and earnings among low-skilled immigrants', *Journal of Labor Economics*, vol.9(2), pp. 149−170.

Chiswick, C.U.(2009). 'The economic determinants of ethnic assimilation', *Journal of Population Economics*, vol.22(4), pp. 859−880.

Chiswick, B.R. and Houseworth, C. (2011). 'Ethnic intermarriage among immigrants: human capital and assortative mating', *Review of Economics of the Household*, vol.9(2), pp. 149−180.

Constant, A.F., Roberts, R. and Zimmermann, K.F. (2009). 'Ethnic identity and immigrant homeownership', Urban Studies, vol.46(9), pp. 1879−1898.

Cooney, T. M. and Radina, M. E. (2000). 'Adjustment problems in adolescence: Are multiracial children at risk?', *American Journal of Orthopsychiatry*, vol.70(4), pp. 433−444.

Constant, A.F. and Zimmermann, K.F. (2008). 'Measuring ethnic identity and its impact on economic behavior', *Journal of the European Economic Association*, vol. 6(2/3), pp. 424−433.

Dustmann, C. (1994). 'Speaking fluency, writing fluency and earnings of migrants', *Journal of Population Economics*, vol.7(2), pp. 133−156.

Dustmann, C. and Fabbri, F. (2003). 'Language proficiency and labour market performance of immigrants in the UK', *Economic Journal*, vol.113(489), pp. 695−717.

Farley, R. (1991). 'The new Census question about ancestry: what did it tell us?', *Demography*, vol.28(3), pp.411−429.

Furtado, D. (32009). 'Cross-nativity marriages and human capital levels of children', *Research in Labor Economics*, vol.29, pp.273−296.

Furtado, D. (2012). 'Human capital and interethnic marriage decisions', *Economic Inquiry*, vol.50(1), pp.82−93.

González-Ferrer (2006). 'Who do immigrants marry? Partner choice among single immigrants in Germany. *European Sociological Review*, vol.22(2), pp.171−185.

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

Grossbard, S.A., Gimenez-Nadal, J.I. and Molina, J.A. (2014). 'Racial intermarriage and household production', *Review of Behavioral Economics*, vol.1(4), pp.295−347.

Haandrikman, K. (2013). 'Binational marriages in Sweden: is there an EU effect*?',* Working Paper, Uppsala University.

Kalmijn, M.(1993). 'Spouse selection among the children of European immigrants: A comparison of marriage cohorts in the 1960 census', *International Migration Review*, vol.27, pp.51−78.

Kalmijn, M. & van Tubergen, F. (2006). 'Ethnic intermarriage in the Netherlands: confirmations and refutations of accepted insights', *European Journal of Population*, vol.22(4), 371−397.

Kalmijn, M. (2010). 'Consequences of racial intermarriage for children's social integration', *Sociological Perspectives*, vol.53(2), 271−286.

Kalmijn, M. (2015). 'The children of intermarriage in four European countries: implications for school achievement, social contacts, and cultural values', *Annuals of the American Academy of Political and Social Science*, vol.662(1), pp.246−265.

Kranton, R.E. (2016). 'Where Do Social Distinctions and Norms Come From?', *American Economic Review: Papers & Proceedings*, vol.106(5), pp.405−409.

Neidert, L.J. and Farley, R. (1985). 'Assimilation in the United States: an analysis of ethnic and generation differences in status and achievement', *American Sociological Review*, vol. 50(6), pp. 840−850.

Pearce-Morris, J and King, V. (2012). 'The well-being of children living with interethnic parents: are they at a disadvantage?', *Journal of Family Issues*, vol. 33(7), pp.898−919.

Perez, A.D. and Hirschman, C. (2009). 'The changing racial and ethnic composition of the US population: emerging American identities', *Population and Development Review*, vol.35(1), pp.1−51.

Platt, L. (2012). 'How do children of mixed partnerships fare in the United Kingdom? Understanding the implications for children of parental ethnic homogamy and heterogamy', *Annals of the American Academy*, vol.643(1), pp. 239−266.

Rivera-Batiz, F.L. (1990). 'English language proficiency and the economic progress of immigrants', *Economic Letters*, vol.34(3), pp. 295−300.

Qian, Z. (1997). 'Breaking the racial barriers: variations in interracial marriage between 1980 and 1990', *Demography*, 34(2), pp. 263−276.

Schwartz, C. R. (2013). 'Trends and variation in assortative mating: causes and consequences', *Annual Review of Sociology*, vol.39, pp. 451−470.

Schüller, S. (2015). 'Parental ethnic identity and educational attainment of second-generation immigrants', *Journal of Population Economics*, vol.28(4), pp.965−1004.

Shields, M.A. and Wheatley-Price, S. (2002). 'The English language fluency and occupational success of ethnic minority immigrant men living in English metropolitan areas', *Journal of Population Economics*, vol.15(1), pp. 137−160.

Stevens, G. (1985). 'Nativity, intermarriage, and mother-tongue shift', *American Sociological Review*, vol. 50(1), pp. 74−83.

Wong, H.C. (2016). 'Ethnic assortative matching in marriage and family outcomes: evidence from the mass migration to the US during 1900–1930', Journal *of Population Economics*, vol.29(3), pp.817−848.

Zimmermann, K.F. (2008). 'The economics of migrant ethnicity', *Journal of Population Economics*, vol. 20(3), pp. 487−494.