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Non-Technical Abstract

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Intermarriage and Immigrant Employment: The Role of Networks

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Abstract: The social integration of immigrants is believed to be an important determinant of immigrants' labor market outcomes. Using 2000 U.S. Census data, we examine how and why marriage to a native, one measure of social assimilation, affects immigrant employment rates. We show that even when controlling for a variety of human capital and assimilation measures, marriage to a native increases the probability that an immigrant is employed. An instrumental variables approach which exploits variation in marriage market conditions suggests that the relationship between marriage decisions and employment rates is not likely to arise from positive selection into marrying a native. We then present several pieces of evidence suggesting that networks obtained through marriage play an important part in explaining this effect.

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1   Introduction

The social and economic integration of immigrants is a major source of concern for many immigrant receiving countries. While there is a large literature on the economic assimilation of immigrants, less attention has been devoted to the processes through which assimilation takes place. In this paper, we examine the mechanisms through which marriage to a native, a measure of social integration, affects immigrant employment rates.

Although it is generally believed that association with natives necessarily improves the economic outcomes of immigrants, the literature suggests an ambiguous effect. For example, while Borjas (1995) finds that residence in an ethnic enclave slows earnings assimilation of the children of immigrants, Edin *et al.* (2003) show that after accounting for selection, residence in ethnic enclaves improves the economic outcomes of immigrants. Scholars have also found that the effect of ethnic concentration depends on the average skill-level of the group, with immigrants belonging to higher skilled groups benefiting more from ethnic concentration (Borjas, 1995; Cutler *et al.,* 2008b).

This paper contributes to this literature by exploring the effects of an alternative measure of social integration, marriage to a native. A potential explanation for the ambiguity in the ethnic enclave literature is that residence in an enclave does not necessarily imply association with group members. An immigrant living in an enclave may associate mainly with natives at work and in social settings, while an immigrant residing a considerable distance from an enclave may have his social circle comprised mostly of other immigrants. This is especially true today given the relatively low costs of transportation and communication. Marriage to a native, however, necessarily implies association with at least one native. Moreover, since marriage to a native is both a cause and an effect of association with natives, we argue that it can be used as a measure of the social integration of immigrants more generally.

A growing literature considers the effects of marital assimilation on the socioeconomic outcomes of immigrants. For instance, Meng and Gregory (2005) find that intermarriage leads to higher wages for non-English speaking immigrants in Australia. Most closely related to our work, Furtado and Theodoropoulos (2008) find, using a weaker identification strategy than the one in this paper, that marriage to a native is associated with higher immigrant employment rates in the U.S. No existing paper, however, examines the source of these positive effects.

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Restricting our analysis to immigrant males arriving in the U.S. at age 18 or below, we first show within an ordinary least squares (OLS) framework that marriage to a native increases immigrant employment rates even when accounting for an extensive list of human capital and assimilation controls. We then further explore the possibility that the estimated return to marrying a native is driven by positive selection of immigrants into marrying a native. Building on an instrumental variables approach common in the marriage literature, we exploit variation in the size of the immigrant population as well as ethnicity-specific sex ratios to examine whether more employable immigrants are more likely to marry natives. Our results indicate that positive selection into marrying a native is not likely to be a problem since the instrumental variable (IV) estimates not only remain positive and significant, but are slightly larger in magnitude than OLS estimates.

We then turn to an investigation of why marital assimilation increases immigrant employment rates. Native spouses may simply have characteristics which aid in their spouse's job search. For example, they may have better job search skills or greater knowledge of the labor market allowing them to help their spouses in searching for work. Another reason why marriage to a native may increase employment probabilities is not related to the spouse *per se*, but the friends and family of the spouse. Since most jobs in the U.S. are obtained through friends and personal connections (see Ioannides and Datcher-Loury, 2004; Datcher-Loury, 2006), the different networks obtained from marriage may play an important role in an immigrant's job search process.

Empirically, it is difficult to distinguish between the different mechanisms through which marriage to a native may affect employment outcomes. We take two different approaches in this paper. First, we add to both the OLS and IV specifications spouse characteristics, namely employment and education variables, which may enhance the ability of spouses to aid in their husbands' job search. While we find that these characteristics influence employment rates, the coefficient on marriage to a native remains positive and significant suggesting that there is another mechanism at play. We then take a different approach by assuming that when an immigrant marries, he gains access to a network with relatively more natives if he marries a native than if he marries another immigrant. This implies that marriage to a native should increase employment probabilities more for those immigrants that stand to gain more from a native network. Our main identification strategy involves identifying these immigrant populations and examining their employment probabilities.

We view the following results as evidence of the role of networks in explaining the employment probability benefits of marriage to a native. First, the larger is the difference between native and immigrant employment rates

within an immigrant's age and metropolitan area, the larger is the increase in the probability of employment for immigrants that marry natives. Second, immigrants with education levels significantly above the average in their ethnic groups have greater returns to marriage to a native in terms of employment probabilities. Lastly, immigrants surrounded by other immigrants from the same country of origin do not increase their employment probabilities by as much when they marry natives. We argue that this may be because connection to large well-established ethnic communities can provide many opportunities for labor market success.

We also examine the effect of marriage to a native on a different set of outcomes. We find that marriage to a native increases the probability of being in paid employment more than the probability of self-employment. This may not be surprising since many of the businesses owned by the foreign born cater to immigrants and so a network comprised mainly of immigrants may be relatively more useful than native networks for those considering entrepreneurial opportunities. Lastly, we find that conditional on employment, marriage to a native is associated with slightly lower commute times. We interpret this as evidence that more connections allow immigrants to limit the geographic scope of their job search.

The remainder of the paper is organized in the following way. Section 2 reviews the related literature, while Section 3 describes the data. Section 4 examines the relationship between marriage to a native and employment rates of immigrants in both OLS and IV contexts. Section 5 presents tests of our hypotheses related to networks and Section 6 concludes.

2   Background and Literature

There is an extensive literature examining the role of social interactions on behavior, much of it focusing on residential segregation. One way the behavior of others could affect labor market outcomes is through its effects on social norms and preferences. For example, utility from leisure may be increasing in the number of a person's acquaintances that do not work (Case and Katz, 1991; Hellerstein *et al.*, 2008a). This may be true both because friends make leisure more enjoyable and because any unemployment stigma most probably decreases as the number of people not employed increases.

Social circles can also affect the labor market outcomes via their role in transmitting information regarding job openings. The literature suggests that anywhere from 30 to 60 percent of all job openings are filled using informal

methods (Campbell and Marsden, 1990; Holzer, 1987; Ioannides and Datcher-Loury, 2004). [1] Bayer *et al.* (2008) find that living on the same city block significantly increases the probability that two people work together, suggesting that neighbors exchange information about jobs. Pointing to the same phenomenon, Patel and Vella (2008) find that recently arrived immigrants are attracted to the same occupations as older immigrants from the same country. In this paper, we are not able to distinguish between the different reasons why social interactions affect labor market outcomes, but we provide evidence that association with natives is important.

There is debate in the literature on whether ethnic concentration leads to improved economic outcomes for immigrants. Theoretically, the impact is ambiguous. Immigrants that reside in enclaves do not face as immediate of a need to learn the host country skills, such as language, necessary for increasing future income. Arguing that ethnicity has an external effect on skill-acquisition, Borjas (1995) finds that residence in an ethnic enclave slows education and earnings assimilation of the children of immigrants, especially for those in ethnic groups with low average skill levels. Residence in an ethnic enclave may also lead to worse economic outcomes if the enclave is located, as they usually are, in inner cities which are located a distance from suburban areas of job growth (Kain, 1968), or if urban governments are not able to provide high quality public goods such as education and crime prevention (Cutler *et al.*, 2008a). Alternatively, ethnic concentration may improve labor market outcomes if ethnic networks provide more or higher quality information about job opportunities (Cutler *et al.*, 2008a; Munshi 2003; Edin *et al.*, 2003). Moreover, a greater number of immigrants in one location may justify the presence of group-specific community institutions which could provide assistance in the labor market.

Empirically deciphering the impact of immigrant segregation is laced with difficulties because of endogenous selection into neighborhoods.[2] In their study of social networks in welfare participation, Bertrand *et al.* (2000) address this issue by including both metropolitan statistical area (MSA) and language fixed effects in their analysis and thus identifying the role of social networks by examining whether people in language groups with higher welfare-use in fact use more welfare when they are surrounded by many others from their group. They present evidence that networks are related to welfare participation. Using a similar strategy, Aizer and Currie (2004)

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[1] According to Montgomery (1991), employers use networks for recruiting due to imperfect information about an employee's productivity and search costs in hiring. Employers may hire through networks because they view workers' social connections as resources which can yield economic returns in terms of better hiring outcomes (Fernandez *et al.*, 2000).

[2] Bayer *et al.* (2008) provide a detailed review of the various identification strategies used in the network literature.

conclude that mothers are more likely to use prenatal care when other mothers of the same ethnic group have used it in the past.

Exploiting natural experiments generated from plausibly exogenous placement of refugees in host countries, other studies have found positive effects of residing in enclaves. Using Swedish data, Edin *et al.* (2003) find that an increase in the number of immigrants living within close geographic proximity improves labor market outcomes of less-skilled immigrants, especially those in high-income ethnic groups. Taking a more dynamic approach, Beaman (2008) concludes that while an increase in the number of network members that have been in the U.S. a long time improves labor market outcomes, exogenously larger numbers of immigrants arriving in the same cohort decrease wages and employment probabilities. She explains this with a model in which immigrants arriving in the same year compete for the same scarce jobs while those arriving previously are in a better position to provide information about job openings. Employing multiple identification strategies which make use of cross-metropolitan area variation, Cutler *et al.* (2008a) conclude that after correcting for selection, segregation has positive average effects on immigrant outcomes, but that the effect of residence in an enclave very much depends on the average human capital levels of its members.

The potential mechanisms through which marriage decisions affect immigrant outcomes closely mirror the mechanisms through which residence in an enclave affect outcomes. As described in Furtado and Theodoropoulos (2008), the theoretical impact of marriage to a native on immigrant employment rates is ambiguous. Because immigrant groups tend to be very socially cohesive (Munshi, 2003) and have more information about jobs typically held by immigrants, the immigrant contacts gained from marriage to an immigrant may prove very useful in the job market. Furthermore, since native wives are more likely to be employed than immigrant wives, they may be able to finance lengthier job searches for their immigrant husbands thus decreasing employment probabilities. On the other hand, an immigrant's native born spouse may improve his or her English fluency as well as knowledge of local customs and labor market conditions thereby increasing employment probabilities.[3] Moreover, if marriage to a native brings with it a network comprised of relatively more natives, then immigrants may benefit from the positive spillovers generated from natives' better labor market outcomes. In terms of increasing employment rates, these

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[3] There may also be discrimination in the labor market for immigrants. Although spouse's nativity is not typically known when immigrants are hired, it may be learned once they start the job. If employers assume immigrants with native spouses are less likely to return to their home countries and more likely to become fluent in English, they may be more willing to invest in their firm-specific human capital thus increasing their probability of employment at the firm for many years.

spillovers may operate via cultural norms on the acceptability of unemployment or networks sharing information about job openings.

3   The Data

Our analysis employs the 5% sample of the 2000 U.S. Census as reported by the Integrated Public Use Microdata Series (IPUMS).[4] This sample contains extensive data on individual's age, sex, country of birth, race, education, employment, income and marital status. Because of the difficulties in interpreting labor market outcomes of females, we restrict our sample to married (with a spouse present) foreign born males between the ages of 18 and 62 that are not enrolled in school.[5] We keep only the immigrants that arrived in the U.S. before the age of 18 since they are most likely to have been exposed to the U.S. marriage market.[6] We also restrict our sample to immigrants residing in MSAs with more than 10 observations. For ease of interpretation, we drop from the sample unpaid family workers[7] and immigrants born abroad of American parents since they are citizens at birth. Lastly, we exclude individuals that report more than one race category. The race categories used in the analysis are non-Hispanic White, non-Hispanic Black, Asian, Hispanic and other race. The final sample consists of 74,135 first generation immigrant males in the age range of 18 to 62.

Our intermarriage variable takes the value of one if the immigrant is married to a native and zero if he is married to another immigrant. An immigrant is defined to be anyone who is born outside of the 50 U.S. states and is not born to U.S. parents. We note that marriage to a native does not necessarily imply marrying someone with a different cultural background. However, as can be seen in Table 1, about 74.5 percent of the immigrants who marry other immigrants share the same ancestry. Meanwhile, of the immigrants who marry natives, 30 percent share the same ancestry with their spouses. Because of its subjectivity, interpretation of the responses to the ancestry question

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[4] The data set is publicly available at http://usa.ipums.org/usa/. Details on how the variables were constructed are available upon request.

[5] Given that immigrant divorce rates are typically lower than native divorce rates (Kalmijn *et al*., 2005), the results in the paper may be driven by selection into marriage. Following Qian and Lichter (2007), we conducted the analysis on immigrants younger than age 35 in order to limit the degree of selectivity. Results were robust.

[6] The main results in the paper are robust to dropping this restriction on the data. An alternative would be to only include immigrants that arrived in the U.S. before marriage. However, information on age at marriage is not available in either the 2000 or 1990 Censuses. Some earlier Census datasets have information on age at marriage, but because the composition of immigrants in the U.S. has changed so much in the past decades we conduct the analysis using the 2000 data.

[7] Unpaid family workers are generally spouses or children who regularly assist the family head in running a family business or farm, but who receive no direct monetary compensation (IPUMS definition).

in the Census is difficult (Farley, 1990) but we maintain that association of natives, regardless of their ethnic background, is a measure of social integration into U.S. culture.

Table 1 also presents descriptive statistics of the variables used in the analysis by marriage type. Immigrants married to other immigrants are less likely to be employed than immigrants married to natives. This should not be surprising given that immigrants in cross-nativity marriages are more educated, more likely to be fluent in English, and have resided in the U.S. for more years. Whites are more likely than racial minorities to marry natives. The native spouses of immigrants have more years of schooling, are more likely to work, and have higher earnings than immigrant spouses. Spouses that do not work and therefore have zero wage income were coded as having an income of 0.001 so that they would not be dropped from the analysis in specifications which control for the log of spousal earnings. In the following section, we examine the effect of marriage decisions on employment rates after controlling for observable characteristics in a multivariate context.

4   The Effect of Marriage to a Native on Employment of Immigrants

4.1   Ordinary Least Squares Analysis

On average, the foreign born are less likely to be employed than the native born. In our sample, 74 percent of natives are employed compared to 65 percent of immigrants. These lower employment rates may be explained by immigrants' lack of U.S.-specific labor market skills, English language difficulties, discrimination in the labor market, and lower education levels (Chiswick, 1978). It may also be that because immigrants have less information about the local job market, they have longer job search periods. Moreover, because immigrants have lower earnings potentials, eligibility for welfare payments or disability insurance may drive them out of the labor force. Since immigrants that marry immigrants are likely to be less assimilated to the U.S., they may have lower employment rates for all of these reasons. Thus, it is important to control for measures of human capital and assimilation when examining the effect of marriage to a native on employment rates.

Ordinary least squares models offer an initial look at the effect of marriage to a native on immigrant employment rates. Our first model includes the basic controls used in employment regressions. In order to capture any non-linear effects of experience on employment, a full set of 45 age dummy variables are used in the model. We also include dummy variables measuring educational attainment, whether the immigrant is a veteran or disabled and whether or not he lives in the central part of city. Race and region dummy variables are also included.

As immigrants assimilate to the U.S., they become more likely to both marry a native and remain gainfully employed, thus potentially biasing the coefficient on marriage to a native. To account for this, in our second model, we add several measures of assimilation. English fluency and years since migration both are expected to increase employment probabilities. More assimilated immigrants are less likely to reside in ethnic enclaves and thus less likely to marry immigrant spouses. If these enclaves have fewer economic opportunities, it is important to control for residence in an enclave in our empirical specification. Although we do not have information about the particular neighborhoods in which immigrants live, we are able to control for the percentage of the immigrant's MSA with same country of birth. If marriage to a native makes immigrants more likely to move out of ethnic enclaves and improve their English abilities, then controlling for these assimilation variables limits the avenues through which marriage to a native can increase immigrant employment rates in our model. Given that English fluency and residence away from ethnic enclaves increases employment probabilities, our estimates can be treated as underestimates of the total effect of marriage to a native. Another source of bias arises if immigrants from certain countries find it easier to marry natives and find or keep jobs. For example, immigrants from Canada and Australia may have better employment outcomes in the U.S. and are more likely to marry natives than immigrants from non-English speaking countries. To deal with any bias this may cause, we include 65 country of birth dummy variables in the model.

Another potential concern arises if immigrants residing in areas with worse economic conditions are less likely to marry natives. Because unemployment rates in an MSA could vary by experience level and thereby have heterogeneous effects on immigrants of different cohorts, we construct MSA unemployment rates which vary by age. We include this unemployment rate in our third model with caution given that the variable may suffer from endogeneity. More specifically, if marriage to a native indeed leads to higher employment rates then the unemployment rate will mechanically decrease in MSA-age groups immigrants tend to marry natives. That said, immigrants make up a small share of most MSAs and so almost all of variation in unemployment rates will in fact be driven by fluctuations in economic conditions.

Table 2 presents regression results for the least squares models discussed above. All of the coefficients on the controls in the baseline model shown in Column 1 have the expected signs, and marriage to a native is associated with a 5.3 percentage point increase in the probability that an immigrant is employed. Not surprisingly, when measures of assimilation are added as shown in Column 2, the marriage to a native coefficient decreases in

magnitude but remains positive and statistically significant. English fluency and years in the U.S. both increase the probability of employment while residence in an MSA with a large population with the same country of origin decreases employment rates. Although the unemployment rate decreases employment probabilities of immigrants, the inclusion of the variable in the third column, has virtually no effect on the marriage to a native coefficient.

4.2   Instrumental Variables Analysis

Although country of birth fixed effects and unemployment rates, as well as our fairly extensive list of controls preclude many of the sources of bias on the intermarriage coefficients, one may still be concerned that immigrants that marry natives have unobservable characteristics correlated with both economic outcomes and the probability of marrying a native. For example, immigrants that are more assimilated, in ways not captured by our assimilation controls, may be more likely to marry natives and have gainful employment. Alternatively, it may be that conditional on our various human capital and assimilation controls, it is the most hard-working immigrants that prefer to marry other immigrants. After all, many immigrants left their families, friends, and homes to pursue, in most cases, labor market opportunities. Thus, in the marriage market, the most ambitious immigrants may match most efficiently with similarly ambitious immigrants.

Building on the identification strategy of Meng and Gregory (2005), we correct for endogeneity by instrumenting for intermarriage using two measures of marriage market conditions. Our first instrument is the share of females in the immigrant's age group residing in his MSA that is foreign born. Age groups are created in five year intervals. Because females tend to marry males who are two years their senior, the mean age within the interval is two years less than the age of the male immigrant. For example, for an immigrant who is 25 years old, we calculate the percentage foreign born of the females who are between the ages of 21 and 25. Theory suggests that as the percentage of immigrants increase in an MSA-age group, immigrants are more likely to encounter and therefore marry other immigrants regardless of person-specific characteristics.

Our second instrument makes use of varying sex ratios within ethnicity-MSA-age group cells. We define the sex ratio for a particular immigrant to be the number of females divided by the number of males in that immigrant's ethnic-MSA-age group. Again, we define age groups using five year intervals taking into account the fact that wives are typically two years younger than their husbands. Thus, for a 25 year old Mexican immigrant living in New York, we construct the sex ratio by dividing the number of Mexican females living in New York between the ages of

21 and 25 by the number of Mexican males in New York between the ages of 23 and 27. We expect that as the sex ratio increases, there is less competition among males for same-ethnicity foreign born females and so fewer immigrant males will marry natives.

Column 4 of Table 2 presents first stage regression results for the main specifications used in the paper. Standard errors in all of the IV regressions are clustered on MSA-age cells. Results suggest that a ten percentage point increase in the percent of an immigrant's age-MSA group that is foreign decreases the probability that he marries a native by almost five percentage points. Also, as the number of females per male increases by one, the probability that an immigrant male marries a native decreases by 0.03. Although not shown, the F statistics for excluded instruments far exceed the commonly used threshold of 10 in all specifications. The instruments also pass the Sargan-Hansen overidentification test.

Second stage IV results are shown in the last column of Table 2.[8] The estimated coefficients suggest that marriage to a native increases immigrant employment rates by about six percentage points. With a p-value of 0.224, a Hausman test does not reject the equality of the OLS and IV estimates. Therefore, for the remainder of the paper we focus on OLS analysis. Nevertheless, it is useful to think about why the estimated IV coefficient is slightly larger in magnitude than the OLS coefficient.[9] First, as discussed above, it may be that conditional on observable characteristics such as education and language ability, the immigrants that marry other immigrants are positively selected on employment probability. This should not be very surprising given that conditional on the observable characteristics in our model, immigrants have higher employment rates than natives (authors' own calculations).

It is also important to keep in mind that IV coefficients estimate local average treatment effects (LATE) as opposed to average treatment effects (ATE). The IV estimates only measure the effect of marriage to a native on the immigrants whose marriage choices are affected by variation in our instruments. Immigrants that would marry other immigrants regardless of the difficulty in finding an immigrant spouse, perhaps because of language difficulties or strong preferences for cultural norms, may not gain very much from marriage to a native. Most probably, their job skills do not match those required for jobs typically held by natives and so native networks would not be useful.

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[8] We also ran a bivariate probit model, and results were qualitatively the same. The estimated correlation of errors was negative suggesting negative correlation into marrying a native.

[9] The finding that IV estimates are larger in magnitude than OLS estimates is common in the literature on social interactions (Luke *et al*., 2004; Luke and Munshi, 2006; Meng and Gregory, 2005; Furtado and Theodoropoulos, 2008; Fabbri, 2008).

When we conduct an instrumental variables analysis, the effect of marriage to a native on these immigrants does not go into computing the average treatment effect.

Nevertheless, our identification strategy rests on the assumption that these marriage market variables only affect employment probabilities through their effect on marriage choice. One may be concerned by this approach because immigrants in general, but especially unmarried male immigrants, may be attracted to cities with better economic opportunities. This direct relationship between our instruments and immigrant employment rates would imply biased IV coefficients. However, we note that in our preferred specification, we include a control for MSA-age specific unemployment rates, thus mitigating this concern.

Potentially problematic for our second instrumental variable is the possibility that immigrants residing around a large number of other immigrants are less assimilated and so less likely to be employed. For those with poor language skills, communication is made simpler when many community members share the same country of origin. Nonverbal forms of communication may also be easier in ethnic enclaves. Also, festivals and social clubs are more likely to arise in areas with a number of same-ethnicity inhabitants. However, the key in all of these examples is that benefits arise when immigrants are around others with the same country of origin. We note that in our preferred specification, we include a control for the size of the immigrant's ethnic group in his MSA. Thus, identification in the IV model arises from variation in the size of the female foreign born population in the immigrant's age group and MSA, conditional on the number of immigrants from his own ethnic group in his MSA. We argue that this variation is not directly correlated with employment rates and so we feel confident in our assessment that marriage to a native increases employment probabilities of immigrants. In the next section, we examine the mechanisms through which this occurs, focusing on the role of networks.

5   Mechanisms

5.1   Spouse Characteristics

One potential explanation for why marriage to a native increases immigrant employment rates is related to how characteristics of native wives differ from characteristics of immigrant wives. For example, since native wives are more likely to work and have higher earnings, they may be better able to support longer job searches for their husbands, thereby decreasing immigrant employment rates. On the other hand, spouses that work outside of the home may have more information on job openings, thus implying an increase in immigrant employment rates. Also,

labor market participation of wives may signal greater household preferences for market goods which would be correlated with an increase in labor force participation rates of husbands.

It is also important to account for differences in spouse's human capital. If native wives have more years of schooling, they may be better qualified to aid in their husbands' job search. Given the relationship between education and the utilization of formal job search methods (Kuhn and Skuterud, 2004; Wahba and Zenou, 2005), educated spouses may enable their husbands to conduct a formal job search. Specifically, they may edit resumes and job applications thus increasing the probability of an interview.[10] This may be especially important for immigrants given that it takes approximately 12 years for immigrants in the U.S. to use the same information during job search as natives (Daneshvary *et al*., 1992).

Table 3 shows regression results for both OLS and IV models which include these spouse characteristics.[11] All specifications include the controls used in the final specification of Table 2. OLS and IV coefficients from models without spouse characteristics are reproduced in Table 3 for convenience. In columns 2 and 4, spouse characteristics are added to the OLS and IV models respectively. Consistent with traditional labor supply models, an increase in spousal income decreases the probability of employment. However, conditional on earnings, spouse's employment increases employment rates of immigrants. This may be because employed wives, regardless of nationality, are better able to aid their spouses in the job search process either by helping directly or through the help their colleagues. Spouse education and English fluency both increase immigrant's employment probabilities, although the effect of English fluency is not statistically significant. If there are human capital spillover effects within marriage, marriage to a native will increase the human capital of the individual immigrant and hence make him more employable. When interpreting the spouse human capital coefficients, caution is necessary since, because of assortative mating on human capital, spouse's education and language ability may absorb unobserved variation in the immigrant's own ability and human capital.

When spouse characteristics are added to both the OLS and IV models, the coefficient on marriage to a native remains positive and statistically significant. Thus, we suggest that there is some other mechanism via which marriage to a native affects labor market outcomes of immigrants.

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[10] See Benham (1974) and Welch (1974) for discussions of the positive relationship between wives' educational attainments and husbands' earnings.

[11] We explored models which included a more extensive list of spouse characteristics, but these additional characteristics had little effect on the marriage to a native coefficient and no significant effect on employment rates.

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In the following section, we examine the role of networks as a possible avenue through which marriage to a native operates on employment rates. We note that many of our measures of spouse characteristics may already capture network effects. For example, spouses that work outside of the home are more likely to have contacts that work. Given that nativity of spouse remains significant even when spouse's employment is included in the model, we argue that the proportion of immigrants in one's network has its own independent effect even conditional on the proportion of employed and educated members of one's network.

5.2   The Role of Networks

In this section, we present several pieces of evidence suggesting that the gains from marriage to a native occur at least partly because of the contacts and connections acquired through marriage.

5.2.1   Network Hypotheses

As previously discussed, most of the network literature characterizes a person's network using some function of the number of racial, ethnic, or language minorities residing within close geographic proximity. This identification of networks is imperfect since people residing within ethnic enclaves may not associate very much with their neighbours while immigrants living amidst natives may play a central role in the ethnic community. The alternative measure of network participation utilized in this paper uses marriage decisions as opposed to residential decisions. We assume that all people acquire new contacts upon marriage but that networks gained from marriage to a native contain relatively more natives than networks gained from marriage to an immigrant. Our main empirical approach relies on identifying the immigrants with the most to gain from native contacts and testing whether they, in fact, have larger marriage to native premiums.

If a central role of networks is to transmit job opening information, which immigrants gain the most from native contacts? First, connection to a network with a greater proportion of employed members will tend to generate more information about job openings. This may be both because the employed are less likely to apply for the jobs themselves and because fewer unemployed members of the network imply less competition for information (Calvo-Armengol and Jackson, 2004). Since the employed have more direct information about jobs at their place of employment, the quality of the information they share is likely to be superior. Because recommendations reflect on themselves, current employees of a firm have an incentive to recommend only applicants that are likely to be successful at their firms (Granovetter, 2005). This may be why applicants with internal references are more likely to

receive job offers and accept them (Blau and Robbins, 1990). If the matches between employer and employee are particularly good when arranged through personal recommendations, we should also expect applicants with internal references to have longer firm tenures. For all of these reasons, we can expect that in markets where natives have significantly higher employment rates than immigrants, marriage to a native will lead to relatively higher employment rates for immigrants.

Hypothesis 1: Marriage to a native increases employment rates more when the difference between average native and immigrant employment rates is larger.

In order to test this hypothesis, we include in the model an interaction between marriage to a native and the difference between average native employment and immigrant employment. We define markets based on the immigrant's MSA and age. If our hypothesis is correct, the coefficient on the interaction will be positive.

Even if natives have higher average employment rates than immigrants, connections to native networks may not be very valuable to immigrants if they are not qualified for the jobs typically held by natives. Alternatively stated, ethnic networks will not be useful for immigrants that are overqualified for typical immigrant occupations. Therefore, immigrants with skill levels that are significantly above the average in their ethnic groups should have higher premiums to marriage to a native.

Hypothesis 2: Marriage to a native increases employment rates more for immigrants whose education levels are significantly higher than the average in their ethnic groups.

To test this hypothesis, we include in the model an interaction between marriage to a native and the difference between own years of schooling and the average years of schooling among people with the same country of birth, age, and MSA. If networks play a part in explaining the marriage to a native premium, then the coefficient on the interaction will be positive.

For our third hypothesis, we exploit the finding that the larger the size of a network, the more useful it is to its members (e.g. Gang and Zimmermann, 2000). As discussed previously, Beaman (2008) finds that an increase in the number of immigrants from the same country of origin that have been at a location for more than two years significantly increases the employment probabilities of immigrants. Munshi (2003) concludes that Mexicans are more likely to be employed when their ethnic networks are exogenously higher. Moreover, members of small, close-knit ethnic communities may know each other and so very few new immigrant contacts are gained from marriage to another immigrant (Granovetter, 1973; Montgomery, 1992; Tassier, 2006). Even from a simply probabilistic standpoint, larger, more established ethnic communities have more successful members in many

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different occupations. Since people are more likely to associate with others of a similar age, we can formulate the following hypothesis:

> *Hypothesis 3: Marriage to a native increases employment probabilities less when immigrants live in cities with many immigrants from their country of birth in their age groups.*

To test this hypothesis, we include in the model an interaction between marriage to a native and the proportion of people in the immigrant's city and age group that are from his country of origin.

We turn now to a set of hypotheses relating marriage to a native to a different set of outcomes. First, we consider how connections to natives differentially impact immigrants' gains to self-employment as opposed to wage employment. According to Borjas (1986) many of the immigrants that are self-employed own businesses which cater to their ethnic communities. Thus, connection to a predominantly native network may not be especially useful for starting a business with an ethnic focus. Also, immigrants from countries with high self-employment rates tend to have higher rates of self-employment (Yuengert, 1995; Fairlie and Meyer, 1996), with certain ethnic communities specializing in specific types of businesses (see Patel and Vella, 2008; Munshi and Wilson, 2008 for examples). Thus, at least for certain businesses or certain ethnic groups, connection to an ethnic network as opposed to a native network may be more valuable for immigrants considering self-employment. We state the hypothesis more formally below:

> *Hypothesis 4: Marriage to a native increases the probability of wage-employment more than it increases the probability of self-employment.*

We test this hypothesis simply by comparing the effect of marriage to a native on self-employment and wage-employment.

Lastly, we consider the role that networks play on commute times. If it is true that marriage to a native increases employment rates because of the information acquired from native networks, then immigrants that marry natives should receive relatively more job offers within close geographic proximity. This in turn will lead to shorter commutes. More formally,

> *Hypothesis 5: Marriage to a native decreases average commutes.*

We test this hypothesis simply by examining the effect of marriage to a native on commute times of immigrants. If immigrants that marry other immigrants are more likely to live and work within an enclave, their commute times will be shorter making us less likely to detect a network effect even if one exists.

5.2.2   Network Test Results

Table 3 presents OLS results from the first three network tests, both when adding the interactions of interest one at a time and including them all at once.[12]   All models contain the full set of controls including spouse characteristics.

Consistent with Hypothesis 1, the first column of Table 4 shows that the coefficient on the interaction between marriage to a native and the difference between native and immigrant employment rates is positive and significant. This suggests that when the additional native contacts gained from marriage to a native are more likely to be employed, the gains to marrying a native are larger. More specifically, for every percentage point difference in the average employment rate between natives and immigrants, immigrants that marry natives increase their probability of employment by about 1.2 percentage points. In the model where all of the interactions are included, the results for the test of our first hypothesis stay the same.

Table 4 also provides support for Hypothesis 2. The evidence suggests that for every year an immigrant's schooling is above the average in his ethnic group, marrying a native as opposed to an immigrant leads to a 0.002 percentage point increase in the probability of being employed. This is consistent with the story that immigrants with very high levels of education relative to their groups are over-qualified for the job openings about which typical ethnic network members have knowledge. This would make marriage to a native even more useful for generating job offers. In the model which includes all of the interactions concurrently, the coefficient of interest remains positive but loses statistical significance. We believe this is because the inclusion of all of the interactions is simply too taxing on the data.

There is less support for Hypothesis 3 in the data. When the proportion of people in an immigrant's city and age group that is from the immigrant's country of origin increases by 10 percentage points, marriage to a native decreases the probability of employment by less than one percentage point. The effect is admittedly small and not statistically significant. However, we note that it is very difficult to precisely identify this effect because the model controls for country of birth fixed effects, the size of the ethnic group in the MSA, and MSA-age specific unemployment rates. The coefficient remains insignificant in the model which includes all of the interactions.

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[12] We explored models which tested our network hypotheses within an IV framework. Unfortunately, because many of the interactions used in the tests are constructed from variables that are closely related to our instruments, there is not enough variation in the data to separately identify the coefficients of interest. Because a Hausman test could not reject the equality of the IV and OLS coefficients, we favor our OLS coefficients regardless.

There are several reasons why one may be concerned about the interpretation of the coefficients on the interactions discussed above. In order to correctly interpret the coefficient on the employment interaction, it is necessary to consider what drives the variation in native-immigrant differences in employment rates. One possibility is that average immigrant skill levels in certain cities may be ill-matched with particular industry demands. If this mismatch is due to random fluctuations in either the immigrant population or industry mix within a city, this identification strategy is valid. However, it may also be that in cities where immigrants are less prone to work on average, those immigrants that marry natives are more employable, thus generating a spurious correlation between marriage to a native and employment.[13]

Similarly, difficulties in interpretation of the coefficient on the education interaction may arise, even when conditioning on own education, if immigrants with especially high education levels relative to their ethnic groups are both more likely to marry natives and be employed.[14] The third hypothesis test is also imperfect since there may be characteristics of the economies of cities which attract immigrants of specific ages and from certain countries that generate high employment rates and low rates of marriage to a native. Although each of these tests is problematic individually, we believe that taken together, they provide strong evidence in favour of networks. Nevertheless, our last two hypotheses examine the effect of marriage decisions on a different set of outcomes.

We test Hypothesis 4 by examining the effect of marriage to a native on paid and self-employment separately. While marriage to a native increases the probability of paid employment by almost three percentage points, it has no significant effect the probability of self-employment. Since, as discussed above, native-born friends and family are likely to be more helpful in generating paid employment probabilities than self-employment, we view this result as suggestive of the role of networks in explaining the marriage to a native premium. If, as discussed in the previous paragraph, the estimated premium were only a return to unobservable characteristics, then it should not matter whether we consider the effect on paid employment or self-employment. In fact, there is evidence that general

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[13] It may also be that immigrants in certain locations face more discrimination in the labor and marriage markets. In line with Merton's (1941) exchange hypothesis, this could imply that those immigrants that marry natives compensate their spouses with more favourable characteristics which are unobservable to the econometrician, such as hard work and diligence in the labor market. This is unlikely to be a problem for our analysis since we include both region and race fixed effects.

[14] We note that our IV results suggest that conditional on the variables included in the model, any selection into marrying a native is likely to be negative. If, as we discussed in Section 3, the most hard-working immigrants marry other immigrants in general, then it may be that the most educated immigrants relative to their ethnic groups would be even more ambitious and so even more likely to marry other immigrants. This would make it more difficult for use to find support for Hypothesis 2 in the data.

ability has a larger effect on the earnings of the self-employed than on wages (Hartog *et al*., 2008) implying that marriage to a native should increase the probability of self-employment more than the probability of paid employment. Furthermore, if the dominant explanation for the marriage to a native premium lay in the help provided by native-born spouses in the job search, then we may expect the premium to be larger for self-employment given that familiarity with English and U.S. laws should be especially important for the paperwork involved in setting up and running a business.

Lastly, we consider the effect of marriage to a native on commute times. Because commute times in our data are bounded below at zero and above at 99 minutes, we use a tobit model. The evidence is consistent with Hypothesis 5 in that marriage to a native does decrease commute times of immigrants. However, the decrease is by less than a minute. It may be that while marriage to a native generates more job offers via native contacts, immigrants that marry other immigrants are more likely to live and work within ethnic enclaves thus having very short commutes. This would bias the coefficient on marriage to a native downward. [15]

We end this section by reiterating that although our tests provide only indirect evidence of networks, taken together, we believe they are highly suggestive of the role of networks in explaining why marriage to a native increases employment probabilities of immigrants.

6   Conclusions

This paper explores the relationship between marriage to a native and employment rates of immigrant men. Strengthening results from previous research, we found that marriage to a native increases employment probabilities even after controlling for a variety of immigrant characteristics. We then extended the literature by examining the mechanisms through which marriage choice affects labor market outcomes. First, we added spouse characteristics to the model. We found evidence that spouse's education and labor market characteristics do partially explain the return to marriage to a native, suggesting that native wives are better able to help their immigrant husbands find and/or keep gainful employment. However, spouse characteristics do not explain the entire premium.

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[15] Caution is necessary when interpreting these results if, as suggested by the spatial mismatch hypothesis (Kain, 1968), ethnic enclaves are located a distance from jobs and immigrants residing in enclaves are more likely to marry other immigrants, then marriage to a native may result in shorter commute times for reasons unrelated to native networks.

We then examined several hypotheses consistent with the role of networks in explaining the positive impact of marriage to a native. Our underlying assumption is that all people acquire new networks upon marriage. However, when immigrants marry natives, their newly acquired networks contain relatively more natives than if they had married immigrants. Consistent with our hypotheses, we found that marriage to a native has a larger positive effect on immigrants that have more to gain from connection to a native network. Specifically, when immigrants have significantly lower employment rates than natives, there is a larger premium to marrying a native. Also, since natives typically have more skill-intensive jobs, marriage to a native is especially beneficial for immigrants whose education levels are significantly above the average education in their ethnic groups. We also found that immigrants in well-established, large ethnic groups have less to gain in terms of employment probabilities from marriage to a native, but the effect was not statistically significant.

We also found that marriage to a native is relatively more important for acquiring paid employment than self-employment. This is consistent with the role of networks in transmitting job-opening information. Also, we hypothesized that if immigrants connected to native networks receive more information about job openings and subsequently obtain more job offers, then they can limit their job search in terms of geography. Consistent with this idea, we found that average commute times for immigrants married to natives are lower than commute times of immigrants married to other immigrants.

The labor market outcomes of immigrants are of considerable policy importance given that large inflows of migrants put pressure on the welfare state, especially if many are unemployed (Borjas, 1999). The findings in this paper point to the importance of social integration in the economic assimilation of immigrants. Although residence in ethnic enclaves may aid in the initial adjustment to a new country (Borjas, 2000), our results suggest that on average, native contacts prove more useful than immigrant contacts in acquiring gainful employment. We find evidence that immigrants more closely that immigrants more closely linked to natives acquire more information about the U.S. labor market which then leads to better job matches. Thus, policies that foster increased association between immigrants and natives, such as programs which place refugees in areas where contact with natives is essential, may lead to improved labor market outcomes for immigrants. Policy-makers may also consider programs which aid in the job search process of immigrants, thereby acting as a substitute for native contacts. Because of the externalities resulting from the acquisition of good jobs, any improvements in immigrants' employment rates would then further improve labor market outcomes of other immigrants.

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Table 1. Descriptive Statistics.

	Immigrant Male and Native Spouse		Immigrant Male and Immigrant Spouse		All	
	Mean	Standard error	Mean	Standard error	Mean	Standard error
Immigrant male characteristics						
Employed	0.871	0.002	0.765	0.002	0.798	0.002
Paid employment	0.744	0.003	0.672	0.002	0.694	0.002
Self-employment	0.127	0.002	0.094	0.001	0.104	0.001
Age	39.397	0.075	35.750	0.043	36.882	0.038
No school	0.013	0.001	0.049	0.001	0.038	0.001
Less than or up to 12th grade	0.222	0.003	0.433	0.002	0.367	0.002
High school graduate, or GED	0.209	0.003	0.187	0.002	0.194	0.002
Some college/associate degree	0.272	0.003	0.173	0.002	0.204	0.002
Bachelors/Masters/PhD degree	0.284	0.003	0.158	0.002	0.197	0.002
English fluency	0.823	0.003	0.470	0.002	0.580	0.002
Veteran	0.169	0.003	0.067	0.001	0.099	0.001
Disability	0.116	0.002	0.233	0.002	0.197	0.002
White	0.439	0.004	0.123	0.002	0.221	0.002
Hispanic	0.438	0.004	0.665	0.002	0.595	0.002
Asian	0.080	0.002	0.175	0.002	0.145	0.001
Black	0.040	0.001	0.034	0.001	0.036	0.001
"Other" Race	0.003	0.001	0.003	0.001	0.003	0.001
Years in the U.S.	30.024	0.089	22.184	0.048	24.618	0.046
Recent immigrant	0.016	0.001	0.032	0.001	0.027	0.001
Percent of MSA with same country of birth	0.057	0.001	0.093	0.001	0.082	0.004
In metro area, central city	0.200	0.003	0.272	0.002	0.250	0.002
In metro area, outside central city	0.463	0.004	0.402	0.002	0.421	0.002
Central city, status unknown	0.337	0.003	0.326	0.002	0.329	0.002
Travel time to work (in minutes)	28.303	0.163	28.899	0.119	28.697	0.096
Spouse characteristics						
Spouse employment	0.647	0.003	0.465	0.002	0.521	0.002
Spouse's log of median income	5.527	0.053	2.747	0.040	3.610	0.032
Spouse with no school	0.004	0.001	0.049	0.001	0.035	0.001
Spouse with less than 12th grade	0.140	0.003	0.416	0.002	0.330	0.002
Spouse with high school or GED	0.262	0.003	0.206	0.002	0.223	0.002
Spouse with some college /associate degree	0.328	0.003	0.183	0.002	0.228	0.002
Spouse with Bachelors/Masters/PhD degree	0.267	0.003	0.745	0.002	0.183	0.002
Percent same ancestry	0.303	0.003	0.745	0.002	0.608	0.002
Number of observations	23,066		51,069		74,135	

Notes: The sample consists of married, foreign born males between the ages of 18 and 62 who immigrated to the U.S before the age of 18, are not currently enrolled in school, and reside in an identifiable metropolitan statistical area. The English fluency variable takes the value of one if the immigrant speaks only English and speaks English very well. It is equal to zero if the immigrant speaks English well, or does not speak English well, or does not speak English at all. The variable, "disability" equals one if the immigrant has a disability which prevents, limits, or causes difficulty in working. Since average means are weighted, we report standard errors than standard deviations. The average travel time to work is constructed only for those employed hence the smaller number of observations. Statistics are computed using the appropriate person-level weights provided by the 2000 U.S. Census. Eight observations with probability weights of zero were dropped from the sample.

Table 2. Ordinary Least Squares and IV Estimates.

	OLS	OLS	OLS	IV(2SLS)	
				First Stage	Second Stage
	(1)	(2)	(3)	(4)	(5)
Variable	Employed	Employed	Employed	Exogamy	Employed
Marriage to a native	0.053*** (0.004)	0.040*** (0.004)	0.041*** (0.004)	---	0.058** (0.029)
Age dummies	Yes	Yes	Yes	Yes	Yes
Less than or up to 12th grade	0.137*** (0.011)	0.131*** (0.011)	0.131*** (0.011)	0.024*** (0.007)	0.131*** (0.011)
High school graduate or GED	0.193*** (0.011)	0.176*** (0.011)	0.176*** (0.011)	0.058*** (0.008)	0.175*** (0.011)
Some college/associate degree	0.240*** (0.011)	0.216*** (0.011)	0.216*** (0.011)	0.089*** (0.008)	0.214*** (0.012)
Bachelors degree/Masters/PhD	0.287*** (0.011)	0.259*** (0.011)	0.258*** (0.011)	0.096*** (0.009)	0.257*** (0.012)
Disability	-0.061*** (0.005)	-0.060*** (0.005)	-0.060*** (0.005)	-0.070*** (0.004)	-0.059*** (0.005)
Veteran	-0.007 (0.005)	-0.011** (0.005)	-0.011** (0.005)	0.024*** (0.006)	-0.012** (0.005)
Hispanic	-0.008 (0.011)	0.000 (0.011)	0.000 (0.011)	-0.119*** (0.014)	0.003 (0.012)
Black	-0.008 (0.013)	-0.012 (0.013)	-0.013 (0.013)	-0.108*** (0.018)	-0.011 (0.013)
Asian	0.018 (0.013)	0.017 (0.013)	0.017 (0.013)	-0.271*** (0.020)	0.021 (0.015)
Other race	0.026 (0.026)	0.025 (0.026)	0.023 (0.026)	-0.142*** (0.033)	0.026 (0.029)
In metro area, central city	-0.022*** (0.005)	-0.020*** (0.005)	-0.019*** (0.005)	-0.015*** (0.005)	-0.019*** (0.004)
In metro area, outside central city	0.002 (0.004)	0.003 (0.004)	0.003 (0.004)	0.010** (0.004)	0.003 (0.004)
English fluency	---	0.053*** (0.004)	0.053*** (0.004)	0.134*** (0.005)	0.051*** (0.006)
Years in the U.S.	---	0.001** (0.000)	0.001** (0.000)	0.016*** (0.000)	0.000 (0.001)
Recent immigrant		-0.016 (0.011)	-0.017 (0.011)	-0.082*** (0.010)	-0.015 (0.011)
Region dummies	Yes	Yes	Yes	Yes	Yes
Country of birth dummies	Yes	Yes	Yes	Yes	Yes
Percent of MSA with same country of birth	---	-0.167*** (0.029)	-0.085*** (0.032)	0.197*** (0.043)	-0.079** (0.033)
Unemployment rates in MSA-age group cells	---	---	-0.508*** (0.094)	0.445*** (0.100)	-0.513*** (0.089)
IV: Immigrant females over all females in MSA-age groups cells	---	---	---	-0.479*** (0.019)	---
IV: Immigrant females over immigrant males in MSA-age group-country of birth cells	---	---	---	-0.030*** (0.004)	---

					Continued
Constant	0.616*** (0.062)	0.601*** (0.062)	0.711*** (0.065)	0.453*** (0.045)	0.705*** (0.076)
Observations	74,135	74,135	74,135	74,135	74,135

Notes. See Table 1 notes for information on the sample. The English fluency variable is equal to one if the immigrant speaks only English, speaks English very well. It is equal to zero if the immigrant speaks well, does not speak English well or does not speak English at all. The variable, "disability" is a dummy which takes the value one if the immigrant has a disability which prevents, limits, or causes difficulty in working. Percent of MSA with same country of birth refers to the to MSA population born in the same country as the immigrant. Spouse's income includes wages, or income from own business or differ farm in the previous year. Estimates are weighted using the appropriate person-level weights provided by the 2000 U.S. Census. Significance levels are noted by the following: * significant at 10%; ** significant at 5%; *** significant at 1%. "---" means that the variable is not included in the specification.

Table 3. Effect of Spouse Characteristics.

Variable	OLS	OLS	IV (second stage)	IV (second stage)
	(1)	(2)	(3)	(4)
	Employed	Employed	Employed	Employed
Marriage to a native	0.053***	0.026***	0.058**	0.062**
	(0.004)	(0.004)	(0.029)	(0.030)
Spouse is employed	---	0.205***	---	0.204***
		(0.005)		(0.005)
Log of spouse's median income	---	-0.007***	---	-0.007***
		(0.000)		(0.000)
Spouse has less than or up to 12th grade	---	0.070***	---	0.068***
		(0.012)		(0.012)
Spouse is high school graduate or has GED	---	0.077***	---	0.070***
		(0.012)		(0.013)
Spouse has some college/associate degree	---	0.091***	---	0.083***
		(0.012)		(0.014)
Spouse has Bachelors degree/Masters/PhD	---	0.089***	---	0.081***
		(0.012)		(0.014)
Constant	0.616***	0.573***	0.705***	0.564***
	(0.062)	(0.067)	(0.076)	(0.067)
Observations	74,135	74,135	74,135	74,135

Notes. Controls from the full model are included in all of these regressions. See Table 1 notes for information on the sample. The English fluency variable is equal to one if the immigrant speaks only English, speaks English very well. It is equal to zero if the immigrant speaks well, does not speak English well or does not speak English at all. The variable, "disability" is a dummy which takes the value one if the immigrant has a disability which prevents, limits, or causes difficulty in working. Percent of MSA with same country of birth refers to the to MSA population born in the same country as the immigrant. Spouse's income includes wages, or income from own business or farm in the previous year. Estimates are weighted using the appropriate person-level weights provided by the 2000 U.S. Census. Significance levels are noted by the following: * significant at 10%; ** significant at 5%; *** significant at 1%. "---" means that the variable is not included in the specification.

Table 4. Tests of Network Hypotheses.

	1	2	3	4	5		6
	OLS Employment	OLS Employment	OLS Employment	OLS Employment	OLS Paid Employment	OLS Self Employment	Tobit Travel time to work
Marriage to a native	0.009***	0.026**	0.028***	0.011***	0.025***	0.001	-0.628***
	(0.003)	(0.004)	(0.004)	(0.003)	(0.005)	(0.003)	(0.231)
Difference in mean employment between natives and immigrants	-0.697***	---	---	-0.705***	---	---	---
	(0.013)			(0.013)			
Interaction between marriage to a native and the difference in mean employment between natives and immigrants	0.115***	---	---	0.115***	---	---	---
	(0.017)			(0.018)			
Difference between own education and ethnic group education	---	-0.001	---	0.006***	---	---	---
		(0.001)		(0.001)			
Interaction between marriage to a native and difference between own education and ethnic group education	---	0.002**	---	0.001	---	---	---
		(0.001)		(0.001)			
Proportion of immigrants in MSA from the same country of birth in the same age group	---	---	0.001	0.002	---	---	---
			(0.002)	(0.001)			
Interaction between marriage to a native and proportion of immigrants in MSA from the same country of birth in the same age group	---	---	-0.003	-0.004	---	---	---
			(0.003)	(0.003)			
Constant	0.538***	0.578***	0.568***	0.527***	0.538***	0.035*	32.926***
	(0.072)	(0.078)	(0.079)	(0.063)	(0.069)	(0.020)	(3.433)
Observations	74,135	74,135	74,135	74,135	74,135	74,135	59,220

Notes. See Table 1 notes for information on the sample. The regressions control for: age, age squared/100, four dummies for educational achievement, disability, veteran status, two metro area dummies, eleven region dummies, years in the U.S., four race dummies, size of the ethnic group and size square and MSA and country of birth fixed effects. In specifications where variable of interest varies by MSA (column 1), standard errors are clustered on MSA while in specifications where the variable of interest varies by MSA, country of birth, and age group (column 3), standard errors are clustered on (MSA × country of birth × age group) cells. ¨---¨ means that the variable is not included in the specification. The number of observations is smaller in column 6 than in the other columns, as we restrict the regression to the employed. In column 6, we have restricted the regression to people who are employed. We use a Tobit estimator instead of an OLS estimator as the travel time to work variable is left censored (zero hours) as well as right censored (99 hours). * significant at 10%; ** significant at 5%; *** significant at 1%.