Intermarriage and Socioeconomic Integration: Trends in Earnings Premiums among U.S. Immigrants Who Marry Natives

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Previous studies show that immigrants to the United States married to natives earn higher wages than immigrants married to other immigrants. Using data from the 1980 to 2000 U.S. censuses and the 2005 to 2010 American Community Surveys, we show that these wage premiums have increased over time. Our evidence suggests that the trends are unlikely to be explained by changes in the attributes of immigrants who tend to marry natives but might instead be a result of changes in how these attributes are rewarded in the labor market. Because immigrants married to natives tend to have more schooling, part of the increasing premium can be explained by increases in the value of a college education. We find, however, that even when allowing the value of education and English-speaking ability to vary, intermarriage wage premiums have increased over time. We believe these patterns might be driven by changes in technology and globalization, which have made communication and management skills more highly rewarded in the U.S. labor market.

Keywords: intermarriage; immigration; wage premium; technology change

Immigrants married to the native-born tend to be more socially integrated than immigrants married to other immigrants. In the United States, those married to the native-born typically have better English language skills and know more about U.S. customs and culture both because immigrants with these skills are more likely to marry natives and because sharing a household with a native brings on further

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social integration. This article examines whether the differential between hourly wages of immigrants married to natives and immigrants married to other immigrants has changed in recent decades. We also explore whether changes in observable characteristics of immigrants who choose to marry natives can explain trends in this differential. We test whether the general patterns are robust across education groups and races. Finally, we explore how much of the increasing wage premium for immigrant/native intermarriage might be explained by the fact that education and English-speaking ability have become more highly rewarded in the U.S. economy.

It has been well established in the literature that immigrants married to natives have better labor market outcomes than immigrants married to other immigrants. Intermarriage[1] wage premiums have been found for immigrants in Australia (Meng and Gregory 2005), the United States (Kantarevic 2005; Chi and Drewianka 2014), France (Meng and Meurs 2009), Germany (Nottmeyer 2010), Sweden (Nekby 2010; Dribe and Nystedt 2014), and the Netherlands (Gevrek 2011). Immigrants married to natives are also more likely to be employed than those married to nonnatives (Furtado and Theodoropoulos 2009; Gevrek 2011).

There is disagreement in this literature, however, about whether marriage choice has a causal impact on labor market outcomes or whether unobservable characteristics, such as ambition or general comfort with the host country's language, customs, laws, and institutions, increase the likelihoods of marriage to a native and labor market success. Taking instrumental variables approaches, which exploit plausibly exogenous variation in the opportunities for marrying natives (driven by the size of the immigrant population and sex ratios within marriage markets), several papers find that intermarriage premiums persist even when steps are taken to control for the unobservable characteristics of the immigrants who choose to marry natives (Meng and Gregory 2005; Meng and Meurs 2009; Furtado and Theodoropoulos 2009). This may not be surprising given that a native spouse and the native networks acquired through such a marriage can accelerate an immigrant's language proficiency, improve understanding of social and cultural customs, and provide information about local labor markets. Furtado and Theodoropoulos (2010) provide several pieces of evidence that suggest that employment probabilities are higher for immigrants married to natives as a result of access to native networks that are helpful in the job search process. On the other hand, using a similar instrumental variables approach, Kantarevic (2005) finds that the intermarriage wage premium disappears in the United States when steps are taken to control for omitted variables and reverse causality.

The validity of all of these instrumental variables-based studies rests on the assumption that marriage market characteristics do not have direct impacts on labor market outcomes. Questioning this assumption, several papers instead examine earnings profiles of immigrants before and after they marry to determine whether earnings jump postmarriage or whether the immigrants who eventually marry natives always had higher earnings (Nekby 2010; Nottmeyer 2010; Dribe and Nystedt 2014). These papers do not find dramatic earnings jumps for immigrants married to natives relative to those who marry other immigrants; immigrants married to natives always have higher earnings. This may be because

the majority of benefits from marrying a native start during the courting period as opposed to postmarriage, as would be the case for access to native networks. It may also be that the labor market benefits that result from improved host-country language skills and knowledge of social customs can only be observed many years after marriage and existing studies do not follow couples for long enough.[2]

For the purposes of our study, it does not matter whether marriage choice affects earnings or instead earnings (and characteristics associated with earnings) affect marriage choice. What matters is that the immigrants married to natives tend to have better overall social and communication skills in the host society. By examining how intermarriage premiums have changed over time, we can gain insight into how the benefits of having these skills (as measured by wages) have changed despite not having direct measures of linguistic and social skills in the data. We hypothesize that the benefits associated with the characteristics of inter-married immigrants have increased over time.

Technological change, international trade, and international offshoring of jobs have resulted in big changes in U.S. labor markets in the past few decades. Routine tasks once performed by workers with average skill levels in the United States are now carried out by computers and low-wage workers in other countries. Consequently, there has been an increase in labor market demand for workers who perform nonroutine tasks that involve in-person interactions, situational adaptability, and persuasive or managerial skills (Autor, Levy, and Murnane 2003; Weinberger 2014). Autor and Dorn (2013) find that local labor markets that historically specialized in routine tasks experienced earnings growth at the tails of skill distribution with low-skilled laborers moving into the service sector starting in the 1980s. In fact, between 1980 and 2005, the share of hours worked in the service sector among noncollege workers increased more than 53.5 percent (Autor and Dorn 2013). In addition, Acemoğlu and Autor (2011) show that the share of employment in high-skilled nonroutine cognitive-intensive professional, managerial, and technical occupations increased by 62.7 percent between 1959 and 2007. This process, through which employment is increasingly concentrated at the top and bottom of the wage distribution, has been referred to in the literature as "job polarization." Because immigrants married to natives are more likely to possess the social interaction skills that are becoming relatively more highly rewarded in the economy, we expect intermarriage earnings premiums to have increased in the past three decades.

Using data from the 1980 to 2000 U.S. censuses and the 2005 to 2010 American Community Surveys, we find increasing hourly wage premiums for immigrants married to natives relative to those married to immigrants. While it is certainly possible that this trend is driven by changes in the unobserved characteristics of immigrants who marry natives, this does not seem likely given how robust the pattern is to adding more and more observable characteristics as controls to our models. We also show that intermarriage premiums have increased for immigrants of all education levels, a result consistent with related work showing that social and managerial skills have become more highly rewarded across the skill distribution (Autor and Handel 2013). What is interesting is that trends

are driven completely by whites and Hispanics; there is no relationship between marriage choice and hourly wages for blacks and Asians. We also show that the increasing value of, or "returns to" a college degree and English language fluency can explain part, but not all, of the increasing intermarriage premium.

In the next section we present the data and describe the empirical model used in the analysis. We then discuss baseline results, examine whether patterns are robust across demographic groups, and provide some insight into why marriage-to-native wage premiums have increased over time. We end with concluding remarks.

Data and Model

Our study draws on the Integrated Public Use Micro Samples (Ruggles et al. 2010) for the 1980, 1990, and 2000 U.S. Censuses and the American Community Survey (ACS) three-year samples for 2005–2007 and 2008–2010. The census data for 1980, 1990, and 2000 are each 5 percent samples of the U.S. population. The ACS 2005–2007 sample contains all observations from the 1 percent ACS samples for 2005, 2006, and 2007 while the 2008–2010 ACS sample merges 1 percent samples for 2008, 2009, and 2010. Weights are adjusted appropriately.

We restrict the sample to married (spouse present) immigrants aged 18 to 64 who are not enrolled in school and work full time full year.[3] An immigrant is defined as a person born outside of the United States, while a native is born in one of the fifty U.S. states. In this study, people born in outlying areas such as Puerto Rico and the Virgin Islands are considered immigrants. We keep only males in the sample because wage information is only available for workers, and women's labor force participation may depend on intermarriage decisions in ways that are difficult to analyze. To ensure immigrants' exposure to the U.S. marriage market, we omit immigrants who arrived in the United States after the age of 18.[4] Because we want to control for local labor market conditions, we keep only immigrants residing in identified metropolitan statistical areas (MSAs). Concerned about respondents misreporting their wages, we drop individuals who report hourly wages of less than $2 and more than $200, measured in 1999 dollars. Finally, for consistency with prior literature on intermarriage (e.g., Meng and Gregory 2005), we exclude immigrants from English-speaking countries, but the relationships we uncover in the data do not change if we include them.

Figure 1 plots hourly wages (in 1999 dollars) of immigrants married to natives and immigrants married to other immigrants in the past three decades. The figure reveals a widening wage gap, which is consistent with computerization and globalization altering the labor market returns on communication skills. It is also possible, however, that these trends have been driven by changes in the immigrant composition over time and, specifically, changes in the characteristics of the immigrants that marry natives. For example, if, over time, immigrants with more years of schooling have become more likely to marry natives, then the widening wage gap may be explained by changes in the relative skill composition of immigrants who marry natives as opposed to changes in the returns to their skills.

FIGURE 1

Log Hourly Wage of Immigrants Married to Natives and Immigrants
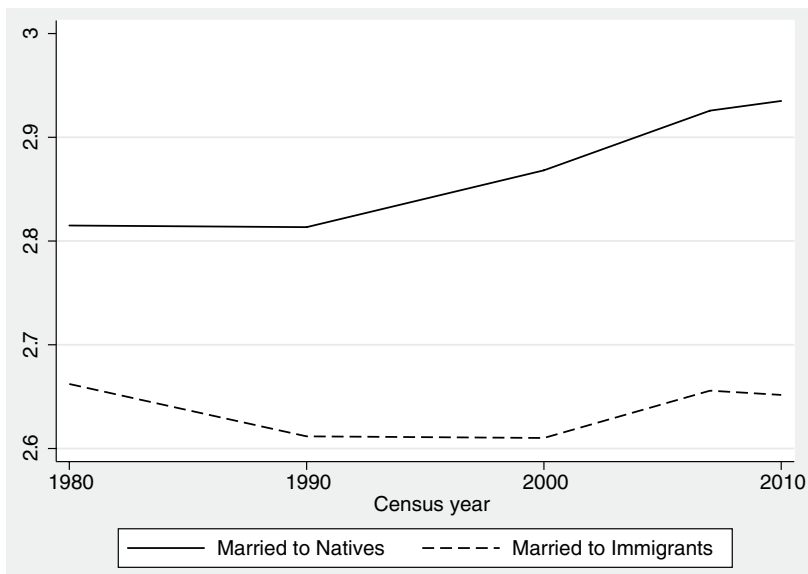Married to Other Immigrants

Table 1 presents some descriptive statistics on immigrants by marriage type in 1980 and 2008–2010. Not surprisingly, immigrants married to natives are less likely to have less than a high school degree, more likely to have a college degree, and more likely to speak English fluently. What is more important for the purposes of our study is whether the differential by marriage type has increased over time. After all, the first row of Table 1 shows that the share of immigrants married to natives has decreased quite substantially. The fewer immigrants married to natives in 2008–2010 may be especially likely to have characteristics that are valued in the labor market. The table does not reveal especially large differentials in education and English fluency by marriage type in the later years, but to address this issue more formally and with a larger set of characteristics, we turn to regression analysis.

The following ordinary least squares model is estimated:

$$W_{ioct} = \beta_1 Native_{ioct} + \sum_{t=2}^{5}(\beta_t Native_{ioct} \cdot T_t) + \rho X_{ioct} + \gamma_o + \delta_{ct} + \varepsilon_{ioct},$$

where W_{icot} is the log hourly wage of immigrant i from country of origin o living in city c in year t. We use a dummy variable $Native$ to identify whether the immigrant has a native spouse. The vector X contains the individual-level controls age, age squared, educational achievement,[5] presence of children in the household,

TABLE 1
Descriptive Statistics of Select Variables

	1980		2008–2010	
	Marriage to a Native	Marriage to an Immigrant	Marriage to a Native	Marriage to an Immigrant
Percentage	56.80	43.20	37.97	62.03
Less than high school	18.50	37.97	10.73	31.44
High school	31.01	27.71	28.22	29.53
Some college	22.42	16.28	22.02	15.37
College degree	28.06	18.04	39.03	23.66
English fluency	89.01	59.99	87.50	51.26

NOTE: The sample consists of married, foreign-born males between the ages of 18 and 64 who immigrated to the United States before the age of 18, are not currently enrolled in school, reside in an identifiable metropolitan statistical area, work full time and full year, and earn an hourly wage between $2 and $200 in 1999 dollars. The English fluency dummy variable equals one if the person speaks only English, speaks English very well, or speaks English well.

English fluency,[6] years living in the United States, and measures of the size of the immigrant's group residing in his MSA. Country of origin fixed effects, γ, control for the country of origin composition of immigrants in different years. City-year fixed effects, δ, control for characteristics—such as the unemployment rate or industry-structure of a city—which affect everyone living in the same city in the same year.[7] Our variables of interest are a set of interactions between *Native* and year dummy variables denoted T_t where $t = 2, 3…5$ represents 1990, 2000, 2005–2007, and 2008–2010, respectively. If the returns on marrying a native are positive and increasing every year, then β_5 should be greater than β_4, which should exceed β_3 and so forth. All of these coefficients are expected to have a positive sign.

Results

Baseline regressions

Table 2 presents estimates of the effect of marriage to a native on log hourly wage rates for immigrants using several different model specifications. The first column reproduces the information in Figure 1 by showing results from the simplest possible specification without any control variables. The estimates show that in 1980, immigrants married to natives had 17.1 percent higher earnings than immigrants married to other immigrants. The gap increases to 21.3 percent in 1990, 28.0 percent in 2000, 29.3 percent in 2005–2007, and 29.4 percent in 2008–2010.

As discussed previously, these marriage-to-a-native wage premiums may indicate causal impacts of association with a native spouse on wages or simply reflect

TABLE 2
Regression Estimates of Marriage-to-a-Native Wage Premiums

Dependent Variable: Log Hourly Wage	1	2	3
Marriage to a native	0.171***	–0.002	0.014
	(0.011)	(0.010)	(0.010)
Marriage to a native × 1990	0.042***	0.006	0.026**
	(0.014)	(0.012)	(0.012)
Marriage to a native × 2000	0.109***	0.052***	0.047***
	(0.013)	(0.011)	(0.012)
Marriage to a native × 2005–2007	0.122***	0.074***	0.068***
	(0.014)	(0.012)	(0.013)
Marriage to a native × 2008–2010	0.123***	0.091***	0.089***
	(0.014)	(0.012)	(0.012)
Age	—	0.059***	0.055***
		(0.001)	(0.001)
Age^2	—	–0.001***	–0.001***
		(0.000)	(0.000)
High school	—	0.153***	0.114***
		(0.044)	(0.004)
Some college	—	0.328***	0.263***
		(0.005)	(0.005)
College degree	—	0.747***	0.631***
		(0.005)	(0.006)
Children in the household	—	0.032***	0.051***
		(0.004)	(0.004)
Veteran	—	0.004	0.015***
		(0.005)	(0.005)
English fluency	—	0.182***	0.160***
		(0.005)	(0.005)
Years in U.S.	—	0.004***	0.005***
		(0.000)	(0.000)
Size of origin group	—	—	–0.122***
			(0.043)
Size of origin group^2	—	—	0.113
			(0.057)
Country of origin fixed effects	No	No	Yes
MSA-year fixed effects	No	No	Yes
R^2	0.043	0.356	0.397
Observations	163,774	163,774	163,774

NOTE: The sample consists of married, foreign-born males between the ages of 18 and 64 who immigrated to the United States before the age of 18, are not currently enrolled in school, reside in an identifiable metropolitan statistical area, work full time and full year, and earn an hourly wage between $2 and $200 in 1999 dollars. The English fluency dummy variable equals one if the person speaks only English, speaks English very well, or speaks English well. Size of origin group refers to the share of the MSA population born in the same country as the immigrant.
*$p < .10$. **$p < .05$. ***$p < .01$.

that characteristics that are valued by natives in the marriage market are also valued in the labor market. Since we are using marriage to a native simply as a measure of social and communication skills, distinguishing between these explanations is not important. Instead, the challenge in our study is determining whether immigrants who marry natives are becoming more highly rewarded because fundamentals of the economy have changed or because the types of immigrants who marry natives have changed. For example, if only highly educated immigrants marry natives in the 2000s while immigrants of all education levels marry natives in 1980, then increases in the wage effects of marrying a native may simply be explained by changes in the educational qualifications of the immigrants who marry natives.

To address this issue, in column 2, we add controls for age, education, existence of children in the household, veteran status, language fluency, and years in the United States. Estimated coefficients on control variables are consistent with the existing literature: wages generally increase with age but at a decreasing rate; more education increases wages; veterans and fathers have higher wages; and immigrants who have better English skills earn more, as do immigrants who have lived in the United States for a longer time. When these variables are added to the model, estimates of the coefficients on the intermarriage variables decrease but are still generally positive and increasing over the years. This suggests that immigrants' changing human capital and assimilation characteristics do not fully explain the increasing wage premium.

The country of origin composition of immigrants in the United States has changed quite dramatically in recent decades (Bean and Stevens 2003). If immigrants from origins more highly represented in the latter years tend to earn lower wages and are less likely to marry natives, then the increasing marriage to a native premium might simply reflect the change in immigrant country of origin composition as opposed to a change in the returns to specific skills. To address this issue, we add country of origin fixed effects to our model.

During the period in our study, immigrants were increasingly moving to places previously inhabited by very few immigrants; these "new destinations" were often small metropolitan or rural areas (e.g., Alba and Nee 2003; Bean and Stevens 2003, Massey, Durand, and Malone 2002). If the immigrants in these areas are more likely to marry natives and have better labor market outcomes than the immigrants in traditional destinations, then the increasing marriage to a native wage premium may simply be explained by changes in the geography of immigration. To examine this possibility, we add MSA-year fixed effects to the model. In models with MSA-year fixed effects along with our other controls, we are implicitly comparing wages of immigrants living in the same city in the same year with the same observable characteristics.

MSA-year fixed effects take into account all factors, observable and unobservable, within an MSA in a given year that are constant for everyone in the MSA-year. They control for variables such as industry structure and unemployment rate. Likewise, the country of origin fixed effects take into account all factors that affect immigrants from the same country in the same way regardless of where in the United States they are living. However, two immigrants living in the same city

in the same year will experience different labor and marriage markets if they are from different countries of origin, and two immigrants from the same country will experience different markets if they are living in different cities. We know from the intermarriage literature that immigrants are less likely to marry natives when they live in areas with large concentrations of coethnics (Safi and Rogers 2008; Kalmijn and van Tubergen 2010). We also know that residence in ethnic enclaves is often associated with lower wages (Borjas 2000; Chiswick and Miller 2005; Warman 2007).[8] If immigrants who marry natives are becoming less likely to live in ethnic enclaves, then the increasing intermarriage wage premium could simply reflect changes in residential patterns of immigrants who marry natives. To address this issue, we add a variable measuring the share of the MSA population that was born in the immigrant's country of birth, along with its square term, to the model. We note, however, that our size of ethnic group variables were measured at the time of the survey as opposed to when the immigrants were searching for spouses. Unfortunately, our data lack information on age at marriage in the years after 1980 and complete migration histories.

Column 3 of Table 2 shows that when country of origin fixed effects, MSA-year fixed effects, and the size of country of origin group variables are added to the model, the time pattern in the marriage to native premiums remains the same. The estimates of the coefficients on the size variables indicate that immigrants residing in ethnic enclaves tend to earn lower wages, but the decrease in earnings is nonlinear in the size variable. Controlling for observable characteristics, in 1980, immigrants married to natives earn 1.4 percent higher wages than immigrants married to other immigrants. In 1990, this differential grew to 4.0 percent, in 2000 to 6.1, in 2005–2007 to 8.2, and by 2008–2010 to 10.3 percent. Thus, relative to immigrants married to immigrants, those married to natives have received an over sevenfold increase in wages over the past three decades. Estimates of all of the coefficients on the marriage to native interactions are jointly and generally pairwise statistically significantly different from each other at the 5 percent level. The only exception is that the estimated coefficient on the 1990 marriage to a native interaction is not statistically different from the marriage to a native coefficient, suggesting that the returns to intermarriage did not change in a statistically meaningful way between 1980 and 1990.

The results in Table 2 show that controlling for individual-level observable characteristics as well as unobservable characteristics, which vary only by country of origin or MSA-year, does not change the main story. Immigrants married to natives do tend to have characteristics that are valued in the labor market, and so controlling for variables such as education and English fluency results in smaller estimated intermarriage premiums. However, adding more variables to the models does not change the increasing intermarriage premium pattern. It is still possible that the immigrants marrying natives in the more recent years have better unobserved characteristics relative to those marrying immigrants, but it is difficult to think about what such characteristics might be. Failing to find evidence that changes in the composition of immigrants married to natives is driving our results, we cautiously conclude instead that the characteristics of immigrants who marry natives are becoming more highly valued in the labor market.[9]

TABLE 3
Regression Estimates of Marriage-to-a-Native Wage Premiums by Education

Dependent Variable: Log Hourly Wage	Less than High School	High School Degree	Some College	College Degree
Marriage to a native	0.014	0.032*	0.036	0.057**
	(0.020)	(0.018)	(0.025)	(0.023)
Marriage to a native × 1990	0.025	0.025	0.005	–0.002
	(0.025)	(0.022)	(0.028)	(0.028)
Marriage to a native × 2000	0.032	0.035*	0.039	0.003
	(0.024)	(0.021)	(0.028)	(0.027)
Marriage to a native × 2005–2007	0.055**	0.040*	0.044	0.022
	(0.027)	(0.022)	(0.030)	(0.028)
Marriage to a native × 2008–2010	0.076***	0.061***	0.043	0.060**
	(0.026)	(0.022)	(0.029)	(0.027)
R^2	0.204	0.232	0.197	0.162
Observations	41,311	48,847	31,018	42,598

NOTE: The sample consists of married, foreign-born males between the ages of 18 and 64 who immigrated to the United States before the age of 18, are not currently enrolled in school, reside in an identifiable metropolitan statistical area, work full time and full year, and earn an hourly wage between $2 and $200 in 1999 dollars. All control variables and fixed effects shown in column 3 of Table 2 are also included in these specifications.
*$p < .10$. **$p < .05$. ***$p < .01$.

Heterogeneous effects

In this section, we test the robustness of our results by analyzing how the increasing intermarriage premium is experienced across different demographic groups. We start by separating the sample into four education groups: less than high school, high school degree, some college education, and at least a college degree. Sample sizes are much smaller in these models, and so it should not be surprising that estimates are not as precise. However, the results in Table 3 broadly suggest that across education levels, immigrants married to natives are becoming more highly rewarded over time. Potentially as a result of smaller samples, we cannot precisely identify year-by-year differences in the returns to marrying natives. However, in all but the college graduate category, returns to marrying a native in 2008 to 2010 are statistically different from the returns in 1980 at the 5 percent significance level. This is consistent with the literature suggesting that the returns to social and managerial skills have increased for people of all education levels (Kuhn and Weinberger 2005).

Table 4 separates the sample into four race categories. Results suggest that our baseline findings are driven by whites and Hispanics. There is no clear pattern in the returns to marrying a native over time for blacks and Asians. In fact, for blacks, there is no evidence of an intermarriage premium at all in time periods outside of 2005–2007. This is consistent with the segmented assimilation theory (Portes and Zhou 1993), whereby assimilation can lead to negative outcomes for

TABLE 4
Regression Estimates of Marriage-to-a-Native Wage Premiums by Race

Dependent Variable: Log Hourly Wage	White	Black	Asian	Hispanic
Marriage to a native	0.006	−0.107	0.101**	0.021
	(0.011)	(0.086)	(0.048)	(0.016)
Marriage to a native × 1990	0.027**	0.0090	−0.025	0.017
	(0.014)	(0.103)	(0.056)	(0.018)
Marriage to a native × 2000	0.054***	0.117	−0.045	0.043**
	(0.013)	(0.096)	(0.055)	(0.017)
Marriage to a native × 2005–2007	0.073***	0.217**	−0.062	0.063***
	(0.015)	(0.101)	(0.055)	(0.019)
Marriage to a native × 2008–2010	0.096***	0.064	0.040	0.078***
	(0.014)	(0.099)	(0.053)	(0.018)
R^2	0.401	0.457	0.367	0.338
Observations	99,482	3,521	18,533	91,276

NOTE: The sample consists of married, foreign-born males between the ages of 18 and 64 who immigrated to the United States before the age of 18, are not currently enrolled in school, reside in an identifiable metropolitan statistical area, work full time and full year, and earn an hourly wage between $2 and $200 in 1999 dollars. All control variables and fixed effects shown in column 3 of Table 2 are also included in these specifications.
$*p < .10.$ $**p < .05.$ $***p < .01.$

immigrants in certain groups. However, our sample of black immigrants is quite small given the sample size requirements of any analysis making use of country of origin and MSA-year fixed effects, and so we do not put too much weight on these results.

Mechanisms

Having shown that intermarriage premiums have increased in the past few decades and that these increases appear very robust across segments of the immigrant population, we now explore whether this pattern can be explained by increases in the returns on education or English language fluency. The education premium has been growing in recent decades (Lemieux 2008; Boudarbat, Lemieux, and Riddell 2010), especially when comparing college graduates to high school graduates (Lemieux 2008; Acemoğlu and Autor 2011; Lindley and Machin 2014). English language skills may also have become more valued in the labor market.

Table 5 presents results from models adding interactions between the year dummy variables and the language fluency and education variables to our baseline models. The first column adds just the language interaction variables. Estimated coefficients on these interaction terms are all positive and statistically significant, suggesting that English skills are valued more highly in recent years

TABLE 5
Regression Estimates of Marriage-to-a-Native Wage Premiums, English Fluency
Premiums, and Education Premiums

Dependent Variable: Log Hourly Wage	1	2	3
Marriage to a native	0.023*	0.038***	0.041***
	(0.011)	(0.010)	(0.010)
Marriage to a native × 1990	0.017	0.012	0.008
	(0.013)	(0.013)	(0.013)
Marriage to a native × 2000	0.042***	0.025**	0.024**
	(0.012)	(0.012)	(0.012)
Marriage to a native × 2005–2007	0.058***	0.038***	0.036***
	(0.013)	(0.013)	(0.013)
Marriage to a native × 2008–2010	0.077***	0.060***	0.056***
	(0.018)	(0.012)	(0.013)
English	0.073***	0.158***	0.122***
	(0.011)	(0.005)	(0.019)
English fluency × 1990	0.081***	—	0.046*
	(0.022)		(0.023)
English fluency × 2000	0.059***	—	0.011
	(0.020)		(0.021)
English fluency × 2007	0.094***	—	0.034
	(0.021)		(0.021)
English fluency × 2010	0.106***	—	0.053**
	(0.020)		(0.021)
College degree	0.631***	0.375***	0.381***
	(0.006)	(0.014)	(0.015)
College degree × 1990	—	0.179***	0.170***
		(0.018)	(0.018)
College degree × 2000	—	0.246***	0.247***
		(0.017)	(0.017)
College degree × 2007	—	0.298***	0.292***
		(0.018)	(0.019)
College degree × 2010	—	0.299***	0.287***
		(0.017)	(0.018)
Some college	0.263***	0.182***	0.188***
	(0.005)	(0.014)	(0.014)
Some college × 1990	—	0.077***	0.069***
		(0.017)	(0.017)
Some college × 2000	—	0.078***	0.079***
		(0.016)	(0.017)
Some college × 2007	—	0.108***	0.102***
		(0.018)	(0.018)
Some college × 2010	—	0.081***	0.069***
		(0.017)	(0.018)
High school	0.114***	0.116***	0.122***
	(0.004)	(0.013)	(0.013)

(continued)

TABLE 5 (CONTINUED)

Dependent Variable: Log Hourly Wage	1	2	3
High school × 1990	—	0.022	0.015
		(0.015)	(0.016)
High school × 2000	—	–0.003	–0.003
		(0.014)	(0.015)
High school × 2007	—	0.008	0.002
		(0.015)	(0.016)
High school × 2010	—	–0.009	–0.019
		(0.015)	(0.015)
R^2	0.397	0.398	0.398
Observations	163,774	163,774	163,774

NOTE: The sample consists of married, foreign-born males between the ages of 18 and 64 who immigrated to the United States before the age of 18, are not currently enrolled in school, reside in an identifiable metropolitan statistical area, work full time and full year, and earn an hourly wage between $2 and $200 in 1999 dollars. The English fluency dummy variable equals one if the person speaks only English, speaks English very well, or speaks English well. Size of origin group refers to the share of the MSA population born in the same country as the immigrant. All control variables and fixed effects shown in column 3 of Table 2 are also included in these specifications.
*$p < .10$. **$p < .05$. ***$p < .01$.

than in the past. However, while allowing the returns to English fluency to differ by year decreases the magnitude of the increasing intermarriage premium, it does not eliminate it.

The second column presents a model adding education interaction terms to the baseline specification. Results suggest large increases in the returns to a college education over time. Even more so than what is suggested by our language results, adding the education interactions to the model decreases the magnitude of the increasing intermarriage premium. This suggests that part of the reason immigrants married to natives have increasingly higher wages relative to immigrants who marry other immigrants is that they tend to have college degrees. However, college degrees do not explain the entire increasing intermarriage premium. Even in models including the full set of education interactions, immigrants married to natives have experienced increasingly higher wages relative to immigrants married to other immigrants. Marriage to a native appears to measure unobserved traits and skills that have become increasingly valuable in the labor market.

The last column of Table 5 shows results from a model that includes the language and education interactions at the same time. The estimated coefficients reflect the same patterns we have already discussed. Estimates are jointly and generally pairwise statistically different from one another at least at a 10 percent significance level.

Conclusion

This article investigates trends in wage returns on social and linguistic skills in the U.S. labor market by examining intermarriage wage premiums in the past three decades. We show that the marriage to a native premium has been increasing over time, suggesting that communication and social skills are becoming more highly valued in the labor market. These basic trends do not appear to be driven by changes in the characteristics of immigrants who marry natives since patterns are robust across models that control for different sets of observable characteristics. We certainly acknowledge the possibility that there are unobserved variables driving our results, but it is not obvious what they might be.

We find an increasing intermarriage wage premium among immigrants of all education levels. This should not be surprising given that automation and computerization have increased the returns to communication across the skill distribution. No consistent pattern in intermarriage premiums or penalties was found for Asians and blacks. If among Asians and blacks, marriage to a native is associated with characteristics that have not become more valuable in the labor market, we should not expect increasing marriage to a native premiums within these groups. In future work, a more careful analysis of these race differentials within a segmented assimilation is warranted.

Given that immigrants married to natives tend to have more schooling and are more fluent in English, we considered whether the increasing intermarriage premium is simply reflecting increasing returns on education or language ability. We found evidence suggesting that immigrants with more schooling and better command of English do have higher relative wages in recent years. However, even in models allowing for increasing returns to these variables, the basic pattern in intermarriage premiums remains the same. This suggests that while part of the reason immigrants married to natives have increasingly higher wages is that they have more schooling and better English language skills, marriage to a native measures additional traits that appear to have become more valuable in the labor market.

Quite a bit of media attention has been given to the idea that recent waves of immigrants are not assimilating at the same speed as immigrants did in the past. Borjas (forthcoming) shows that immigrants who entered the United States before the 1980s narrowed their initial wage disadvantage by 15 percent during their first two decades in the United States, while recent immigrants had significantly slower rates of economic assimilation. He attributes the slower economic integration of recent immigrants partly to their lower English-language skills. Although we by no means provide conclusive proof, our results suggest that the slowdown in assimilation rates may not only be about changes in the composition of recent waves of immigrants but instead about economic transitions that increasingly reward communication and social skills.

Notes

1. In this article, we use intermarriage synonymously with "marriage to a native" regardless of whether the immigrant's foreign or native-born spouse shares the immigrant's ancestry. Our most recent data

(2007–2010 American Community Survey) suggest that 82.3 percent of immigrants who marry other immigrants marry immigrants from the same country of origin. With our data, we are not able to determine whether the natives married to immigrants have a parent or grandparent from the same country as the immigrant, but Duncan and Trejo (2011) show using Current Population Survey data that ethnic attrition is substantial among third-generation Mexicans with only 17 percent of third-generation Mexican children having a majority of their grandparents born in Mexico.

2. Nekby (2010) considers wage impacts three years before the marriage and two years after, while Nottmeyer (2010) uses an unbalanced panel of data from 1984 to 2007. Dribe and Nystedt (2014) look at earnings profiles 10 years before and 10 years after marriage. They find that, in general, immigrants who eventually marry natives earn higher wages well before marriage. However, immigrants from the Middle East and North Africa show no evidence of an intermarriage premium before marriage but earn substantial premiums postmarriage. The authors explain that this may be either because immigrants from these areas have the most to gain from intermarriage or because they are less likely to have significant contact with future spouses before marriage.

3. Full-time full-year work implies working 35 hours or more in a typical week and no less than 50 weeks in the previous year. This criterion is defined by the U.S. Census Bureau.

4. Results (available upon request) are robust to including all immigrants regardless of age at arrival, but the increase in the intermarriage premium over time is not as stark.

5. We use dummy variables to measure whether immigrants have a high school diploma, some college, and at least a college degree. Less than a high school degree is the omitted category.

6. This variable is measured with a dummy variable equaling 1 if the immigrant self-reports speaking only English, speaking English very well, or speaking English well, and 0 otherwise. If we instead include separate dummy variables for each of the categories, our results do not change.

7. We also considered models with controls for spouse characteristics besides nativity. Adding measures of spouse English fluency, education, and employment status do not affect our main findings. We ultimately decided against including them in our baseline empirical specification because it is difficult, for example, to separately identify the impact of spouse nativity from English language fluency. Having a spouse who is fluent in English is a large part of what it means to have a native-born spouse. For ease of interpretation as well as consistency with prior literature, we limit our control variables to characteristics of the immigrants themselves.

8. Quasi-experimental evidence based on the way refugees are placed in different locations in Sweden suggests that living in ethnic enclaves improves labor market outcomes for less skilled immigrants (Edin, Fredriksson, and Åslund 2003).

9. Additional results not shown here suggest that there is no discernable pattern in either the employment or working hours over the past three decades, implying that positive impacts for immigrants married to natives are channeled through wage premiums as opposed to employment premiums.

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