Intermarriage: Bringing Marriage Markets Back In

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Short Abstract

Virtually all studies of intermarriage acknowledge that local marriage market conditions constrain mate selection, yet few empirically evaluate how local marriage market conditions influence intermarriage behavior. Using data from the 2008-2011 American Community Surveys, we document variations in intermarriage patterns by couple nativity status, local marriage market conditions, and wife's education. Results from log-linear analyses show that the prevalence of intermarriage is higher in communities with low shares of co-ethnics than in communities with high shares of co-ethnics. In all marriage markets, mixed nativity couples are more likely to intermarry than same nativity couples, except in communities with imbalanced ethnic sex ratios. These differences are more pronounced in remarriages than in first marriages. Together, these findings highlight the importance of local marriage market conditions in mate selection behavior.

(128 words)

Extended abstract

Introduction

Family demographers have long asked whether the demographic composition of local marriage markets shapes mate selection behavior because this question clarifies how structural constraints modify or reproduce social and economic boundaries (Blau 1977; Choi and Mare 2012; Kalmijn 1998; Kennedy 1943; Lewis and Oppenheimer 2000; Lichter et al. 2007). Virtually all studies of intermarriage acknowledge that the demographic composition of local marriage markets constrains partnering behavior (Kalmijn 1998; Schwartz 2013). Yet, with few exceptions, empirical studies of interracial marriage seldom consider the demographic composition of local marriage markets as a dimension of mate selection behavior (notable exceptions include Fu 2003; Lichter et al. 2007; Rosenfeld 2001). Rather, studies of couple formation typically control for group size differences, which reveal how the odds of intermarriage compare with the odds of endogamy under the assumption of equal group sizes (Harris and Ono 2006). This approach prevents us from ascertaining how local marriage market constraints affect mate selection, creating discord between theoretical claims about partner availability and empirical analyses of intermarriage behavior.

To address this gap in the literature, we investigate how local marriage market conditions – characterized both by shares of co-ethics and ethnic sex ratio imbalances– influence intermarriage patterns. Specifically, using data from the 2008-2011 American Community Surveys (ACS), we first establish patterns of variation in intermarriage patterns by couple nativity status, wife's education, and wife's race/ethnicity. Next, we investigate how these intermarriage patterns differ according to local marriage market conditions. Finally, we examine whether local marriage market conditions play a different role in mate selection in first marriages and remarriages.

The extended abstract is organized as follows. We first discuss two theoretical perspectives commonly used to describe how the demographic composition in local marriage markets influences coupling behavior. We review the small number of recent studies that empirically evaluate how local marriage market conditions constrain mate selection. Following a description of the data, analytical sample, key measures, and modeling approach, we describe variations in intermarriage rates by couple nativity status, wife's education and wife's ethno-racial status. After summarizing the model selection process, we discuss results from the best-fitting models for both first marriages and remarriages, respectively. The concluding section summarizes the key findings and discusses next steps.

Background

Theoretical perspectives on the role of local marriage market conditions

Peter Blau's (1977) structural theory is frequently invoked in the marriage literature to describe how demographic composition affects mate selection. Simply put, *structural theory* argues that members of small groups have more relative out-group contacts than their counterparts who belong to larger groups (Blau 1977; Lewis and Oppenheimer 2000). More frequent interactions with members of other groups reduce social distance between groups, which in turn, increase the likelihood of intermarriage (Blau 1977; Lewis and Oppenheimer 2000). This perspective predicts that intermarriage is more common among individuals living in communities with smaller shares of co-ethnics. An additional structural constraint on mating preferences that foments exogamy is *imbalance in the number of male and female co-ethnics*.

Specifically, imbalances in the number of male and female co-ethnics in local marriage markets, as often occurs in new immigrant destinations, will increase rates of intermarriage. The shortage of co-ethnic potential partners encourages single men and women to expand their pool of potential partners beyond co-ethnics, subject to variations in social desirability.

Accordingly, we use two measures to characterize marriage markets. *Share of co-ethnics in the community* is a measure of relative group size. It is computed by dividing the number of co-ethnics by the total population size in the metropolitan area. *Sex ratio of co-ethnics* captures whether there is a sex imbalance in local marriage markets. It is constructed by computing the ratio of male to female co-ethnics in local marriage markets.

Empirical work: Local marriage markets and intermarriage

Studies of intermarriage seldom empirically operationalize local marriage market conditions. For example, Qian and Lichter (2007) attribute the retrenchment of intermarriage among Hispanics in the 1990's to high levels of immigration from Latin America and the replenishment of Hispanic potential partners. Although changes in the availability of co-ethnic partners are at the forefront of this claim, their models do not consider directly shifts in the demographic composition of local marriage markets as a correlate of partnering behavior. Rather, this claim is inferred from the increased odds of intermarriage between second and first generation Hispanics during the 1990s. Moreover, following the modal approach in the literature, their log-linear models include controls for racial composition at the national level although marriages typically occur in local markets.

A few studies of intermarriage have attempted to operationalize local marriage market conditions. Fu (2003) documents regional variations in intermarriage patterns and finds that the odds of intermarriage are highest in the West and lowest in the South. Regional disaggregation is an improvement over a national market, but cannot adequately represent variations in local marriage market conditions following the unprecedented geographic dispersal of immigrant and ethnic populations since 1980 (Fong and Shibuya 2005; Hirschman and Massey 2008; Tienda and Fuentes 2014). Lee and Boyd (2008) document variations in intermarriage patterns across US regions and Canadian provinces. These geographic units also are too crude to portray variation in local availability of co-ethnic mates. Rosenfeld's (2001, 2002) analysis of intermarriage rates across metropolitan areas better approximates local marriage markets; however, his focus on mate selection behavior across metropolitan areas does not directly investigate how variations in the demographic composition of local marriage markets influence mate selection behavior.

Three recent studies directly examine how the demographic composition of metropolitan areas influences intermarriage patterns. Harris and Ono (2005) estimate the odds of intermarriage controlling for the marginal distribution of husband and wife's characteristics in local marriage markets and compare it with the odds of intermarriage obtained under the assumption of a national marriage market. They find that odds of intermarriage are higher when they control for the marginal distribution of husband and wife's characteristics in local rather than national marriage markets. As with all log-linear models, their approach entails controlling for the count of men and women in each racial and ethnic group (in their metropolitan area of residence); and as such, based on their models, we cannot ascertain how local marriage conditions, such as relative group size or imbalances in the number of male and female co-ethnics, affect intermarriage patterns. Lichter et al. (2007) identifies the demographic factors giving rise to the

retreat of Hispanic intermarriage during the 1990's. However, they provide an incomplete assessment of intermarriage patterns by focusing on marriages between Hispanics and Whites.

In sum, although several recent studies introduced methodological innovations that yield novel insights about intermarriage behavior as US population diversification has increased, none directly considers how local marriage market conditions influence mate selection behavior across all groups. Therefore, a question that has remained largely unanswered is: *how does the demographic composition of local marriage markets influence mate selection for blacks, whites, Hispanics and Asians?*

DATA AND METHODS

Data

We pool annual micro-data from the 2008-2011 American Community Survey (ACS) to examine how local marriage market conditions influence partner selection behavior. ACS collects information about respondent's socio-demographic characteristics, migration and marital experiences, relationships of household members, and geocode identifiers for PUMA of residence. The pooled ACS data contain sufficient numbers of intermarriages to permit the disaggregation of couples according to husbands' and wives' racial and ethnic statuses, couple nativity status, wife's education, and local marriage market conditions. To ensure that we are capturing the conditions of the marriage market where the partner selection occurred, we compute *share of co-ethnics* and *sex ratio of co-ethnics* using data from the ACS 2005.[1]

This dataset is well suited to study intermarriage behavior for several reasons. First, the micro-data files of the ACS include a spousal locator, which allows us to match co-resident spouses and obtain information about the racial, ethnic, and nativity statuses of both spouses. Second, the 2005-2011 ACS data provide geographic identifiers with consistent geographic boundaries for Consolidated Public Use Micro-data Areas (Ruggles et al. 2010).[2] We use these geographic identifiers to characterize respondent's local marriage market prior to marriage. Third, the 2008-2011 ACS data included questions on the number of times respondents married and whether the marriage was formed within 12 months of the interview date. Using this information it is possible to ascertain the racial and ethnic resemblance of spouses in *recently formed* first marriages and remarriages. Finally, the ACS collected information about immigrant's year of arrival to the United States, which we use to exclude marriages formed outside of the United States.

Sample

The analytical sample consists of female and male newlyweds who transitioned into their first marriage or remarriage within 12 months of the survey date. We focus on the mate selection behavior of *newlyweds* (1) to reduce period heterogeneity in the acceptability of intermarriage; (2) to measure marriage market conditions prior to marriage; and (3) to minimize biases that result from differences in marital dissolution rates between interracial and same race unions. We further restrict the analytic sample to marriages formed in the United States to ensure that the observed mate selection behavior is shaped by the constraints of US local marriage markets. The sample includes unions formed between non-Hispanic (NH) White, NH Black, Hispanic, and NH

[1] A portion of newlyweds may have moved after marriage or subsequent to marriage; however, consistency checks using the 2006 and 2007 ACS produced virtually identical results.

[2] We exclude 2012 ACS because the PUMA boundaries reported in 2012 are not consistent with the PUMA boundaries reported between 2005 and 2011.

Asian spouses, but excludes Native Americans because all are US-born by definition. Spouses whose ethnicity is designated "NH Other" also are excluded because it is impossible to ascertain whether marriages between two NH Other spouses represent interracial or endogamous marriages. Finally, we exclude observations with missing data on covariates of interest.

The final analytical sample is divided into a subsample of first marriages and a subsample of remarriages. The subsample of first marriages is comprised 36,328 newlyweds where both spouses are in their first marriage, of which 32,238 are endogamous unions and 4,090 are interracial unions. The subsample of first marriages is comprised 14,804 newlyweds where both spouses are in a remarriage, of which 13,581 are endogamous unions and 1,123 are interracial unions.

Operational Definitions

Previous studies identify nativity status, education, and composition of local marriage markets as key dimensions of intermarriage patterns. Table 1 summarizes these covariates and provides their associated abbreviations.

Wife's race/ethnicity. Using self-reports of race and ethnicity, we classify female respondents into four categories: (1) NH Whites, (2) NH Blacks, (3) Hispanic; (2) NH Asians. *Husband's race/ethnicity* is constructed in an analogous fashion.

Couple nativity status. Respondents are classified into three categories based on partners' joint nativity status: (1) both spouses are US-born; (2) mixed nativity couples; and (3) both spouses are foreign-born. For simplicity, we refer to couples where both spouses are US-born as "native-born couples" and couples where both spouses are foreign-born as "immigrant couples".

Local marriage market conditions. Using PUMAS to represent local marriage markets, we define four categories to represent the demographic composition of the marriage markets and classify respondents accordingly: (1) areas with small shares of co-ethnics but a balanced sex-ratio; (2) areas with small shares of co-ethnics and an imbalanced sex-ratio; (3) areas with high shares of co-ethnics and an imbalanced sex-ratio; and (4) areas with high shares of co-ethnics but a balanced sex-ratio. We designate PUMAS where the share of co-ethnics is at the 67^{th} percentile or above to be locales with *large* shares of co-ethnics and others as locales with *small* shares of co-ethnics. We designate PUMAS where the ratio of male and female co-ethnics exceeds 1.2 or is below 0.8 as marriage markets with imbalanced sex ratio and the remaining PUMAs are markets with a balanced sex ratio.

Wife's education classifies respondents into three categories according to completed years of schooling: (1) High school or less; (2) some college; and (3) college degree or more.

Table 1 goes here.

Analytical Plan

After describing how the marital experiences and intermarriage patterns vary according to respondent's race or ethnicity, couple nativity status, and local marriage market conditions, we construct a 576-cell contingency table for each marriage subsample by cross-classifying husband's race/ethnicity by wife's race/ethnicity, couple nativity status, local marriage market condition, and wife's education (4 x 4 x 3 x 4 x 3). To measure associations between husbands' and wives' ethnicity in both first marriages and remarriages, we use these contingency tables and estimate log-linear intermarriage models for both first marriages and remarriages, which describe variations in intermarriage patterns according to individual traits and local marriage market conditions. Log-linear models depict mate selection behavior, net of differences in the marginal

distribution of each spouse's characteristics and local marriage market conditions (Choi and Mare 2012; Schwartz and Mare 2005; Mare 1991).

The baseline model assumes that the association between husband's and wife's race or ethnicity does not vary by couple nativity status, wife's education, and local marriage market composition. Formally, the baseline model is:

$$\log(n_{hwaem} \ / \ t_{hwaem}) = \lambda_h^H + \lambda_w^W + \lambda_e^E + \lambda_c^C + \lambda_m^M + \lambda_{hw}^{HW} + \lambda_{he}^{HE} + \lambda_{hc}^{HC} + \lambda_{hm}^{HM} + \lambda_{we}^{WE} + \lambda_{wc}^{WC} + \lambda_{wm}^{WM}$$
$$+ \lambda_{ec}^{EC} + \lambda_{em}^{EM} + \lambda_{cm}^{CM} + \lambda_{ecm}^{ECM} + \lambda_{hec}^{HEC} + \lambda_{wec}^{WEC} + \lambda_{hem}^{HEM} + \lambda_{wem}^{WEM} + \lambda_{hcm}^{HCM} + \lambda_{wcm}^{WCM}$$

where H is husband's race/ethnicity (h =1, 2, 3, 4); W is wife's race/ethnicity (w =1, 2, 3, 4); A is couple nativity status (a=1, 2, 3, 4); E is levels of education (e=1, 2, 3); and M is share of co-ethnics in local marriage market conditions (m=1, 2, 3, 4). The outcome n_{hwcem} is the expected number of marriages between wives in racial or ethnic category w and husbands in racial and ethnic category h with education e, couple nativity status c, and local marriage market composition m. To ensure that our estimates of marital sorting can be generalized to the US population, each model incorporates person weights using offset t_{hwcem}, which is equal to the inverse of the total weighted frequency of the cell divided by the unweighted cell (Schwartz and Mare 2005).

Subsequent models allow for variations in the association between husband's and wife's race or ethnicity by education, couple nativity status, or local marriage market compositions. The intermarriage model is given by:

$\log(n_{hwcem}/t_{hwcem})$= Baseline model + $\gamma_{ic}^{IC}(+ \gamma_{im}^{IM}/\gamma_{ie}^{IE})$

where I=1 if husbands and wives belong to the same race/ethnic group, and 0 otherwise; γ_{ic}^{IC} estimates variation in the odds of endogamy for couple nativity status c; and $\gamma_{im}^{IM}/\gamma_{ie}^{IE}$ are defined analogously for marriage market conditions in PUMA m and wife's education e. The endogamy parameter measures the log odds of intermarriage relative to the log odds of endogamy.

Intermarriage rates: descriptive tabulations

Table 2 displays intermarriage rates for newlyweds in first marriages and remarriages, disaggregated by wife's race or ethnicity, couple nativity status, and local marriage market conditions. Tabular results are consistent with theoretical claims that intermarriage is more common among members of smaller groups because the relative frequency of interaction across group lines is higher among them than it is among members of large groups (Blau 1977). For example, about a quarter of men and women living in communities with small shares of co-ethnics and a sex ratio imbalance out-marry, as compared with a tenth of their peers living in communities with large shares of co-ethnics and a sex ratio imbalance. We find partial support for the argument that imbalanced ethnic sex ratio foments intermarriage: intermarriages are more common when there is an imbalance in the sex ratio of co-ethnics, but this is only observed in communities with small shares of co-ethnics. When confronted with a shortage of marriageable men, members of small groups may be more willing to relax their adherence to enduring norms for endogamy due to their frequent interaction and closeness with members of other racial and ethnic groups. These averages conceal appreciable variation according to nativity status, race, and educational attainment.

Table 2 goes here.

Consistent with recent estimates, Hispanic and Asian women exhibit higher exogamy rates than their White and Black counterparts (Wang et al. 2012). For example, in locales with small shares of co-ethnics and imbalanced ethnic sex ratio, 33 percent of Hispanic and 47 percent of Asian women married out, as compared with 13 percent of Whites and 16 percent of Blacks. These patterns of racial and ethnic variation are observed consistently in all marriage market types.

Exogamy levels are highest among mixed nativity couples and lowest among immigrant groups across all marriage markets. For example, among couples living in locales with large shares of co-ethnics and a balanced sex ratio, a quarter of mixed nativity couples are in interracial unions, as compared with 11 percent of native-born couples and 3 percent of immigrant couples. This finding indicates that individuals willing to cross the nativity boundary in marriage are also more predisposed likely to cross a racial and ethnic boundary than their counterparts who sort within nativity groups.

Marrying out is more common among better-educated men and women. For example, in communities with large shares of co-ethnics and a balanced co-ethnic sex ratio, 16 percent of college graduates married exogamously as compared with 8 percent of high school graduates. The only exception to this pattern is observed in communities with small shares of co-ethnics but a balanced co-ethnic sex ratio: 13 percent of women with some college degree or less versus 9 percent of college graduates intermarried. These finding is consistent with prior research (Qian and Cobas 2006; Qian and Lichter 2007; Xie and Goyette 2004).

Mate selection behavior in remarriage is very similar to that observed for first marriages. Even the second time around, intermarriages are more common in locales with small shares of co-ethnics and in communities with an imbalance in the number of male to female co-ethnics. The pattern of variation is consistent across education and racial and ethnic categories, with the notable exception that racial and ethnic differences in women's exogamy levels are larger in remarriages compared with first marriages.

The diversification of the US geographic landscape through fertility and internal migration has altered opportunities for mating behavior (Hirschman and Massey 2008; Tienda and Fuentes 2014). Descriptive tabulations cannot reveal to what extent the intermarriage patterns reflect differences in social desirability of racial or ethnic groups or group size differentials that determine the extent of out-group contact (Lewis and Oppenheimer 2000; Harris and Ono 2005; Schwartz 2013). Therefore, in the section that follows, we use log-linear analysis to document the prevalence of intermarriage independent of the effects of group size differentials on intermarriage rates.

Log-linear Analysis

Goodness of fit

Table 3 presents the fit statistics for several log-linear model specifications, including both log-likelihood ratios and Bayesian information criterion (BIC) statistics for model fit. Due to the large sample size, we rely primarily on BIC statistics to select the best-fitting model (Raftery 1995).[3] More negative BIC statistics indicate a better fitting model. To avoid

[3] Reported log-likelihood ratios yield the same conclusions as those based on the BIC statistics.

redundancy, we describe in greater detail the fit of models estimated using the subsample of first marriages and then assess how model fit differs between first marriages and remarriages.

Table 3 goes here.

Model 1, which is our baseline model, assumes that the odds of intermarriage (I) do not vary according to couple nativity status, wife's education, and local marriage market composition. The positive BIC statistic indicates that the baseline model fits the data worse than the saturated model.

Models 2 to 4 are additive models that successively include two-way interaction terms between the intermarriage parameter and covariates of interest (i.e., wife's education, couple nativity status, and local marriage market conditions). All two-way interaction terms improve model fit, suggesting that wife's education, couple nativity status, and local marriage market conditions are important determinants of partner selection behavior in first marriages. Fit statistics reveal that the interaction between the intermarriage parameter and couple nativity status (IC) yields the largest improvement in model fit and the interaction term between the intermarriage parameter and education (IE) yields the smallest improvement in fit.

Model 5, adds the three-way joint interaction of endogamy, couple nativity status, and marriage markets (ICM), further improves fit, and thus is the preferred model to describe mate selection behavior in first marriage.

The fit of models describing partner selection processes in remarriage is similar with that of first marriages with two notable differences: (1) the baseline model yields a negative BIC, which means that it is a better fitting model than the saturated model and (2) ICM does not improve model fit. Thus, Model 4 is preferred to describe remarriage behavior.

Intermarriage by couple nativity status and local marriage market conditions

Table 4 demonstrates how the odds of being in an interracial marriage vary according to couple nativity status and local marriage market conditions. These estimates, which are derived from the best-fitting models (Model 5 for first marriages and Model 4 for remarriages), are generally consistent with the descriptive results reported in Table 2.

Table 4 goes here.

That intermarriage is more common in communities with smaller compared with larger shares of co-ethnics is consistent with the tenets of *structural theory* regarding how relative group size constrains marital sorting behavior. For example, among mixed nativity couples, the odds of marrying a first spouse from a different ethno-racial group are 71 percent higher in communities with small shares of co-ethnics and a balanced sex ratio than the corresponding odds in communities with large shares of co-ethnics and a balanced sex ratio: [100*(0.262-0.152)/0.262=71].

Net of group size differences, singles living in areas with an imbalance in the number of male and female co-ethnics intermarry at higher rates relative to their peers residing in more balanced co-ethnic marriage markets. This finding is inconsistent with our descriptive analysis and the predictions from the sex ratio theory. It is possible that this pattern arises because our sex ratios do not consider age or because the data cannot support such a fine-grained specification of marriage market conditions. We will ascertain the source of this unexpected finding in more advanced versions of this paper.

Mixed nativity couples are more likely than same nativity couples to intermarry. In communities with small shares of co-ethnics and a balanced sex ratio, the odds of intermarriage for mixed nativity couples in their first marriages are 60 percent higher than the corresponding

odds for native-born couples : [100*(0.262-0.163)/0.262=60]. This finding is consistent with claims by Qian and Lichter (2001) that individuals who cross the nativity boundary are also more likely to cross racial and ethnic boundaries in marriages.

Overall, the pattern of variation in intermarriage patterns is similar in first marriage and remarriages. Exogamy is less common in communities with high shares of co-ethnics than in locales with small shares of co-ethnics; furthermore, mixed nativity couples intermarry at higher rates than do their same race counterparts.

Summary

The intermarriage literature has generated many novel insights about mate selection behavior. This literature, however, offers an incomplete story about social integration of major ethno-racial groups because they seldom look at the impact of local marriage market conditions. To fill this gap in the literature, we document variations in intermarriage patterns according to couple nativity status and local marriage market conditions. Preliminary results from this study yield several noteworthy findings with important theoretical implications.

First, we find that individuals living in communities with low shares of co-ethnics are more likely to intermarry than their counterparts living in communities with high shares of co-ethnics. This finding is consistent with the *structuralist* view that intermarriage rates are higher among members of small groups due to their high relative frequency of interaction with members of other groups and the resulting closeness across groups.

Second, we find mixed support for the view that imbalances in the number of male and female co-ethnics in local marriage markets foment intermarriage. In descriptive analysis, we find that intermarriage is more common in some locales with imbalances in the ethnic sex ratio than in locales with a more even distribution; whereas, we find the opposite in log-linear analysis. In more advanced versions of the paper, we will ascertain what is giving rise to contrasting findings.

Finally, mixed nativity couples are more likely to intermarry across ethno-racial lines compared with, respectively ordered, native-born and immigrant couples. This finding reinforces claims that those who cross the nativity boundary are also more likely to cross racial and ethnic boundaries in marriage (Qian and Lichter 2001).

Next steps

Between now and PAA, we intend to conduct additional analyses that will strengthen our understanding of how local marriage market conditions shape intermarriage patterns. First, our current measure of imbalance in number of male and female co-ethnics does not consider characteristics, such as age or education, which are known to constrain women's marriage market in addition to race or ethnicity. We will construct alternate measures of market conditions to identify the source of unexpected results, namely that intermarriage is less common in areas with an imbalance in the number of male and female co-ethnics. Second, we have restricted our analysis to couples where husbands and wives have the same marital experience. There are, however, a third group of couples where one spouse is in their first marriage but the other spouse is not. We intend to examine the impact of local marriage market conditions on their marriage market conditions. We are confident that we can achieve these goals by PAA.

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Tables

Table 1. Variable Descriptions

Construct	Abbreviation	Categories /Operationalization
Race/ethnicity		
Husband's race/ethnicity	H(h)	(1) NH White
		(2) NH Black
		(3) Hispanic
		(4) NH Asian
Wife's race/ethnicity	W(w)	(1) NH White
		(2) NH Black
		(3) Hispanic
		(4) NH Asian
Education level		
Wife's education	E (e)	(1) High school or less
		(1) Some college
		(2) College graduates or more
Migration experience		
Couple nativity status	C (-c)	(1) Both spouses are US-born
		(2) Mixed nativity status
		(3) Both spouses are foreign-born
Local marriage market conditions		
Demographic composition of	M(m)	(1) Small shares of co-ethnics but balanced sex ratio
local marriage market		(2) Small shares of co-ethnics but imbalanced sex ratio
		(3) High shares of co-ethnics but balanced sex ratio
		(4) High shares of co-ethnics but balanced sex ratio
Share of co-ethnics		Large: Percent of co-ethnics at 67th percentile or above
		Small: Percent of co-ethnics below 67th percentile
Sex ratio		Imbalance: Ratio of male to female co-ethnics exceeds 1.2 or is below 0.8
		Balance: Ratio of male to female co-ethnics is between 0.8 and 1.2

Table 2. Intermarriage rates by wife's characteristics and local marriage markets, newlyweds

	First marriage				Remarriage			
	Small		Large		Small		Large	
	Balance	Shortage	Balance	Shortage	Balance	Shortage	Balance	Shortage
Total	11	25	12	10	7	33	10	9
Couple migration status								
US-born	8	26	11	7	5	29	7	6
Mixed nativity	39	46	26	29	30	58	42	45
Foreign-born	8	5	3	4	14	1	5	7
Women's education								
HS graduate	13	19	8	7	8	34	7	7
Some college	13	29	12	10	7	29	11	7
College graduate	9	30	16	13	7	35	15	17
Wife's ethnorace								
White	9	13	4	4	6	10	2	0
Black	19	16	7	6	14	17	9	3
Hispanic	39	33	18	23	59	66	29	68
Asian	46	47	31	38	77	80	45	71
N	*20,067*	*1,191*	*13,493*	*1,576*	*8,890*	*326*	*4997*	*597*

TABLE 3. Fit statistics for log-linear models of intermarriage patterns

		First marriage			Remarriages		
Model	**Specification**	**d.f.**	**Log-likelihood**	**BIC**	**d.f.**	**Log-likelihood**	**BIC**
1	Baseline + I	315	-2,986	1,036	315	-1,356	-1,331
2	Model 1 + IE	313	-2,946	975	313	-1,342	-1,341
3	Model 2 + IC	311	-2,031	-833	311	-1,111	-1,784
4	Model 2 + IC + IM	308	-1,785	-1,292	308	-1,005	-1,966
5	Model 4 + ICM	302	-1,675	-1,450	302	-993	-1933

Source: 2008-2011 American Community Survey
Samples: Marriages formed within 12 months of interview date

Notes:
a) Percentages are weighted.
b) Numbers are not weighted.
c) Both spouses had to be in first marriages or remarriages to belong to the two subsamples.
d) The abbreviations denotes the following:
I : Intermarriage
E : Women's education
C: Couple migration status
M: Marriage market conditions 768
e) The preferred models are in grey.

TABLE 4: Odds of intermarriage by couple nativity status and local marriage market conditions

Couple migration status	Small		Large	
	Balance	Shortage	Balance	Shortage
I. First marriages				
Both USB	0.163	0.091	0.049	0.017
Mixed	0.262	0.009	0.152	0.004
Both FB	0.001	0.000	0.014	0.000
II. Remarriages				
Both USB	0.122	0.017	0.036	0.001
Mixed	0.200	0.033	0.069	0.000
Both FB	0.002	0.000	0.000	0.000

Source: 2008-2011 American Community Survey

Samples: Marriages formed within 12 months of interview date

Notes:

a) Reference group is couple where both spouses are US-born living in communities with smaller shares of co-ethnics and lower percentages of immigrants.

b) The ratios are computed based on the coefficients obtained from the preferred models.

c) Groups showcase the number of marriages that occurs given that there are 1000 intermarriages in the reference group.