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ABSTRACT

The Value of a Green Card in the U.S. Marriage Market: A Tale of Chain Migration?*

This study examines the impact of having a clear path to lawful permanent resident status, or a "green card," and naturalized citizenship on marital status and spousal characteristics among Chinese immigrants in the United States. A series of U.S. policy changes in the early 1990s made all mainland Chinese immigrants already present in the country eligible for a green card. We examine the effect of those policy changes on Chinese immigrants' marriage market outcomes relative to other East Asian immigrants. Using 1990 and 2000 U.S. Census data, we find that the share of Chinese immigrants who are married increased after they became automatically eligible for a green card. In particular, highly educated Chinese immigrants became relatively more likely to be married with a spouse living with them and relatively less likely to be married with a spouse living elsewhere. This pattern suggests that some Chinese spouses immigrated after their husband or wife received legal status, or spousal chain migration occurred. We also find that highly educated Chinese immigrants benefited in the marriage market in terms of spousal education and earnings, but less-educated Chinese immigrants did not. Meanwhile, less-educated Chinese-born women became relatively more likely to marry a U.S. native.

JEL Classification:	J12, J15, K37
Keywords:	immigration, marriage markets, assortative matching, legal status, China

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1 Introduction

Having lawful permanent resident status or naturalized citizenship confers several benefits on immigrants in the United States. Those immigrants are able to work for any employer, are shielded from the risk of being deported, and are eligible for more government transfer programs, among other rights and privileges. They are also able to sponsor a foreign-born spouse and certain other relatives for U.S. permanent residence. Immigrants who acquire lawful permanent resident status – a "green card" – or naturalized citizenship in the United States experience substantial gains in the labor market (e.g., Bratsberg et al., 2002; Mukhopadhyay and Oxborrow, 2012). Those immigrants may experience gains in the marriage market as well: Being a green-card holder or naturalized citizen may make an immigrant a more desirable potential spouse, increasing the likelihood they marry and the "quality" of their spouse.

This study examines the marriage market effects of an unanticipated series of U.S. policy changes that ultimately enabled mainland Chinese immigrants already present in the United States to receive a green card. In the wake of the 1989 Chinese student protest movement and events in Tiananmen Square, the U.S. government implemented policy changes that allowed all Chinese nationals already in the United States to remain indefinitely and gave them permission to work legally. The Chinese Student Protection Act (CSPA) of 1992 made those Chinese nationals eligible for a green card, which would in turn allow them to eventually apply for naturalized citizenship. Among highly educated Chinese immigrants who were the targeted beneficiaries of those policy changes, employment and earnings rose relative to otherwise-similar immigrants from other East Asian countries (Orrenius et al., 2012).[1] This study examines whether marriage-related outcomes also improved for Chinese immigrants. Specifically, we examine whether Chinese immigrants who likely benefited from the U.S. policy changes became more likely than their East Asian counterparts to be married and

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[1]We refer to immigrants from mainland China as "Chinese" throughout and distinguish them from immigrants from Hong Kong and Taiwan since the latter two groups were not covered by the U.S. policy changes.

whether their spouses were closer in age, had more education, and earned more – characteristics generally considered desirable in the marriage market (Furtado and Trejo, 2013; Mansour and McKinnish, 2017). We also examine spousal nativity and ethnicity.

Our study offers insight into several policy-relevant questions. The first is whether having legal status is valuable in the marriage market. If so, Chinese immigrants covered by the policy changes should have become more likely than other East Asian immigrants to get married and their spouses should be more desirable in terms of age, education, earnings, and ethnicity. The second question is whether immigrants who can acquire legal status on their own put less priority on marrying a U.S. native, who would be able to sponsor the immigrant for legal status. Chinese immigrants who received green cards under the CSPA did not need to enter into a "green-card marriage" to a U.S. native to get legal status, so they may have become relatively less likely to marry a U.S. native or to trade off other desirable spousal characteristics for legal status. A related question is whether immigrants who receive legal permanent residence bring over a spouse from their origin country. Chinese immigrants may have become more likely than other East Asian immigrants to engage in this form of "chain migration" since CSPA beneficiaries became eligible to sponsor their spouse for a green card. Some of these spousal chain migrants may have already been married to their CSPA-beneficiary spouse but were still living in China, while others may have been new marriages.[2]

This study makes several contributions to the literature. We examine a plausibly exogenous source of variation in legal status since the U.S. policy changes conferred legal status on all Chinese immigrants already present in the country.[3] Previous studies of the role of legal status in the U.S. marriage market face the challenge that legal status is correlated with unobserved personal characteristics that are also related to marriage market outcomes. Further, immigrants with legal status tend to have better labor market outcomes and, in

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[2]Adserà and Ferrer (2015) refer to the latter as "imported brides" since the majority of those spouses are women.

[3]Immigrants who arrived after the U.S. policy changes regarding Chinese immigrants in 1990 were not covered by the policies. The policy changes therefore were unlikely to induce strategic migration.

turn, labor market outcomes affect marriage market outcomes and vice versa (e.g., Chi, 2017; Chi and Drewianka, 2014). This endogeneity makes it difficult for researchers to identify the effect of legal status on marriage market outcomes. Only two previous studies, both about Italy, examine the effects of a plausibly exogenous change in legal status on immigrants' marriage market outcomes (Adda et al., 2020; Azzolini and Guetto, 2017); our study adds the first such examination for the United States.

Second, our study gives new insight into whether some immigrants compromise on other spousal characteristics in order to marry a U.S. native and get a green card. Previous research shows that Hispanic immigrants who are likely unauthorized are more likely to marry U.S. natives when immigration enforcement is tighter since those marriages can help them acquire legal status and protect them from immigration enforcement (Amuedo-Dorantes et al., 2020; Wang and Wang, 2012).[4] Among immigrants married to U.S. citizens, those who face longer wait times for visas through channels other than marriage to U.S. citizens – who can sponsor them for a green card immediately – tend to be married to spouses with less education (Dziadula, 2022). This suggests some immigrants are willing to trade spousal quality for legal status. This tradeoff may be common among international students from Asia, who allegedly often marry co-ethnic U.S. citizens or permanent residents for a green card (Min and Kim, 2009). Many of the Chinese immigrants who benefited from the CSPA were U.S. graduate students at the time.

Lastly, we add to the literature an examination of spousal chain migration among East Asian immigrants. Chain migration commonly refers to immigrants sponsoring their family members for permanent resident visas, who then sponsor additional family members, and so on. Family-based admissions account for the vast majority of U.S. permanent resident visas issued each year. Although sometimes viewed negatively, many highly skilled people receive a green card on the basis of family ties, particularly spousal ties (Jasso and Rosenzweig,

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[4]Bansak and Pearlman (2022) find that stricter immigration enforcement in the form of increased deportations also appears to increase immigrants' likelihood of being married to a co-ethnic despite reducing the number of co-ethnics, suggesting that immigrants' networks become more focused on co-ethnics when immigration enforcement is more strict.

1995; Jasso et al., 2000). Since many of the Chinese immigrants who benefited from the CSPA were highly educated, any spouses they brought over may have been highly educated as well. Little research examines chain migration due to marriage.[5] In particular, we are not aware of any studies that examine whether immigrants appear to bring over a spouse after receiving a green card and the characteristics of those spouses.

The large population of East Asian immigrants in the United States enhances the relevance of this study. In the 2010s, Asia was the most common region of origin for new immigrants to the United States, and Asian Americans were the fastest-growing racial/ethnic group there (Budiman and Ruiz, 2021). China was the second most common origin country for new immigrants that decade, following only India (Hanna and Batalova, 2021). As with all immigrants, whether those Asian immigrants intermarry may have implications for their social and economic integration into the United States. Immigrants who marry U.S. natives typically have better labor market outcomes, although whether this is due to positive selection is unclear (Furtado and Theodoropoulos, 2009; Kantarevic, 2004). Immigrants' marital patterns may also affect whether they return migrate and the racial/ethnic makeup and intergenerational assimilation of their descendants, among other outcomes. Our findings may have implications not only for the United States but also for origin countries if some of the immigrants we examine engage in return migration. China, in particular, was encouraging its skilled expatriates to return and offering them incentives to do so in the 2000s (Zweig and Wang, 2013).

The remainder of this paper is organized as follows: Section 2 provides additional background on U.S. immigration policy and discusses how the policy changes on which we focus would be expected to affect Chinese immigrants' marital patterns in the context of the literature on marriage markets and assortative matching. Section 3 gives an overview of the data and explains our empirical strategy. Section 4 discusses the regression results. Section 5 concludes.

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[5]A notable exception is Balistreri et al. (2017), who examine age differences between spouses by citizen/non-citizen status.

2 Background

The large and growing literature on immigrants' marital patterns indicates that some, but not all, U.S. immigrants marry U.S. natives. Whether this reflects individual preferences, the availability of potential spouses, or is a consequence of U.S. immigration policies requires understanding those policies and the broader literature on marriage markets.

2.1 Background on U.S. Immigration Policy

The United States grants permanent resident visas in three main categories: family based, employment based, and humanitarian. Complicated rules govern who is eligible within each of those main categories. Most potential immigrants who lack a family member or employer who can sponsor them for a green card do not have any other way to get a permanent resident visa, especially if they are not eligible for admission on humanitarian grounds or for the diversity visa lottery. Even many potential immigrants who have a family member or an employer willing to sponsor them face a long wait for a visa because of numerical caps on number of visas available in most categories each fiscal year. Immigrants from countries with very large numbers of immigrants, such as China, may face an additional wait because of country-of-origin caps on the number of visas.[6] The only major admissions category that does not have any numerical cap is immediate relatives of U.S. citizens. This gives potential immigrants an incentive to marry a U.S. citizen in order to receive a green card quickly, especially those who face country caps in other admissions categories (Dziadula, 2022).

The United States occasionally uses immigration policy to support its geopolitical interests. Its actions in the early 1990s regarding Chinese immigrants are a case in point. Soon after violent events and deaths at student protests in Beijing in June 1989, President George H.W. Bush announced a deferred enforced departure policy towards Chinese immigrants

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[6]Immigrants from all countries, including China, faced a backlog if petitioning as the spouse of a permanent resident (second preference) or as a member of the professions or person of exceptional ability (third preference) prior to the Immigration Act of 1990; after that Act raised the caps on employment-based admissions, Chinese immigrants faced backlogs in the EB-2 category by June 1992 and in the EB-3 category by July 1992.

already present in the United States.[7] Under this policy, Chinese nationals would not be involuntarily returned (deported) to China if they lacked legal presence in the United States or if their visa expired. About 80,000 Chinese immigrants applied for protection under the policy. In April 1990, the Bush administration issued an executive order that extended the deferred deportations program and granted eligible Chinese immigrants work authorization. In October 1992, the Chinese Student Protection Act (CSPA) was signed into law. The CSPA allowed all Chinese nationals who were present in the United States in April 1990 to apply for lawful permanent residence (a green card). Over 53,000 Chinese immigrants ultimately received green cards under the CSPA.

Two main groups of Chinese immigrants benefited from the CSPA and the related earlier measures: Chinese graduate students and unauthorized Chinese immigrants. In 1990, there were over 40,000 Chinese students and scholars present in the United States with temporary visas, plus another roughly 70,000 unauthorized immigrants from China. Absent the CSPA, Chinese students who wanted permanent resident status would have had to find an employer or relative willing and able to submit a green card petition. Many of those students presumably would have been able to secure a temporary foreign worker visa under the H-1B program, which was created by the Immigration Act of 1990 and became operational in fiscal year 1992, and then eventually a green card via one of the employment-based categories. However, the U.S. policy changes removed any uncertainty about future immigration status and sped up the green card process for those Chinese beneficiaries. The policy changes also enabled those beneficiaries to work for any employer, not just one willing to sponsor them for a temporary or permanent visa. Meanwhile, unauthorized Chinese immigrants presumably lacked an employer or relative who could sponsor them for a green card. Those beneficiaries suddenly got the right to work legally and then a clear pathway to permanent resident status. Both groups of immigrants became able to sponsor a foreign-born spouse for a green card after they themselves received one.

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[7]For additional details on U.S. immigration policy and the number of Chinese immigrants during this period, see Orrenius et al. (2012) and references therein.

As noted above, the policy changes led to gains in employment and earnings between 1990 and 2000 for highly educated Chinese immigrants – those who had at least a bachelor's degree – relative to other East Asian immigrants (Orrenius et al., 2012). Highly educated Chinese-born women who were eligible for the CSPA continued to experience relative gains in the U.S. labor market during 2001-2017 (Su et al., 2019). How those Chinese immigrants, and their less-educated counterparts, fared in the marriage market is an open question.

2.2 Marriage Markets: Conceptual Framework for Assortative Matching

In his pioneering work on the economics of marriage, Becker (1973, 1974) develops a model of the marriage market in which individuals aim to maximize their gains from marriage. In equilibrium, couples match on traits that are complements in the production of household goods.[8] Becker gives education, race, and age, among others, as traits on which couples are likely to sort. The sorting can be positive, in which case couples have similar traits, or negative, in which case couples have opposing traits. Either way, couples match in ways that maximize the joint gains from marriage, and intra-couple transfers enable a spouse who gains more from a marriage to compensate one who gains less.

Keeley (1977) extends Becker's model of the marriage market to incorporate search costs. Because of search costs, marriage market participants may not be able to make optimal matches. Market participants then decide what tradeoffs they are willing to make and prioritize the characteristics they value the most in potential spouses. The "thicker" a marriage market is, or the more potential spouses with whom people can match, the lower participants' search costs. People then are more likely to make matches and the better those matches are likely to be, or the fewer tradeoffs people will have to make. Couples will display stronger sorting, either positive or negative, the thicker the marriage market is.

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[8]Couples also may match on traits are complementary in the consumption of goods (Lam, 1988). See Mansour and McKinnish (2017) for an overview of models of assortative matching in marriage markets.

These models of marriage markets and assortative matching apply to immigrants in several key ways. First, many immigrants appear to view having the same ethnicity as a desirable, or complementary, trait and therefore prioritize marrying someone from the same origin country or, failing that, a co-ethnic who was born in the destination country. Marriage patterns suggest this preference for marriage to a co-ethnic – an endogamous marriage – is stronger among immigrants who arrived more recently or at older ages (e.g., Kantarevic, 2004; Chiswick and Houseworth, 2011; Furtado and Trejo, 2013). In the United States, Asian immigrants appear to have a stronger preference than most other groups for endogamy (Qian et al., 2001; Foad, 2018). Chinese and Korean immigrant men have particularly high rates of marrying co-nationals (Lichter et al., 2015).

Endogamy typically decreases with education, but Asian immigrants are an exception. Highly educated Asian immigrants are more likely than their less-educated counterparts to have endogamous marriages (Qian and Qian, 2020). This may mean that highly educated Asian immigrants put more priority on spousal ethnicity than their less-educated counterparts do. Alternatively, this pattern may reflect the thickness of co-ethnic local marriage markets. The thickness of co-ethnic local marriage markets for immigrants is typically measured using the share of the local population composed of co-ethnics of the opposite sex and the sex ratio among co-ethnics in the local area. A higher co-ethnic share among the opposite sex should increase the likelihood that immigrants marry a co-ethnic and reduce the tradeoffs that immigrants otherwise might have to make between ethnicity and other desirable spousal characteristics. A higher male/female sex ratio should create a more favorable marriage market for women, increasing the likelihood that they marry and reducing the tradeoffs that they need to make, while having the opposite effect among men (Becker, 1973). Empirical evidence on U.S. immigrants tends to support these predictions (e.g., Angrist, 2002; Chiswick and Houseworth, 2011).[9] The large number of highly educated Asian

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[9]However, there is also evidence that the co-ethnic sex ratio has little impact on endogamous marriage among the second generation or among immigrants who arrived in the U.S. as children (Kalmijn and Van Tubergen, 2010).

immigrants in some parts of the United States may explain why highly educated Asian immigrants are more likely than their less-educated counterparts to marry co-ethnics (Kalmijn, 2012). Thick marriage markets also may enable some Asian immigrants to not have to make tradeoffs between ethnicity and other characteristics in potential spouses.

A second application of the marriage market models is with regard to immigrants' legal status. Immigrants who lack legal status or have only a temporary visa may prioritize marrying someone who can sponsor them for a permanent visa. Marriage to a U.S. native or a legal immigrant is the key pathway for many unauthorized immigrants to receive legal status, particularly prior to U.S. policy changes during the late 1990s that made it difficult for unauthorized immigrants already living in the country to adjust to legal status (Smith Kelly, 2010). The marriage market models outlined above also predict that immigrants who lack legal status or have a temporary visa will be more willing than other immigrants to trade other desirable spousal characteristics, such as education, for U.S. citizenship or permanent residence among potential spouses. Dziadula (2022) finds evidence consistent with immigrants trading off spousal education for U.S. nativity. Adda et al. (2020) conclude that, in Italy, immigrants from EU-accession countries became less willing to trade off spousal age and education for Italian nativity after their own country joined the EU.

"Green-card marriages" also can be conceptualized as a form of status exchange. As formulated by Davis (1941) and Merton (1941), status exchange occurs when minority group members trade their high socioeconomic status for the high social status of majority group members. Immigrants may effectively exchange their own desirable socioeconomic traits for a spouse's U.S. citizenship or permanent resident status, which enables them to sponsor the immigrant for a green card. If this form of status exchange occurs, immigrants who need a green card will tend to have higher levels of education than their spouses and therefore have hypogamous marriages with respect to education. In addition, immigrant men will be older relative to their wives if women view an older husband as desirable, while immigrant women will be younger relative to their husbands if men view a younger wife as desirable; either

way, the age gap between spouses will be larger. However, if spouses prefer someone near their own age, as suggested by Mansour and McKinnish (2017), the age gap between spouses might be smaller. Choi et al. (2012) report results consistent with status exchange along education-nativity lines in the United States, particularly among immigrant men.[10] However, Liang and Ito (1999) find little evidence of status exchange among Asian immigrant men in New York City area.

The marriage market models outlined above can predict that Chinese immigrants who were covered by the U.S. immigration policy changes in the early 1990s became more likely to marry for several main reasons. First, Chinese immigrants who were highly educated saw their labor market outcomes improve, making them more desirable spouses. Second, the CSPA removed any uncertainty among Chinese immigrants about whether they would be able to stay in the United States. This certainty, together with their better labor market outcomes, may have increased not only their desirability as spouses but also their own desire to marry. Third, CSPA beneficiaries became more desirable spouses to potential immigrants because they became able to sponsor a foreign-born spouse for a permanent resident visa after they received their own permanent resident visa.

However, the marriage market models can also predict that Chinese immigrants did not become more likely to get married in the wake of the immigration policy changes. Immigrants who would have entered into a green-card marriage in order to obtain legal status no longer needed to do so. Higher returns to education and higher earnings might have caused some Chinese immigrants to become more selective in the marriage market, slowing their transition into marriage and dampening the increase in the marriage rate among Chinese immigrants during the decade.

The marriage market models predict that Chinese immigrants made better matches after they gained legal status and, among the highly educated, their labor market outcomes improved. Further, CSPA beneficiaries no longer needed to trade off other spousal charac-

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[10]In addition, Behtoui (2010) reports evidence consistent with status exchange in marriages between Swedish natives and non-Western male and female immigrants.

teristics for the ability of a spouse to sponsor them for a green card. They also no longer needed to engage in status exchange of their own desirable characteristics for the ability of a spouse to sponsor them. We therefore expect to see better spousal characteristics, such as higher education levels and higher earnings, among Chinese immigrants than among other immigrants after the U.S. policy changes. That said, the mixed findings in the literature on status exchange among immigrants and natives suggest there might have been little or even no relative change in some spouse characteristics after the U.S. policy changed.

Lastly, we expect to see a decrease in marriages to U.S. natives and an increase in marriages to co-nationals among Chinese immigrants relative to other immigrants, assuming that marriage to a co-national is more desirable than marriage to a U.S. native, all else equal. However, marriage market models can predict that Chinese immigrants became relatively more likely to marry U.S. natives after the CSPA. U.S. natives may be reluctant to marry unauthorized immigrants or temporary visa holders because of concerns that they are being used for a green card.[11] Further, committing marriage fraud is a felony subject to prison time and/or a fine. The greater these concerns are among U.S. natives, the larger the intra-couple transfer they may require to be willing to marry an unauthorized immigrant or a temporary visa holder, and therefore the fewer such marriages that occur. Concerns about being used or committing marriage fraud should have dissipated after Chinese immigrants received legal status via the CSPA, and the size of any intra-couple transfer a Chinese immigrant needed to make to marry a U.S. native should have decreased. We therefore might see an increase in marriages to U.S. natives among Chinese immigrants relative to other East Asian immigrants.

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[11]Consistent with this, Dziadula (2020) finds that less than 20% of married immigrants who are not naturalized U.S. citizens have a U.S.-born spouse.

3 Data and Empirical Methods

We use data from the 1990 and 2000 U.S. Census 5% public use samples (Ruggles et al., 2022). Importantly for our purposes, the individual characteristics reported in the decennial Census include country of birth, year of immigration, and marital status. Our sample from those Censuses is all immigrants who were born in mainland China, Hong Kong, Korea, or Taiwan, reported immigrating to the United States between 1980 and 1990, and were between ages 20 and 39 in 1990 or ages 30 and 49 in 2000. The data are a synthetic cohort since we cannot follow specific individuals over time. We focus on people who were relatively young adults in 1990 in order to best capture changes in marital status over the next decade and because most CSPA beneficiaries were young adults. Like previous studies of the effects of the CSPA (Orrenius et al., 2012; Su et al., 2019), we use immigrants from Hong Kong, Korea, and Taiwan – other East Asian immigrants – as the main control group since they are most culturally similar to Chinese immigrants; the results are generally similar if we compare Chinese immigrants with all other immigrants or with U.S. natives, as discussed later.

3.1 Descriptive Statistics

Table 1 reports descriptive statistics for the sample, stratified by education, origin (with our control countries combined), and sex. We classify immigrants as highly educated (high ed) in 1990 if they already had a bachelor's degree or if they had completed high school and were still enrolled in school, and as highly educated in 2000 if they had at least a bachelor's degree. We classify immigrants as less educated (low ed) in 1990 if they had completed high school and were not still enrolled in school or if they had not completed high school, and as less educated in 2000 if they did not have a bachelor's degree.

The share of Chinese and other East Asian immigrants who were currently married was much higher in 2000 than in 1990 for most of the groups shown in Table 1. For example,

Table 1: Descriptive statistics for marital status variables

	High ed China		High ed control		Low ed China		Low ed control	
	1990	2000	1990	2000	1990	2000	1990	2000
Panel A: Men								
Married	0.55	0.88	0.56	0.84	0.69	0.85	0.60	0.80
Married, spouse present	0.44	0.84	0.51	0.81	0.57	0.79	0.53	0.78
Married, spouse absent	0.11	0.04	0.04	0.02	0.12	0.07	0.07	0.02
Spouse arrived after 1990, same birthplace	–	0.17	–	0.10	–	0.21	–	0.11
Observations	1530	1495	4068	2820	984	1576	1222	2023
Panel B: Women								
Married	0.64	0.84	0.61	0.82	0.83	0.86	0.81	0.81
Married, spouse present	0.57	0.81	0.59	0.79	0.77	0.83	0.79	0.79
Married, spouse absent	0.07	0.03	0.02	0.03	0.06	0.03	0.03	0.02
Spouse arrived after 1990, same birthplace	–	0.04	–	0.02	–	0.06	–	0.03
Observations	1306	1221	4029	2892	1201	1896	2427	3704

Note: Shown are weighted sample means.

the married share of highly educated Chinese men was 33 percentage points higher in 2000 than in 1990, and 28 percentage points higher for highly educated other East Asian men. These increases in the marriage rate are not surprising since the sample was in the prime age range to get married. That said, less-educated women from both origin groups already had notably high marriage rates – over 80% – in 1990. The marriage rate rose only slightly over the decade among less-educated women from China and not at all among less-educated women from the control countries.

For many of the groups shown in Table 1, the share married with a spouse present rose even more than the share married did. For example, the share of highly educated Chinese men who were married with their spouse present was 40 percentage points higher in 2000 than in 1990, and 30 percentage points higher for highly educated other East Asian men. Meanwhile, the share married with a spouse absent (living elsewhere) fell among almost all groups; the only exception is the high-education control group of women. The sample means in Table 1 thus suggest that some immigrants reunited during the decade with a spouse who was living elsewhere in 1990. Consistent with this, a considerable share of men had a spouse

who immigrated to the United States after 1990 and was born in the same country. For example, 17 percent of our sample of highly educated Chinese men were married in 2000 to a Chinese woman who migrated after 1990. Some of these couples may have married during the 1990s, but the drop in spouse-absent marriages suggests some men were already married in 1990 and their wives were still in the origin country that year but moved to the United States by 2000.[12]

Table 2 reports descriptive statistics for spouse characteristics among the sample of married immigrants whose spouse was living with them.[13] On average, male immigrants were older than their wives, and female immigrants were younger than their husbands. We examine three measures of education among immigrants' spouses: whether the spouse had at least a bachelor's degree; whether the spouse had the same level of education as the immigrant (measured in five categories of highest level attained: not completed high school, completed high school only, some college, bachelor's degree, and graduate degree); and whether the spouse had the same or a higher level of education than the immigrant. The sample displays considerable assortative matching on education: Most spouses of highly educated immigrants had at least a bachelor's degree, whereas few spouses of less-educated immigrants did.

There is also considerable assortative matching on nativity in our sample. Most immigrants and their spouses were born in the same country. The share of immigrants married to U.S. natives is very low for men from both origin groups and for less-educated women from China. The less-educated control group of women is the least likely to have a spouse from the same country and by far the most likely to be married to a U.S. native. Most of their U.S.-native spouses are not of East Asian ancestry.

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[12]Because of the prevalence of these later-arriving spouses, we do not compare pre- and post-1990 arrivals for China and the comparison countries in the 2000 Census. The later-arriving spouses of the pre-1990 arrival group would be included in the post-1990 arrival group.

[13]The design of the Census does not allow us to match spouses who did not live together, even if both spouses were in the United States.

Table 2: Descriptive statistics for spouse characteristics

	High ed China		High ed control		Low ed China		Low ed control	
	1990	2000	1990	2000	1990	2000	1990	2000
Panel A: Men								
Age difference (own-spouse, years)	1.29	2.03	1.91	2.38	1.80	2.84	2.26	2.54
At least bachelor's degree	0.69	0.80	0.70	0.71	0.05	0.08	0.07	0.17
Same level of education	0.39	0.52	0.43	0.45	0.70	0.65	0.65	0.50
Same or higher level of education	0.47	0.57	0.47	0.49	0.91	0.87	0.91	0.79
Born in same country	0.88	0.89	0.92	0.88	0.84	0.89	0.87	0.88
U.S. native	0.02	0.01	0.02	0.03	0.02	0.02	0.02	0.03
U.S. native, East Asian ancestry	0.01	0.00	0.01	0.01	0.01	0.02	0.00	0.01
U.S. native, not East Asian ancestry	0.01	0.01	0.01	0.02	0.00	0.01	0.01	0.02
Real earned income ($)	9,314	33,210	10,213	23,526	7,680	13,934	8,506	14,920
Observations	683	1252	2128	2328	554	1230	648	1579
Panel B: Women								
Age difference (own-spouse, years)	-3.08	-2.38	-2.95	-2.72	-5.14	-4.00	-3.72	-3.06
At least bachelor's degree	0.79	0.91	0.83	0.86	0.12	0.19	0.18	0.31
Same level of education	0.43	0.60	0.51	0.53	0.63	0.54	0.39	0.37
Same or higher level of education	0.83	0.84	0.87	0.80	0.94	0.87	0.97	0.92
Born in same country	0.80	0.79	0.81	0.74	0.84	0.82	0.58	0.65
U.S. native	0.09	0.12	0.11	0.14	0.03	0.04	0.33	0.26
U.S. native, East Asian ancestry	0.02	0.01	0.01	0.03	0.02	0.02	0.01	0.01
U.S. native, not East Asian ancestry	0.06	0.11	0.10	0.11	0.01	0.02	0.32	0.24
Real earned income ($)	22,063	66,917	29,714	60,312	16,116	25,643	24,381	36,179
Observations	742	986	2396	2287	913	1564	1907	2937

Note: Shown are weighted sample means for people who are married, spouse present.

3.2 Empirical Methods

The sample means in Tables 1 and 2 indicate that marital status and spouse characteristics changed considerably between 1990 and 2000 for both Chinese and other East Asian immigrants. Our basic empirical strategy is to compare the changes in marital status and spouse characteristics during that decade among Chinese immigrants with the corresponding changes among other East Asian immigrants. This comparison of relative changes is the classic difference-in-differences (D-in-D) methodology.

We estimate two versions of the D-in-D model. The first is a simple comparison of the

changes in the treatment and control groups, or

$$Y_{it} = \alpha + \beta_1 China_{it} + \beta_2 Year2000_{it} + \beta_3 China_{it} * Year2000_{it} + \epsilon_{it}, \tag{1}$$

where Y_{it} is a measure of marital status or spouse characteristics for person i observed in year t. The estimate of β_3 is equivalent to the difference-in-differences in the sample means for the treatment and control groups, by education and sex, in Tables 1 and 2.

We also control for differences in observable characteristics with a multivariate version of the D-in-D model, or

$$Y_{it} = \alpha + \beta_1 China_{it} + \beta_2 Year2000_{it} + \beta_3 China_{it} * Year2000_{it} + \delta_1 Demographics_{it}$$

$$+\delta_2 Marriage\, market_{it} + \sigma State_i + \epsilon_{it}. \tag{2}$$

In equation (2), $Demographics_{it}$ includes immigrants' age and its square, age at migration, education, and enrollment status (see Appendix Table 1 for descriptive characteristics for those characteristics). In regressions that look at the spouse's income (measured as the inverse hyperbolic sine of real earned income), the regression adds the inverse hyperbolic sine of an immigrant's own real earned income and the spouse's age and its square and education. $Marriage\, market_{it}$ is two measures of the thickness of the co-ethnic local marriage market: the share of the opposite sex who are from the same country and the male/female sex ratio among immigrants from the same country.[14] $State_i$ is state fixed effects.

The advantage of equation (2) is that it controls for observable differences between Chinese and other East Asian immigrants that might be associated with marriage-related outcomes, such as differences in age or education. The marriage-market variables and state fixed effects help control for location-specific factors that might affect marriage-related outcomes. We show results from ordinary least squares regressions; to address potential concerns about time-varying dependent variables, we also estimated doubly robust D-in-D specifications following Sant′Anna and Zhao (2022), which builds on the inverse probability weighting ap-

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[14]The marriage market variables measures are based on the population ages 20-60 in an immigrant's PUMA (public use microdata area).

proach by Abadie (2005) and the outcome regression by Heckman et al. (1997).[15] We report robust standard errors throughout.

The D-in-D can be attributed to the CSPA and related immigration policy changes regarding Chinese immigrants in the early 1990s under the assumption that marital status and spouse characteristics would have changed similarly among Chinese and other East Asian immigrants absent the CSPA and related immigration policy changes. Since we cannot observe the counterfactual, this is an inherently untestable assumption. However, the treatment and control groups had similar characteristics in 1990 (as shown in Appendix Table 1), supporting the plausibility of this assumption, and the two groups were exposed to similar economic conditions in the United States during the 1990s. We cannot use the 1980 and 1990 Censuses to compare pre-trends for our sample of immigrants who arrived in the United States during the 1980s since few people in our sample were already present in the United States in 1980 and many of them were too young before the 1990s to get married. In the previous cohort of immigrants – those who arrived during the 1970s – there were few significant differences in marital outcomes between Chinese and other East Asian immigrants between 1980 and 1990, a pattern consistent with parallel pre-trends.[16]

Our D-in-D estimates are the average treatment effect on the treated (ATT) – they give the effect of the CSPA relative to the usual green-card channels. The CSPA enabled more Chinese immigrants to receive a green card than otherwise would have been the case and more quickly, and none of the control group was eligible under it. Our estimates are underestimates of the effect of receiving a green card because some of the treatment and control groups already had a green card or would have received one anyways via employment

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[15]The doubly robust D-in-D results for the marital status outcomes are in Appendix Table 2, and those for spouse characteristics are in Appendix Table 3. The results are generally consistent with our main results.

[16]Appendix Tables 4 and 5 show the results of D-in-D regressions using the 1980 and 1990 Census data to compare Chinese and other East Asian immigrants who arrived during the 1970s. We caution that this is a different cohort of immigrants with considerably different individual characteristics than the 1980s arrivals. Further, all unauthorized immigrants who were present in the U.S. by 1982 were eligible for a large-scale legalization program in 1986, making the 1980s an unusual period to examine. Most of the results do not indicate a significant D-in-D; the few that are significant tend to be in the opposite direction of our results for the 1990s, suggesting that the CSPA reversed any trend that was present among the previous cohort of immigrants.

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or family.

Our empirical analysis faces several potential limitations that are common in the literature. The first is return migration. Selective return migration, particularly selection that differed between the treatment and control groups along unobservable characteristics, is a potential source of bias since we do not have panel data on individuals. Fortunately for our purposes, return migration was low during this period, in part because of weak economic conditions in much of Asia during the late 1990s. Few in the treatment group moved back to China during the 1990s since they were all eligible for a green card.

A second potential limitation is a lack of information about the timing of marriages relative to the timing of migration. The decennial Census does not report when people married. We therefore cannot distinguish between dual-immigrant couples who met and married after both of them had independently migrated to the United States and those who met and married before one or both of them migrated. We can identify dual-immigrant couples with one spouse who arrived after 1990. Since our sample consists of people who had already immigrated by 1990, we assume those later-arriving spouses were joining the immigrant who was already in the United States. We refer to those later-arriving spouses as spousal chain migration if both spouses were born in the same country. However, some of these couples may have met and married after the later-arriving spouse independently migrated to the United States. The drop in married, spouse absent couples for most groups supports our assumption that many – although not all – of these couples engaged in spousal chain migration.

A final limitation of our empirical analysis is that we observe only current marital status, and we observe spouse characteristics only if the spouse is present. We do not observe marriages that occurred and dissolved during the 1990s. This typically biases a sample towards endogamous marriages, which tend to be more stable, and towards more recent marriages (Adserà and Ferrer, 2015). The low divorce rate among East Asian immigrants (e.g., Dziadula, 2022) reduces concerns about "survivor bias," as does restricting the sample

to relatively young adults. Observing spouse characteristics only if the spouse is present likely biases our sample toward observing marriages to a U.S. native.

4 Results

We first discuss the D-in-D results for marital status and spouse characteristics that compare Chinese immigrants to other East Asians. We then briefly explore the robustness of those results to comparing Chinese immigrants to all other immigrants or to U.S. natives.

4.1 Marital Status

Table 3 reports the estimated difference-in-differences for our measures of marital status. There are three main patterns in the results: Chinese immigrants became more likely than other East Asian immigrants to be married and living with a spouse; they became less likely to be married to a spouse who was living elsewhere; and they became more likely to have a spouse who was born in the same country and arrived in the United States after 1990.[17] For example, the share of highly educated Chinese immigrant men who were married with a spouse present rose by 9.7 percentage points compared with other East Asian immigrants (row 2, column 1), and by 5.8 percentage points when controlling for observable individual characteristics (row 2, column 2). Meanwhile, the relative share who were married with a spouse absent fell by 5.1 percentage points (5.3 percentage points with controls, as shown in row 3). The relative share with a co-national spouse who arrived after 1990 rose by 6.8 percentage points (5.8 percentage points with controls, as shown in row 4). The D-in-Ds are similar, albeit smaller in magnitude, among both highly educated and less-educated women (bottom panel).

Less-educated men are a notable exception in Table 3. The only significant D-in-D is an increase in the share of less-educated Chinese immigrant men with a spouse who was

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[17]In results not shown here, we did not find significant relative changes in being currently divorced, widowed, or separated in our sample.

Table 3: Difference-in-differences results for marital status variables

Dependent variable:	High ed		Low ed	
	(1)	(2)	(3)	(4)
Panel A: Men				
Married	0.046**	0.005	-0.023	-0.021
	(0.020)	(0.018)	(0.026)	(0.024)
Married, spouse present	0.097***	0.058***	-0.027	-0.028
	(0.021)	(0.019)	(0.028)	(0.026)
Married, spouse absent	-0.051***	-0.053***	0.004	0.007
	(0.012)	(0.012)	(0.016)	(0.016)
Spouse is from same birthplace and arrived after 1990	0.068***	0.058***	0.094***	0.085***
	(0.012)	(0.012)	(0.014)	(0.014)
Observations	9913	9913	5805	5805
Panel B: Women				
Married	-0.010	-0.028	0.033*	0.008
	(0.022)	(0.020)	(0.018)	(0.018)
Married, spouse present	0.041*	0.021	0.056***	0.031
	(0.023)	(0.021)	(0.020)	(0.019)
Married, spouse absent	-0.050***	-0.049***	-0.022**	-0.023**
	(0.010)	(0.010)	(0.009)	(0.009)
Spouse is from same birthplace and arrived after 1990	0.020***	0.019***	0.035***	0.030***
	(0.007)	(0.007)	(0.007)	(0.007)
Observations	9448	9448	9228	9228
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China $\times$ Year 2000 interaction term in a regression with the indicated dependent variable. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* $p<0.10$; ** $p<0.05$; *** $p<0.01$

born in the same country and arrived in the United States after 1990 (top panel, columns 3 and 4). Unlike the other groups, less-educated Chinese immigrant men did not experience either a relative increase in being married or a switch from being married with a spouse living elsewhere to being married with a spouse living with them. Less-educated Chinese immigrant men were no more likely than other East Asians to get married, but they were more likely to have a spouse who might be a chain migrant.

The overall pattern of the results in Table 3 suggests that some Chinese immigrants brought over a spouse after they themselves became eligible for a green card. In other words, Chinese immigrants appear to have engaged in more spousal chain migration than

other East Asian immigrants. Again, we do not know for certain whether Chinese immigrants were already married in 1990 to their newly arriving spouses, but the switch from married with spouse absent to married with spouse present for women and for highly educated men suggests that many already were. Further, the main result underpinning our conclusion of spousal chain migration – that Chinese immigrants were more likely than other East Asian immigrants to marry a co-national who arrived after 1990 – is robust to a wide variety of other ways of identifying potential spousal chain migrants. These include dropping spouses who arrived in 1990 or in 1990-1992, restricting the sample to immigrants who are married with their spouse present, and including spouses who arrived after 1989 (see Appendix Table 6). The chain migration result is also robust to estimating only first-differences between Chinese immigrants and other East Asian immigrants in the 2000 Census data (see Appendix Table 7).[18]

The above results indicate changes in some marriage market outcomes among Chinese immigrants, particularly highly educated men and women in both education groups, relative to other East Asian immigrants. We next turn to how spousal characteristics changed.

4.2   Spouse Characteristics

The marriage market models predict that Chinese immigrants who got married after they were automatically eligible for a green card had spouses with more-favorable characteristics. The results in Table 4 generally support this prediction.[19] Most notably, positive assortative matching on education and nativity increased for most groups of Chinese immigrants relative to other East Asian immigrants. For example, the likelihood that a spouse had the same level of education rose among male and highly educated female Chinese immigrants.

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[18]The dependent variable of having a co-national spouse who arrived during the 1990s takes the value 0 for all observations in the 1990 Census in the D-in-D regressions in Table 3 and Appendix Table 6. Appendix Table 7 therefore reports the first-difference results without the 1990 observations in the regressions to assuage any concerns about including observations that mechanically all have a dependent variable equal to 0.

[19]The sample in Table 4 is conditional on being married with spouse present. We are not able to observe characteristics of spouses who are absent, nor can we compare immigrants who married before and after 1990.

The share of highly educated Chinese immigrant men whose spouse had the same level of education rose by 10.8 percentage points relative to other East Asian immigrants, by 9.3 percentage points among less-educated Chinese immigrant men, and by 15 percentage points among highly educated Chinese immigrant women before controlling for other observable characteristics. The likelihood that immigrants and their spouses were born in the same country also rose for male and highly educated female Chinese immigrants relative to other East Asian immigrants.

Other results in Table 4 suggest that Chinese immigrants' spouses were more likely to have desirable characteristics after Chinese immigrants became automatically eligible for a green card. The age gap between less-educated Chinese immigrant men and their wives rose, indicating those men married younger women relative to other East Asian immigrants. Spousal earnings increased among both male and female highly educated Chinese immigrants. The gains in spousal education appear to account for the gains in their earnings, which are smaller and no longer statistically significant when controlling for other observable characteristics.

Less-educated women are the outlier in the D-in-D results for spouse characteristics. Less-educated Chinese immigrant women became relatively less likely to be married to someone with at least a bachelor's degree before controlling for other observable characteristics. They also became relatively less likely to have a spouse with the same level of education. Together, those results suggest that Chinese immigrant women who had completed high school became relatively more likely to be married to someone who had not completed high school, while those who had not completed high school remained as likely as other East Asian immigrants to be married to someone who also had not completed high school.

Less-educated Chinese immigrant women also became relatively less likely to be married to someone from the same country of birth. They instead became relatively more likely to be married to a U.S. native, and those U.S.-born spouses were predominately not of East Asian ancestry. The relative increase in marriages to U.S. natives is surprising because

Table 4: Difference-in-differences results for spouse characteristics

	High ed		Low ed	
Dependent variable:	(1)	(2)	(3)	(4)
Panel A: Men				
Age difference (own-spouse, years)	0.266	0.327	0.762**	0.577*
	(0.221)	(0.222)	(0.305)	(0.303)
At least bachelor's degree	0.101***	0.055**	-0.058***	-0.006
	(0.027)	(0.026)	(0.020)	(0.021)
Same level of education	0.108***	0.112***	0.093***	0.025
	(0.030)	(0.031)	(0.036)	(0.036)
Same or higher level of education	0.081***	0.113***	0.083***	0.011
	(0.030)	(0.030)	(0.023)	(0.023)
Same birthplace	0.058***	0.033*	0.045*	0.023
	(0.020)	(0.020)	(0.025)	(0.026)
U.S. native	-0.016**	-0.011	-0.005	-0.001
	(0.008)	(0.008)	(0.011)	(0.011)
U.S. native, East Asian ancestry	-0.006	-0.006	-0.002	-0.003
	(0.005)	(0.005)	(0.008)	(0.008)
U.S. native, not East Asian ancestry	-0.010	-0.005	-0.002	0.002
	(0.007)	(0.007)	(0.008)	(0.008)
Real earned income	0.633**	0.299	-0.045	-0.081
	(0.299)	(0.295)	(0.371)	(0.373)
Observations	6391	6391	4011	4011
Panel B: Women				
Age difference (own-spouse, years)	0.479*	0.371	0.490	0.395
	(0.286)	(0.293)	(0.329)	(0.332)
At least bachelor's degree	0.087***	0.042**	-0.059***	-0.008
	(0.022)	(0.021)	(0.021)	(0.020)
Same level of education	0.150***	0.058**	-0.074***	-0.088***
	(0.030)	(0.028)	(0.027)	(0.027)
Same or higher level of education	0.078***	0.089***	-0.009	-0.025*
	(0.023)	(0.023)	(0.014)	(0.014)
Same birthplace	0.052**	0.024	-0.089***	-0.105***
	(0.025)	(0.025)	(0.023)	(0.022)
U.S. native	-0.003	0.006	0.080***	0.069***
	(0.019)	(0.019)	(0.017)	(0.016)
U.S. native, East Asian ancestry	-0.033***	-0.029***	-0.004	0.002
	(0.007)	(0.007)	(0.007)	(0.007)
U.S. native, not East Asian ancestry	0.029*	0.034*	0.084***	0.067***
	(0.018)	(0.018)	(0.016)	(0.015)
Real earned income	0.457**	0.108	-0.006	0.060
	(0.231)	(0.226)	(0.219)	(0.221)
Observations	6411	6411	7321	7321
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a regression
with the indicated dependent variable for spouse characteristics. Each coefficient is from a separate
regression. Robust standard errors in parentheses.
* $p<0.10$; ** $p<0.05$; *** $p<0.01$

after the CSPA Chinese immigrants did not need to marry a U.S. native to get a green card. These women may have become more attractive to U.S.-born men in the marriage market since those potential spouses would no longer worry about being used for a green card or committing marriage fraud. Highly educated Chinese immigrant women also became relatively more likely to be married to a U.S. native not of East Asian ancestry, but those relative gains arose from a relative decrease in marriages to U.S. natives of East Asian ancestry, not to fellow countrymen.

The relative increase in spousal chain migration among most groups of Chinese immigrants suggested by Table 3 does not appear to drive the changes in spouse characteristics shown in Table 4. In the 2000 Census, there are few significant differences between Chinese-born spouses who arrived after 1990 and other spouses (see Appendix Table 8).[20] The Chinese-born spouses who arrived after 1990 had a larger age difference with their spouse than other spouses did, but none of the education variables indicates a significant difference between potential chain migration spouses from China and other spouses. The results in Table 4 are also robust to not including spouses from the same birthplace who arrived after 1990 (see Appendix Table 9). Potential chain migrant spouses therefore do not appear to be the sole source of the observed changes in spousal characteristics among Chinese immigrants relative to other East Asian immigrants.

4.3   Robustness

The above results compared Chinese immigrants with immigrants from other East Asian countries because of cultural similarities. Immigrants from those countries were also likely to be fairly similarly impacted by other changes in U.S. immigration policy, such as the creation of the H-1B program, and by changes in economic conditions in Asia during the

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[20]Appendix Table 8 reports results from D-in-D regressions that use only data from the 2000 Census and that include a dummy variable for whether a spouse was born in the same country and arrived after 1990, i.e., is a potential chain migrant, in place of the year-2000 dummy variable. The D-in-D coefficients therefore show differences between potential chain migration spouses of Chinese immigrants and other spouses of Chinese immigrants, relative to the same difference among other East Asian immigrants.

1990s. That said, the non-Chinese foreign born as a whole offer a much larger comparison group. The results are generally similar if we instead compare Chinese immigrants with all other immigrants.

Table 5: Difference-in-differences results for marital status variables, all foreign born

	High ed		Low ed	
Dependent variable:	(1)	(2)	(3)	(4)
Panel A: Men				
Married	0.020	0.015	-0.085***	0.003
	(0.017)	(0.015)	(0.019)	(0.017)
Married, spouse present	0.076***	0.070***	-0.070***	0.008
	(0.018)	(0.017)	(0.021)	(0.019)
Married, spouse absent	-0.057***	-0.056***	-0.014	-0.006
	(0.011)	(0.011)	(0.013)	(0.013)
Spouse is from same birthplace arrived after 1990	0.044***	0.038***	0.062***	0.071***
	(0.011)	(0.011)	(0.012)	(0.012)
Observations	61,755	61,755	154,014	154,014
Panel B: Women				
Married	-0.006	-0.007	-0.041***	-0.009
	(0.019)	(0.017)	(0.015)	(0.014)
Married, spouse present	0.033*	0.032*	-0.027	0.005
	(0.020)	(0.018)	(0.016)	(0.016)
Married, spouse absent	-0.039***	-0.039***	-0.014*	-0.014*
	(0.010)	(0.010)	(0.008)	(0.008)
Spouse is from same birthplace arrived after 1990	0.003	0.002	0.025***	0.029***
	(0.006)	(0.006)	(0.006)	(0.006)
Observations	54,340	54,340	137,159	137,159
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a regression with the indicated dependent variable. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

As Table 5 shows, we continue to find that most groups of Chinese immigrants became more likely, relative to all other immigrants, to be married with their spouse present after they automatically became eligible for a green card. They again also became relatively less likely to be married with a spouse absent. Less-educated Chinese men remain an exception to that pattern. We also continue to find that Chinese immigrants were more likely than

other immigrants who have a spouse from the same country who arrived in the United States after 1990, with the exception of highly educated Chinese immigrant women.

Table 6 shows D-in-D results comparing spouse characteristics among Chinese immigrants and all other immigrants. The results continue to indicate a relative increase in positive assortative matching on education among highly educated Chinese immigrants. Some of the results again suggest that Chinese immigrants' spouses had more-desirable characteristics after Chinese immigrants became automatically eligible for a green card. For example, spousal education rose among highly educated Chinese immigrant women relative to all other immigrants, and spousal earnings rose considerably for male and highly educated female Chinese immigrants relative to all other immigrants.

Unlike the results comparing Chinese immigrants with other East Asians, the comparison with all other immigrants does not indicate a significant relative increase in the share of male and highly educated Chinese immigrants whose spouse is a co-national. Changes in the sample composition between 1990 and 2000 contribute to that null result. There was a substantial increase in the number of highly educated Indian immigrants during that decade, and they – like East Asians – are particularly likely to be married to a co-national. The results in Table 6 continue to indicate that less-educated Chinese immigrant women shifted from marrying co-nationals to marrying U.S. natives, and those U.S. natives were not of East Asian ancestry.

Lastly, we compare Chinese immigrants to U.S. natives. U.S natives were not directly affected by changes in U.S. immigration policy. Immigration policy-induced changes in their economic outcomes or in the pool of potential spouses may have affected their outcomes in the marriage market, but any such effects should be very small relative to the effects among Chinese immigrants. A major disadvantage of examining U.S. natives is that it does not make sense to examine whether they married someone born in the same country who arrived in the United States after 1990. We therefore do not examine a measure of spousal chain migration among this sample.

Table 6: Difference-in-differences results for spouse characteristics, all foreign born

Dependent variable:	High ed		Low ed	
	(1)	(2)	(3)	(4)
Panel A: Men				
Age difference (own-spouse, years)	-0.440**	-0.311	-0.248	0.065
	(0.199)	(0.198)	(0.253)	(0.248)
At least bachelor's degree	0.003	0.017	-0.008	0.002
	(0.024)	(0.023)	(0.013)	(0.013)
Same level of education	0.110***	0.095***	0.040	0.026
	(0.026)	(0.026)	(0.026)	(0.026)
Same or higher level of education	0.096***	0.081***	0.053***	0.029*
	(0.027)	(0.026)	(0.016)	(0.015)
Same birthplace	0.004	0.002	0.008	0.016
	(0.018)	(0.018)	(0.020)	(0.020)
U.S. native	0.012	0.021**	0.035***	0.026***
	(0.008)	(0.010)	(0.009)	(0.009)
U.S. native, East Asian ancestry	-0.005	-0.006	0.002	0.002
	(0.004)	(0.004)	(0.007)	(0.007)
U.S. native, not East Asian ancestry	0.017**	0.027***	0.033***	0.024***
	(0.007)	(0.009)	(0.005)	(0.006)
Real earned income	1.628***	1.306***	0.443*	0.513*
	(0.254)	(0.249)	(0.269)	(0.270)
Observations	34,680	34,680	87,063	87,063
Panel B: Women				
Age difference (own-spouse, years)	0.104	0.17	0.208	0.265
	(0.256)	(0.257)	(0.286)	(0.284)
At least bachelor's degree	0.038*	0.043**	0.021	0.033**
	(0.020)	(0.018)	(0.016)	(0.015)
Same level of education	0.154***	0.103***	-0.039*	-0.053**
	(0.027)	(0.025)	(0.022)	(0.021)
Same or higher level of education	0.066***	0.084***	0.015	0.008
	(0.021)	(0.021)	(0.013)	(0.012)
Same birthplace	0.003	-0.001	-0.020	-0.038**
	(0.022)	(0.022)	(0.017)	(0.017)
U.S. native	0.010	0.015	0.002	0.018*
	(0.016)	(0.017)	(0.009)	(0.010)
U.S. native, East Asian ancestry	-0.017***	-0.018***	-0.001	0.000
	(0.006)	(0.006)	(0.006)	(0.006)
U.S. native, not East Asian ancestry	0.027*	0.033**	0.002	0.017**
	(0.015)	(0.016)	(0.006)	(0.007)
Real earned income	1.142***	0.872***	-0.368**	-0.274
	(0.192)	(0.188)	(0.172)	(0.169)
Observations	33,926	33,926	91,020	91,020
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a regression with the indicated dependent variable for spouse characteristics. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

The marital status variables results are generally similar when comparing Chinese immigrants to U.S. natives. As Table 7 shows, both highly educated and less-educated Chinese immigrant men became significantly more likely than U.S.-born men to be married at all and to be married with their spouse present (row 2). All groups of Chinese immigrants became significantly less likely than U.S. natives to be married with their spouse absent.

Table 7: Difference-in-differences results for marital status variables, Chinese immigrants and U.S. natives

	High ed		Low ed	
Dependent variable:	(1)	(2)	(3)	(4)
Panel A: Men				
Married	0.070***	0.002	0.035*	0.070***
	(0.017)	(0.015)	(0.019)	(0.018)
Married, spouse present	0.145***	0.065***	0.098***	0.130***
	(0.017)	(0.016)	(0.021)	(0.020)
Married, spouse absent	-0.075***	-0.063***	-0.063***	-0.060***
	(0.011)	(0.011)	(0.013)	(0.014)
Observations	960,613	960,613	2,126,841	2,126,841
Panel B: Women				
Married	-0.02	-0.051***	-0.018	-0.022
	(0.018)	(0.017)	(0.015)	(0.015)
Married, spouse present	0.024	-0.008	0.012	0.007
	(0.019)	(0.018)	(0.016)	(0.016)
Married, spouse absent	-0.045***	-0.043***	-0.029***	-0.029***
	(0.010)	(0.010)	(0.008)	(0.008)
Observations	1,027,552	1,027,552	2,128,303	2,128,303
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a regression with the indicated dependent variable. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

Highly educated Chinese immigrants continue to experience an increase in positive assortative matching on education when comparing them to U.S. natives. As Table 8 shows, the share of highly educated Chinese immigrant men and women whose spouse had the same level of education increased substantially relative to U.S. natives. The earnings of highly educated Chinese immigrants' spouses also rose substantially relative to the earnings of U.S.

natives' spouses. Less-educated Chinese men had relatively larger age gaps with their wives, which may be desirable since it implies younger wives. Chinese women in both education groups also saw a positive change in their spousal age gaps relative to U.S. natives. Since women are younger than their husbands, on average, this implies Chinese immigrant women married spouses who were closer in age after they became automatically eligible for a green card.

Although it does not make sense to examine spousal chain migration by co-nationals when comparing Chinese immigrants to U.S. natives, Table 8 reports the D-in-D for marrying someone born in the same country. In other words, how did the share of Chinese immigrants married to another Chinese immigrant change relative to the share of U.S. natives married to another U.S. native? Less-educated Chinese immigrant men became more likely than U.S. natives to be married to a co-national. This result is consistent with spousal chain migration. Meanwhile, less-educated Chinese women became relatively less likely to be married to a co-national. This result is consistent with the earlier results that less-educated Chinese immigrant women became more likely to marry U.S. natives after they were automatically eligible for a green card.

5 Conclusion

The CSPA and related immigration policy changes unexpectedly gave all Chinese immigrants who were living in the United States by 1990 the opportunity to stay and work in the country and ultimately to receive permanent legal status. The policy changes removed uncertainty about their immigration prospects for many of those Chinese immigrants and made them more attractive partners in the marriage market. Consistent with the predictions of Becker's and others' models, we find an increase in positive assortative matching on education among most groups of Chinese immigrants relative to other immigrants and relative to U.S. natives. This increased matching on education was beneficial for highly educated immigrants since it

Table 8: Difference-in-differences results for spouse characteristics, Chinese immigrants and U.S. natives

	High ed		Low ed	
Dependent variable:	(1)	(2)	(3)	(4)
Panel A: Men				
Age difference (own-spouse, years)	0.273	0.342*	0.525**	0.673***
	(0.192)	(0.189)	(0.249)	(0.243)
At least bachelor's degree	-0.007	-0.007	-0.060***	-0.014
	(0.023)	(0.022)	(0.013)	(0.013)
Same level of education	0.136***	0.130***	-0.02	-0.022
	(0.026)	(0.026)	(0.026)	(0.027)
Same or higher level of education	0.104***	0.107***	0.044***	-0.006
	(0.026)	(0.025)	(0.016)	(0.015)
Same birthplace	0.025	0.002	0.056***	0.040**
	(0.017)	(0.017)	(0.019)	(0.019)
Real earned income	2.686***	2.906***	0.146	0.29
	(0.246)	(0.247)	(0.266)	(0.269)
Observations	569,104	569,104	1,192,777	1,192,777
Panel B: Women				
Age difference (own-spouse, years)	0.421*	0.503**	0.544*	0.606**
	(0.248)	(0.245)	(0.283)	(0.280)
At least bachelor's degree	0.024	-0.001	-0.026*	0.018
	(0.019)	(0.018)	(0.016)	(0.015)
Same level of education	0.199***	0.192***	-0.068***	-0.088***
	(0.026)	(0.026)	(0.022)	(0.022)
Same or higher level of education	0.064***	0.102***	0.034***	-0.011
	(0.020)	(0.021)	(0.013)	(0.012)
Same birthplace	-0.015	-0.024	-0.022	-0.036**
	(0.021)	(0.021)	(0.017)	(0.017)
Real earned income	1.680***	1.561***	-0.15	-0.013
	(0.186)	(0.187)	(0.170)	(0.168)
Observations	606,842	606,842	1,305,680	1,305,680
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a regression with the indicated dependent variable for spouse characteristics. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

was accompanied by an increase in spousal education and earnings. For less-educated male immigrants, increased matching on education did not result in higher spousal education or earnings. Less-educated Chinese immigrant women also did not experience a relative increase in spousal education.

The results are strongly suggestive of spousal chain migration after Chinese immigrants became automatically eligible for a green card. The share of immigrants with a spouse born in the same country who arrived in the United States after 1990 rose among Chinese immigrants relative to other immigrants. Further, most groups of Chinese immigrants became more likely to be married with a spouse present and less likely to be married with a spouse absent relative to other immigrants and to U.S. natives.

This apparent spousal chain migration raises several interesting economic issues. Since many of the Chinese immigrants and their spouses were highly educated, the U.S. policy changes may have led to "brain gain" for the United States. The results here thus add a new dimension to the debate over the extent and composition of chain migration. The policy changes may in turn have led to "brain drain" for China and contributed to China's motivation for creating programs during the 2000s and 2010s that encouraged highly educated Chinese emigrants to return (Liu, 2022). Understanding the extent and composition of return migration among Chinese – and other – immigrants is an important area for future research. Emigration from China may have affected marriage markets there as well, particularly if it exacerbated sex imbalances or changed the education distribution among potential spouses or the return to education (Du et al., 2015; **?**).

Another area for further research is the stability of marriages that were affected by U.S. immigration policy changes. While Dziadula (2022) examines divorce patterns among immigrants, there is little research on the impact of exogenous policy changes on immigrants' divorce patterns. Further research on intergenerational impacts of exogenous immigration policy changes is warranted as well.

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Appendix Table 1: Descriptive statistics for own characteristics

	High ed China		High ed control		Low ed China		Low ed control	
	1990	2000	1990	2000	1990	2000	1990	2000
Panel A: Men								
Age	29.35	39.58	29.52	40.06	30.91	40.55	30.83	39.95
Not high school graduate	–	–	–	–	0.64	0.50	0.34	0.17
High school graduate, no college	0.07	–	0.07	–	0.36	0.31	0.66	0.35
Some college	0.18	–	0.18	–	–	0.18	–	0.48
Bachelor's degree	0.30	0.23	0.33	0.45	–	–	–	–
Graduate degree	0.45	0.77	0.43	0.55	–	–	–	–
Enrolled in school	0.75	0.08	0.61	0.10	0.09	0.05	0.05	0.07
Age when immigrated	25.04	25.73	24.35	24.24	25.53	25.53	25.51	24.42
Real earned income ($)	12,942	63,440	18,423	57,445	13,803	18,281	15,648	27,446
Share of opposite sex from same birthplace	0.01	0.02	0.01	0.02	0.02	0.03	0.01	0.02
Sex ratio by birthplace	1.49	1.13	1.20	0.97	1.12	1.08	1.02	0.97
Observations	1530	1495	4068	2820	984	1576	1222	2023
Panel B: Women								
Age	29.17	38.98	28.77	39.42	30.59	40.33	31.19	40.52
Not high school graduate	–	–	–	–	0.64	0.47	0.34	0.19
High school graduate, no college	0.11	–	0.08	–	0.36	0.31	0.66	0.41
Some college	0.21	–	0.21	–	–	0.22	–	0.40
Bachelor's degree	0.41	0.41	0.48	0.63	–	–	–	–
Graduate degree	0.28	0.59	0.23	0.37	–	–	–	–
Enrolled in school	0.63	0.11	0.51	0.10	0.09	0.06	0.04	0.07
Age when immigrated	24.92	25.16	23.75	23.70	25.68	25.28	25.92	24.98
Real earned income ($)	9,991	40,440	10,136	29,774	6,559	13,542	7,193	14,233
Share of opposite sex from same birthplace	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01
Sex ratio by birthplace	0.98	0.91	0.84	0.75	0.94	0.91	0.73	0.70
Observations	1306	1221	4029	2892	1201	1896	2427	3704

Note: Shown are weighted sample means.

Appendix Table 2: Doubly robust difference-in-differences results for marital status variables

	Men		Women	
Dependent variable:	High ed	Low ed	High ed	Low ed
Married	0.014	-0.086***	-0.013	0.030
	(0.019)	(0.026)	(0.022)	(0.059)
Married, spouse present	0.051**	-0.072**	0.040*	0.046
	(0.020)	(0.028)	(0.023)	(0.059)
Married, spouse absent	-0.037***	-0.015	-0.053***	-0.016
	(0.013)	(0.019)	(0.011)	(0.014)
Spouse from same birthplace arrived after 1990	0.054***	0.037	0.017**	0.017
	(0.012)	(0.129)	(0.007)	(0.060)
Observations	9913	5805	9448	9228
Individual characteristics controls	Y	Y	Y	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a doubly robust regression with the indicated dependent variable. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

Appendix Table 3: Doubly robust difference-in-differences results for spouse characteristics

	Men		Women	
Dependent variable:	High ed	Low ed	High ed	Low ed
Age difference (own-spouse, years)	0.031	1.950***	0.317	0.283
	(0.372)	(0.673)	(0.320)	(0.616)
At least bachelor's degree	0.065*	0.022	0.053**	-0.061
	(0.035)	(0.113)	(0.023)	(0.091)
Same level of education	0.140***	0.112	0.088***	0.009
	(0.036)	(0.118)	(0.031)	(0.117)
Same or higher level of education	0.133***	0.054***	0.109***	-0.013
	(0.036)	(0.020)	(0.026)	(0.044)
Same birthplace	0.018	0.041	0.056**	-0.043*
	(0.030)	(0.026)	(0.027)	(0.024)
U.S. native	-0.019	-0.003	-0.283	0.039**
	(0.012)	(0.010)	(0.021)	(0.016)
U.S. native, East Asian ancestry	-0.005	-0.002	-0.030***	0.001
	(0.005)	(0.007)	(0.007)	(0.007)
U.S. native, not East Asian ancestry	-0.014	-0.001	0.002	0.038**
	(0.011)	(0.006)	(0.020)	(0.015)
Real earned income	0.009	0.934	0.014	-0.256
	(0.389)	(0.780)	(0.251)	(0.568)
Observations	6391	4011	6411	7321
Individual characteristics controls	Y	Y	Y	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a doubly robust regression with the indicated dependent variable. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

Appendix Table 4: Difference-in-differences results for marital status variables in 1980 and 1990 Census data

	High ed		Low ed	
Dependent variable:	(1)	(2)	(3)	(4)
Panel A: Men				
Married	-0.044	-0.052*	0.019	-0.019
	(0.028)	(0.030)	(0.032)	(0.043)
Married, spouse present	-0.033	-0.049	-0.006	-0.035
	(0.029)	(0.031)	(0.034)	(0.046)
Married, spouse absent	-0.011	-0.004	0.025	0.016
	(0.011)	(0.012)	(0.016)	(0.023)
Spouse is from same birthplace arrived after 1980	-0.062***	-0.016	0.006	0.021
	(0.016)	(0.017)	(0.020)	(0.023)
Observations	5468	3623	3218	2309
Panel B: Women				
Married	-0.071**	-0.036	0.054**	-0.006
	(0.030)	(0.033)	(0.021)	(0.026)
Married, spouse present	-0.081***	-0.039	0.048**	-0.037
	(0.031)	(0.034)	(0.022)	(0.028)
Married, spouse absent	0.011	0.003	0.005	0.031***
	(0.012)	(0.013)	(0.010)	(0.011)
Spouse is from same birthplace arrived after 1980	-0.031***	-0.010	0.016	0.036***
	(0.010)	(0.010)	(0.011)	(0.011)
Observations	4920	3324	7335	5357
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 1990 interaction term in a regression with the indicated dependent variable for spouse characteristics. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

Appendix Table 5: Difference-in-differences results for spouse characteristics in 1980 and 1990 Census data

Dependent variable:	High ed		Low ed	
	(1)	(2)	(3)	(4)
Panel A: Men				
Age difference (own-spouse, years)	0.646**	0.045	1.351***	0.701
	(0.276)	(0.311)	(0.411)	(0.524)
At least bachelor's degree	-0.089**	-0.047	-0.058**	-0.033
	(0.039)	(0.046)	(0.023)	(0.031)
Same level of education	-0.057	-0.111**	0.071	0.062
	(0.040)	(0.048)	(0.044)	(0.065)
Same or higher level of education	-0.064	-0.123**	0.085**	0.058
	(0.040)	(0.048)	(0.034)	(0.044)
Same birthplace	-0.129***	-0.185***	0.059	0.005
	(0.038)	(0.044)	(0.041)	(0.062)
U.S. native	0.007	0.03	-0.014	-0.03
	(0.017)	(0.023)	(0.018)	(0.031)
U.S. native, East Asian ancestry	0.008	0.014	-0.017	-0.03
	(0.010)	(0.013)	(0.010)	(0.019)
U.S. native, not East Asian ancestry	-0.001	0.016	0.002	0.000
	(0.014)	(0.019)	(0.015)	(0.025)
Real earned income	0.000	0.508	0.994**	0.628
	(0.402)	(0.478)	(0.454)	(0.660)
Observations	3747	2831	2324	1886
Panel B: Women				
Age difference (own-spouse, years)	-0.041	-0.242	0.941**	1.472***
	(0.401)	(0.472)	(0.381)	(0.534)
At least bachelor's degree	-0.058*	-0.032	-0.107***	-0.105***
	(0.030)	(0.034)	(0.026)	(0.033)
Same level of education	-0.017	0.014	-0.01	0.012
	(0.043)	(0.045)	(0.032)	(0.042)
Same or higher level of education	-0.003	-0.026	-0.009	-0.016
	(0.031)	(0.036)	(0.015)	(0.018)
Same birthplace	-0.006	-0.047	-0.113***	-0.098***
	(0.039)	(0.046)	(0.027)	(0.037)
U.S. native	-0.007	-0.012	0.103***	0.059*
	(0.027)	(0.032)	(0.022)	(0.030)
U.S. native, East Asian ancestry	0.006	0.013	0.011	0.002
	(0.014)	(0.015)	(0.010)	(0.015)
U.S. native, not East Asian ancestry	-0.013	-0.025	0.093***	0.057**
	(0.024)	(0.030)	(0.020)	(0.027)
Real earned income	0.274	-0.118	0.398*	0.263
	(0.312)	(0.367)	(0.241)	(0.304)
Observations	3552	2636	6023	4467
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 1990 interaction term in a regression with the indicated dependent variable for spouse characteristics. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

Appendix Table 6: Robustness of difference-in-differences results for whether spouse is from same birthplace and arrived after 1990

Dependent variable and sample restriction:	High ed		Low ed	
	(1)	(2)	(3)	(4)
Panel A: Men				
Spouse is from same birthplace and arrived after 1990, sample drops spouses who arrived in 1990	0.084***	0.073***	0.097***	0.086***
	(0.013)	(0.013)	(0.014)	(0.015)
Observations	8511	8511	5261	5261
Spouse is from same birthplace and arrived after 1990, sample restricted to married with spouse present	0.073***	0.058***	0.115***	0.112***
	(0.014)	(0.014)	(0.017)	(0.018)
Observations	6391	6391	4011	4011
Spouse is from same birthplace and arrived after 1990, sample restricted to married with spouse present, drops spouses who arrived in 1990	0.096***	0.072***	0.121***	0.115***
	(0.016)	(0.016)	(0.018)	(0.019)
Observations	5001	5001	3476	3476
Spouse is from same birthplace and arrived after 1989	0.141***	0.121***	0.092***	0.081***
	(0.014)	(0.014)	(0.015)	(0.016)
Observations	9913	9913	5805	5805
Spouse is from same birthplace and arrived after 1992, sample drops spouses who arrived in 1990-1992	0.044***	0.039***	0.079***	0.072***
	(0.011)	(0.011)	(0.013)	(0.013)
Observations	8259	8259	5028	5028
Panel B: Women				
Spouse is from same birthplace and arrived after 1990, sample drops spouses who arrived in 1990	0.022***	0.020***	0.036***	0.031***
	(0.007)	(0.007)	(0.007)	(0.007)
Observations	8595	8595	8673	8673
Spouse is from same birthplace and arrived after 1990, sample restricted with spouse present	0.023***	0.022***	0.038***	0.034***
	(0.008)	(0.008)	(0.008)	(0.008)
Observations	6411	6411	7321	7321
Spouse is from same birthplace and arrived after 1990, sample restricted to married with spouse present, drops spouses who arrived in 1990	0.025***	0.023***	0.040***	0.036***
	(0.008)	(0.009)	(0.008)	(0.009)
Observations	5572	5572	6768	6768
Spouse is from same birthplace and arrived after 1989	0.045***	0.043***	0.045***	0.040***
	(0.009)	(0.009)	(0.008)	(0.008)
Observations	9448	9448	9228	9228
Spouse is from same birthplace and arrived after 1992, sample drops spouses who arrived in 1990-1992	0.007	0.007	0.022***	0.019***
	(0.005)	(0.005)	(0.006)	(0.006)
Observations	8531	8531	8558	8558
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China × Year 2000 interaction term in a regression with the indicated dependent variable and sample restriction. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10; ** p<0.05; *** p<0.01

Appendix Table 7: First-difference results for whether spouse is from same birthplace and arrived after 1990 in 2000 Census data

	High ed		Low ed	
Dependent variable and sample restriction:	(1)	(2)	(3)	(4)
Panel A: Men				
Spouse is from same birthplace and arrived after 1990, full 2000 sample	0.068***	0.050***	0.094***	0.091***
	(0.012)	(0.013)	(0.014)	(0.015)
Observations	4315	4315	3599	3599
Spouse is from same birthplace and arrived after 1990, sample drops spouses who arrived in 1990	0.084***	0.073***	0.097***	0.098***
	(0.013)	(0.015)	(0.014)	(0.019)
Observations	4077	3396	3431	2709
Spouse is from same birthplace and arrived after 1990, sample restricted to married with spouse present	0.073***	0.057***	0.115***	0.094***
	(0.014)	(0.014)	(0.017)	(0.019)
Observations	3580	3580	2809	2809
Spouse is from same birthplace and arrived after 1990, sample restricted to married with spouse present, drops spouses who arrived in 1990	0.096***	0.070***	0.121***	0.097***
	(0.016)	(0.015)	(0.018)	(0.020)
Observations	3344	3344	2645	2645
Spouse is from same birthplace and arrived after 1992, sample drops spouses who arrived in 1990-1992	0.044***	0.043***	0.079***	0.094***
	(0.011)	(0.013)	(0.013)	(0.017)
Observations	3825	3144	3198	2476
Panel B: Women				
Spouse is from same birthplace and arrived after 1990, full 2000 sample	0.020***	0.016**	0.035***	0.026***
	(0.007)	(0.008)	(0.007)	(0.008)
Observations	4113	4113	5600	5600
Spouse is from same birthplace and arrived after 1990, sample drops spouses who arrived in 1990	0.025***	0.022**	0.040***	0.030***
	(0.008)	(0.010)	(0.008)	(0.010)
Observations	3202	3202	4422	4422
Spouse is from same birthplace and arrived after 1990, sample restricted to married with spouse present	0.023***	0.021**	0.038***	0.029***
	(0.008)	(0.010)	(0.008)	(0.010)
Observations	3273	3273	4501	4501
Spouse is from same birthplace and arrived after 1990, sample restricted to married with spouse present, drops spouses who arrived in 1990	0.022***	0.021**	0.036***	0.031***
	(0.007)	(0.010)	(0.007)	(0.010)
Observations	4040	3266	5520	4528
Spouse is from same birthplace and arrived after 1992, sample drops spouses who arrived in 1990-1992	0.007	0.006	0.022***	0.020**
	(0.005)	(0.007)	(0.006)	(0.008)
Observations	3976	3202	5405	4413
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China indicator variable in a regression with the indicated sample restriction or dependent variable. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10, ** p<0.05, *** p<0.01

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Appendix Table 8: Difference-in-differences results for spouse characteristics by whether spouse is from same birthplace and arrived after 1990 in 2000 Census data

	High ed		Low ed	
Dependent variable:	(1)	(2)	(3)	(4)
Panel A: Men				
Age difference (own-spouse, years)	0.746*	0.699*	0.699	0.760*
	(0.446)	(0.410)	(0.442)	(0.424)
At least bachelor's degree	0.047	0.036	0.005	0.003
	(0.045)	(0.043)	(0.036)	(0.036)
Same level of education	0.008	-0.001	-0.014	0.004
	(0.051)	(0.050)	(0.053)	(0.050)
Same or higher level of education	0.003	0.001	-0.029	-0.006
	(0.051)	(0.049)	(0.040)	(0.037)
Real earned income	0.618	0.483	0.660	0.888*
	(0.515)	(0.491)	(0.531)	(0.530)
Observations	3580	3580	2809	2809
Panel B: Women				
Age difference (own-spouse, years)	1.223**	1.293**	1.343**	1.565**
	(0.568)	(0.599)	(0.676)	(0.700)
At least bachelor's degree	-0.124	-0.096	-0.046	-0.039
	(0.081)	(0.080)	(0.068)	(0.067)
Same level of education	-0.074	-0.031	-0.112	-0.098
	(0.099)	(0.092)	(0.072)	(0.073)
Same or higher level of education	-0.066	-0.041	0.021	0.023
	(0.089)	(0.089)	(0.049)	(0.047)
Real earned income	0.075	0.222	-0.308	-0.471
	(0.707)	(0.706)	(0.593)	(0.597)
Observations	3273	3273	4501	4501
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China $\times$ Spouse is from same birthplace and arrived after 1990 interaction term in a regression with the indicated dependent variable for spouse characteristics. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Appendix Table 9: Robustness of difference-in-differences results for spouse characteristics to dropping spouses from same birthplace who arrived after 1990

	High ed		Low ed	
Dependent variable:	(1)	(2)	(3)	(4)
Panel A: Men				
Age difference (own-spouse, years)	0.006	0.070	0.488	0.215
	(0.221)	(0.221)	(0.312)	(0.310)
At least bachelor's degree	0.097***	0.052*	-0.063***	-0.005
	(0.028)	(0.027)	(0.021)	(0.022)
Same level of education	0.109***	0.115***	0.098***	0.028
	(0.031)	(0.032)	(0.037)	(0.038)
Same or higher level of education	0.082**	0.116***	0.090***	0.019
	(0.032)	(0.031)	(0.024)	(0.024)
Same birthplace	0.049**	0.024	0.028	0.001
	(0.021)	(0.021)	(0.027)	(0.028)
U.S. native	-0.016*	-0.011	-0.002	0.004
	(0.009)	(0.009)	(0.012)	(0.013)
U.S. native, East Asian ancestry	-0.006	-0.006	0.001	0.001
	(0.005)	(0.005)	(0.009)	(0.010)
U.S. native, not East Asian ancestry	-0.011	-0.005	-0.003	0.003
	(0.007)	(0.007)	(0.008)	(0.008)
Real earned income	0.642**	0.289	-0.013	-0.045
	(0.309)	(0.305)	(0.384)	(0.386)
Observations	5862	5862	3481	3481
Panel B: Women				
Age difference (own-spouse, years)	0.400	0.293	0.362	0.234
	(0.290)	(0.297)	(0.333)	(0.336)
At least bachelor's degree	0.095***	0.049**	-0.058***	-0.007
	(0.022)	(0.021)	(0.021)	(0.021)
Same level of education	0.155***	0.062**	-0.066**	-0.081***
	(0.031)	(0.028)	(0.027)	(0.027)
Same or higher level of education	0.084***	0.094***	-0.009	-0.025*
	(0.023)	(0.024)	(0.015)	(0.015)
Same birthplace	0.048*	0.019	-0.090***	-0.112***
	(0.025)	(0.025)	(0.024)	(0.023)
U.S. native	-0.001	0.008	0.074***	0.065***
	(0.019)	(0.020)	(0.017)	(0.017)
U.S. native, East Asian ancestry	-0.033***	-0.029***	-0.002	0.003
	(0.008)	(0.008)	(0.007)	(0.008)
U.S. native, not East Asian ancestry	0.032*	0.037**	0.076***	0.062***
	(0.018)	(0.018)	(0.016)	(0.015)
Real earned income	0.468**	0.105	0.003	0.102
	(0.233)	(0.228)	(0.222)	(0.225)
Observations	6291	6291	7094	7094
Individual characteristics controls	N	Y	N	Y

Note: Shown are estimated coefficients on the China $\times$ Year 2000 interaction term in a regression with the indicated dependent variable for spouse characteristics. Each coefficient is from a separate regression. Robust standard errors in parentheses.
* p<0.10; ** p<0.05; *** p<0.01