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Catalina Amuedo-Dorantes
University of California Merced and IZA

Chunbei Wang
Virginia Tech

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IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Intermarriage amid Immigration Status Uncertainty: Evidence from DACA*

In 2012, the Obama Administration issued the Deferred Action for Childhood Arrivals (DACA) program by executive order. Since then, more than 800,000 undocumented immigrants who arrived as children have benefited from renewable 2-year reprieves from deportation and work permits. In 2017, the Trump Administration announced it would end DACA –an announcement immediately followed by court challenges. We examine how the temporary nature of DACA's granted benefits and the uncertainty regarding the program's fate after 2017 might have shaped DACA-eligible migrants' decision to marry a U.S. citizen –presumably to secure permanent residence amid an increasingly unclear policy environment. Using a difference-in-differences approach that exploits the discontinuity in DACA eligibility criteria cutoffs to construct akin treatment and control groups, we show that DACA-eligible immigrants became more likely than similar DACA-ineligible undocumented migrants to marry U.S. citizens after the program came under siege. The findings are illustrative of the implications of policy changes that increase the uncertainty surrounding migrants' legal status, as in the case of intermarriage with potentially long-term consequences on migrant integration and the welfare of subsequent generations.

JEL Classification: J12, J15, J18
Keywords: DACA, intermarriage, undocumented immigrants

Corresponding author:
Chunbei Wang
Hutcheson Hall 321-A
Virginia Tech
250 Drillfield Drive
Blacksburg, VA 24061
USA
E-mail: chunbeiwang@vt.edu

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1. Introduction

The Deferred Action for Childhood Arrivals (DACA) program, issued through executive order by President Obama in 2012, has been one of the most relevant attempts to grant undocumented migrants arriving in the United States as children with temporary reprieves from deportation and work authorization. As of 2022, a total of 835,096 immigrants have been approved for DACA.[1] Several studies have documented the positive impacts of DACA on the lives of its recipients, including improvements in labor market outcomes, educational attainment, economic well-being, and health (Amuedo-Dorantes and Antman, 2016, 2017; Bae, 2020; Gihleb *et al*, 2023; Giuntella and Lonsky, 2020; Hainmueller *et al*., 2017; Hamilton *et al*., 2021; Kuka *et al*., 2020; Pope, 2016; Wang *et al*., 2022). However, DACA's fate became uncertain after 2017, when President Trump announced the future termination of the program –an announcement that was subsequently followed by several court challenges. In this paper, we explore, for the first time, how the temporary nature of DACA, combined with the shifting political landscape that increased uncertainty about the program's future, affected DACA-eligible immigrants' decisions to marry U.S. citizens.

Marriage to a U.S. citizen provides a swift path to legal permanent resident (LPR) status without the complexities of numerical quotas, the uncertainties of lotteries, or the time and skill requirements of employment-based visas. Additionally, intermarriage facilitates immigrants' labor market integration through immediate access to extended networks, job opportunities, and the improvement of English proficiency (*e.g.,* Meng and Gregory, 2005; Meng and Meurs, 2009; Furtado and Theodoropoulos 2009, 2010; Chi and Drewianka, 2014; Chi, 2015; Furtado and Song, 2015). Given the temporary nature of DACA and the uncertainty surrounding its future, program beneficiaries may have increasingly considered the benefits of intermarriage.

Interest in intermarriage may have particularly mounted among some undocumented individuals, who were able to apply for a marriage green card as long as they met the legal entry requirement –a requirement typically fulfilled by visa overstayers or those entering through the

[1] See table: USCIS, Number of Form I-821D, Consideration of Deferred Action for Childhood Arrivals, August 15, 2012 - September 30, 2022, https://www.uscis.gov/sites/default/files/document/data/DACA_performancedata_fy2022_qtr4.pdf.

Visa Waiver Program. Specifically, DACA recipients who had last entered the country illegally were, for some time, granted access to the Advance Parole option, allowing them to travel abroad for humanitarian, educational, or employment purposes and return legally (described in detail in the Institutional Context section). This facilitated their ability to meet the legal entry requirement –an advantage not available to other undocumented immigrants; thereby emphasizing the appeal of a mixed-status intermarriage.

Additionally, intermarriages emerged not solely from the increased *willingness* and *ability* of DACA recipients to marry a U.S. citizen for LPR status, but also from their improved assimilation into the labor market and society. While this heightened assimilation may diminish the incentive to marry a citizen, it also broadens their social networks and exposes them to a larger dating pool, offering more opportunities to meet their future citizen spouse.

In sum, we hypothesize that intermarriage between DACA-eligible migrants and U.S. citizens may have risen in response to the temporary nature of the program's benefits, the uncertainty surrounding its continuation, DACA beneficiaries' improved assimilation into the labor market and society, and their newfound access to Advance Parole, which eased the marriage green card application process. In the Conceptual Framework section, we meticulously analyze these factors during the Obama and Trump Administrations.

To conduct the analysis, we rely on data from the American Community Survey (ACS) for the period 2008 through 2019 and a difference-in-differences approach that compares intermarriage changes for DACA-eligible and DACA-ineligible non-citizens before and after the program's enactment date, differentiating between the Obama and Trump Administrations.[2] We find that DACA-eligible immigrants were less likely to marry after DACA; however, the intermarriage rate among DACA-eligible immigrants and U.S. citizens rose after the program came under siege in 2017. These two findings are suggestive of DACA eligible immigrants delaying marriage in search of a citizen spouse, and intermarrying as uncertainty regarding the future of the program grew. Our results prove robust to several specification and identification checks. Using event studies that allow us to evaluate the program dynamics over time, we show

[2] We exclude 2020 from our study because the pandemic interrupted some marriage license services. (https://www.cnn.com/2020/03/20/politics/coronavirus-casualty-marriage-licenses/index.html)

that treatment and control groups exhibited parallel intermarriage trends prior to 2012. However, the intermarriage propensity of DACA-eligible migrants spiked in 2014 –as the initial 2-year reprieve was about to expire– and, especially, from 2017 onwards –as the program's survival came under threat.[3] Our findings also prove robust to the use of alternative control groups with similar traits to DACA-eligible migrants in the treatment group, such as subgroups drawn from the main control group near DACA's eligibility cutoffs. Finally, the announcement of DACA's termination appears to have impacted DACA-eligible migrants regardless of their gender, race, ethnicity, or residency in states with a higher concentration of Hispanics, resulting in more endogamous as well as exogamous intermarriages.

Our paper makes two novel contributions. Firs, it informs about the relationship between DACA and *newly formed mixed-status intermarriages* –a subject that has been largely overlooked in the literature. Given the increasing prevalence of intermarriages between immigrants and natives in recent decades (Lichter, Qian, and Tumin, 2015; Amuedo-Dorantes, Arenas-Arroyo, and Wang, 2020), as well as the substantial reach and impact of the DACA program, it is important to understand how DACA, along with its termination threats, shaped marriage dynamics among non-citizens and citizens. Our analysis offers the novelty of focusing on newlyweds. Since 2008, the ACS has collected data on whether respondents were "married within the past year", enabling for the identification of newlyweds. While prior studies have examined how DACA impacted the overall stock of intermarriages (Gihleb *et al*., 2023), this stock varies not only with changes in intermarriage rates, but also with changes in marriage rates, divorce rates, and the naturalization of migrants marrying citizens. As a result, it interferes with the ability to identify the role played by increased uncertainty surrounding the DACA program on the choice of a partner. By focusing on new marriages, we can identify how the new policy environment may have impacted the decision to marry a citizen among DACA-eligible migrants.

The second contribution is the focus on the program's changing role amid political shifts and on the impact of *increased uncertainty about DACA's fate after President Trump's 2017 announcement*, shedding light on how immigrants navigate the ever-changing policy landscape.

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[3] The processing time for initial DACA application is about 1 month in 2012, which suggests that those who initially applied in 2012 will expire in 2014 (https://egov.uscis.gov/processing-times/historic-pt-2).

Understanding the impact of DACA and the uncertainty surrounding the program's future on intermarriage also contributes to various policy debates. *First*, it informs the debate surrounding the pros and cons of the DACA program. *Second*, the focus on intermarriage is particularly relevant considering efforts to shift from family-based migration to a "merit-based" migration system (Gelatt 2017; Holland and Ramptom, 2019). Such a shift could curtail the ability of low-skilled migrants to secure LPR status, potentially increasing the appeal of intermarriage. *Third*, it adds to the debates on policies granting LPR status to foreign-born spouses and whether DACA beneficiaries should be offered a path to LPR status and citizenship (Kerwin *et al*., 2022).

2. Institutional Context

DACA was issued through executive order by President Barack Obama in 2012 to protect approximately 1 million undocumented migrants who had arrived in the United States as children. Yet, the program does not grant them legal status, nor does it provide them with a path to LPR status or citizenship. Rather, it offers a renewable 2-year reprieve from deportation and work authorization.

Despite the temporary nature of the program's benefits, DACA recipients satisfying certain conditions have new gained access to an indirect path to securing LPR status via marriage to a U.S. citizen. The ability to secure LPR status through a marriage green card generally depends on how immigrants last entered the country. If they last entered lawfully, either with a visa or under the Visa Waiver Program, they satisfy the lawful entry requirement for adjusting their immigration status while in the United States. Therefore, after marrying a U.S. citizen, they can follow the standard process for adjusting one's immigration status. However, if migrants last entered the country unlawfully, the process is more complex. To adjust their immigration status, they need to first return to their home countries and re-enter the United States legally. Because they entered unlawfully, they would typically face a re-entry bar, which is a ban on re-entry that can last beyond a decade depending on the length of time the individual was out of status in the United States. Luckily, for some time, DACA recipients were able to avoid the re-entry bar by applying for Advance Parole –a document issued to eligible unauthorized immigrants to allow

them to travel abroad for humanitarian, educational or employment purposes and re-enter the United States legally.[4]

During the Obama Administration, DACA recipients were allowed to apply for Advance Parole. This re-entry was recognized by the United States Citizenship and Immigration Services (USCIS) as satisfying the "inspected and admitted or paroled" requirement to apply for immigration status adjustment according to the Immigration and Nationality Act (INA) § 245(a). This enabled DACA recipients to secure LPR status if they met the other immigration status adjustment requirements, such as being eligible for an immigrant visa or having an immigrant visa immediately available to them. Because immediate relatives of U.S. citizens (such as spouses, children, or parents of a citizen who is at least 21 years old) are not subject to immigration visa quotas, DACA recipients married to a U.S. citizen enjoyed immediate access to immigrant visas.[5]

When the Trump Administration announced the termination of DACA in 2017, there were approximately 689,800 *active* DACA recipients and about 800,000 migrants had benefited from DACA at some point.[6] About 45,447 had been approved for Advance Parole by August 2017 (Congressional Research Service Report, 2020), enabling them to re-enter the country legally and to qualify for status adjustment through marriage to a U.S. citizen. Preliminary data from USCIS shows that, by August 2017, a total of 59,778 DACA recipients had applied for LPR status and 39,514 had been approved.[7]

After 2017, as the Trump Administration continued to restrict the program, USCIS stopped issuing Advance Paroles but honored the ones that have already been issued. In 2019, USCIS started denying immigration status adjustments from undocumented migrants who last

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[4] For more information, please refer to: https://crsreports.congress.gov/product/pdf/R/R46570

[5] Another possibility, if they were minors when they applied for DACA, was to return to the home country and request consular processing from there. If their green card was approved, they would then return to the United States as legal permanent residents. For more details, please refer to: https://www.americanimmigrationcouncil.org/sites/default/files/practice_advisory/screening_potential_daca_requestors_for_other_forms_of_relief.pdf for more details of immigration laws.

[6] https://sgp.fas.org/crs/homesec/R46764.pdf

[7] https://www.grassley.senate.gov/news/news-releases/data-indicate-unauthorized-immigrants-exploited-loophole-gain-legal-status

entered illegally and were using the Advance Parole to have a legal re-entry.[8] Hence, between 2017 and 2019, DACA recipients approved for Advance Parole and married to U.S. citizens were able to adjust their immigration status and apply for a marriage green card.

In sum, the ability to apply for Advance Parole during the Obama Administration made it possible for DACA recipients married to a U.S. citizen to request an immigration status adjustment and secure LPR status through a marriage green card. The increased uncertainty surrounding the duration of the program's benefits and the program's survival during the Trump Administration may have motivated more DACA recipients, regardless of how they last entered the country, to consider intermarriage for LPR status.

3. Conceptual Framework

We rely on the theory of competitive marriage markets (Becker, 1993; Grossbard-Shechtman, 1993) to examine marital decisions made by DACA-eligible immigrants in the United States. [9] Specifically, we adapt this framework to analyze a marriage market where undocumented immigrants and citizens interact. Undocumented immigrants are searching for a citizen spouse, and U.S. citizens interact with and date undocumented migrants. At equilibrium, the number of undocumented immigrants willing and able to marry a U.S. citizen and the number of citizens willing to become partners of an undocumented migrant match, determining the mixed-status intermarriage rate and the intermarriage market price. DACA's design and the increased uncertainty surrounding its fate after 2017 may have shifted both the demand and supply in that intermarriage market, potentially altering the equilibrium rate. We explore the impact of DACA on the intermarriage rate during two administrations with distinct approaches to the program: the Obama Administration and the Trump Administration.

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[8] https://www.fickeymartinezlaw.com/immigration/daca-deferred-action-for-childhood-arrivals/using-daca-advanced-parole-to-help-adjust-status-i-130-i-485-versus-consular-process/

[9] This framework has been used to analyze various intermarriage outcomes, such as racial and ethnic group intermarriage, religious intermarriage, intermarriage between immigrants and natives, and intermarriage between citizens and non-citizens (Grossbard, 1983; Grossbard-Shechtman, 1993; Grossbard *et al*., 2014; Grossbard and Vernon, 2016; Wang and Wang, 2012; and Amuedo-Dorantes *et al*., 2020).

During the Obama Administration, DACA may have had conflicting effects on the demand for citizen spouses among program beneficiaries. On one hand, because DACA significantly improved the socio-economic well-being of its recipients by boosting their educational attainment and job prospects, it may have lowered the marginal benefit of marrying a U.S. citizen and, in turn, reduced the demand for citizen spouses. On the other hand, by facilitating the social and labor market integration of its beneficiaries, DACA may have broadened their social network, allowing for increased opportunities to meet and date U.S. citizens. This might have increased the demand for citizen spouses. Furthermore, the temporary nature of DACA's benefits, the uncertainty surrounding the program's future, and the newly acquired access to Advance Parole, which simplifies the path to permanent residency status, may have contributed to an increased willingness among its beneficiaries to marry U.S. citizens to secure LPR status, thereby further increasing the demand for citizen spouses.

On the supply side, the number of U.S. citizens willing to marry a DACA recipient might have increased following the program's implementation for various reasons. First, citizens may have interacted more with DACA recipients in the labor market and society in general, leading to more mixed-status romantic relationships. Second, as DACA recipients improved their economic and social status, citizens may have found DACA beneficiaries to be better spousal matches based on the assortative mating theory (Becker, 1973). Finally, DACA recipients' ability to adjust their immigration status once married, regardless of whether they entered legally or illegally thanks to the availability of Advance Parole, may have reduced the cost and uncertainty associated to a mix-status marriage, raising U.S. citizens' willingness to marry a DACA beneficiary.

In sum, based on the predictions laid out above, it is unclear how the intermarriage rate might have changed following the program's implementation during the Obama Administration. The rate could have increased, decreased, or stayed unchanged depending on the relative shifts of the demand for citizen spouses in relation to any increase in the supply of citizen spouses. In contrast, changes in the intermarriage rate during the Trump Administration might be easier to predict. The uncertainty regarding the program's continuity and increased anxiety associated with the potential termination of the temporary benefits granted by DACA may have drastically

increased the demand for citizen spouses by DACA applicants hoping to secure a marriage green card. On the supply side, it is unclear what might have happened. It is possible that some citizens, unaware of the possibility for DACA beneficiaries to adjust their immigration status after marriage, pulled out from the intermarriage market, leading to a reduction in the citizen supply in that market. However, those aware of the possibility for DACA spouses to request an immigration status adjustment may have stayed in the market, especially if they were already involved in a romantic mixed-status relationship, leaving the supply of citizen spouses unchanged. Due to the abovementioned ambiguity, we would expect the increase in the demand for citizen spouses to have outweighed any reduction in the supply of citizen spouses, potentially raising the intermarriage rate.

In sum, DACA might have impacted the intermarriage rate differently during the two administrations. While the predicted impact during the Obama Administration is ambiguous, changes to the program during the Trump Administration may have likely raised the intermarriage rate. In what follows, we formally test this hypothesis.

4. Relevant Literature

Our study is closely related to three literature strands to which we contribute: 1) one on the effects of DACA; 2) a literature on the determinants of intermarriage; and 3) the literature on migrant responses to immigration policy.

4.1. The Diversity of DACA Impacts

Many studies have examined the various impacts of DACA on immigrants. This literature has underscored the many positive impacts of DACA on eligible migrants, ranging from increased labor force participation and reduced unemployment rates (Pope, 2016), lower poverty rates and improved employment rates (Amuedo-Dorantes and Antman, 2016, 2017), higher high school graduation rates (Kuka *et al*., 2020), improved health insurance coverage and health outcomes for themselves (Bae, 2020; Giuntella and Lonsky, 2020) and their offspring (Hainmueller *et al*., 2017; Hamilton *et al*., 2021), increased homeownership (Wang *et al*., 2022), and increased independent living and integration in non-ethnic enclaves (Gihleb *et al*., 2023).

Other studies have evaluated the program's impacts beyond its effect on DACA-eligible immigrants. They find no significant negative impacts on the labor market outcomes of natives or DACA-ineligible immigrants (Battaglia, 2023), but instead find reductions in property crimes (Gunadi, 2020) and increases in GDP (Ortega *et al*., 2019).[10]

One outcome that has not received much attention until recently has been intermarriage, *i.e.*, how DACA affects eligible immigrants' decision to marry a U.S. citizen. One notable exception is the study by Gihleb *et al*. (2023), who examine how DACA impacted the living arrangements and housing behavior of undocumented immigrants in the United States. Among the various outcomes the authors examine is intermarriage, for which they found no significant impacts of the DACA program. However, their sample includes *all* individuals and measures intermarriage based on the presence of a citizen spouse. As noted in the Introduction, the focus on the stock muddles the ability to gauge the program's impact, as well as its subsequent changes during the Trump Administration, on the choice of spouse among *new* marriages.[11]

In addition, our paper is among the first analyses to focus on the role of increased uncertainty about the program's fate after the 2017 announcement. While some studies hinted that the temporary nature of the program could have limited the scope and duration of positive impacts on its beneficiaries, very few directly assess the impact of increased uncertainty surrounding the program during the Trump Administration. Patler *et al.* (2019) documented that the health outcomes of Hispanic DACA-eligible immigrants and their offspring only improved from 2012 to 2015. Giuntella *et al.* (2021) showed that the sleep benefit enjoyed by DACA-eligible immigrants disappeared rapidly after 2016. As such, we add to the existing literature by providing a better understanding of how the implementation of DACA, as well as the uncertainty

[10] An exception might have been DACA's discouragement of higher educational pursuits by granting work permits amid colleges' inability to accommodate working students in some instances (Hsin and Ortega, 2018).

[11] Specifically, when using all individuals, the intermarriage rate could change in response to: (1) changes in the rate of new intermarriages; (2) changes in the marriage rate; (3) changes in the stability of existing intermarriages; or (4) changes in the naturalization rate of non-citizens in existing intermarriages. We are interested in the role of DACA and its posterior changes to the program on the rate of new intermarriages, as it best captures the response of DACA beneficiaries to the turbulent policy environment.

surrounding the program's longevity, shaped the intermarriage rate between undocumented migrants and U.S. citizens.

4.2. The Determinants of Intermarriage

Intermarriage has been an important research subject among social scientists for quite some time given its growing prevalence (Grossbard, 1983; Kalmijn, 1998). The literature has identified individual preferences, social pressure, and the structure of the marriage market as key determinants of the intermarriage rate (as summarized in Kalmijn (1998)). Specifically, traits such as age, age at migration, education, and cultural background have been shown to play an important role in shaping intermarriage rates (Adserà and Ferrer, 2015; Chiswick and Houseworth, 2011; Furtado, 2012; Furtado and Theodoropolous, 2011; Kalmijn and Van Tubergen, 2010). Recent work has also underscored the role of immigration policy and immigrants' legal status as an explanation for intermarriage rates (*e.g.,* Amuedo-Dorantes *et al*, 2020; Adda *et al*., 2019; Azzolini and Guetto, 2017; Dziadula, 2020).

Yet, the role of policies granting temporary reprieves from deportation and work authorization, as is the case with DACA, has received limited attention. Unlike amnesties and regularizations, DACA does not provide a direct path to legal permanent residency and citizenship. Nevertheless, the ability for DACA beneficiaries married to citizens to adjust their immigration status and obtain a marriage green card, regardless of how they last entered the country, could have significantly impacted intermarriage rates. We assess if that is the case, particularly as the termination of the program was announced in 2017, creating increased uncertainty among DACA recipients about their ability to stay long-term in the United States. Understanding the role of immigration policy changes on intermarriage is critical given the prevalence of intermarriage and its implications for immigrant assimilation and its far-reaching impacts on the broader society.

4.3. Intermarriage and Immigration Policy

Several studies have investigated how immigration policy impacts immigrants' intermarriage. For example, Kelly (2010) finds an increase in marriage rates and LPR status applications after the *Legal Immigration and Family Equity Act of 2000*, which provided a temporary

window for undocumented immigrants to apply for status adjustments without leaving the country. Focusing on 9/11, Wang and Wang (2012) find that Hispanic immigrants became more likely to marry natives after the tighter immigration controls in response to the terrorist attacks. Narrowing the attention further on interior immigration enforcement, Amuedo-Dorantes *et al.* (2020) document that the intensification of the latter from 2005 through 2017 raised the intermarriage propensity of Mexican non-citizens, who became more likely to marry U.S. citizens. However, using data on deportations under the *Secure Communities* program, Bansak and Pearlman (2022) fail to find evidence of an increase in the intermarriage rate of female migrants to native men.

We contribute to this literature by examining the impact of DACA on the intermarriage decisions of undocumented immigrants, paying special attention to its initial impact during the Obama Administration and its impact during the Trump Administration when uncertainty surrounding DACA's future intensified.

5. Data and Sample Descriptive Statistics

We use data from the American Community Survey (ACS) from 2008 through 2019 to conduct our study (Ruggles *et al.,* 2022). The ACS has the advantage of being a large, nationally representative dataset surveying 1% of the U.S. population each year. The dataset is well-suited for our analysis for several reasons. First, its large sample size facilitates the analysis of questions pertaining to minority groups. Secondly, the ACS provides detailed information on demographic traits necessary to determine DACA eligibility, including individuals' place of birth and citizenship status, as well as information on their year of arrival to the United States. Importantly, since 2008, the ACS allows for the identification of newly married individuals, *i.e.*, within the past year. Combining that information with their spouses' characteristics allows us to evaluate spouse choices among DACA-eligible immigrants. Finally, the ACS is notable for its consistency and high-quality data over extended periods of time, enabling us to gauge the impact of changes in the political and policy environment on marriage patterns.

Our primary sample consists of non-citizen immigrants who do not live in group quarters and satisfy the following three conditions: 1) they were newly married during the past year, 2)

they are still married with a spouse present at the time of the survey, and 3) their spousal characteristics are not missing.[12] As explained earlier, we focus on spousal choices of newlyweds to capture the response to immigration policy changes. However, we also examine the marriage decision and check the robustness of the intermarriage effect of increased DACA uncertainty using all individuals. Doing this yields information on intermarriage effects that could be interpreted as extensive and intensive margin impacts.

To be eligible for DACA, immigrants must meet the following criteria: 1) have no lawful immigration status on June 15, 2012 and at the time of filing the request; 2) be under the age of 31 as of June 15, 2012; 3) have arrived in the United States before the age of 16; 4) have continuously lived in the United States since 2007; 5) be currently enrolled in school or have a high school degree or a General Education Development (GED) certificate, or be a honorably discharged veteran of the Coast Guard or Armed Forces of the United States; 6) have not been convicted of a felony, significant misdemeanor, or three or more other misdemeanors, and do not pose a threat to national security or public safety.[13] Following Pope (2016) and Amuedo-Dorantes and Antman (2016), we define DACA-eligible immigrants (*treatment group*) as non-citizens who arrived before age 16, were under the age of 31 by June of 2012, had lived in the United States since 2007, and are either currently in school or have a high school diploma or GED. Our sample of DACA eligible newlywed non-citizens is 16 to 38 years old. About 47.3% are men and 78.3% are Hispanic. They have an average of 13.23 years of education and have lived in the United States for an average of 17.14 years (Column 1, Table A1). Using non-citizens as proxies for undocumented immigrants may risk including legal migrants in the treatment group, potentially downward biasing our estimates (Pope, 2016). Therefore, we also conduct the analysis using a

[12] Appendix Table A.2 (Panel C) shows the rates of spousal absenteeism rates for the main treated and control groups used in the analysis. Spousal absenteeism rates for DACA-eligible immigrants somewhat decreased over time, whereas those of DACA-ineligible immigrants did the opposite. This makes sense if DACA-eligible immigrants became more likely to marry citizens and, therefore, to have spouses unexposed to the threat of deportation. Unfortunately, this hypothesis is not testable due to the lack of data on absent spouses. However, if absent spouses were more likely to be non-citizens, as we would expect, any reduction in spousal absenteeism rates among DACA-eligible immigrants would result in lower-bound estimates of their estimated intermarriage propensities.

[13] See: https://www.uscis.gov/DACA

subset of the treatment group that is more likely to be composed of undocumented immigrants based on the residual method used by Borjas (2017).[14]

Our main *control group* consists of non-citizen immigrants of similar age as DACA eligible immigrants (*i.e.*, between 16 and 38 years of age), who are likely undocumented, but not eligible for DACA. On average, this group is 30 years old, 52% are men, 55% are Hispanic, they have 13 years of education, and have lived in the United States for 7 years (column 2 of Table A1). In addition to this main control group, we also consider four alternative control subgroups to better match the characteristics of our treatment group. *First*, we use subsets of the main control group, *i.e.*, likely undocumented immigrants who missed any of the observable DACA cutoffs, as would be the case with likely undocumented migrants who: (a) arrived after age 16 and before age 20, (b) were between 31 and 36 years of age in June 2012, or (c) arrived within 5 years after 2007. By comparing migrants in the treatment and control groups who are close to the DACA cutoffs, we rely on an identification strategy in the spirit of a regression discontinuity design. *Second*, we consider using a subset of the main control group in the same age range as those in the treatment group in every survey year.[15] *Third*, we experiment with a subset of the main control group with similar U.S. migration spells as those in the treatment group. *Lastly*, we consider a subset of the main control group with at least a high school degree/GED to better match the treatment and control group based on their educational attainment. Summary statistics for the alternative control groups are provided in Table A.1.

Figure 1 depicts the intermarriage rate (percentage of non-citizens married to a U.S. citizen) among the newlyweds. Both control and treatment groups experienced similar trends before 2012 when the DACA program was announced. However, around 2014, when the 2-year benefits initially granted by DACA were about to expire and required renewal, intermarriage rates significantly rose for the treatment group by about 20 percentage points. This increase was shortly followed by a decrease in the intermarriage rate one year later, as DACA renewals came

[14] Specifically, anyone who does *not* satisfy the following conditions: arrived before 1980, receives public benefits or Medicare, works for the government, is a veteran, is from Cuba, or works in an occupation that requires licensing, is considered likely undocumented.

[15] The age cutoff of 31 by 2012 leads to changes in the age range of DACA eligible immigrants over time.

in. Nevertheless, the intermarriage rate increased thereafter for the treatment group as the presidential campaign came into full swing and the future of the DACA program became increasingly uncertain.

Table A.2 reveals the changes in intermarriage rates among our treatment group (Panel A) and control group (Panel B) over the three periods of study: *before DACA (2008-2012)*, *during DACA under President Barack Obama (2013-2016)*, and *during DACA under President Donald Trump (2017-2019)*. The intermarriage rate among DACA-eligible immigrants increased by 21 percent from *before DACA* to *after DACA under President Trump*. In contrast, the increase among DACA-ineligible immigrants over the same period averaged 9 percent. In addition, while the intermarriage rate rose for all migrants from *before* to *after* DACA, most of the increase occurred between 2017 and 2019 as the program faced termination.

6. Methodology

We estimate a difference-in-differences (DD) model to gauge the impact of DACA on the intermarriage decision of undocumented immigrants. This approach compares changes in the intermarriage rates of DACA-eligible immigrants to changes in the intermarriage rates of other undocumented immigrants not eligible for DACA, following the program's implementation. The control group satisfies two key conditions for identifying the causal impact of DACA. *First*, it consists of undocumented immigrants not eligible for DACA; therefore, DACA should, at most, have negligible second-order impacts on their marital decisions. *Second*, just as migrants in the treatment group, those included in the control group are undocumented and, thereby, more likely to serve as a suitable counterfactual when gauging how intermarriage rates would have trended among DACA-eligible migrants in the program's absence. As we show later, treatment and control groups displayed similar intermarriage trends prior to DACA, allowing for a better identification of the program's impact on intermarriage. We also experiment with alternative control groups consisting of migrant subgroups drawn from the main control group to closely match specific traits of DACA-eligible immigrants by exploiting discontinuities in the DACA eligibility cutoffs. Using DACA-ineligible undocumented immigrants as the control group also

allows us to rule out the impacts of nationwide changes in attitudes towards immigrants and better capture the effect of DACA and its termination announcement.

As discussed earlier, our post-DACA period is composed of two subperiods characterized by distinct political and policy environments: 1) the Obama Administration (2013-2016), and 2) the Trump Administration (2017-2019). To capture heterogeneous policy impacts during drastically different policy environments, we estimate the following DD linear probability model which enables us to evaluate the program's impact after its enactment, as well as its impact after President Trump announced the termination of DACA:

$$(1) \quad Y_{i,s,t} = \alpha + \beta_1 DACA_i * Period(2013-2016)_t + \beta_2 DACA_i * Period(2017-2019)_t + \beta_3 DACA_i + \beta_4 Period(2013-2016)_t + \beta_5 Period(2017-2019)_t + X_{i,s,t}\delta + \eta_s + \eta_t + \varepsilon_{i,s,t}$$

where $Y_{i,s,t}$ is a dummy variable equal to 1 if the newly wedded respondent *i* in state *s* and year *t* has a citizen spouse, and 0 if the newly wedded respondent has a non-citizen spouse. Since the sample includes those who report getting married in the past 12 months, the exact timing when the marriage occurred could either be the survey year or one year prior. We use the year of marriage, instead of the survey year, to identify the exact year marriage took place and accurately measure the impact of DACA.

The variable $DACA_i$ is a dummy variable that equals 1 if the respondent belongs to the treatment group, *i.e.,* non-citizen immigrants eligible for DACA, and it is zero otherwise. As discussed in Pope (2016), the treatment group may include some documented immigrants, in which case the intent-to-treat estimate would provide a lower bound estimate of the program's impact. In robustness checks, we experiment with using an alternative treatment group –a subgroup of our main treatment group consisting of migrants likely undocumented based on the residual approach used by Borjas (2017) to identify undocumented immigrants.

The dummy variable $Period(2013-2016)_t$ equals 1 if the year of marriage falls between 2013 and 2016, and 0 otherwise. $Period(2017-2019)_t$ equals 1 if the year of marriage falls between 2017 and 2019, and 0 otherwise. The coefficient β_1 measures the effect of DACA on DACA-eligible immigrants over the 2013 through 2016 period when compared to the pre-DACA period. The coefficient β_2 captures the effect of increased uncertainty surrounding the fate of the

program on the intermarriage rate of DACA-eligible migrants after 2017, relative to before DACA.[16]

Because DACA-eligible and DACA-ineligible immigrants have different traits that may affect intermarriage decisions, we control for key demographic characteristics, $X_{i,s,t}$, including gender, age, age squared, years of education, race, years since migration, and country of birth fixed effects. By controlling for those traits, we purge out the effects of demographic characteristics on DACA-eligible immigrants' marriage outcomes.[17] We further control for year of marriage fixed effects, η_t, to capture national trends affecting the intermarriage rate of all immigrants, such as increased societal acceptance of intermarriages over time. State fixed effects, η_s, are also included to capture time-invariant state level heterogeneity shaping intermarriage rates, as is the case with different political ideologies affecting attitudes toward immigrants or the relative size of the intermarriage market. Standard errors are heteroskedasticity-robust and clustered at the state level to allow for arbitrary correlations within states in the error structure.

7. Intermarriage Responses to DACA's Program Design and its Termination Threat

7.1. Main Findings

We start by estimating the impact of DACA on the propensity of becoming a newlywed (the extensive margin), to then zoom in on its effect on the likelihood of intermarriage among those newlyweds (the intensive margin). We present three model specifications that progressively add various temporal and geographic fixed effects, as well as demographic and migration-related controls to the model.

Based on the estimates from the most complete specifications for the two models (*i.e.*, columns 3 and 6), even though DACA-eligible migrants were 9 percent more likely to get married than their non-eligible counterparts before DACA, they became 16 percent less likely to do so

[16] The estimated coefficients β_4 and β_5 are not reported in the results as they are collinear with the year fixed effects.

[17] Appendix Table A.3 displays the summary statistics for our main DACA-eligible and DACA-ineligible groups over the various time periods. As shown therein, there were not significant changes in the composition of the groups. Later, in Section 7.2, we show how the results are robust to including interaction terms of all control variables with the Post2012 variable to account for any changes in individual characteristics after DACA.

immediately after its announcement and through 2016.[18] If we then investigate how the program shaped these newlyweds' choice of partner, we observe how DACA-eligibles, who already were 7.5 percentage points (14 percent) more likely to intermarry than their non-eligible counterparts before DACA, experienced a further increase in their propensity to marry a citizen once the program came under threat. Relative to the pre-DACA period, the intermarriage propensity of DACA-eligible immigrants rose by 10 percentage points between 2017 and 2019 –a 20 percent increase when compared to the intermarriage rate of undocumented immigrants not eligible for DACA. The two sets of results suggest that DACA-eligible migrants may have delayed their marriage in search of a citizen spouse.

To put these results in the context of prior findings in the literature, Appendix Table A.4 displays the results using *all* marriages among the population, as opposed to focusing on newlyweds. Because of the drop in the marriage rate (column 1) and the increase in the divorce rate (column 2) among the DACA-eligible following the program adoption, we generally observe a drop in their propensity to have a citizen spouse (column 3).[19] However, if we further model the propensity to have recently married to a citizen spouse (column 4), we observe a 12 percent decline in that propensity among the DACA-eligible during the Obama Administration –likely due to the drop in marriages during that period, but a highly significant increase of 18 percent during the Trump Administration –an impact on par with the estimate in Table 1.

A concern with the results in Table 1 is that the difference in intermarriage rates between DACA-eligible migrants and their non-eligible counterparts may have predated the program's enactment. While treatment and control groups did not need to have similar intermarriage *rates* before DACA, they exhibited alike intermarriage *trends*. To show that, we conduct the following event-study analysis, which examines the intermarriage dynamics up to 4 years before and 7 years after DACA was issued:

$$(2) \qquad Y_{i,s,t} = \alpha + \sum_{a=2008, a\neq 2011}^{2019} \delta_a D_a * DACA_i + \beta DACA_i + X_{i,s,t}\delta + \eta_s + \eta_t + \varepsilon_{i,s,t}$$

[18] The percentage change is calculated based on the sample mean of the dependent variable: 100*0.0037/0.0397=9.32%, 100*0.0062/0.0387=15.62%.

[19] Our results are qualitatively consistent with the findings of Gihleb et al. (2023), with some discrepancy possibly due to differences in the choice of sample, definition of citizen spouse, and control variables.

where the $Post2012_t$ indicator in equation (1) is replaced by single period indicators for the years preceding and following DACA. The variable D_a is a dummy for each year between 2008 and 2019, except for 2011, which is left out as the reference year.

Figure 2 displays the coefficients from the event study, along with 95 percent confidence intervals.[20] All estimates for the years preceding the announcement of DACA are close to zero, strongly supporting the assumption that there were no differential intermarriage trends between the treatment and control groups prior to DACA implementation. It is also clear from the graph that intermarriage rates significantly increased in 2014, as the initial two-year reprieve from deportation and work authorization issued in 2012 was coming to an end and renewals were needed. In 2015, the rates temporarily dropped, but began to rise again as the deadline for the second renewal (in 2016) approached and the presidential campaigns were in full bloom. After 2017, following the Trump Administration's announcement of its intention to terminate the program, intermarriage rates significantly rose and remained statistically different from zero through 2019. The increase in the intermarriage propensity immediately after the program's termination announcement and subsequent years suggests the higher intermarriage propensity of DACA-eligible migrants was not solely the byproduct of those dating U.S. citizens rushing to get married.

In sum, intermarriage rates among DACA eligible migrants, when compared to non-eligible migrants with alike traits, appear to have significantly risen following the threats to end the program, suggesting that uncertainty surrounding their future immigration status might have played a key role in shaping undocumented immigrants' marital decisions.

7.2. Robustness Checks

To gauge the reliability of our findings, we first experiment with alternative treatment and control groups. In Panel A of Table 2, we use the main treatment group from Table 1 along with different control groups –all of which are subsets drawn from our main control group but offer a close resemblance to the treatment group. For example, in the first column, we use a subset of likely undocumented immigrants that are not eligible for DACA since they narrowly missed

[20] Table A.5 displays the estimated coefficients and standard errors for the event study.

the program's cutoffs for age at entry, year of entry, or age at the time DACA was announced. Next, in the second column, we use a different subset of the main control group –this time matched by age to those in the treatment group, enabling us to address any age-related disparities in marital propensities as DACA-eligible migrants grew older over the sample period. In the third column, we experiment with a subset of the main control group that arrived as children. Finally, in the last column, we consider a control group consisting of those in the main control group with a high school diploma or GED –a DACA requirement for those not enrolled in high school. As shown in Panel A of Table 2, all estimates point to the intermarriage propensity rising anywhere between 8 to 11 percentage points among DACA-eligible migrants, when compared to their different control group counterparts, after 2017.[21]

In Panel B of Table 2, we repeat the exercise in Panel A using an alternative treatment group –namely, a smaller group of DACA-eligible immigrants who would be considered likely undocumented based on the residual method approach used by Borjas (2017). We continue to find that the intermarriage propensity rose anywhere between 8 and 11 percentage points among the treatment group, when compared to the different control groups, after 2017.[22]

Finally, in Panel C of Table 2, we repeat the estimations in Panel B focusing on Hispanic respondents to make the treatment and control groups more comparable. Our findings prove rather consistent, with the intermarriage propensity rising anywhere between 9 and 12 percentage points among Hispanics in the treatment group, relative to their counterparts in the various control groups, after 2017.

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[21] Figure A.1 and Columns 2 to 5 in Table A.5 in the appendix display the results from the corresponding event studies. They generally exhibit a patter similar to the one documented by Figure 2. There were increases in the propensity to intermarry taking place in 2014, when the initial reprieves from deportation and work authorization from DACA were expiring, as well as after 2016, as the first round of DACA renewals were expiring and the termination of the program was later announced. Also, with one exception (namely, the third alternative comparison group in a couple of occasions), we find no evidence of differential pre-trends in intermarriage before DACA.

[22] In addition, to address any concerns regarding potential changes in demographic traits of treated and control groups, we re-estimate the models including interaction terms of all respondents' individual characteristics with a *Post2012* indicator. As shown in Appendix Table A.6, the results prove robust to the inclusion of this extensive list of controls.

In sum, the findings appear robust to the use of different treatment and control groups, and do not seem to be masking increases in the marriage propensity of DACA-eligible migrants or, for that matter, changes in their divorce likelihood. [23]

7.3. Heterogeneous Impacts

In this section, we zoom in closer to learn about heterogeneous impacts of the program by gender, race, or geographic location. Panel A of Table 3 displays the results from the analysis by gender, Panel B informs about the role of race and ethnicity, and Panel C examines if the impact of the threat of terminating DACA on DACA-eligible migrants' propensity to intermarry stemmed from those residing in states with a higher share of Hispanics. While we still observe a significant increase in the propensity to intermarry among men and women who were DACA-eligible after 2017 when compared to their DACA-ineligible counterparts, the increase among women was nearly twice as large as the increase among men, as well as statistically more significant.[24] Likewise, the results in Panel B clearly reveal that the threat of phasing out DACA induced those eligible for DACA to marry U.S. citizens, regardless of whether they were from their same race and ethnicity, after 2017. Finally, the results in Panel C show that, even though DACA-eligible migrants residing in states with a higher concentration of Hispanics were 8 percentage points more likely to intermarry, their propensity to intermarriage rose similarly across all states.[25]

In sum, the termination threat of the DACA program was significant enough to: (1) raise the intermarriage rate of both male and female undocumented immigrants, even though the increase was larger for the latter; (2) promote both endogamous and exogamous intermarriages

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[23] We use eight ethnicity/race groups: Hispanic Whites, Hispanic Blacks, Hispanic Asians, Hispanic of other race, and the non-Hispanic counterparts of the aforementioned groups.

[24] This gender difference is also confirmed by the event studies in Appendix Figure A3.

[25] The ten states with the largest concentration of Hispanics are: California, Texas, Florida, New York, Illinois, Arizona, New Jersey, Colorado, New Mexico, Georgia. See: https://cervantesobservatorio.fas.harvard.edu/sites/default/files/hispanic_map_2017en.pdf

to U.S citizens; and (3) occur across all states, regardless of their concentration of Hispanics. In what follows, we explore potential mechanisms at play.

8. Mechanisms

We consider three mechanisms possibly driving the results. *First*, we evaluate the role of *citizenship*, versus simply nativity, in driving non-citizens' intermarriage patterns. Only the former should matter if the rationale for the observed increase was DACA-eligible migrants' interest in adjusting their immigration status via marriage. *Second*, we examine the role played by *awareness* about DACA. This is a robustness check that, at the same time, underscores the channels through which migrants may have learned about changes in immigration policy. *Lastly*, we explore changes in the "*quality"* of the marriage match, which could reflect the extent to which observed changes in the intermarriage rate were driven by shifts in the demand (in response to increased uncertainty about DACA's future) and/or supply (in response to increased interactions of citizens with more fully integrated DACA recipients) in the intermarriage market.

8.1. The Role of Spousal Citizenship

Our main dependent variable is defined as marriage to a U.S. citizen, irrespective of whether the citizen is a native or naturalized immigrant. If uncertainty about their future immigration status and a desire to qualify for a marriage green card ensuring their LPR status is a main factor driving the increasing intermarriage rate of DACA-eligible migrants after 2017, we would expect to observe higher intermarriage rates to both natives and naturalized immigrants. Panel A in Table 4 shows the results from repeating our analysis for both types of marriages. DACA-eligible migrants became more likely to intermarry with both natives and naturalized migrants after 2017; although the increase was twice as large with natives (a 7.5 percentage point increase) than with naturalized immigrants (a 3-percentage point increase). Either way, these estimates suggest that spousal *citizenship* is what mattered.

Further suggestive evidence of that being the case is the fact that the share of DACA-eligible migrants cohabitating with a citizen vs. a non-citizen was significantly higher during the

Trump Administration, as shown in Figure 3 and Appendix Table A.8.[26] This finding is suggestive of a growing preference of DACA-eligible migrants to date citizens, especially after the program's termination announcement. Therefore, even if some of the increase in the intermarriage rate measured in Table 1 was the result of a simple shift in the timing of marriage –namely, the decision to accelerate the time of marriage as uncertainty regarding the program grew, DACA-eligible migrants also appear to have become more likely to partner with citizens in response to the increase in uncertainty surrounding the policy.

8.2. The Role of Immigration Policy Awareness

The DID strategy clearly shows a change in DACA-eligible immigrants' intermarriage patterns, especially since the Trump Administration announced its plan to terminate DACA. To ensure our estimate is capturing the impact of increased uncertainty surrounding DACA, we evaluate if there is a direct link between immigrants' concerns over DACA and the intermarriage rate growth rate. To that end, we gather data on the Google Trend (GT) index measuring the relative volume of online searches related to DACA at the state level over the period of study.[27] Specifically, we search for "Deferred Action for Childhood Arrivals" topic under the "Interest by subregion" to gather the popularity of the search term across states starting from 2012.[28] We use the "topic search" instead of the "term search" because the latter provides results that are very specific –only including those that match all keywords of the term in the language given. In contrast, a "topic search" provides results that include a group of search terms that share the same concept as well as in any language. This is particularly important considering immigrants may search for information about DACA in their native language.

[26] IPUMS's spousal characteristics are available for not only married but also cohabiting couples, allowing us to evaluate the citizenship status of the cohabiting partner.

[27] Search indices have been increasingly used by social scientists to measure issue salience (Mellon, 2014), public attitudes (Stephens-Davidowitz, 2014), and as proxies for deportation fear among Hispanic residents (Alsan & Yang, 2019). Validations of these indices suggest they overlap with more traditional public opinion polls (Mellon, 2014), revealing socially sensitive attitudes that traditional surveys struggle to capture (Stephens-Davidowitz, 2014).

[28] We do not include the periods before 2012 because the program did not yet exist.

Figure A2 shows the temporal trend for the search results on the DACA topic. The search started to increase substantially toward the end of 2016 as candidate Donald Trump advocated for the termination of DACA during his presidential campaign.[29] The search peaked in September of 2017, when the Trump Administration formally announced the termination of DACA. The topic remained most popular throughout 2018 and 2019.

At this juncture, it is worth noting that the GT index calculates the relative volume of queries for a given topic in a geographic area at a given time.[30] Since 2009, more than 70 percent of U.S. residents had internet access,[31] and 89 percent of web queries in the U.S. were made from the Google search engine.[32] If migrants did not enjoy the same access to mobile devices and internet that permit online querying, our estimates would be downward biased.

The GT index can be downloaded by "interest over time" to capture the temporal trend in searches for a given term and geographic area, or by "interest by subregion" to capture the variation in searches across states in each period. We use the "interest by subregion" to collect information on the GT index capturing variation in public awareness and interest about DACA across states from 2012 through 2019. Following the literature (Alsan and Yang, 2019; Burchardi *et al*., 2019; Amuedo-Dorantes and Antman, 2020), the index for DACA can be described as follows:

$$(3) \qquad GT\ index_{DACA,s,t} = \left[100 \times \frac{Share_{\ DACA,s,t}}{max_{s,t}(Share_{\ DACA,s,t})} \right]$$

where $Share_{\ DACA,s,t}$ measures the normalized Google search volume for DACA by calculating the share of searches for DACA as a percentage of all searches in state s at year t. It is then indexed

[29] Before 2012, searches for the DACA topic were practically null.

[30] The geographic area of the search is narrowed based on computer IP-address. The use of a virtual private network (VPN) can disguise IP-address locations, which would throw off the geolocation accuracy of Google Trends results. The U.S. has one of the lowest VPN usage rates in the world (https://www.globalwebindex.net/reports/vpn-usage-around-the-world). Therefore, we assume the use of VPN software is relatively low and does not compromise the representativeness of our state-level search results.

[31] See: Computer and Internet Use Data Tables (census.gov).

[32] Figure reflects search engine market share retrieved for the period 2009 (earliest one available) to the end of 2019: https://gs.statcounter.com/search-engine-market-share/all/north-america/#monthly-200901-201912

to the state with the highest observed share of searches for DACA in that year, measured by $max_{s,t}(Share\ _{DACA,s,t})$.[33] As such, the GT index on DACA reflects the ratio of share of DACA-related searches made in state *s* in year *t* relative to the share of DACA-related searches made in the state with the highest share of searches for DACA that year.

Because the GT index is tied to the top state in each period, we take the log of the GT index along with year fixed effects to recover the effect of search shares related to DACA. Taking log of the GT index, we get: $\log(GT\ index_{DACA,s,t}) = \log(Share\ _{DACA,s,t}) - \log(max_{s,t}(Share\ _{DACA,s,t}))$. Since $max_{s,t}(Share\ _{DACA,s,t})$ represents the state with the largest share of DACA searches each year, it is common to all states each year and can be controlled for using time fixed effects. By taking log of the GT index and including year fixed effects, we can then estimate the effect of DACA-related search shares at the state-year level using the following model:

$$(4) \quad Y_{i,s,t} = \alpha + \beta_1 DACA_i * log(GT\ index_{DACA,s,t}) + \beta_2 DACA_i + \beta_3\, log(GT\ index_{DACA,s,t}) + X_{i,s,t}\delta + \eta_s + \eta_t + \varepsilon_{i,s,t}$$

Table 5 displays the results from our analysis. In states with a higher volume of DACA related searches, DACA-eligible immigrants became significantly more likely to marry a citizen compared to other non-eligible counterparts. This was true for both men and women, suggesting that concerns over the policy might have been a key driver for intermarriage rate changes.

8.3. The Role of Demand vs. Supply Led Shifts in the Intermarriage Market

To conclude, we look at whether the increase in intermarriage rates was accompanied by changes in the so-called marriage *quality*, potentially reflective of changes in the market price of intermarriage. By assessing changes in the *price*, we might be able to decipher if the observed increase in intermarriage *quantity* was demand- and/or supply-led. Specifically, *if the increase was mainly driven by an increase in demand for citizen spouses*, we would expect a higher equilibrium market price for intermarriage. That is, DACA recipients would pay a higher price to marry a citizen, which could be reflected in DACA beneficiaries marrying at a younger age or marrying

[33] The Google Trends index is a relative measure of search interest that ranges from 0 to 100. The state with the highest search volume at time t takes a value of 100 and the index scales values relative to this top state. For instance, a state index of 25 indicates that the volume of online queries were 25 percent what they were in the state with the largest number of queries that year.

someone older, less educated, or in a worse economic situation, for instance. In contrast, *if the increase was mainly driven by an increase in the supply of citizens in the intermarriage market* due to the increased integration of DACA beneficiaries into their social networks, we would expect to see DACA recipients marrying citizens embodying better conditions, as DACA recipients would be paying a lower price to marry a citizen. Finally, *if both demand and supply increased similarly,* the equilibrium intermarriage price may have remained unchanged.

While many spousal and marriage match quality traits are unobservable, we evaluate some observable characteristics of DACA-eligible immigrants and their spouses, including age of marriage, years of education, employment status, spouse's age of marriage, spouse's years of education, and the spouse's employment status. We regress these variables on pair-wise interaction terms of three variables –whether an immigrant is eligible for DACA, whether an immigrant is married to a citizen, and each of the two post-DACA period indicators (2013-2016 and 2017-2019) – to see if there have been any significant changes for those who marry a citizen during the two post-DACA periods, when compared to DACA-ineligible undocumented immigrants before DACA. The triple interaction terms measure whether the characteristics changed for DACA eligible immigrants with a citizen spouse during one of the post-DACA periods.

Tables 6A and 6B estimate the models separately for women and men. Table 6A shows that female DACA-eligible migrants marrying a U.S. citizen had close to 1 additional year of education and were 17 percentage points more likely to be employed, whereas their citizen spouses where close to one and a half years older and 8 percentage points less likely to have a job.[34] The mismatch in quality is suggestive of the higher price female DACA-eligible migrants had to pay for intermarriage, which along their higher intermarriage rate, supports the hypothesis of a dominant rightward shift in the demand for citizen spouses.[35]

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[34] The fact that the 3-way interaction term coefficient is not statistically significant during the Obama Administration indicates that this is not the result of DACA improving their education and employment outcomes, but rather a change in the match quality.

[35] Appendix Table A.7 confirms these findings looking, instead, at the gap in age and educational attainment between the spouses. If anything, female DACA-eligible migrants marrying U.S. citizens were more likely to be younger and more educated than their citizen spouses.

Unlike their female counterparts, DACA-eligible men were 7 percentage points more likely to be employed, but also married U.S. citizen spouses who were, on average, more than 3 years younger –a trait characteristic of "trophy wives".[36] In other words, the "quality" of both partners appears to have risen, suggesting the price paid by DACA-eligible men for marrying a citizen might have remained unchanged. This finding, along with the fact that the intermarriage rate barely changed for DACA-eligible men (second column in Panel A of Table 3), hints on potentially small to non-existent shifts in either the demand or the supply of citizen spouses in their intermarriage market.

We can only hypothesize about potential reasons for the distinct outcomes for DACA-eligible male and female immigrants. One possibility could be that they reflect gender differences in their attitudes toward risk. Numerous studies have documented that women tend to be more risk averse than men.[37] If so, amid increased uncertainty about the future of DACA, female beneficiaries may have prioritized intermarriage to secure LPR status more than men.

In sum, we find some suggestive evidence of female DACA-eligible migrants paying a higher price for marrying a U.S. citizen, hinting on a likely dominant increase in the demand for citizen spouses as the rationale for the observed increase in their intermarriage rate (first column in Panel A of Table 3). In contrast, it is unclear if the price for marrying a citizen changed for male DACA-eligible migrants. This result suggests minimal shifts in either the demand or supply of citizen spouses as the rationale for their largely unchanged intermarriage rate (second column in Panel A of Table 3).

9. Summary and Conclusions

We examine how the *2012 Deferred Action for Childhood Arrivals* (DACA) and uncertainty regarding its fate have shaped the intermarriage propensity of undocumented migrants. Specifically, we take into consideration the temporary nature of the benefits granted by DACA, the uncertainty regarding the program's survival after 2017, and the legal loophole that the

[36] In addition, as shown in Appendix Table A.7, male DACA-eligible migrants marrying U.S. citizens were slightly less educated than their citizen spouses.

[37] See Filippin (2022) for a summary of that literature.

DACA program offered (the ability for DACA-eligible migrants married to a U.S. citizen to request a marriage green card, even those who last entered the country illegally thanks to the Advance Parole) as potential factors shaping the intermarriage rate of DACA-eligible migrants. We hypothesize that, amid greater uncertainty about the program's fate, DACA-eligible migrants might have become more likely to marry a citizen, allegedly to adjust their immigration status.

Focusing on newly married non-citizens in the ACS data from 2008 to 2019 and using a difference-in-differences approach that exploits the discontinuity in the DACA eligibility cutoffs, we show that, relative to undocumented immigrants ineligible for DACA, DACA-eligible immigrants became 20 percent more likely to marry U.S. citizens after the Trump Administration announced the termination of the program in 2017.[38] Event study analyses confirm that control and treatment groups exhibited alike intermarriage trends prior to DACA; however, the intermarriage rate of DACA-eligible migrants briefly rose in 2014 –around the two-year renewal deadline for DACA recipients, to drastically increase and remain at a higher level after the program came under siege in 2017.

Our results are robust to the use of alternative control groups that more closely mimic the characteristics of the treatment group, such as those who just missed the age, year of arrival, and age of arrival cutoffs of DACA's eligibility criteria. Our findings are also robust to the use of an alternative treatment group that more closely captures the intent-to-treat group –namely, undocumented immigrants eligible for DACA. Additionally, the increased propensity of DACA-eligible migrants to intermarry after 2017 does not appear to be confounded by simultaneous changes in their propensity to marry nor divorce. Finally, heterogeneity analyses show that the increase in intermarriage impacted DACA-eligible immigrants across the board, regardless of gender (even though the impact was greater for female migrants) or residency in states with a higher or lower share of Hispanics, leading to more exogamous and endogamous marriages.

[38] It is worth keeping in mind this is an *intent-to-treat* estimate. The treatment effect is probably much greater among DACA recipients. Using data from the Migration Policy Institute website (https://www.migrationpolicy.org/programs/data-hub/deferred-action-childhood-arrivals-daca-profiles), we estimate the take-up rate to be approximately 0.51 in 2022. This means that the treatment effect among those treated would be approximately double in size –namely, close to 40 percent.

To conclude, we explore several mechanisms potentially at play. We show that intermarriage rose among both native and naturalized citizens, suggesting it is the spouse's *citizenship* status that truly mattered, as we would expect if the goal was to be able to adjust one's immigration status via marriage to a U.S. citizen. In addition, it was not the result of a simple acceleration of the marriage timing, as we also observe DACA-eligible migrants became more likely to partner and cohabitate with citizens. We also show that awareness of the program changes was at the root of these behaviors. Using a Google Trend index, we show that, in states and years when the search for "DACA" was higher, intermarriage rates rose, suggesting that awareness about changes to the DACA program was probably crucial in shaping intermarriage rates. At last, an analysis of the traits of DACA-eligible migrants and their spouses suggests that DACA-eligible female migrants married to citizens paid a higher intermarriage *price* –namely, they were more educated and likely employed, even though their citizen spouses were older and less likely to have a job. This finding, along with the higher intermarriage rate among female DACA-eligible migrants and U.S. citizens, is suggestive of dominant increases in the demand for citizen spouses by DACA-eligible female migrants as uncertainty about the duration of DACA's benefits mounted. As noted above, some of these marriages may have occurred after dating or cohabitating, but DACA-eligible migrants also became more likely to partner with a citizen. Overall, the findings inform on how the uncertain future of DACA impacted critical life choices of program-eligible migrants, as is the case with marital decisions.

Approximately 83 percent of DACA recipients have resided in the United States for more than 15 years, 97 percent have completed High School and 45 percent college, 38 percent of them own or are buying their homes, and 85 percent reside in households with incomes above the poverty level (Kerwin *et al*., 2022). DACA not only allowed them to have better jobs, but also increased their sense of belonging, mental health, and overall integration in our economy (Alulema, 2019; Wong and Valdivia, 2014). Their precarious legal status can harm their employment, wage, housing, health care, education, and political integration, likely disadvantaging subsequent generations (NAS, 2015). Several pending bills and potential legalization programs have been recently proposed aimed at addressing their liminal migration status, such as the *American Dream and Promise Act of 2021*, the *Dream Act of 2021*, and the *U.S.*

Citizenship Act of 2021. Our findings bring attention to this ongoing policy debate given the life-changing implications of increased uncertainty surrounding the future of DACA on their beneficiaries and families.

References

Adserà, A. and Ferrer, A., 2015. "Immigrants and Demography: Marriage, Divorce, and Fertility." In *Handbook of the Economics of International Migration* (Vol. 1, pp. 315-374). North-Holland.

Adda, Jerome, Paolo Pinotti, and Giulia Tura. 2019. "There's More to Marriage than Love: The Effect of Legal Status and Cultural Distance on Intermarriages and Separations." Mimeo.

Alsan, Marcella, and Crystal Yang. 2019. "Fear and the safety net: Evidence from Secure Communities." NBER Working Paper No. W24731. https://doi.org/10.2139/ssrn.3162437

Alulema, Daniela. 2019. "DACA and the Supreme Court: How We Got to This Point, a Statistical Profile of Who is Affected, and What the Future May Hold for DACA Beneficiaries." *Journal on Migration and Human Security* 7(4): 123-166.

Amuedo-Dorantes, Catalina, and Francisca Antman. 2016. "Can authorization reduce poverty among undocumented immigrants? Evidence from the Deferred Action for Childhood Arrivals program." *Economics Letters* 147: 1-4.

Amuedo-Dorantes, Catalina, and Francisca Antman. 2017. "Schooling and labor market effects of temporary authorization: Evidence from DACA." *Journal of Population Economics*, 3, 339–373.

Amuedo-Dorantes, Catalina, Esther Arenas-Arroyo, and Chunbei Wang. 2020. "Is Immigration Enforcement Shaping Immigrant Marriage Patterns?" *Journal of Public Economics*, Vol. 190. https://doi.org/10.1016/j.jpubeco.2020.104242

Azzolini, Davide, and Raffaele Guetto. 2017. "The Impact of Citizenship on Intermarriage: Quasi-Experimental Evidence from Two European Eastern Enlargements." *Demographic Research* 36: 1299-1336.

Bae, Jung. 2020. "Immigration relief and insurance coverage: Evidence from Deferred Action for Childhood Arrivals," *The BE Journal of Economic Analysis & Policy*, 20(3).

Bansak, Cynthia and Pearlman, Sarah. 2022. "Marriage and immigration enforcement: The impact of Secure Communities on immigrant women" *Economic Inquiry*, 60, issue 1, p. 351-372.

Battaglia, Emily. 2023. "Did DACA Harm US-Born Workers? Temporary Work Visas and Labor Market Competition," *Journal of Urban Economics*, 134. https://doi.org/10.1016/j.jue.2022.103512.

Becker, Gary S. 1973. "A theory of marriage: Part I." *Journal of Political economy*, 81(4), 813-846.

Becker, Gary S. 1993. *A Treatise on the Family*, enlarged edition. Cambridge, MA: Harvard University Press.

Borjas, George J., 2017. "The labor supply of undocumented immigrants." *Labour Economics*, 46: 1-13.

Chi, Miao. 2015. "Does Intermarriage Promote Economic Assimilation among Immigrants in the United States?" *International Journal of Manpower* 36(7): 1-25.

Chi, Miao, and Scott Drewianka. 2014. "How Much Is a Green Card Worth? Evidence from Mexican Men Who Marry Women Born in the U.S." *Labour Economics* 31, December 2014, 103-116.

Chiswick, Barry R. and Christina Houseworth. 2011. "Ethnic Intermarriage Among Immigrants: Human Capital and Assortative Mating" *Review of Economics of the Household* 9(2): 149-180.

Dziadula, Eva. 2020. "Marriage and Citizenship Among US Immigrants: Who Marries Whom and Who Becomes a Citizen?" *Eastern Economic Journal*, 46(1): 34-52.

Filippin, Antonio. 2022. Gender differences in risk attitudes. *IZA World of Labor* doi: 10.15185/izawol.100.v2

Furtado, Delia. 2012. "Human Capital and Interethnic Marriage Decisions," *Economic Inquiry* 50(1): 82-93.

Furtado, Delia, and Tao Song. 2015. "Intermarriage and Socioeconomic Integration: Trends in Earnings Premiums among U.S. Immigrants Who Marry Natives", *The ANNALS of the American Academy of Political and Social Science*, 662(1): 207-222. https://doi.org/10.1177/0002716215594629

Furtado, Delia, and Nikolaos Theodoropoulos. 2009. "I'll marry you if you get me a job: Marital assimilation and immigrant employment rates." *International Journal of Manpower*, 30(1/2): 116-126.

———. 2010. "Why Does Intermarriage Increase Immigrant Employment? The Role of Networks," *B.E. Journal of Economics Analysis & Policy* 10(1), Article 101.

———. 2011. "Interethnic Marriage: a Choice Between Ethnic and Educational Similarities," *Journal of Population Economics* 24: 1257-1279.

Gihleb, Rania, Osea Giuntella, and Jakub Lonsky, 2023. "Dreaming of leaving the nest? immigration status and the living arrangements of DACAmented," *European Economic Review*.156:104447.

Giuntella Osea, and Jakub Lonsky. 2020. "The effects of DACA on health insurance, access to care, and health outcomes." *Journal of Health Economics*, 72. doi: 10.1016/j.jhealeco.2020.102320.

Gelatt, Julia. 2017. "The RAISE Act: Dramatic Change to Family Immigration, Less So for the Employment-Based System." Washington DC.

Grossbard, Shoshana A. 1983. "A Market Approach to Intermarriage." *Papers in Jewish Demography*, Institute of Contemporary Jewry, Jerusalem.

Grossbard, Shoshana A., Jose I. Gimenez-Nadal, and Jose A. Molina. 2014. "Racial Intermarriage and Household Production" *Review of Behavioral Economics* 1(4):295-347.

Grossbard, Shoshana and Victoria Vernon. 2016. "More Chores at Home: a Price Immigrants Pay When Marrying a Native?" Working paper.

Grossbard-Shechtman, Shoshana A. 1993. *On the Economics of Marriage*. Boulder: Westview Press.

Gunadi, Christian. 2020. "Does immigrant legalization affect crime? Evidence from deferred action for childhood arrivals in the United States," *Journal of Economic Behavior & Organization,* 178: 327-353. https://doi.org/10.1016/j.jebo.2020.07.033.

Hainmueller, J., Lawrence, D., Martén, L., Black, B., Figueroa, L., Hotard, M., ... & Laitin, D. D. 2017. "Protecting unauthorized immigrant mothers improves their children's mental health," *Science*, 357(6355), 1041-1044.

Hamilton, Erin R., Paola D. Langer, and Caitlin Patler. 2021. "DACA's association with birth outcomes among Mexican-origin mothers in the United States." *Demography* 58.3: 975-985.

Holland, Steve and Roberta Rampton. 2019. "Trump to Propose Plan to Make U.S. Immigration More Merit-Based." Reuters. Available at: https://www.reuters.com/article/us-usa-immigration-trump/trump-to-propose-plan-to-make-u-s-immigration-more-merit-based-idUSKCN1SL2CX

Hsin, Amy and Francesc Ortega. 2018. "The Effects of Deferred Action for Childhood Arrivals on the Educational Outcomes of Undocumented Students." *Demography,* 55: 487–1506. https://doi.org/10.1007/s13524-018-0691-6

Kalmijn, Matthijs. 1998. "Intermarriage and Homogamy: Causes, Patterns and Trends," *Annual Review of Sociology* 24: 395-421.

Kalmijn, Matthijs, and Frank Van Tubergen. 2010. "A Comparative Perspective on Intermarriage: Explaining Differences Among National-Origin Groups in the United States," *Demography* 47(2): 459-479.

Kelly, Claudia Smith. 2010. "The Influence of a Change in Immigration Law on US Marriage Rates." *Eastern Economic Journal* 36(4): 500-522.

Kerwin, Donald, José Pacas, and Robert Warren. 2022. "Ready to Stay: A Comprehensive Analysis of the US Foreign-Born Populations Eligible for Special Legal Status Programs and for Legalization Under Pending Bills", *Journal on Migration and Human Security*, 10(1): 37-76. 10.1177/23315024211065016 [doi]

Lichter, Daniel T., Qian, Zhenchao, and Dmitry Tumin. 2015. "Whom do immigrants marry? Emerging patterns of intermarriage and integration in the United States." *The ANNALS of the American Academy of Political and Social Science*, 662(1), pp.57-78.

Mellon, Jonathan. 2014. "Internet search data and issue salience: The properties of Google Trends as a measure of issue salience." *Journal of Elections, Public Opinion and Parties*, *24*(1), 45–72. https://doi.org/10.1080/17457289.2013.846346

Meng, Xin, and Robert G. Gregory. 2005. "Intermarriage and the Economic Assimilation of Immigrants," *Journal of Labor Economics* 23(1): 135-176.

Meng, Xin, and Dominique Meurs. 2009. "Intermarriage, Language, and Economic Assimilation Process: A Case Study of France," *International Journal of Manpower* 30(1/2): 127-44.

NAS (National Academies of Science, Engineering, and Medicine). 2015. *The Integration of Immigrant into American Society*. Washington, DC: The National Academies Press. https://doi.org/10.17226/21746.

Ortega, Francesc, Ryan Edwards, and Amy Hsin. 2019. "The Economic Effects of Providing Legal Status to DREAMers," *IZA Journal of Labor Policy*, 9:5.

Patler, Caitlin, Erin Hamilton, Kelsey Meagher, and Robin Savinar. 2019. "Uncertainty about DACA may undermine its positive impact on health for recipients and their children." *Health Affairs* 38:5: 738-745.

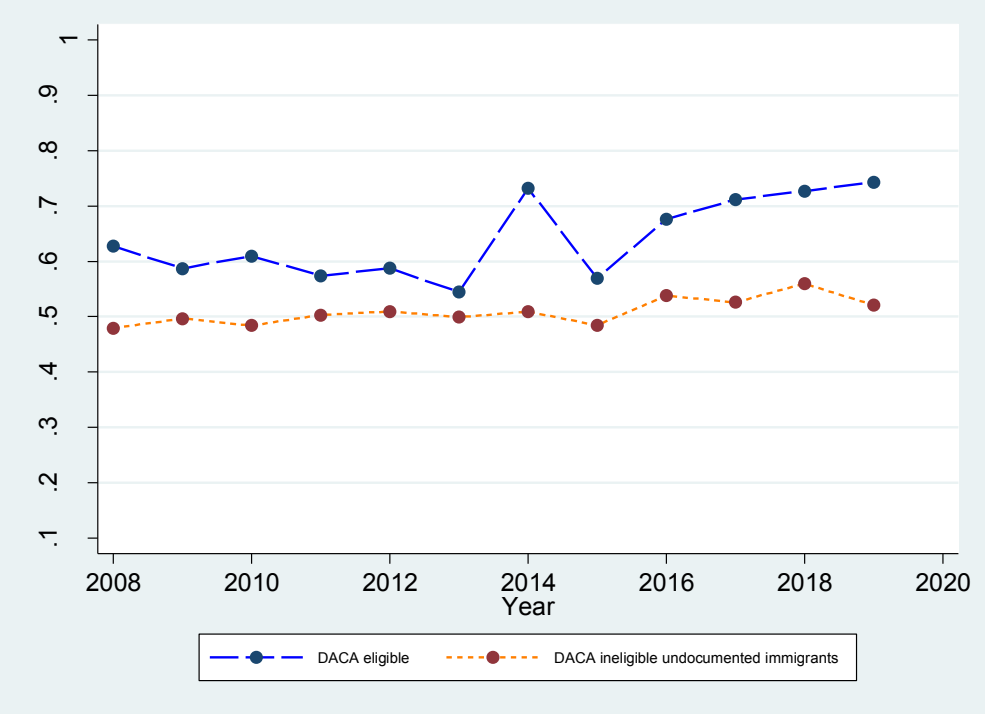
Ruggles, Steven, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas, and Matthew Sobek. 2019. "IPUMS USA: Version 9.0 [Dataset]." Minneapolis, MN: IPUMS. 2019. https://doi.org/https://doi.org/10.18128/D010.V9.0.

Stephens-Davidowitz, Seth. (2014). The cost of racial animus on a black candidate: Evidence using Google search data. *Journal of Public Economics*, *118*, 26–40. https://doi.org/https://doi.org/10.1016/j.jpubeco.2014.04.010

Wang, Chunbei, and Le Wang. 2012. "The Effects of 9/11 on Intermarriage between Natives and Immigrants to the U.S." *Review of Economics of the Household* 10(2): 171-192.

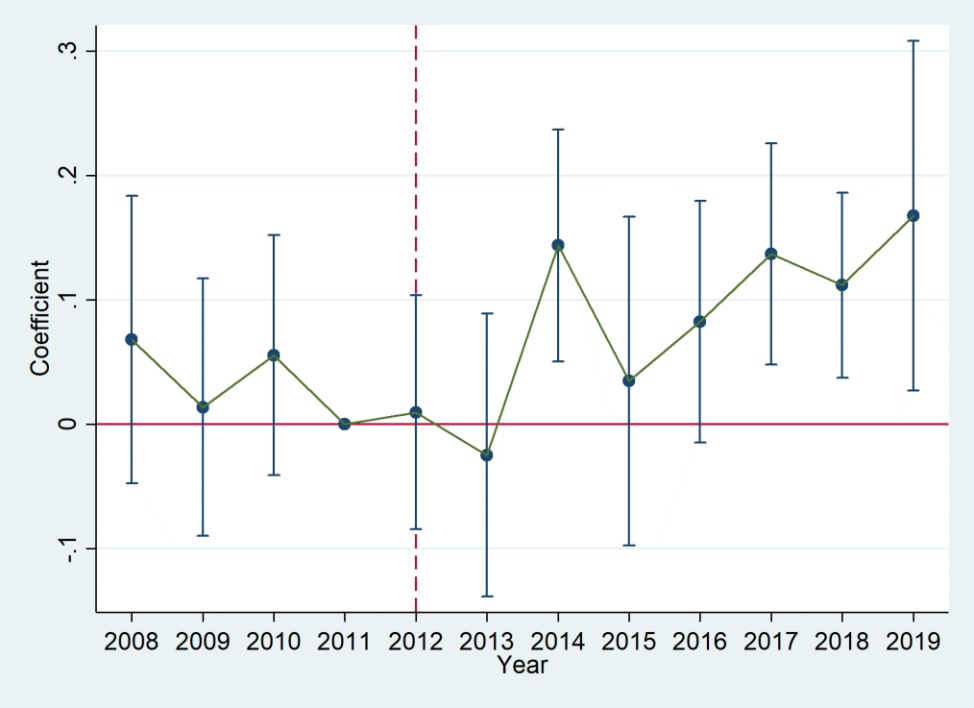
Wong, Tom K., and Carolina Valdivia. 2014. "In Their Own Words: A Nationwide Survey of Undocumented Millennials." Center for Comparative Immigration Studies, Working Paper 191. https://ccis.ucsd.edu/_files/wp191.pdf

Figure 1: Trends of Non-citizen to Citizen Marriages



Notes: The sample includes newlyweds only.

Figure 2: Event Study for the Propensity to Intermarry



Notes: The sample includes newlyweds only.

Figure 3: Event Study for the Propensity to Cohabitate with a Citizen

Notes: The sample includes cohabiting couples.

Table 1: Changes in the Intermarriage Propensity of DACA Eligible Migrants

Dep Var	**Married Last Year**			**Married to a Citizen, Conditional on Married Last Year**			
DACA Eligible* (2013-2016)	-0.0036**	-0.0082***	-0.0062***	DACA Eligible* (2013-2016)	0.0212	0.0325	0.0301
	(0.0016)	(0.0019)	(0.0017)		(0.0394)	(0.0340)	(0.0381)
DACA Eligible* (2017-2019)	-0.0011	-0.0064***	-0.0015	DACA Eligible* (2017-2019)	0.0857***	0.1103***	0.1034***
	(0.0016)	(0.0019)	(0.0016)		(0.0305)	(0.0251)	(0.0279)
DACA Eligible	-0.0068***	-0.0066***	0.0037***	DACA Eligible	0.1002***	0.0881***	0.0753**
	(0.0021)	(0.0011)	(0.0013)		(0.0336)	(0.0322)	(0.0287)
Control Variables				**Control Variables**			
State and Year FE	Y	Y	Y	State and Year FE	Y	Y	Y
Demographic Controls		Y	Y	Demographic Controls		Y	Y
Immigrant Controls			Y	Immigrant Controls			Y
Dep Var Mean		0.0397		Dep Var Mean		0.5301	
N	610748	610748	610748	N	22516	22516	22516

Notes: All models use DACA-ineligible undocumented immigrants as the control group. Demographic controls include age, age squared, male, years of education, and race fixed effects. Immigrant controls include years since migration and birthplace fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 2: Robustness Checks Using Alternative Treatment and Control Groups

Panel A: Treatment Group - DACA-Eligible Non-Citizens				
Control Group	**DACA-Ineligible Missing Cutoffs**	**DACA-Ineligible Age Matched**	**DACA-Ineligible Childhood Arrivals**	**DACA-Ineligible with HS/GED**
DACA Eligible*(2013-2016)	0.0296	0.0174	0.0236	0.0391
	(0.0350)	(0.0392)	(0.0352)	(0.0392)
DACA Eligible*(2017-2019)	0.1033***	0.0805***	0.0952**	0.1074***
	(0.0330)	(0.0261)	(0.0473)	(0.0277)
DACA Eligible	0.0547*	0.0753**	0.0069	0.0135
	(0.0289)	(0.0302)	(0.0221)	(0.0315)
Dep Var Mean	0.5350	0.5420	0.5733	0.5871
N	14964	17442	5672	17459

Panel B: Treatment Group – DACA-Eligible Non-Citizens Who Are Most Likely Undocumented					
Control Group	**Non-DACA Undocumented**	**DACA-Ineligible Missing Cutoffs**	**DACA-Ineligible Age Matched**	**DACA-Ineligible Childhood Arrivals**	**DACA-Ineligible with HS/GED**
DACA Eligible*(2013-2016)	0.0368	0.0367	0.0256	0.0352	0.0463
	(0.0328)	(0.0325)	(0.0315)	(0.0317)	(0.0330)
DACA Eligible*(2017-2019)	0.1043***	0.1029***	0.0841***	0.1005**	0.1112***
	(0.0238)	(0.0264)	(0.0219)	(0.0404)	(0.0264)
DACA Eligible	0.0871***	0.0695**	0.0879***	0.0166	0.0268
	(0.0297)	(0.0298)	(0.0314)	(0.0259)	(0.0329)
Dep Var Mean	0.5270	0.5306	0.5384	0.5663	0.5856
N	21740	14188	16666	4896	16683

Panel C: Treatment Group – DACA-Eligible Non-Citizens, Hispanic Sample					
Control Group	**Non-DACA Undocumented**	**DACA-Ineligible Missing Cutoffs**	**DACA-Ineligible Age Matched**	**DACA-Ineligible Childhood Arrivals**	**DACA-Ineligible with HS/GED**
DACA Eligible*(2013-2016)	0.0103	0.0132	-0.0053	0.0251	0.0342
	(0.0446)	(0.0431)	(0.0457)	(0.0439)	(0.0434)
DACA Eligible*(2017-2019)	0.1131**	0.1231***	0.0920**	0.0976*	0.1235***
	(0.0442)	(0.0408)	(0.0427)	(0.0548)	(0.0450)
DACA Eligible	0.0721**	0.0486	0.0715**	0.0222	0.0257
	(0.0307)	(0.0318)	(0.0327)	(0.0243)	(0.0355)
Dep Var Mean	0.4695	0.4798	0.4969	0.5385	0.5486
N	12282	8942	9572	4545	7790

Notes: All models include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01. DACA-Ineligible missing cutoffs includes undocumented immigrants who arrived between ages 16 and 20, or age 32 to 36 in 2012, or arrived from 2007 to 2011. DACA-Ineligible age matched refers to the sample matched to the age range of DACA eligible each year. DACA-Ineligible childhood arrivals refer to the sample that arrived in the United States before age 16.

Table 3: Heterogenous Impacts by Gender, Race, and Share of Hispanics

Panel A: By Gender	**Female**	**Male**
Dep Var	**Married to a Citizen**	**Married to a Citizen**
DACA Eligible*(2013-2016)	0.0283	0.0250
	(0.0453)	(0.0414)
DACA Eligible*(2017-2019)	0.1292***	0.0771*
	(0.0352)	(0.0414)
DACA Eligible	0.1375***	0.0397
	(0.0317)	(0.0378)
Dep Var Mean	0.5366	0.5239
N	11339	11177
Panel B: By Exogamy vs. Endogamy		
Dep Var	**Married to a Same Race and Ethnicity Citizen**	**Married to a Different Race/Ethnicity Citizen**
DACA Eligible*(2013-2016)	0.0214	0.0087
	(0.0261)	(0.0319)
DACA Eligible*(2017-2019)	0.0469**	0.0565*
	(0.0233)	(0.0283)
DACA Eligible	0.0663***	0.0090
	(0.0200)	(0.0158)
Dep Var Mean	0.3688	0.1613
N	22516	22516
Panel C: Geographic Location of Intermarriage		
Sample	**Top 10 States with Highest Hispanic Concentration**	**All Other States**
Dep Var	**Married to a Citizen**	**Married to a Citizen**
DACA Eligible*(2013-2016)	0.0155	0.0658
	(0.0475)	(0.0480)
DACA Eligible*(2017-2019)	0.1027**	0.1146**
	(0.0317)	(0.0544)
DACA Eligible	0.0842**	0.0491
	(0.0341)	(0.0395)
Dep Var Mean	0.5369	0.518
N	22516	22516

Notes: All models use DACA-ineligible undocumented immigrants as the control group and include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01. Top 10 states with highest Hispanic concentration: California, Texas, Florida, New York, Illinois, Arizona, New Jersey, Colorado, New Mexico, Georgia.

Table 4: Mechanism #1 – The Role of Spousal Citizenship

Dep Var	Married to a Native Citizen	Married to an Immigrant Citizen
DACA Eligible*(2013-2016)	0.0189	0.0112
	(0.0411)	(0.0138)
DACA Eligible*(2017-2019)	0.0745***	0.0289*
	(0.0273)	(0.0152)
DACA Eligible	0.0710**	0.0044
	(0.0301)	(0.0093)
Dep Var Mean	0.3770	0.1531
N	22516	22516

Notes: All models use DACA-ineligible undocumented immigrants as the control group and include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 5: Mechanism #2 – The Role of Immigration Policy Awareness

Gender	Female	Male
log (GTIndex)	-0.0217	0.0020
	(0.0248)	(0.0342)
DACA Eligibles	-0.1286	-0.2901*
	(0.1317)	(0.1642)
log (GTIndex)*DACA Eligibles	0.0766**	0.0903**
	(0.0310)	(0.0425)
DV Mean	0.5461	0.5395
N	7777	7784

Notes: All models use DACA-ineligible undocumented immigrants as the control group and include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. The sample includes years after 2012 only. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 6A: Mechanism #3 – The Role of Demand vs. Supply Led Shifts in the Intermarriage Market Marriage Match Quality – Females

Dependent Variable	Age of marriage	Years of Education	Employed	Spouse's Age of Marriage	Spouse's Education	Spouse Employed
DACA Eligible	-8.0437***	1.0142***	-0.0228	-6.0447***	-0.6767**	-0.0354
	(0.2325)	(0.2015)	(0.0283)	(0.4899)	(0.2824)	(0.0330)
Citizen Spouse	0.5657***	2.1598***	-0.0524***	2.9885***	2.2091***	0.0375***
	(0.1673)	(0.1497)	(0.0147)	(0.2783)	(0.2042)	(0.0135)
DACA Eligible * Citizen Spouse	-1.0321***	-1.4900***	0.0078	-4.3492***	-0.1140	0.0113
	(0.3771)	(0.1904)	(0.0381)	(0.6005)	(0.2565)	(0.0333)
Citizen Spouse * (2013-2016)	-0.5291***	-0.2772	0.0412	-1.4171***	0.1050	0.0371**
	(0.1875)	(0.2309)	(0.0261)	(0.3706)	(0.2248)	(0.0160)
Citizen Spouse * (2017-2019)	-0.3611	-0.7848**	0.0166	-1.4986***	-0.5790	-0.0451**
	(0.3550)	(0.3375)	(0.0313)	(0.4788)	(0.4664)	(0.0189)
DACA Eligible * (2013-2016)	0.9265**	-0.1902	0.0026	0.8216*	0.0486	0.0775*
	(0.3569)	(0.2421)	(0.0414)	(0.4570)	(0.2930)	(0.0399)
DACA Eligible * (2017-2019)	0.7830	-0.7490*	-0.0453	1.1617	-0.7692	0.0532*
	(0.4945)	(0.4428)	(0.0549)	(0.8377)	(0.7765)	(0.0314)
DACA Eligible * Citizen Spouse * (2013-2016)	0.1414	0.4188	0.0386	1.5956**	-0.1010	-0.0810*
	(0.4643)	(0.2766)	(0.0758)	(0.6805)	(0.3558)	(0.0460)
DACA Eligible * Citizen Spouse * (2017-2019)	0.7311	0.8089*	0.1742**	1.6358**	0.9959	-0.0105
	(0.6735)	(0.4079)	(0.0758)	(0.7909)	(0.7467)	(0.0425)
DV Mean	27.82	13.18	0.45	32.00	13.06	0.90
N	11339	11339	11339	11339	11339	11339

Notes: All models use DACA-ineligible undocumented immigrants as the control group and include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 6B: Mechanism #3 – The Role of Demand vs. Supply Led Shifts in the Intermarriage Market Marriage Match Quality – Males

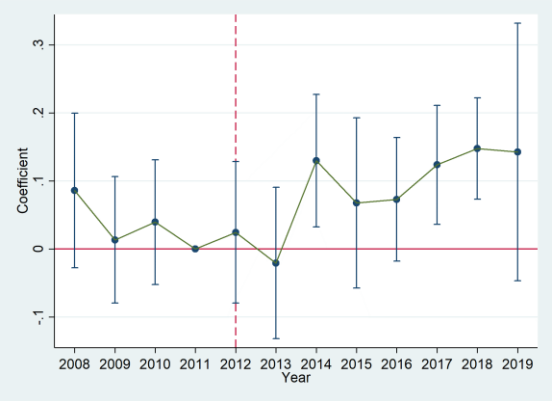
Dependent Variable	Age of marriage	Years of Education	Employed	Spouse's Age of Marriage	Spouse's Years of Education	Spouse Employed
DACA Eligible	-6.9998***	1.1581***	-0.1142***	-4.4552***	0.1808	0.0294
	(0.3486)	(0.2792)	(0.0279)	(0.5784)	(0.2997)	(0.0554)
Citizen Spouse	-0.9896***	1.0010***	-0.1098***	-0.7449***	2.0778***	0.2482***
	(0.1903)	(0.1401)	(0.0127)	(0.2715)	(0.1317)	(0.0191)
DACA Eligible * Citizen Spouse	-0.4187	-0.4845*	0.0402	-1.6647**	-0.4096	-0.0344
	(0.3608)	(0.2629)	(0.0380)	(0.6318)	(0.3549)	(0.0535)
Citizen Spouse * (2013-2016)	-0.0628	-0.4545*	0.0060	0.2839	-0.4082**	-0.0208
	(0.2736)	(0.2284)	(0.0182)	(0.2596)	(0.1892)	(0.0282)
Citizen Spouse * (2017-2019)	0.1455	-0.1523	-0.0260	0.4965	-0.7714**	-0.0129
	(0.4154)	(0.4921)	(0.0204)	(0.5596)	(0.3296)	(0.0283)
DACA Eligible * (2013-2016)	0.3638	-0.3446	0.0541	0.2023	-0.6929	0.0283
	(0.4821)	(0.2519)	(0.0411)	(0.6370)	(0.4733)	(0.0696)
DACA Eligible * (2017-2019)	1.0985	-0.2474	0.0189	3.3115**	-0.8053	-0.0997
	(0.9538)	(0.5395)	(0.0401)	(1.4829)	(0.6115)	(0.0638)
DACA Eligible * Citizen Spouse * (2013-2016)	0.3595	0.4022	0.0416	0.1134	0.5377	0.0093
	(0.6074)	(0.3257)	(0.0506)	(0.6221)	(0.5313)	(0.0824)
DACA Eligible * Citizen Spouse * (2017-2019)	-0.3647	-0.0297	0.0720*	-3.2504**	0.8960	0.1355*
	(1.0287)	(0.6589)	(0.0415)	(1.3703)	(0.6857)	(0.0774)
DV Mean	28.61	12.27	0.83	28.04	12.96	0.62
N	11177	11177	11177	11177	11177	11177

Notes: All models use DACA-ineligible undocumented immigrants as the control group and include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

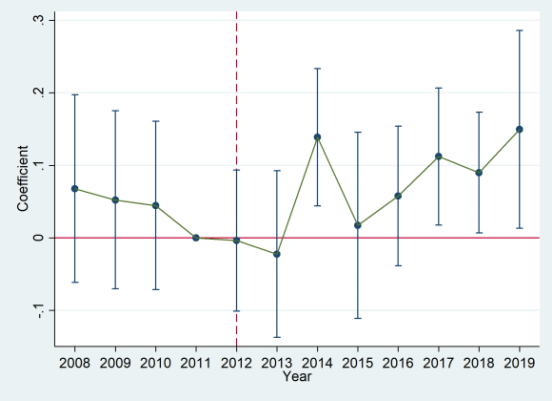
Appendix

Figure A1: Event Studies Using Alternative Control Groups

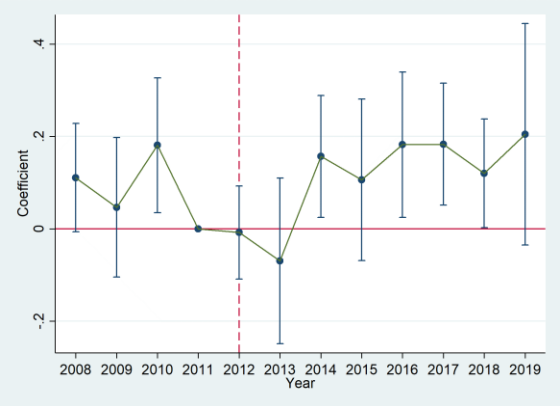
A1.1. DACA-Ineligible Missing Cutoffs



A1.2. DACA-Ineligible Age Matched



A1.3. DACA-Ineligible Child Immigrants



A1.4. DACA-Ineligible with HS Degree/GED

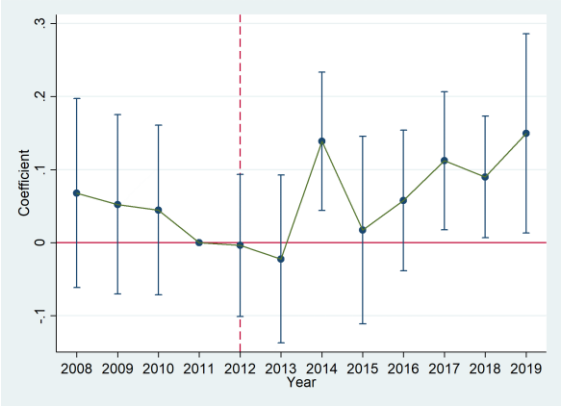


Figure A2
Google Trend Index on the Search of "Deferred Action for Childhood Arrivals" Topic Timeline

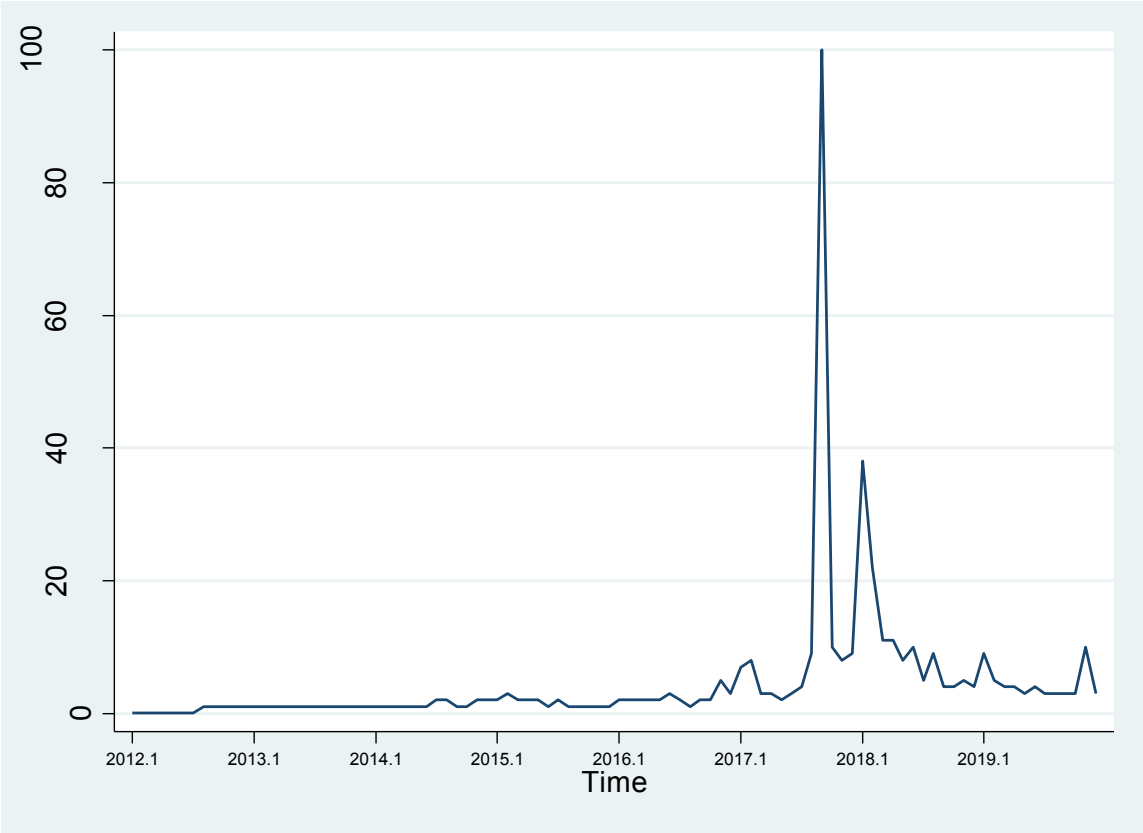
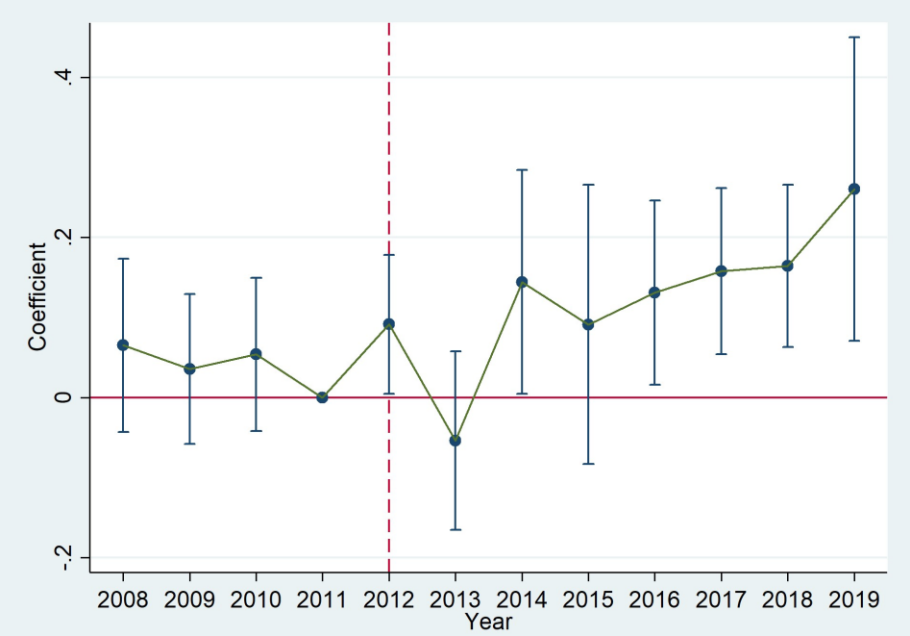


Figure A3: Event Studies by Gender

Results for Women



Results for Men

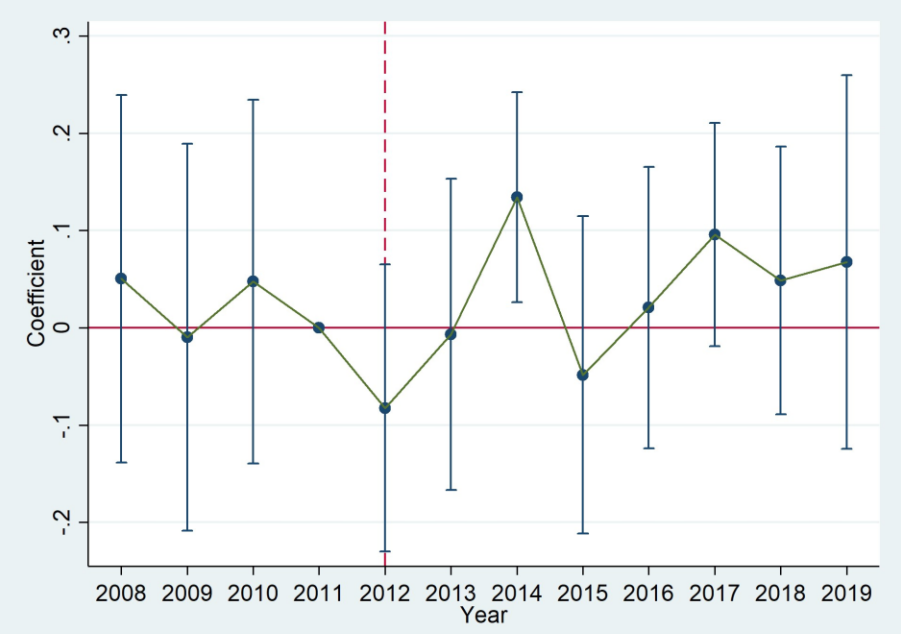


Table A.1: Summary Statistics

	Treatment Group	Control Group	Alternative Control Groups			
	DACA Eligible	DACA-Ineligible Undocumented Immigrants	DACA-Ineligible Undocumented Immigrants Missing Cutoffs	DACA-Ineligible Undocumented Immigrants Age Matched	DACA-Ineligible Undocumented Immigrants who are Childhood Arrivals	DACA-Ineligible Undocumented Immigrants who have High School Degree/GED
Age	25.13	29.45	29.71	27.62	27.48	29.65
	(4.081)	(4.871)	(4.986)	(4.189)	(5.812)	(4.614)
Male	0.473	0.523	0.547	0.515	0.612	0.487
	(0.499)	(0.499)	(0.498)	(0.500)	(0.487)	(0.500)
Years of Education	13.23	12.60	12.36	12.63	9.263	14.86
	(1.759)	(4.448)	(4.375)	(4.390)	(3.747)	(2.567)
Years in U.S.	17.14	6.952	7.856	5.927	16.75	5.450
	(5.823)	(6.320)	(6.189)	(5.497)	(7.058)	(5.623)
Black	0.0402	0.0709	0.0662	0.0673	0.0252	0.0931
	(0.196)	(0.257)	(0.249)	(0.251)	(0.157)	(0.291)
White	0.0945	0.169	0.153	0.169	0.0380	0.231
	(0.293)	(0.375)	(0.360)	(0.375)	(0.191)	(0.421)
Asian	0.0685	0.195	0.182	0.205	0.0459	0.256
	(0.253)	(0.396)	(0.385)	(0.404)	(0.209)	(0.436)
Hispanic	0.783	0.548	0.584	0.538	0.884	0.398
	(0.412)	(0.498)	(0.493)	(0.499)	(0.321)	(0.490)
Other Race	0.0135	0.0174	0.0155	0.0195	0.00715	0.0218
	(0.115)	(0.131)	(0.124)	(0.138)	(0.0843)	(0.146)
N	3816	18700	11148	13626	1856	13643

Notes: DACA-Ineligible undocumented immigrants missing cutoffs includes those who arrived between ages 16 and 20, or age 32 to 36 in 2012, or arrived from 2007 to 2011. DACA-Ineligible age matched refers to the sample matched to the age range of DACA eligible each year. DACA-Ineligible childhood arrivals refer to the sample that arrived in the United States before age 16.

Table A.2: Non-Citizen to Citizen Marriage Rates

Panel A	**DACA Eligible Immigrants**		
	2008-2012	**2013-2016**	**2017-2019**
Married to a Citizen	0.598	0.631	0.724
Married to a Native	0.498	0.523	0.608
Married to an Immigrant Citizen	0.0995	0.107	0.116
N	1,509	1,390	917
Panel B	**DACA-Ineligible Undocumented Immigrants**		
	2008-2012	**2013-2016**	**2017-2019**
Married to a Citizen	0.495	0.508	0.538
Married to a Native	0.337	0.339	0.376
Married to an Immigrant Citizen	0.158	0.169	0.162
N	8,537	6,613	3,550
Panel C	**Spouse Absenteeism Rate**		
	2008-2012	**2013-2016**	**2017-2019**
DACA Eligible	0.260	0.206	0.191
DACA Ineligible	0.157	0.148	0.172

Notes: Spousal absenteeism rates are calculated based on the sample of individuals reporting getting married in the past year and are still married.

Table A.3: Demographic Characteristics by Pre- and Post-DACA Periods

	DACA-Eligible			DACA-Ineligible		
	2008-2012	**2013-2016**	**2017-2019**	**2008-2012**	**2013-2016**	**2017-2019**
Age	23.44	25.77	26.94	29.07	29.72	29.83
	(3.196)	(3.912)	(4.568)	(4.948)	(4.767)	(4.812)
Male	0.454	0.486	0.483	0.521	0.523	0.530
	(0.498)	(0.500)	(0.500)	(0.500)	(0.499)	(0.499)
Years of Education	13.00	13.29	13.50	12.33	12.67	13.11
	(1.628)	(1.764)	(1.910)	(4.331)	(4.595)	(4.398)
Years in the U.S.	14.82	17.75	20.02	7.116	7.106	6.318
	(5.519)	(5.528)	(5.213)	(6.110)	(6.551)	(6.335)
Black	0.0442	0.0410	0.0322	0.0607	0.0715	0.0928
	(0.206)	(0.198)	(0.177)	(0.239)	(0.258)	(0.290)
White	0.0987	0.0988	0.0806	0.175	0.165	0.163
	(0.298)	(0.298)	(0.272)	(0.380)	(0.371)	(0.369)
Asian	0.0653	0.0680	0.0745	0.178	0.209	0.208
	(0.247)	(0.252)	(0.263)	(0.382)	(0.406)	(0.406)
Hispanic	0.778	0.779	0.800	0.572	0.538	0.511
	(0.416)	(0.415)	(0.400)	(0.495)	(0.499)	(0.500)
Other Race	0.0140	0.0135	0.0125	0.0140	0.0171	0.0258
	(0.117)	(0.115)	(0.111)	(0.117)	(0.130)	(0.159)
N	1509	1390	917	8537	6613	3550

Table A.4: Comparing Gihleb et al (2023)'s Approach with Our Approach

Sample	**Full Sample - Not Conditional on Married Last Year**			
Dep Var	**Married**	**Divorced**	**Having a Citizen Spouse**	**New Marriages with a Citizen Spouse**
DACA Eligible*(2013-2016)	-0.0083	0.0031***	-0.0084***	-0.0021*
	(0.0051)	(0.0010)	(0.0029)	(0.0012)
DACA Eligible*(2017-2019)	-0.0305***	0.0040***	-0.0131***	0.0031**
	(0.0066)	(0.0015)	(0.0045)	(0.0012)
DACA Eligible	-0.0420***	-0.0096***	-0.0147***	0.0032***
	(0.0070)	(0.0015)	(0.0042)	(0.0008)
Dep Var Mean	0.3836	0.0269	0.1463	0.0172
N	610748	610748	610748	610748

Notes: All models use DACA-ineligible undocumented immigrants as the control group, and the full set of control variables in the main model. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table A.5: Event Study Estimates

Main Control Group	Alternative Control Groups			
DACA-Ineligible Undocumented Immigrants	DACA-Ineligible Undocumented Immigrants Missing Cutoffs	DACA-Ineligible Undocumented Immigrants Age Matched	DACA-Ineligible Undocumented Immigrants who are Childhood Arrivals	DACA-Ineligible Undocumented Immigrants who have High School Degree/GED
DACA*2008	0.0680	0.0861	0.0679	0.1107*	0.0331
	(0.0574)	(0.0566)	(0.0644)	(0.0585)	(0.0546)
DACA*2009	0.0137	0.0133	0.0524	0.0463	-0.0181
	(0.0514)	(0.0462)	(0.0611)	(0.0752)	(0.0497)
DACA*2010	0.0554	0.0394	0.0447	0.1807**	0.0096
	(0.0480)	(0.0457)	(0.0579)	(0.0725)	(0.0499)
DACA*2011	0.0000	0.0000	0.0000	0.0000	0.0000
	(.)	(.)	(.)	(.)	(.)
DACA*2012	0.0095	0.0244	-0.0038	-0.0082	-0.0075
	(0.0468)	(0.0518)	(0.0485)	(0.0502)	(0.0483)
DACA*2013	-0.0247	-0.0207	-0.0223	-0.0696	-0.0385
	(0.0566)	(0.0554)	(0.0572)	(0.0893)	(0.0534)
DACA*2014	0.1436***	0.1298***	0.1389***	0.1566**	0.1412***
	(0.0464)	(0.0485)	(0.0471)	(0.0656)	(0.0464)
DACA*2015	0.0348	0.0677	0.0172	0.1059	-0.0009
	(0.0658)	(0.0623)	(0.0640)	(0.0872)	(0.0708)
DACA*2016	0.0823*	0.0729	0.0578	0.1820**	0.0690
	(0.0483)	(0.0452)	(0.0479)	(0.0783)	(0.0442)
DACA*2017	0.1367***	0.1237***	0.1122**	0.1831***	0.1076**
	(0.0443)	(0.0435)	(0.0470)	(0.0656)	(0.0443)
DACA*2018	0.1118***	0.1475***	0.0899**	0.1198**	0.0870**
	(0.0370)	(0.0370)	(0.0415)	(0.0585)	(0.0372)
DACA*2019	0.1676**	0.1425	0.1495**	0.2046*	0.1759**
	(0.0699)	(0.0943)	(0.0679)	(0.1192)	(0.0748)
DV Mean	0.5301	0.5350	0.5420	0.5733	0.5871
N	22516	14964	17442	5672	17459

Notes: All models include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table A.6: Controlling for Interaction Terms of Post-2012 and All Control Variables

Control Group	DACA-Ineligible Undocumented Immigrants	DACA-Ineligible Missing Cutoffs	DACA-Ineligible Age Matched	DACA-Ineligible Childhood Arrivals	DACA-Ineligible with HS/GED
DACA Eligible* (2013-2016)	0.0337	0.0069	0.0703*	0.0033	0.0444
	(0.0322)	(0.0413)	(0.0374)	(0.0393)	(0.0404)
DACA Eligible* (2017-2019)	0.1363***	0.1045***	0.1749***	0.0902**	0.1417***
	(0.0293)	(0.0383)	(0.0368)	(0.0341)	(0.0407)
DACA Eligible	0.0715***	0.0643**	0.0338	0.0331	0.0117
	(0.0242)	(0.0295)	(0.0251)	(0.0232)	(0.0293)
Control Variables			All + All*Post2012		
DV Mean	0.5301	0.5350	0.5420	0.5733	0.5871
N	22516	14964	17442	5672	17459

Notes: All models include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects, and their interactions with Post2012. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table A.7: Marriage Match Quality – Measured as Characteristics Difference between Spouses

Sample	Male		Female	
Dependent Variable	**Age - Spouse's Age**	**Education - Spouse's Education**	**Age - Spouse's Age**	**Education - Spouse's Education**
DACA Eligible	-1.8549**	0.9773***	-0.7632	1.6909***
	(0.7828)	(0.2958)	(0.4557)	(0.2405)
Citizen Spouse	-0.1828	-1.0768***	-3.1169***	-0.0494
	(0.1859)	(0.1198)	(0.2913)	(0.1353)
DACA Eligible * Citizen Spouse	1.4508*	-0.0749	4.1051***	-1.3760***
	(0.8595)	(0.2968)	(0.4613)	(0.2129)
Citizen Spouse * (2013-2016)	-0.4834	-0.0463	0.6658**	-0.3822**
	(0.3381)	(0.1774)	(0.3306)	(0.1718)
Citizen Spouse * (2017-2019)	-0.5815	0.6191**	0.8730**	-0.2058
	(0.4203)	(0.2416)	(0.4120)	(0.2512)
DACA Eligible * (2013-2016)	0.4760	0.3484	0.4627	-0.2389
	(0.7587)	(0.4514)	(0.4952)	(0.2420)
DACA Eligible * (2017-2019)	-1.3060	0.5578	0.5322	0.0202
	(2.0049)	(0.4639)	(0.6165)	(0.4913)
DACA Eligible * Citizen Spouse * (2013-2016)	0.3674	-0.1356	-1.1202**	0.5197*
	(0.8320)	(0.5163)	(0.4585)	(0.3060)
DACA Eligible * Citizen Spouse * (2017-2019)	2.7758	-0.9257*	-0.7077	-0.1870
	(1.9320)	(0.5380)	(0.5123)	(0.5539)
Dep Var Mean	0.56	-0.69	-4.18	0.12
N	11177	11177	11339	11339

Notes: All models include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table A8: Event Study Estimates for Cohabiting with a Citizen

Dep Var	Cohabiting with a Citizen Partner
Sample	**Cohabiting Couples**
DACA*2008	-0.0276
	(0.0538)
DACA*2009	0.0817
	(0.0628)
DACA*2010	0.0709
	(0.0479)
DACA*2011	0.0000
	(.)
DACA*2012	0.0340
	(0.0631)
DACA*2013	0.0383
	(0.0531)
DACA*2014	0.0548
	(0.0495)
DACA*2015	0.0395
	(0.0519)
DACA*2016	0.1254**
	(0.0490)
DACA*2017	0.1123*
	(0.0585)
DACA*2018	0.1196**
	(0.0592)
DACA*2019	0.0999
	(0.0603)
Dep Var Mean	0.3024
N	30223

Notes: All models include all control variables: age, age squared, male, years of education, race fixed effects, years since migration, birthplace fixed effects, and state and year of marriage fixed effects. Standard errors are clustered at the state level. Significance level: * 0.10, ** 0.05, *** 0.01.