

Is Immigration Enforcement Shaping Immigrant Marriage Patterns?*

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February 17, 2020

Abstract

This paper identifies intermarriage (between non-citizens and citizens) as an important response mechanism to intensified immigration enforcement, particularly among Mexican non-citizens. Exploiting the temporal and geographic variation in the implementation of interior immigration enforcement from 2005 to 2017, we find that a one standard deviation increase in enforcement raises Mexican non-citizens' likelihood of marrying a U.S. citizen by 3 to 6 percent. Our results show that this effect is driven by a change in spousal preference. Both police-based and employment-based enforcement contribute to this impact. The analysis adds to a growing literature examining how immigrants respond to tightened enforcement and, importantly, sheds light on the recent growth of intermarriage among Mexican immigrants.

Keywords: Immigration Enforcement, Undocumented Immigrants, Family Structure, Intermarriage, United States.

JEL Codes: J12, J15, K37.

(*) We are grateful to Delia Furtado, Shoshana Grossbard, Le Wang, and Eva Dziadula for their feedback to earlier drafts of the manuscript. We also thank Cynthia Bansak, Pia Orrenius, Susan Pozo, Madeline Zavodny and participants at the 2019 Southern Economic Association Annual Conference for their comments.

1. Introduction

Immigration enforcement in the United States has toughened substantially since the terrorist attacks of 9/11. Immigration and Customs Enforcement (ICE), the federal agency in charge of interior enforcement, has received enormous resources to apprehend, detain, and deport undocumented immigrants since its creation in 2003. From 2003 to 2018, ICE spending more than doubled (from \$3.3 billion to \$7.6 billion) and the number of ICE agents devoted to enforcement and removal nearly tripled (American Immigration Council 2019). In addition to enforcement at the federal level, state and local governments have adopted immigration enforcement measures ranging from employment verification mandates (E-Verify) that ensure employees' work eligibility, to 287(g) agreements between local enforcement agencies and ICE to cooperate in the enforcement of federal immigration law. Intensified interior immigration enforcement has been responsible for the substantial increase in deportations and the deteriorated job prospects faced by undocumented immigrants. Fear of apprehension and deportation is likely to have impacted the lifestyle and choices made by undocumented immigrants, as well as by documented immigrants seeking the opportunity to stay in the United States long-term. This paper focuses on one important life choice – marriage. Specifically, we examine how the intensification of immigration enforcement might have impacted non-citizens' decisions to marry U.S. citizens –a type of intermarriage.

Marriage to a U.S. citizen can be a particularly attractive option for immigrants on temporary or non-immigrants visas, as well as for some undocumented immigrants, in a tightened immigration enforcement environment in which the prospect of securing legal permanent resident (LPR) status might seem dimmer. *First*, it provides quick access to LPR status. In the current U.S. immigration system, lawful immigrants and certain undocumented immigrants can easily gain

LPR status by marrying a U.S. citizen.¹ Not only will they be able to gain lawful permanent status but, in addition, they will be able to do so quickly since they are considered immediate relatives not subject to numerical quotas. The ability to quickly and easily gain LPR status through marriage to a U.S. citizen might have an increasing allure in a tightened immigration enforcement environment. *Second*, the literature has documented that intermarriage to a citizen helps immigrants assimilate faster to the host country, resulting in better employment outcomes and opportunities obtained through their more permanent lawful immigration status and through access to extended networks (Meng and Gregory, 2005; Meng and Meurs, 2009; Furtado and Theodoropoulos 2009, 2010). As more state and local governments tighten immigration enforcement and job market prospects for undocumented immigrants worsen, the benefits brought about by marriage to a U.S. citizen might only become more salient.

Using data from the 2005 through 2017 waves of the American Community Survey, along with local and state level information on interior immigration enforcement initiatives, we gauge how the tightening of immigration enforcement has impacted an important life decision of non-citizens –specifically, their propensity to marry a U.S. citizen. We hypothesize that this type of intermarriage may be shaped by the intensity of immigration enforcement, with immigrants seeking long-term security in an increasingly uncertain and rapidly changing immigration policy environment. Our results strongly support this hypothesis. Mexican non-citizens, especially the least educated, exhibit a significantly higher propensity of marrying a U.S. citizen (either a naturalized citizen or a native-born citizen) as immigration enforcement tightens. Such pattern is not found among other non-citizen groups with a lower representation among the undocumented. The results also prove robust to several specification and identification checks. In particular, we

¹ More details of the policy are provided in the next section.

show that the observed enforcement impacts did not predate the adoption of tougher immigration policies, nor can the adoption timing of the policies be predicted by intermarriage rates in the respective metropolitan statistical areas (MSAs). The results are not driven by changes in new immigration patterns either. A closer look at the policies impacting intermarriage rates uncovers the important role played by both police-based and employment-based immigration enforcement policies. Finally, we also find that intermarriage rates rise as the duration of non-citizens' migration spells approaches the maximum length of most non-immigrant or temporary visas.

Gaining a better understanding of the role of immigration policy in shaping non-citizens' marital patterns is particularly relevant in light of the rapid growth of intermarriages between immigrants and natives in the United States. Using U.S. data from 2008 through 2012, Lichter, Qian, and Tumin (2015) document that 54 percent of recently married immigrants are married to a native spouse. Using 2005 to 2017 American Community Survey (ACS) data, we also find evidence of a substantial growth of intermarriages between non-citizens and citizens—a large share of which are between non-citizens and natives. While the literature has identified the importance of culture, education, and income as key determinants of intermarriage, little is known about the factors fueling its recent growth. Our analysis points out the important role played by immigration policy.

In addition, the findings contribute to various current policy debates. First, it informs about the intended and unintended consequences of immigration enforcement and immigrants' response mechanisms. This inquiry is now more important than ever in the midst of intensified immigration enforcement and a more restrictive immigration environment. Second, the focus on intermarriage is particularly relevant after the recent push by the Trump Administration to curtail family-based

migration in favor of “merit-based” migration (Gelatt 2017; Holland and Ramptom, 2019).² This shift could limit the access to permanent legal status among the low-skilled, increasing the allure of intermarriage to a U.S. citizen if the latter is perceived as one of the few channels through which a low-skilled immigrant might secure LPR status (assuming the immediate relative immigrant visas to spouses of U.S. citizens remain unlimited). Third, the analysis further informs the ongoing policy debate on whether the country should lower the bar for status adjustment currently in place for undocumented immigrant spouses of U.S. citizens (Meissner and Gelatt, 2019).³ The Migration Policy Institute (MPI) estimates that about 1.2 million spouses of LPRs or U.S. citizens are undocumented immigrants who cannot adjust status in the United States because they entered the country without inspection (Meissner and Gelatt, 2019). Increased prevalence of intermarriages between non-citizens and citizens would render this debate timely and more relevant.

Finally, this study contributes to the immigration and intermarriage literature in two important ways. *First*, it provides an innovative assessment of how immigration enforcement can impact an important social outcome –marriage among non-citizens and U.S. citizens. In so doing, it contributes to a better understanding of the responsiveness of immigrants to immigration policy and to informing several ongoing policy debates. *Second*, the analysis informs about the literature on the determinants of intermarriage and, in particular, provides additional explanations for the recent growth in intermarriages between non-citizens and citizens. Intermarriage between immigrants and natives has long received the attention of researchers and policy makers since it is considered an indicator of economic and social integration of immigrants to the host country. As such, it has profound impacts on immigrants, their native spouses, and future generations of

² Visit, for example: <https://www.reuters.com/article/us-usa-immigration-trump/trump-to-propose-plan-to-make-us-immigration-more-merit-based-idUSKCN1SL2CX>. Last accessed on December 23, 2019.

³ Opponents, however, argue that lowering the bar might distort the marriage market by affecting its quality and stability, and could raise marriage fraud.

Americans. In addition to identifying an intermarriage wage premium, studies have also found that intermarriage affects household specialization (Nottmeyer, 2014), divorce rates (Dribe and Lundh, 2012; Milewski and Kulu, 2014), children's education (Chiswick and Deb-Burman, 2004; Ramakrishnan, 2004; Furtado, 2009; Emonds and Van Tubergen, 2015; Basu and Insler, 2017), and even children's health outcomes (Giuntella, 2014). By uncovering the link between toughened immigration enforcement and non-citizens' intermarriage patterns, the study brings attention to the important impacts that immigration policy might have on immigrants' lives, their assimilation, and the well-being of their offspring; even more so as immigration enforcement continues to tighten.

2. Institutional Background, Conceptual Framework, and Literature Review

2.1 Institutional Background

Under U.S. immigration law, two types of visas are provided: nonimmigrant visas and immigrant visas. *Nonimmigrant* visas allow migrants to travel to the United States temporarily and restrict the length of time visa holders can legally stay. *Immigrant* visas allow migrants to stay indefinitely and can be grouped into three main categories: 1) family-based, 2) employment-based, and 3) other (a category that includes, for example, diversity visas). Each of these categories has a quota, with the current U.S. immigration system heavily favoring family-based immigration. However, not all family members are treated equally. Immediate relatives of U.S. citizens (immediate relative immigrant visas) enjoy an unlimited number of visas, whereas more distant relatives of U.S. citizens or immediate relatives of LPRs are subject to quota limitations. The LPR status application for the non-citizen spouse of a citizen typically involves filing a petition to adjust status and undergoing an interview by an immigration officer to ensure it is a bona-fide marriage. In addition to not being subject to a numerical quota, spouses of U.S. citizens enjoy a shorter wait

period before they can apply for citizenship (3 years) than other LPRs (5 years). In sum, immigrants married to U.S. citizens can avoid long wait lists to obtain LPR status, as well as apply for U.S. citizenship quicker than other LPRs –a benefit that becomes especially valuable in a tightened immigration environment.⁴

The policy also treats undocumented spouses differently. While undocumented spouses of U.S. citizens are eligible to apply for LPR status, the process varies depending on how they initially entered the United States. Undocumented immigrants who entered the U.S. without inspection (crossed the border illegally) must leave the country and apply for LPR status from abroad. They might be barred from re-entry for three or ten years, depending on the length of their unlawful presence in the United States. As such, it is generally risky for this group of undocumented spouses to apply for LPR status. However, undocumented spouses who entered the country legally but overstayed their visas (the vast majority of undocumented immigrants in the country) can apply for LPR status without leaving the United States. According to Warren (2019), from 2010 to 2017, visa over-stayers accounted for 62 percent of the newly undocumented, while those who entered without inspections only accounted for 38 percent. As such, a majority of recent undocumented immigrants might be eligible to apply for LPR if married to a U.S. citizen.

2.2 Conceptual Framework and Testable Hypotheses

We rely on the theory of competitive marriage markets (Becker 1993, Grossbard-Shechtman 1993) to derive some testable predictions regarding immigrants' intermarriage outcomes. This framework assumes a competitive marriage market with two sides: demand and supply. Typically, men are on the demand side, whereas women are on the supply side.

⁴ Further information on family based immigrant visas can be found at: <https://travel.state.gov/content/travel/en/us-visas/immigrate/family-immigration/family-based-immigrant-visas.html>. Last accessed on December 23, 2019.

Graphically, the horizontal axis would represent the number of men or women, and the vertical axis would represent the price of marriage, which can be measured as a monetary price (such as dowry and bride price) or a non-monetary price (such as how well women are treated in the marriage).⁵ Demand and supply determine the equilibrium number of marriages and the equilibrium price of marriage. This framework has been applied to analyze a variety of outcomes, including religious intermarriage, home production, intermarriage by ethnic groups and between immigrants and natives, and marriage migration (Grossbard 1983, Grossbard-Shechtman 1993, Grossbard *et al.* 2014, Grossbard and Vernon 2016, and Wang and Wang 2012).

Using this simple framework, we can make some predictions regarding the impact of intensified immigration enforcement on the demand and supply of non-citizens and citizens in the marriage market and how, in turn, it might affect the prevalence of intermarriage. We modify this framework by assuming that non-citizens are on the demand side, whereas citizens are on the supply side, regardless of gender. When demand equals supply, the market reaches an equilibrium. The equilibrium quantity is the observed intermarriage rate, and the equilibrium price is the observed social norm of how citizens are treated within intermarriages. There are various factors, such as changes in preferences and population composition, that could potentially shift the demand and/or the supply in this type of market and, thereby, affect the intermarriage rate. Immigration enforcement could cause shifts in supply or demand by interacting with these factors.

First, stricter enforcement may increase the value placed by non-citizens on intermarriage. As mentioned earlier, there are two main benefits for non-citizens from marrying a U.S. citizen: 1) quick access to LPR status, and 2) quick access to U.S. citizenship, which has been shown to improve labor market outcomes (*e.g.* Bratsberg *et al.* 2002, Enchautegui and Giannarelli 2015).

⁵ As a more detailed example, this could be measured by how many household chores are expected of women, how many children are women expected to have, or the financial spending of women within a household.

As immigration enforcement tightens, the value of intermarriage among non-citizens might increase as they seek long-term certainty and security in an increasingly unpredictable and rapidly changing immigration policy environment. As a result, the demand would shift rightwards, raising the intermarriage rate.

Second, stricter enforcement may also lower the supply of citizens in the intermarriage market. Stricter immigration enforcement may create a more hostile environment toward immigrants, negatively affecting citizen's attitudes toward non-citizens. Citizens may also become more cautious about marrying non-citizens if they worry about its fraudulent nature. In both instances, U.S. citizens might value intermarriage less. As a result, the supply might shift to the left, lowering the intermarriage rate.

In sum, from a theoretical point of view, it remains unclear how tougher immigration enforcement might affect the intermarriage rate. An increase in non-citizens' demand for intermarriage might increase it, whereas a reduction in the supply of citizens might do the exact opposite. They may also both coexist, conceivably offsetting each other and leading to a null effect on intermarriage. We hypothesize, however, that the demand side effects are likely to outweigh the supply side effects because more is at stake for non-citizens. In what follows, we empirically test this hypothesis.

2.3 Literature Review

This paper makes important contributions to two literature strands: 1) the literature examining the intended and unintended effects of stricter immigration enforcement on immigrants; and 2) the literature on the determinants of intermarriages. In addition, our findings have implications for the literature on the intermarriage premium and its broad impacts. Below, we expand on these contributions.

2.3.1 Literature on the Implications of Immigration Policy and Enforcement

There is a growing literature examining the effects of immigration enforcement on a variety of outcomes. Many have focused on the labor market performance of immigrants. In that regard, Orrenius and Zavodny (2009) use the 9/11 terrorist attacks as a natural experiment for the change in immigration policy and note that the tightened immigration policy environment worsened the employment opportunities and wages of undocumented immigrants. Wang (2019) relies on a similar approach to show that undocumented immigrants respond to the worsened job market opportunities by becoming self-employed. Other studies explore the state and local variations in immigration policies after 9/11 and find similar results (Amuedo-Dorantes and Bansak, 2012, 2014; Bohn and Lofstrom, 2013; Orrenius and Zavodny, 2015; Orrenius *et al.*, 2018).

In addition to the effect on immigrants' labor market outcomes, a number of studies have also examined interstate migration patterns of immigrants and natives, the labor market outcomes of natives, job market turnovers, residential patterns, and immigrant criminal behavior (Amuedo-Dorantes and Bansak, 2012, 2014; Amuedo-Dorantes and Pozo, 2014; Amuedo-Dorantes *et al.*, 2015; Bohn *et al.*, 2014, 2015; Freedman *et al.*, 2018; Good, 2013; Hoekstra and Orozco-Aleman, 2017; Kostadidini *et al.*, 2013; Orrenius and Zavodny, 2016; Watson, 2013).

The literature has also examined how immigration enforcement has impacted mixed-status households where some members lack legal immigration status. In that vein, Amuedo *et al.* (2018) show that immigration enforcement raises the poverty exposure of families with likely undocumented parents and U.S. citizen children. The fertility decisions of likely undocumented women are also negatively impacted by the uncertainty resulting from intensified immigration enforcement (Amuedo-Dorantes and Arenas-Arroyo 2017). In addition, several studies have demonstrated the negative impacts of the current policy environment on the educational attainment

of U.S. citizen children with an undocumented parent, as well as on their propensity to live without parents or placed in foster care (Amuedo-Dorantes and Arenas-Arroyo 2018, 2019, Amuedo-Dorantes and Lopez 2015, 2017).

Very few papers have examined the role of immigration policies on immigrants' marriage decisions. Using a difference-in-differences approach, Wang and Wang (2012) show that Hispanic immigrants are more likely to marry natives after 9/11 as immigration policies tightened. Kelly (2010) shows that loose immigration policies, such as the Legal Immigration and Family Equity Act of 2000 that provided a four-month window for undocumented immigrants to apply for status adjustments without having to leave the country, increased marriage rates and LPR applications. By directly examining the effect of state and local tightened immigration enforcement on intermarriage outcomes, our paper provides a more complete understanding of the various impacts of immigration enforcement on U.S. society. As the prevalence of intermarriage grows, it is increasingly important to understand the determinants of that trend.

2.3.2 Literature on the Determinants of Immigrant Intermarriage

Most of the immigrant intermarriage literature focuses on intermarriage between immigrants and natives. Our focus is on a different type of intermarriage –that between non-citizens and citizens.

The immigrant intermarriage literature documents that intermarriage rates vary drastically across immigrant populations. The literature has identified a number of responsible factors. Grossbard (1983) pioneered the first economic analysis of intermarriage and its determinants, and Kalmijn (1998) summarizes the determinants of immigrant intermarriage into three categories: 1) individual preferences; 2) social pressure from the groups to which they belong; and 3) marriage market structure. Adsera and Ferrer (2015) provide a thorough review of the literature examining

these determinants and point out a number of immigrant characteristics playing a key role in intermarriage decisions, including age, age at migration, education, and cultural similarity to the host country. An example using U.S. data is the analysis by Chiswick and Houseworth (2011), who show that more educated immigrants who arrive at a younger age and have been in the United States for a longer period of time are more likely to intermarry. In contrast, linguistic distance lowers that propensity. Furtado and Theodoropolous (2011) also identify a significant causal effect of education on intermarriage.

Kalmijn and Van Tubergen (2010) focus on the role of social pressure. They demonstrate that strong cultural backgrounds (non-Christian religion, non-English speaking, and early marriage in country of origin) lower the prevalence of intermarriage, whereas immigrants from more globalized economies are more likely to intermarry.

In addition to individual preferences/traits and social pressures, the structure of the marriage market, as captured by the sex ratio within the ethnic group, is also a determinant of intermarriage (Chiswick and Houseworth, 2011; Furtado, 2012; Furtado and Theodoropoulos, 2011). While these studies find that sex ratio serves as an important predictor of endogamy, Kalmijn and Van Tubergen (2010) fail to find such evidence. Most of the existing studies stem from the marriage market and assortative marriage matching theories to gain understanding of the composition of intermarriages.

Our paper identifies an important, yet typically ignored, determinant of intermarriage – namely, immigration policy. We pinpoint an important motive for intermarriage: the benefit of gaining legal status and security in an increasingly uncertain immigration environment. Two papers have examined the role of legal status as a motive to intermarriage (Azzolini and Guetto, 2017; Adda *et al.*, 2019). They utilize the 2004 and 2007 expansions of the European Union (EU)

to measure the impact of ease gaining EU citizenship on immigrant-native intermarriage outcomes in Italy. They find that ease of citizenship acquisition among immigrants from the new EU members significantly lowers their intermarriage to Italians. While not directly testing the impact of immigration enforcement on intermarriages, these studies do show that legal status might be an important motive when immigrants consider intermarriage decisions.⁶

Immigration enforcement can alter intermarriage motives among its target population and, possibly, those of immigrants on temporary visas who wish to stay long-term in the United States and worry about the ability to secure legal permanent resident status. As we show in what follows, this appears to have been the case, underscoring a different source of selection into intermarriage that could have important implications on the intermarriage premium and, in turn, on other intermarriage-related outcomes.

2.3.3 Implications for the Intermarriage Premium

Intermarriage has been shown to be critical for immigrant assimilation to the host country. The literature has pointed out that immigrants who intermarry tend to enjoy an intermarriage premium both in terms of earnings and employment (Furtado and Theodoropoulos, 2010; Meng and Gregory, 2005; Meng and Meurs, 2009). Furtado and Theodoropoulos (2010) identify immigrants' legal status and network connections as the main mechanisms through which intermarriage affects immigrant employment. They show that the intermarriage premium is the largest among those who are more likely undocumented and less educated. Chi (2015, 2017) also points to legal status as a key determinant of the intermarriage premium.

⁶ Dziadula (2019) also documents that naturalization rate among immigrants with a citizen spouse (regardless of foreign born or U.S. born) is much higher than immigrants married to a non-citizen spouse, suggesting gaining citizenship status as a common outcome among those who are married to citizens.

While not the focus of our study, the analysis conducted herein has important implications for the selection into intermarriage and, therefore, for the intermarriage premium and immigrant assimilation. If immigrants likely targeted by immigration enforcement or alike counterparts on temporary visas are now choosing to intermarry, how would this new type of selection into intermarriage impact the intermarriage premium? And how would that affect, in turn, divorce rates, household specialization, and children's education and health outcomes? Our findings underscore the implications for the intermarriage premium and, in turn, the opportunity for future research addressing the abovementioned questions.

3. Data

We use two main data sources in this analysis: (1) the American Community Survey (ACS), obtained from Integrated Public Use Microdata Series (Ruggles *et al.* 2019), and (2) self-collected information on immigration enforcement, including interior immigration enforcement initiatives at the local and state levels, *i.e.* 287(g) agreements between local and state law enforcement with Immigration Customs Enforcement (ICE), Secure Communities, employment verification mandates, and omnibus immigration laws.

3.1 The American Community Survey

Our main data originate from the 2005 through 2017 ACS (Ruggles *et al.* 2019). The ACS has several advantages. *First*, it is a large nationally representative dataset that interviews about 2 million households in the United States on a yearly basis.⁷ Since 2005, the ACS collects annual data on 1 percent of the U.S. population, which provides vital information about the country and its people. Its large sample size makes it especially suitable for studying minority groups, such as

⁷ The initial address selection identifies about 3.5 million households, among which about 2 million are interviewed. <https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/sample-size/index.php>. Last accessed on December 23, 2019.

immigrants. *Second*, it contains abundant information on family interrelationships and demographic characteristics that allow for the identification of the spouse and the use of spousal characteristics. This is crucial, as it permits us to identify if a non-citizen is married to a U.S. citizen -our dependent variable of interest. *Third*, the ACS consistently identifies the metropolitan area (MSA) of households over time, allowing us to merge information on immigration enforcement at the MSA level.

Our main goal is to gauge if non-citizens have become more likely to marry a citizen in response to stricter immigration enforcement. We first focus on a sample of foreign-born non-citizens who are between the ages of 16 and 64 and do not live in group quarters. We drop those observations with missing information on key demographic variables, such as birth place, education, and year of arrival in the United States. We also exclude immigrants from Muslim-majority countries, as they experienced completely different shocks following the 9/11 terrorist attacks that could have impacted their intermarriage patterns differently.⁸

The dependent variable of interest is set equal to 1 if a non-citizen is married to a U.S. citizen (either a U.S.-born native or a naturalized immigrant), and equal to 0 otherwise (that is, for non-citizens who are single or married to other non-citizens). We start with this definition to examine the overall intermarriage rate to citizens among the non-citizen population. Subsequently, we zoom in to examine the intermarriage rate among those married.

Non-citizens include three types of immigrants: undocumented immigrants, immigrants on temporary visas, or legal permanent residents who have not yet naturalized. Publicly available

⁸ Following Kaushal *et al.* (2007), we define Muslim-majority countries as those countries on the special registration list of the Department of Justice. These countries include Afghanistan, Algeria, Bangladesh, Cyprus, Egypt/United Arab Republic, Indonesia, India, Iran, Iraq, Jordan, Lebanon, Morocco, Nepal, Pakistan, Saudi Arabia, Syria, and Yemen. We also exclude Malaysia and Turkey, countries with predominantly Muslim populations, as in Kaushal *et al.* (2007).

data does not allow us to differentiate among the three. However, we can group non-citizens according to their countries of origin and the concentration of unauthorized immigrants typically originating from those countries. Specifically, we group non-citizens as follows: 1) Hispanic immigrants originating from Mexico, Central America and Caribbean countries, or South American countries, which account for 76 percent of undocumented immigrants in the U.S. according to Migration Policy Institute (MPI) estimates;⁹ 2) Non-Hispanic immigrants, who encompass the rest of the immigrant population and account for a much lower share of undocumented immigrants; and 3) EUCANZ immigrants, namely immigrants from Northern, Western, and Southern Europe, Canada, Australia, or New Zealand, who tend to be legal immigrants and have easy access to legal permanent residence status.¹⁰

Three time-varying MSA level variables are added to the data: (a) the annual average unemployment rate in the MSA, (b) the share of non-citizens in the MSA, and (c) MSA-year level sex ratio by country of origin. The unemployment rate is gathered from the Bureau of Labor Statistics (BLS) Local Area Unemployment Statistics (LAUS). The share of non-citizens in the MSA is created using ACS data. The MSA-year level sex ratio is constructed by country of origin for non-citizens who are 5 years older or younger than the respondent to capture the marriage market in which a person is most active.¹¹ The first two MSA-level controls are included in the main specification, whereas the third one is included later as a robustness check. We also include information on individuals' education attainment, which is converted from a categorical to a

⁹ Source: <https://www.migrationpolicy.org/data/unauthorized-immigrant-population/state/US>. Last accessed on December 4, 2019.

¹⁰ Specifically, the Northern, Western, and Southern European countries include Denmark, Finland, Iceland, Norway, Sweden, England, Scotland, United Kingdom ns, Ireland, Belgium, France, Netherlands, Switzerland, Greece, Italy, Portugal, Spain, Austria, and Germany.

¹¹ When MSA level sex ratio is not available due to absence of non-citizens within the age group from one's country of origin, we replace it with state or national level sex ratio from one's country of origin.

continuous variable indicative of years of schooling.¹² Finally, person weights are used throughout the analysis.

3.2 Immigration Enforcement

A variety of immigration enforcement policies have been enacted at different geographic levels over the last decade. While we have the timing and location information on individual policies, examining each policy separately may not be the best approach when trying to understand their effects on marital decisions. This is because marriage is an important life decision unlikely to respond to a single policy but, rather, to the environment created by the various policies in place. To address this concern, we consider a variety of enforcement measures, at both the state and local levels, and construct a comprehensive population-weighted index that more accurately measures the intensity of immigration enforcement.

Following Amuedo-Dorantes *et al.* (2018), we construct this index in two steps. First, we create a proxy for exposure to each enforcement policy in each MSA and year.¹³ Because the smallest geographic unit of immigration policies in our data is county, we aggregate exposures to each policy at all counties within each MSA,¹⁴ weighting by each county's population and the number of months within a year that the county was exposed to the policy. This first step takes the following form:

$$(1) \quad EI^k_{m,t} = \frac{1}{N_{m,2000}} \sum_{c \in m} \frac{1}{12} \sum_{j=1}^{12} \mathbf{1}(E_{c,j}^k) P_{c,2000}$$

¹² The following is how we convert the education variable to years of education. No schooling, nursery school and kindergarten (0); 1st to 11th grade (1-11); 12th grade, no diploma (11); high school diploma or GED (12); less than one year of college (13); 1 or more years of college without a degree (14); associate degree (15); bachelor's degree (16); master's degree (18); professional or doctorate degree (21).

¹³ See Amuedo-Dorantes and Arenas-Arroyo (2018) and/or (Amuedo-Dorantes *et al.* 2018) for a further description of the index.

¹⁴ See Table A in the appendix for a further description of the policies.

where k refers to one of the following policies: local 287(g), state-level 287(g), Secure Communities, omnibus immigration laws, and E-Verify. The indicator function: $\mathbf{1}(E_{c,j}^k)$ informs about the implementation of measure k in county c in month j during the year in question; $P_{c,2000}$ is the population of county c according to the 2000 Census –that is, prior to the rollout of the enforcement initiatives being considered; and $N_{m,2000}$ is the total population in the MSA.

Next, we sum up the indices of the various enforcement initiatives at the (MSA, year) level to create the aggregated index of the overall enforcement intensity to which an individual living in MSA m and year t is exposed:

$$(2) \quad Total\ Enforcement_{m,t} = \sum_{k \in K} EI_{m,t}^k$$

The total enforcement index ranges between 0 (*i.e.* no enforcement) and 5 (*i.e.* all local and state level initiatives).

The above index has several advantages. First, it accounts for the share of individuals likely impacted by immigration enforcement in each MSA. Second, it addresses the length of time each measure was in place during any given year. Third, it facilitates the assessment of the overall *intensity* of immigration enforcement to which individuals are exposed by grouping the various indices into one index. Finally, it addresses the overlapping nature of some of these measures and, in turn, their high correlation; after all, some measures were designed to replace one another (as in the case of Secure Communities and the 287(g) agreements) or rely on the same local and state police resources.

3.3 Summary Statistics

Table 1 presents summary statistics for the various non-citizen immigrant groups we focus on in our study. The intermarriage rate of non-citizens to citizens averaged 19.5 percent. Nevertheless, there is a large degree of heterogeneity across immigrant subpopulations. The

intermarriage rate among Hispanic immigrants averaged 16.3 percent –well below the 27.5 percent rate of non-Hispanic immigrants. Mexican immigrants were the least likely to be married to a citizen (15.8 percent), whereas EUCANZ immigrants display the highest intermarriage rate to citizens, at roughly 42 percent.

The constructed enforcement index, our proxy for the intensity of interior immigration enforcement, averaged 1.05 and fluctuated significantly over the time period under consideration. Different immigration groups seem to locate in MSAs with slightly different levels of enforcement, with Hispanic immigrants, especially Mexican immigrants, facing more enforcement than others.

In addition, Hispanic immigrants in our sample have, on average, ten years of schooling, and have lived in the United States for about 15 years. In contrast, non-Hispanic immigrants have 14 years of schooling and have been in the country for 11 years. Hispanic immigrants are also more likely to be male and slightly younger. This is especially true for Mexican immigrants.

Figure 1 depicts changes in the intermarriage rate (percent of non-citizens married to a U.S. citizen), as well as in the enforcement index from 2005 to 2017. In the past decade, enforcement index increased from 0.20 in 2005 to 1.42 in 2017.¹⁵ The sharpest increase occurred during the period 2007 through 2012, reaching a maximum average of 1.62 in 2012, tapering off slightly afterwards. During the same period, the intermarriage rate rose from 19.4 percent in 2005 to 21.4 percent in 2017 – a 10 percent increase.

A closer look by ethnicity in Figure 2 reveals a steady rise in intermarriages among Hispanic immigrants, whose intermarriage rate rose by 17 percent, from 15.9 percent in 2005 to 18.6 percent in 2017. In contrast, non-Hispanic immigrants do not exhibit an equivalent increase.

¹⁵ Figure A in the appendix shows the distribution of changes in the enforcement index during our sample period across MSAs. About 85 percent of MSAs experienced an increase in enforcement index between 1 and 3 units over the time span under consideration, with most of them increasing anywhere between 1 and 2 units.

This pattern suggests that the increase in the intermarriage rate among non-citizens may be completely driven by Hispanic non-citizens, which would be consistent with tighter immigration enforcement primarily affecting likely undocumented immigrants' intermarriage decisions.

Furthermore, differentiating between Mexican immigrants and non-Mexican immigrants among Hispanic immigrants, Figure 3 shows that the increase is mainly driven by Mexican immigrants. Their intermarriage rate rose from 15.3 percent in 2005 to 18.7 percent in 2017 –a 22 percent increase.

4. Methodology

To assess how the increasingly uncertain and changing immigration policy environment might have impacted non-citizens' propensity to marry a citizen, we utilize the constructed enforcement index to capture the intermarriage response to increased interior immigration enforcement over time. Essentially, we rely on a quasi-experimental approach that compares the intermarriage propensities of non-citizens in MSAs experiencing increases in immigration enforcement to the propensities exhibited by non-citizens in other MSAs, before and after the change in immigration enforcement. In this manner, we take into account both observable and unobservable factors affecting intermarriage rates in all MSAs in similar ways. For example, changes in cultural preferences, social acceptance of intermarriage, increased exposure to intermarriage facilitated by technological advancements, or changes in immigrants' education and social status can all impact intermarriage rates. These factors would be controlled for in a difference-in-differences framework if they are common to all MSAs, allowing us to focus on the effect of tightened immigration enforcement on intermarriage outcomes. In addition, we include additional variables to account for confounding variables that may systematically differ across MSAs over time.

Specifically, we estimate the following linear probability model (LPM) as the benchmark specification:

$$(1) \quad y_{i,m,t} = \alpha + \beta_1 Total\ Enforcement_{m,t} + X'_{i,m,t} \beta_2 + Z'_{m,t} \beta_3 + \delta_c + \gamma_m + \theta_t + \varepsilon_{i,m,t}$$

where $y_{i,m,t}$ is our outcome variable: a dummy variable equal to one if non-citizen i is married to a U.S. citizen in MSA m and year t , and zero if the non-citizen is married to a non-citizen or remains single.¹⁶ We start by including singles in the sample to document the overall effect of enforcement on the prevalence of intermarriage among all non-citizens. In follow-up specifications, we restrict the sample to married individuals to more closely measure changes in the type of spouse married. The variable $Total\ Enforcement_{m,t}$ represents the enforcement index at MSA m in year t . The vector $X_{i,m,t}$ is a vector of demographic characteristics, including age, age squared, gender, educational attainment (as captured by years of schooling), and the length of the U.S. migration spell in years. These factors influence intermarriage decisions and could vary across MSAs and over time. The vector $Z_{m,t}$ is a vector of basic MSA traits that could potentially affect the intermarriage rates as well, such as MSA unemployment rates, and the share of non-citizens residing in the MSA.¹⁷

Equation (1) also includes a vector of country of origin fixed-effects (δ_c), intended to capture idiosyncratic matching between individuals from certain countries of origin and U.S. citizens based on language, historical or cultural similarities. Additionally, in order to control for unobserved heterogeneity across MSAs or over time spuriously correlated with the MSA treatment

¹⁶ This is a stock measure. An increase could capture three different dynamics that we discuss later in the paper: 1) an increase in new intermarriages; 2) a decrease in the naturalization rate among non-citizens in existing intermarriages; and/or 3) increased stability of existing intermarriages. We will differentiate among some of these effects in Section 6.2.

¹⁷ Sex ratio by country of origin can be viewed as a channel through which enforcement affects intermarriage rate, and thus we do not include in the main model but add it as a robustness check in Section 5.2.4. We also experiment with excluding the share of non-citizens as a control variable and the results remain the same.

effect, we add temporal and geographic fixed-effects (namely dummies for each year and MSA).¹⁸ Standard errors are clustered at the MSA level, and equation (1) is estimated by ordinary least squares as a linear probability model.¹⁹

The coefficient of interest is β_1 , which captures the relationship between the intensity of local- and state-level immigration enforcement and the propensity exhibited by non-citizens to marry a U.S. citizen. A positive coefficient would be suggestive of non-citizens becoming more likely to marry a U.S. citizen as immigration policy toughened, possibly seeking increased assurance and security in their ability to stay in the United States long-term. In contrast, a negative coefficient would suggest non-citizens increasingly marrying among themselves or becoming less likely to marry—a pattern that could be driven by a number of factors, including discrimination or increased isolation as an unwelcoming climate towards immigrants galvanized. Finally, it is also possible for the changing policy climate to have no impact on non-citizens' intermarriage propensities, in which case the coefficient β_1 would not be distinguishable from zero.

In what follows, we test the abovementioned hypotheses starting with a sample of all non-citizens. We subsequently zoom in on subsamples of non-citizens more likely to be impacted by the negative climate on immigration, as would be the case with Hispanic, then Mexican, and finally low-skilled Mexican non-citizens. We examine changes in both the marriage propensity, as well as more specifically the propensity of marrying a citizen among married non-citizens. We also conduct a variety of robustness checks and identification tests and consider specific mechanisms for the observed impacts.

¹⁸ We do not include controls of geographic-specific time trends. It is now heavily debated whether the latter should be included as controls in a difference-in-differences estimation. Growing evidence suggests that such controls may capture more than just the unobserved geographical variations and, as such, remove much of the valid identifying information (Neumark *et al.* 2014; Meer and West 2016). Hence, we check the robustness using a triple-differences estimation instead, which allows us to further rule out any unobserved MSA-specific trends.

¹⁹ Logit models yield similar results. Results are available from the authors.

5. Immigration Enforcement and Immigrants' Marriage Patterns

5.1 Main Findings

5.1.1 All Non-citizens

Table 2 displays the results from estimating our baseline model specification. Models 1 to 3 use all non-citizens and progressively add controls in our main model. As can be seen therein, immigration enforcement has no statistically significant effect on the overall intermarriage propensity of non-citizens if no further distinctions are made. However, because immigration enforcement targets undocumented immigrants, it is reasonable to expect heterogeneous impacts across the various groups of non-citizens.

Since the vast majority of undocumented immigrants are Hispanic, we next distinguish between Hispanic (Models 4 to 6) and non-Hispanic non-citizens (Models 7 to 9). Once all controls are included, Hispanic non-citizens exhibit a higher propensity of marrying a U.S. citizen as immigration enforcement tightens. In particular, a one standard deviation increase in immigration enforcement (roughly equal to the average level of immigration enforcement over the time span under consideration) raises Hispanic non-citizens' likelihood of marrying a U.S. citizen by approximately 2 percent.²⁰ This impact is statistically significant at the 10 percent level. We find no evidence of a significant impact of immigration enforcement on the intermarriage propensity of non-Hispanic non-citizens.

Hispanic non-citizens are themselves a diverse group with regards to their immigration statuses. According to Radford and Noe-Bustamante (2019) and Passel and Cohn (2019), about 44 percent of all Mexican immigrants are undocumented, compared to 28 percent of non-Mexican Hispanic immigrants. To better gauge the impact of intensified immigration enforcement on the

²⁰ Namely: $[(1 \text{ s.d. increase in IE} * \beta_1) / \text{D.V. Mean}] = (0.924 * 0.0036) / 0.163 = 0.02$ or 2 percent.

intermarriage patterns of non-citizens who are current or likely future targets of intensified immigration enforcement, we further differentiate between the two aforementioned subgroups. As we would probably expect given their greater share among the undocumented population over the time span being examined, it is Mexican non-citizens who are responding to the intensification of immigration enforcement (Table 3, Panel A). Their propensity to marry a U.S. citizen increases by 3 percent as immigration enforcement rises by one standard deviation –an impact statistically significant at the 5 percent level. An increase in enforcement by three standard deviations, *i.e.*, from an average level of enforcement to almost full enforcement, would raise the intermarriage likelihood by about 9 percent. Given that the majority of MSAs experience an increase in enforcement index that fluctuates between 1 and 3 units, the intermarriage rate among Mexican non-citizens would likely rise by 3 to 10 percent. This effect is unique to Mexican non-citizens.

We further differentiate between low- and high-skilled Mexican non-citizens in Panel B of Table 3. *Low-skilled* is defined as having 12 or fewer years of schooling, whereas *high-skilled* implies having 13 or more years of schooling. Given the higher representation of the low-skilled immigrants among the undocumented population, it is not surprising to find that low-skilled Mexican non-citizens are the ones more likely to marry a U.S. citizen when interior immigration enforcement tightens, not their more highly skilled counterparts.

Finally, in Panel C, we explore if the impacts are driven solely by male or female low-skilled Mexican non-citizens. The effect appears more prevalent among low-skilled Mexican women, who become 3.6 percent more likely to marry a U.S. citizen as interior immigration enforcement rises by one standard deviation. Low-skilled Mexican men are about 2.3 percent more likely to marry a U.S. citizen, and the effect is only statistically significant at the 10 percent

level in a one-tailed test. However, as we show next, the results for both male and female are statistically significant once we focus on married immigrants.

In sum, the estimates in Tables 2 and 3 suggest that tougher enforcement only seemingly impacted the intermarriage decisions of immigrants with traits similar to the traits of immigrants targeted by tougher immigration enforcement. Specifically, low-skilled Mexican non-citizens are about 3 percent more likely to marry a U.S. citizen when enforcement increases by one standard deviation, and the effect is somewhat larger among women. To place these estimates in perspective, over the period under consideration, the increase in interior immigration enforcement from 0.2 to 1.42 would have raised the intermarriage rate by about 4 to 5 percent.²¹ Since our summary statistics show that Mexican non-citizens' intermarriage rate rose by 22 percent from 2005 to 2017, immigration enforcement could have explained about 20 percent of the overall intermarriage growth rate over that time span.

5.1.2 Conditional on Being Married

As noted earlier, our sample in Tables 2 and 3 includes all non-citizens (both single and married) in order to document the prevalence of intermarriage among the non-citizen population. However, an increase in such intermarriage rate could be driven by either an increase in the marital rate or by an increase in the share of non-citizens with U.S. citizen spouses among those married. To further distinguish between these two potential mechanisms at play, we gauge the impact of greater interior enforcement on the propensity to marry of Mexican and other Hispanic non-citizens (see Panel A in Table 4). A one standard deviation increase in immigration enforcement raises the marriage propensity of Mexican non-citizens slightly by 0.7 percent (or less than 1

²¹ $[(\text{change in EI} \cdot \beta_1) / \text{D.V. Mean}] = (1.22 \cdot 0.0051) / 0.159 = 0.04$ or 4 percent.

percent) at a marginally significant 10 percent level. In addition, we see no significant impact on the marriage propensity of non-Mexican Hispanic non-citizens.

Next, we focus our attention on the impact of tougher immigration enforcement on the propensity of Hispanic non-citizens, particularly low skilled Mexican non-citizens with 12 or fewer years of education, to marry a U.S. citizen *conditional* on being married (Panel B of Table 4). The results show that immigration enforcement has primarily impacted the type of marriage – in this case, the marriage of non-citizens to U.S. citizens, particularly among low-skilled Mexicans. A one standard deviation increase in interior immigration enforcement raises the aforementioned propensity by 2 percent in the case of Hispanic non-citizens (Model 1, Panel B.1), by 3.2 percent among Mexican non-citizens (Model 1, Panel B.2), and by 3.7 percent among low-skilled Mexican non-citizens (Model 1, Panel B.3). It is noteworthy that the enforcement effect on low-skill Mexican non-citizens is now statistically significant for both men and women, even if the impact continues to be slightly larger among women (2.9 percent among men and 4.3 percent among women, Panel B.4).

In sum, the measured immigration enforcement impacts on the intermarriage propensity of low-skilled Mexican non-citizens in Table 3 are not primarily driven by increases in the marriage rate but, rather, by increases in the intermarriage rate among those married. Given our interest on the intermarriage rate, we focus on the married sample for the rest of the paper.

5.2 Robustness Checks

We next conduct several checks to assess the robustness of our main findings. Specifically, we start by evaluating whether the results are sensitive to the use of lagged enforcement measures, to the exclusion of the Great Recession period, to restrictions in the marriage timing and age group being examined, and to the use of an alternative immigrant group unlikely to be undocumented

(placebo test). We also test the robustness of the results using a triple-differences estimation that further controls for additional unobserved heterogeneity unaccounted for by the controls in the main model specification.

5.2.1 Using Alternative Model and Sample Specifications

Our main model examines the effect of immigration enforcement on concurrent marriage outcomes. One may argue that it takes time for intensified immigration enforcement to impact immigrants' marital decisions. After all, most marriages are preceded by a dating period that could take more than a year from when marital preferences changed in response to the tougher immigration climate. This should not be a matter of concern in our case since identification relies on the before-and-after comparisons of MSAs that adopt tougher enforcement measures, with the enforcement index generally exhibiting increasingly rising values. At any rate, we confirm the robustness of our results by re-estimating a model that includes two lagged enforcement measures: the enforcement index last year and two years ago. The results using both measures are very similar. For brevity, Panel A of Table 5 displays the set of results that incorporates a lagged enforcement measure from last year. The analysis is conducted for Mexican non-citizens (Model 1), low-skill Mexican non-citizens (Model 2), high-skill Mexican non-citizens (Model 3), male low-skill Mexican non-citizens (Model 4), and female low-skill Mexican non-citizens (Model 5). The results are consistent with the ones reported earlier –tougher enforcement mainly affects the intermarriage propensity of low-skill Mexican non-citizens. In sum, our findings are not sensitive to the use of concurrent or lagged measures of the enforcement index.

Next, we consider the presence of confounding factors. Since the results so far have identified low-skill Mexican non-citizens as the main group experiencing the effects of enforcement, our robustness checks from here on focus on this group.

One particularly salient macroeconomic factor during the time period being examined is the Great Recession, which coincided with the toughening of immigration enforcement in many MSAs. Low-skilled Mexican immigrants, facing reduced job opportunities during the Great Recession, may have considered intermarriage as a way to increase their access to a broader spectrum of employment opportunities and a welfare or safety net. While employment opportunities have been shown to influence intermarriage decisions (Furtado and Theodoropoulos, 2009), the Great Recession should not be a threat to our identification if its effect is common across MSAs. Nonetheless, we check the robustness by excluding the Great Recession period (2008 to 2009). As documented by the estimates in column (1) of Panel B in Table 5, the main findings prove robust to the this sample restriction.

The existing intermarriages in our sample might have been consummated prior to arrival to the United States. Our focus would be on those who are directly exposed to an increasingly tougher immigration enforcement environment. Hence, we next exclude non-citizens whose marriages took place prior to arriving to the United States. As can be seen in column (2) of Panel B in Table 5, our main finding also proves robust to the exclusion of such marriages. In fact, the magnitude of the effect becomes slightly larger.

We also check if our findings are driven by a group in a typical marriage age. We start by restricting the sample to those who are between 20 and 50 years old, among whom marriages are likely to occur (column 3, Panel B in Table 5). Once more, the result is consistent with our main finding. We further restrict the sample to those aged between 20 and 38 years old, which is the age group that is most active in the marriage market (column 4, Panel B in Table 5). We lose a significant portion of the sample, but the estimate is still statistically significant at the 10 percent level and continues to confirm our main finding.

At last, as a placebo check, we re-estimate our baseline specification focusing on a group of non-citizens who are among the least likely to be undocumented. If fear and insecurity are driving low-skilled Mexican non-citizens to marry U.S. citizens, we should not expect much of an impact on the marriage patterns exhibited by immigrants unlikely to be undocumented or with easy access to LPR status. A natural choice would be EUCANZ immigrants, *i.e.*, non-citizens from Europe, Canada, Australia and New Zealand. The estimate in column (5) of Panel B in Table 5 confirms our expectation. Interior immigration enforcement appears to have no significant impact on the intermarriage propensity of this subgroup of non-citizens, while it does among Mexican immigrants, particularly the low-skilled.

5.2.2 Triple-Differences Estimation

A perennial concern in any difference-in-difference analyses is the presence of additional confounding factors, in our case, affecting non-citizens and their intermarriage propensities. To address this concern, we also estimate a triple difference model. Specifically, we compare low-skilled Mexican non-citizens to other non-citizens residing in the same MSA, allowing us to further control for unobserved MSA-specific changes simultaneously impacting the intermarriage propensity of all non-citizens. Our control group needs to satisfy two conditions. First, it should exhibit a similar intermarriage trend prior to the intensification of immigration enforcement. Secondly, it should be less likely targeted and impacted by immigration enforcement.

To meet both conditions, we choose EUCANZ non-citizens, who account for a much smaller share of the undocumented and, as such, should be less likely targeted by immigration enforcement. In addition, we experiment with an alternative control group –all non-Hispanic non-citizens given that the vast majority of undocumented immigrants over the sample period being examined were Hispanic. Furthermore, for both groups, we conduct parallel trend analyses

(displayed in Table 6, Panel B and discussed after the triple difference estimates) to confirm that these two groups experience similar intermarriage trends to those of low-skilled Mexican non-citizens prior to the implementation of any interior immigration enforcement.

Panel A of Table 6 shows the results for the estimated triple difference model specifications. Models 1 and 2 compare low-skilled Mexican non-citizens to the two control groups respectively. The variable of interest is the interaction term: $EI * Mex$. Regardless of the control group used, we find a positive and statistically significant coefficient on the interaction term. This result supports the notion that intensified immigration enforcement disparately impacted the intermarriage propensity of low-skilled Mexican non-citizens, regardless of whether they are compared to non-citizens less likely to fall within the undocumented (as would be the case with EUCANZ non-citizens), or to a broader group of non-Hispanic non-citizens. A one standard deviation increase in immigration enforcement raises low-skilled Mexican non-citizens' propensity to marry a U.S. citizen anywhere between 4 and 7 percent. In contrast, there is no evidence of immigration enforcement impacting the intermarriage propensity of non-Mexican Hispanic non-citizens.²² In sum, low-skilled Mexican non-citizens are the ones responding to the intensification of immigration enforcement by significantly raising their propensity to marry a U.S. citizen.

As noted earlier, the triple difference approach has the added benefits of controlling for unobserved factors that could be potentially impacting the intermarriage rates of non-citizens in the control and treatment groups. However, we need to rule out the possibility that differential intermarriage patterns observed for low-skilled Mexican non-citizens could predate the adoption of tougher immigration enforcement policies. In other words, we test if low-skilled Mexican non-

²² Results are not shown here but available upon request.

citizens and the control groups experienced similar trends before enforcement tightened. To that end, we re-estimate the triple difference models adding interaction terms between dichotomous indicators of years preceding the implementation of the tougher policies and a treatment group dummy for Mexican non-citizens. Because policies are implemented across MSAs at different points in time, we construct temporal indicators of years prior to the enforcement index first turning positive in a given MSA, *i.e.*, going from no enforcement to some enforcement. Panel B of Table 6 displays the results from such a test when we use EUCANZ non-citizens as the control group in column (1) and use non-Hispanic non-citizens as the control group in column (2). The results show that there is no evidence of differential pre-trends in intermarriage rates between low-skilled Mexican non-citizens and EUCANZ or non-Hispanic non-citizens. It is only when the policies are implemented that we observe a significant increase in the propensity of intermarriage of Mexican non-citizens, relative to their control group.

In sum, the estimates in Table 6 suggest that the observed impacts of intensified interior immigration enforcement on low-skilled Mexican non-citizens' intermarriage propensity are not driven by long-standing differential intermarriage differences among them and their control groups.

5.2.3 Addressing the Non-Random Adoption of Tougher Immigration Enforcement

A main concern when gauging policy impacts refers to the potentially endogenous nature of the policy in question. Tougher immigration enforcement policies are unlikely to be randomly adopted by MSAs. Nevertheless, our main concern should be if they are somewhat endogenous to non-citizen's intermarriage rates.

To gauge if that is the case, we examine if the adoption timing of tougher immigration policies can be predicted by the intermarriage rate of low-skilled Mexican non-citizens in the MSA

at the beginning of the sample period –that is, prior to the adoption of any immigration enforcement policy by the MSA. To that end, we collapse our data at the MSA level and use as the dependent variable the year each MSA’s enforcement index first turned positive. The results from this exercise are displayed in the first two columns of Table 7. Model 1 does not include any control variables, whereas Model 2 adds MSA level controls and state fixed effects. The results show that the intermarriage rate of low-skilled Mexican non-citizens in 2005 does not help predict the year when the immigration enforcement index first turned positive in the MSA. In other words, while non-random, the adoption of tougher immigration enforcement cannot be predicted by existing intermarriage patterns among low-skilled Mexican non-citizens.²³

5.2.4 Selective Residential Location of Immigrants

Another concern is that immigrants may selectively decide to migrate out of MSAs that adopt tougher enforcement and reside in more friendly MSAs or even leave the United States altogether. As such, the estimated effect may capture changes in the composition of immigrants as a response to tightened immigration policy. Such selection in migration may potentially increase or decrease the estimated impact of tougher enforcement in various ways. First, it may thin up the marriage market among non-citizens in MSAs with tougher enforcement policies, increasing the propensity of non-citizens to marry a U.S. citizen. Second, it may change the composition of immigrants in these MSAs, which may unpredictably alter the intermarriage propensity up or down. Third, if male undocumented immigrants are more likely to out-migrate

²³ We also include additional variables to control for factors that may affect both timing of enforcement and intermarriage. The latter include interaction terms between the share of non-citizens in 2000 and time trend, the share of people voting Republican in 2000 and time trend, and the MSA unemployment rate in 2000 and a time trend. The results remain qualitatively the same.

from the MSA in response to tougher enforcement, it may change the sex ratio of immigrants in the MSA and, in turn, intermarriage propensities in the MSA.

While we would still consider migration a channel through which the intermarriage propensity might be impacted, we want to gauge whether intermarriage is a strategic response to tougher enforcement, or simply a change in the marriage market conditions or in the MSA's population composition. We use yearly MSA-level data on the ratio of naturalized to non-citizen immigrants, as well as the ratio of naturalized to non-citizen Mexicans to evaluate if immigration enforcement in the past year shaped the population composition of these localities. As can be seen in columns (3) and (4) of Table 7, there is no apparent or significant link between intensified immigration enforcement and the population composition of MSAs. In addition, we gauge the effect of tightened enforcement on Mexican non-citizens' demographic traits (age, education, and years since migration) in the MSA to gauge if their composition changed. We also find no evidence of that being the case.²⁴ Finally, we test the possibility that sex ratios among non-citizens may have changed across MSAs in response to intensified immigration enforcement and, in turn, altered their intermarriage propensity. Specifically, we include in our model information on the MSA-year level sex ratio, which we construct by country of origin for non-citizens who are 5 years older or younger than the respondent to capture the marriage market in which a person is more likely active.²⁵ Column (5) of Table 7 shows that controlling for changes in sex ratio barely alters the estimated effect of intensified immigration enforcement on the intermarriage rate.

In sum, the estimates in Table 7 suggest that the abovementioned selection concerns are not prominent in our case. In what follows, we turn to analyzing potential mechanisms at work.

²⁴ Results are available upon request.

²⁵ Summary statistics in the data show that the majority (70 percent) of non-citizens are married to a spouse with an age difference within plus or minus five years.

6. Mechanisms

We consider four different mechanisms potentially at play. First, we look at the specific types of citizens to whom Mexican non-citizens become more likely to marry. Specifically, we examine whether higher intermarriage rates are the result of higher intermarriage rates of non-citizens to naturalized citizens, to native-born citizens, or to both—as we might expect if citizenship is the key driver. Nevertheless, we also examine whether they are driven by intermarriages to citizens of Hispanic origin. Second, we examine whether the results are driven by an increase in the new marriages or a reluctance to apply for citizenship among non-citizens in existing intermarriages using data from 2008 onward. Third, we gauge the possibility that intensified enforcement might be altering specific marriage patterns that are more likely to signal an interest in securing a legal permanent residency status on the part of non-citizens engaging in that behavior. At last, we examine the role played by different types of immigration enforcement initiatives, contrasting the role played by employment-based and police-based enforcement policies as opposed to the impact of a laxer implementation on immigration enforcement.

6.1 Type of Citizen Spouse

Our main dependent variable is defined as marriage to a U.S. citizen, regardless of whether the citizen is a native-born individual or a naturalized immigrant. If interest in securing a legal immigration status is a main driver of increased non-citizens' intermarriage rates, we should observe higher intermarriage rates to both natives and naturalized immigrants. In Panel A of Table 8, we repeat our analysis separately for both types of marriages. In column 1, we focus on non-citizens' intermarriage to a U.S. native as our dependent variable outcome, whereas in column 2 our focus shifts to intermarriage to a naturalized immigrant.

Our results show that the intensification of interior immigration enforcement appears to have significantly risen the intermarriage propensity of low-skilled Mexican non-citizens to both natives and naturalized immigrants. A one standard deviation increase in interior immigration enforcement raises the intermarriage propensity of low-skilled Mexican non-citizens to natives and naturalized immigrants by 3 to 5 percent. This finding is suggestive of spousal citizenship being the trait that matters.

We further examine whether these citizen spouses are of Hispanic origin. This is of interest in the general intermarriage literature, as it measures whether enforcement pushes immigrants to choose exogamous marriages. In Panels B and C of Table 8, we further distinguish low-skilled Mexican non-citizens' intermarriage to Hispanic natives (column 1 Panel B), non-Hispanic natives (column 2 Panel B), Hispanic naturalized immigrants (column 3 Panel C), and non-Hispanic naturalized immigrants (column 4 Panel C).²⁶ The results show that enforcement mainly increases intermarriage to natives or citizen immigrants of Hispanic origin. However, there is also strong evidence that it increases intermarriage to natives of non-Hispanic origin, suggesting that Mexican non-citizens are more likely to marry out to a citizen partner of a different origin.

6.2 New Intermarriages or Reduced Naturalization Rates?

As mentioned earlier, the main measure of intermarriage in our paper is a stock measure, the increase of which captures the total effects of enforcement via three dynamics: 1) increase in new intermarriages; 2) decrease in the naturalization rate among non-citizens married to U.S. citizens; and 3) increased stability of existing intermarriages. We cannot examine the stability of intermarriages by looking at divorce with our sample since divorced couples typically do not live

²⁶ The results are similar when examining Mexican non-citizens. For brevity, we only present the results using low-skilled Mexican non-citizens.

in the same household. This prevents us from identifying divorced spousal characteristics. However, we can test the first two dynamics using data available from the ACS samples 2008 and beyond.

First, we examine the intermarriage rate in any given year among the newly married. Starting from 2008, the ACS identifies persons who got married in the past year, allowing us to examine the effect of enforcement on *new* intermarriages. The caveat is that the sample size becomes rather small when we restrict the sample to the newly married.²⁷ Nonetheless, even if our estimate is only marginally significant at the 10 percent level, we still arrive to similar results.²⁸ Immigration enforcement raises the propensity of low-skilled Mexican non-citizens to marry a *native* spouse (Model 1, Table 9).

Second, we test if the naturalization rate decreased among non-citizens married to citizens in MSAs with tougher enforcement; thus, contributing to an increase in the observed intermarriage rate. On one hand, as enforcement tightens and the policy environment becomes more uncertain, non-citizens married to U.S. citizens may become more likely to naturalize in order to reduce any risks in unexpected future policy changes. If that is the case, it would decrease the number of non-citizen-to-citizen marriages and, instead, raise the prevalence of citizen-to-citizen marriages. Our estimated enforcement effect would then underestimate the true effect.²⁹ An increase in naturalization rate may also echo the motivation of gaining lawful permanent status and/or citizenship when marrying a citizen. On the other hand, some undocumented immigrants married to U.S. citizens may become more reluctant to come out of the shadows to apply for legal status

²⁷ We exclude MSAs that have less than an average of 10 observations each year to avoid the influence of extremely small MSA-year cells.

²⁸ We use the lagged enforcement index to be consistent with the year of marriage.

²⁹ Undocumented immigrants who obtained legal status via Deferred Action for Childhood Arrivals (DACA) during this period and married a citizen would be able to quickly naturalize. This would have a similar effect on our estimates. However, we show later that naturalization rate decreased, instead of increased, suggesting limited impact of DACA applicants on our results.

for fear of exposing their undocumented status. Such a decrease in the naturalization rate might increase the number of observed non-citizen-to-citizen marriages, possibly raising the intermarriage rate. A decrease in naturalization rate may then echo our earlier finding that undocumented immigrants drive the increase in intermarriage rate.

We test the naturalization rate among immigrants who are married to citizens using retrospective information on the year of marriage and year of naturalization available in the ACS from 2008 onward. Specifically, to gauge the naturalization rate of the Mexican non-citizen spouses, we include in our sample all low-skilled Mexican immigrants (both citizens and non-citizens) married to a U.S. citizen. We then restrict the citizen sample to those who likely obtained citizenship via their spouses, *i.e.* those who naturalized after marrying a native citizen and those who naturalized after their citizen immigrant spouse had naturalized. The dependent variable is whether the immigrant who is married to a U.S. citizen has naturalized. Model 2 in Table 9 shows that tougher enforcement appears to be associated to a lower naturalization rate among low-skilled Mexican immigrants married to a U.S. citizen. This result is consistent with the hypothesis that undocumented immigrants become more cautious and avoid actions that may expose their immigration status. However, the magnitude of the effect is rather small.

In sum, the observed increase in intermarriage rate is the combined effect of increased new intermarriages and, to a lesser extent, to reduced naturalization among non-citizens married to a U.S. citizen. This result is consistent with earlier findings of the increase in the intermarriage rate taking place, primarily, among demographic groups with a greater representation among undocumented immigrants over the time period being examined –as would have been the case with low-skilled Mexican non-citizens.

6.3 Interest in Ensuring a Lawful Immigration Status?

Next, we explore the timing of intermarriages to learn about patterns suggestive of a potentially tactical marital behavior to cope with increased uncertainty regarding immigration policy and the immigration climate. In particular, we examine the role of tougher enforcement on the propensity of non-citizens to marry a U.S. citizen prior to the likely expiration of non-immigrant visas.

Non-immigrant visas are temporary. Among low-skilled immigrants, the most common visas of this kind are H-2A visas (for agricultural workers) and H-2B visas (for seasonal non-agricultural workers). They typically allow for an initial stay of up to one year, which can be renewed for a maximum of three years (American Immigration Council 2016). Workers could overstay their visas and become undocumented. However, if immigration enforcement toughens, they may actively seek alternative options to maintain legal status, such as marrying a U.S. citizen and, supposedly, would do so with a sense of urgency (before their visa expires). We test if there is any evidence of this being the case focusing, as we have thus far, on low-skilled Mexican non-citizens. Because we are focusing on the marriage timing in relation to visa status, we keep only the sample that got married after arrival. We distinguish between the impact of immigration enforcement on low-skilled Mexican non-citizens' intermarriage propensities if they have been in the U.S. for three years or less (before low-skill visas expire) or for more than three years. We create a dummy variable: *YSM3*, which is a dummy variable equal to 1 if the immigrant has been in the United States for three years or less and 0 otherwise. We then interact these dummy variables with the enforcement index.

Table 10 shows the results from this exercise. The estimate of *YSM3* variable (without the interaction) shows that those who have recently arrived tend to have a lower intermarriage rate

than those who have lived in the country for a long time. However, the interaction effect ($YSM3*EI$) shows that enforcement has a much larger effect on non-citizens who have only been in the country for three or fewer years. Overall, the results in Table 10 are suggestive of non-citizens' intermarriages taking place prior to the usual expiration of most non-immigrant visas.

6.4 Type of Immigration Policy at Play

Finally, we explore the role of alternative enforcement measures –an exercise that serves two purposes: (1) providing us with an additional robustness check, and (2) shedding some light on the type of policy and channel likely driving intermarriage decisions. To this end, we employ three alternative measures of enforcement: the intensity of police-based enforcement, the presence of employment-based enforcement, and the existence of a Trust Act,³⁰ which would act in the opposite direction of intensified immigration enforcement.

To understand better the role played by the various types of immigration enforcement policies, we distinguish between police-based and employment-based interior immigration enforcement in columns (1) and (2) of Table 11. Specifically, we reconstruct our immigration enforcement index to now create two indexes: (1) one that uses information on enforcement initiatives that require the involvement of local or state law enforcement personnel, including 287(g) agreements, Secure Communities and omnibus immigration laws; and (2) another index for the presence of enforcement initiatives that solely involve the employer, *i.e.* E-Verify. The estimates suggest that both sets of policies appear to have had a significant impact.³¹ In column (3), we further include another policy indicator –one capturing if the state limited the cooperation

³⁰ Trust Acts were enacted by a number of states after 2013 with the intent of limiting the cooperation of law enforcement personnel with Immigration Customs Enforcement (ICE) in order to promote community trust and cooperation with local law enforcement.

³¹ The results are consistent when including both measures in the same model compared to when evaluating them in two separate models.

of its law enforcement personnel with Immigration Customs Enforcement (ICE) through the enactment of a Trust Act.³² As we would expect, while intensified enforcement raises low-skilled Mexican non-citizens' intermarriage rate, the existence of a Trust Act lowers it, suggesting that immigrants might be more inclined to intermarriage in the midst of increased uncertainty, and vice versa.

In sum, the observed increase in the intermarriage propensity of non-citizens appears to have partially occurred in response to both police-based and employment-based interior immigration enforcement and, in turn, immigrants' desire to enjoy greater security by marrying a citizen, regardless of whether the citizen is a native or naturalized immigrant. This interpretation appears to be further sustained by non-citizens marrying citizens prior to the expiration of most non-immigrant visas, and by the opposing impact of a lax implementation of immigration enforcement.

7. Summary and Conclusions

This paper studies the effect of intensified immigration enforcement in the United States on the intermarriage propensity of non-citizens over the past decade. Exploiting the temporal and geographic variation in the enactment of several interior immigration enforcement measures enacted between 2005 and 2017, we find that raising interior immigration enforcement by one standard deviation increases Mexican non-citizens' likelihood of marrying a U.S. citizen anywhere between 3 to 6 percent. The effect is only found among low-skilled Mexican immigrants and not their high-skilled counterparts. We find that the increase in the propensity to intermarry is driven

³² In our sample, there were Trust Acts in place in California and Connecticut since 2014, and in Rhode Island and Illinois since 2015.

by a change in spousal preference, as opposed to changes in the marriage rate. In addition, the immigration enforcement impacts survive a number of robustness and identification checks.

We also investigate the mechanisms at play. We document that intermarriages to both U.S. natives and to naturalized immigrants increased as interior immigration enforcement toughened, suggesting that spousal citizenship might have been key in driving the spousal choice. Enforcement not only increases low-skilled Mexican non-citizens' intermarriage to natives and citizen immigrants of Hispanic origin, but also increases exogamous marriages to natives of non-Hispanic origin. Additionally, we show that much of the growth in intermarriage has been the byproduct of an increase in *new* intermarriages. Policy wise, both police-based and employment-based enforcement seem to have contributed to the increased prevalence of intermarriage among low-skilled Mexican non-citizens; with Trust Acts having the expected opposite impact.

Given the increased frequency of intermarriage in the United States and the profound impacts intermarriage has on immigrants, natives, and future generations, it is important to understand the determinants of intermarriage and its growth. We show that tightened immigration enforcement is an important contributor to the increase in intermarriage in recent years, especially among low-skilled Mexican immigrants. If selection into intermarriage has been impacted by immigration enforcement, a re-investigation of the intermarriage premium is well-warranted, as it can impact divorce rates, household specialization, and children's education and health outcomes. Our findings underscore the opportunity for future research to investigate these questions.

Our results also have policy implications, especially under the current immigration debate regarding the role that family reunification should play in the U.S. immigration system. Specifically, the estimates suggest that, if merit-based migration is prioritized over family reunification, low-skill immigrants with limited venues to secure legal permanent resident status

may contemplate the possibility of intermarriage –a response with long-term implications for household composition and the assimilation of immigrants and their offspring.

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Table 1: Summary Statistics

| | All Non-citizens | Hispanic Non-citizens | Non-Hispanic Non-citizens | Mexican Non-citizens | Non-Mexican Hispanic Non-citizens | EUCANZ Non-citizens |
|------------------------|-----------------------------|----------------------------------|--------------------------------------|---------------------------------|--|--------------------------------|
| Married to a citizen | 0.195 (0.396) | 0.163 (0.370) | 0.275 (0.446) | 0.158 (0.364) | 0.174 (0.379) | 0.424 (0.494) |
| Enforcement Index (EI) | 1.050 (0.913) | 1.078 (0.924) | 0.979 (0.881) | 1.081 (0.965) | 1.072 (0.842) | 0.992 (0.951) |
| Age | 37.56 (11.75) | 37.07 (11.50) | 38.77 (12.29) | 36.72 (11.26) | 37.73 (11.89) | 41.75 (12.15) |
| Male | 0.520 (0.500) | 0.539 (0.498) | 0.473 (0.499) | 0.548 (0.498) | 0.523 (0.499) | 0.507 (0.500) |
| Years of Education | 11.11 (4.513) | 9.954 (4.172) | 14.00 (4.011) | 9.314 (3.975) | 11.14 (4.267) | 14.94 (3.313) |
| Years in the U.S. | 13.64 (10.10) | 14.65 (9.797) | 11.11 (10.39) | 15.75 (9.790) | 12.62 (9.478) | 15.52 (13.71) |
| N | 1330544 | 897154 | 433390 | 587741 | 309413 | 114846 |

Table 2: The Impact of Immigration Enforcement on Non-citizens' Intermarriage to U.S. Citizens

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 |
|--------------------|-------------------------|------------------------|------------------------|------------------------------|------------------------|------------------------|----------------------------------|------------------------|------------------------|
| | All Non-citizens | | | Hispanic Non-citizens | | | Non-Hispanic Non-citizens | | |
| EI | -0.0010 (0.0022) | -0.0021 (0.0026) | 0.0020 (0.0020) | 0.0018 (0.0023) | -0.0031 (0.0029) | 0.0036* (0.0020) | 0.0015 (0.0039) | 0.0036 (0.0030) | -0.0012 (0.0027) |
| Age | | 0.0205*** (0.0008) | 0.0210*** (0.0008) | | 0.0155*** (0.0008) | 0.0161*** (0.0009) | | 0.0359*** (0.0010) | 0.0361*** (0.0009) |
| Age Squared | | -0.0246*** (0.0010) | -0.0253*** (0.0011) | | -0.0182*** (0.0010) | -0.0192*** (0.0012) | | -0.0433*** (0.0014) | -0.0435*** (0.0013) |
| Male | | -0.0313*** (0.0029) | -0.0290*** (0.0027) | | -0.0107*** (0.0019) | -0.0080*** (0.0017) | | -0.0790*** (0.0051) | -0.0767*** (0.0051) |
| Years of Education | | 0.0059*** (0.0002) | 0.0057*** (0.0002) | | 0.0078*** (0.0003) | 0.0073*** (0.0002) | | -0.0004 (0.0004) | 0.0000 (0.0004) |
| Years in the U.S. | | 0.0055*** (0.0002) | 0.0054*** (0.0002) | | 0.0047*** (0.0002) | 0.0045*** (0.0002) | | 0.0073*** (0.0002) | 0.0071*** (0.0002) |
| Birthplace FE | N | Y | Y | N | Y | Y | N | Y | Y |
| MSA controls | N | N | Y | N | N | Y | N | N | Y |
| MSA and Year FE | N | N | Y | N | N | Y | N | N | Y |
| DV Mean | | 0.195 | | | 0.163 | | | 0.275 | |
| N | | 1330544 | | | 897154 | | | 433390 | |

Note: Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01. DV Mean represents the dependent variable mean.

Table 3
The Impact of Immigration Enforcement on Non-citizens' Intermarriage to U.S. Citizens by Subgroups

| Panel A: By Mexican Origin | | |
|---|--|--|
| Specification | Model 1 | Model 2 |
| Sample | Mexican Non-citizens | Non-Mexican Hispanic Non-citizens |
| EI | 0.0051** (0.0021) | -0.0004 (0.0030) |
| Control Variables | | All |
| DV Mean | 0.158 | 0.174 |
| N | 587741 | 309413 |
| Panel B: By Educational Attainment of Mexican Non-citizens | | |
| Specification | Model 1 | Model 2 |
| Sample | Low-Skill Mexican Non-citizens | High-Skill Mexican Non-citizens |
| EI | 0.0048** (0.0020) | 0.0070 (0.0053) |
| Control Variables | | All |
| DV Mean | 0.147 | 0.220 |
| N | 500791 | 86950 |
| Panel C: By Gender of Mexican Non-citizens | | |
| Specification | Model 1 | Model 2 |
| Sample | Male Low-Skill Mexican Non-citizens | Female Low-Skill Mexican Non-citizens |
| EI | 0.0036 (0.0028) | 0.0058*** (0.0014) |
| Control Variables | | All |
| DV Mean | 0.145 | 0.150 |
| N | 263782 | 237009 |

Note: All models include the full set of control variables. Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 4
Increases in the Marriage Rate vs. Increases in the Inter-marriage Rate

| Panel A: Likelihood of Being Married | | |
|--|--|--|
| Specification | Model 1 | Model 2 |
| Sample | Mexican Non-citizens | Non-Mexican Hispanic Non-citizens |
| EI | 0.0041* (0.0021) | -0.0024 (0.0064) |
| Control Variables | All | All |
| DV Mean | 0.523 | 0.422 |
| N | 587741 | 309413 |
| Panel B: Having a U.S. Citizen Spouse, Conditional on Being Married | | |
| <i>Panel B.1: By Ethnicity</i> | | |
| Specification | Model 1 | Model 2 |
| Sample | Hispanic Non-citizens | Non-Hispanic Non-citizens |
| EI | 0.0072*** (0.0026) | -0.0010 (0.0045) |
| Control Variables | All | All |
| DV Mean | 0.298 | 0.449 |
| N | 474351 | 261703 |
| <i>Panel B.2: By Mexican Origin of Hispanic Non-citizens</i> | | |
| Specification | Model 1 | Model 2 |
| Sample | Mexican Non-citizens | Other Hispanic Non-citizens |
| EI | 0.0097*** (0.0028) | 0.0023 (0.0039) |
| Control Variables | All | All |
| DV Mean | 0.272 | 0.359 |
| N | 329634 | 144717 |
| <i>Panel B.3: By Educational Attainment of Mexican Non-citizens</i> | | |
| Specification | Model 1 | Model 2 |
| Sample | Low-Skill Mexican Non-citizens | High-Skill Mexican Non-citizens |
| EI | 0.0100*** (0.0028) | 0.0069 (0.0063) |
| Control Variables | All | All |
| DV Mean | 0.252 | 0.400 |
| N | 283460 | 46174 |
| <i>Panel B.4: By Gender of Low-Skill Mexican Non-citizens</i> | | |
| Specification | Model 1 | Model 2 |
| Sample | Male Low-Skill Mexican Non-citizens | Female Low-Skill Mexican Non-citizens |
| EI | 0.0080** (0.0037) | 0.0117*** (0.0023) |
| Control Variables | All | All |
| DV Mean | 0.254 | 0.249 |
| N | 141824 | 141636 |

Note: All models include the full set of control variables. Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 5: Robustness Check #1: Specification Checks

| Panel A: Lagged Enforcement Measure | | | | | |
|---|---|--|---|---|--|
| Specification | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
| Sample | Mexican Non-citizens | Low-Skill Mexican Non-citizens | High-Skill Mexican Non-citizens | Male Low-Skilled Mexican Non-citizens | Female Low-Skilled Mexican Non-citizens |
| Dependent Variable: Married to a Citizen | | | | | |
| Lagged EI Last Year | 0.0089*** (0.0030) | 0.0087** (0.0034) | 0.0110 (0.0072) | 0.0070** (0.0033) | 0.0100** (0.0039) |
| Control Variables | All | All | All | All | All |
| DV Mean | 0.273 | 0.253 | 0.403 | 0.256 | 0.250 |
| N | 305596 | 262631 | 42965 | 131384 | 131247 |
| Panel B: Other Specification Checks | | | | | |
| Sample | Low-Skill Mexican Non-citizens Excluding Great Recession (2008 and 2009) | Low-Skill Mexican Non-citizens Who Got Married After Arriving in the U.S. | Low-Skill Mexican Non-citizens 20-50 Years Old | Low-Skill Mexican Non-citizens 20-38 Years Old | EUCANZ Non-citizens |
| Dependent Variable: Married to a Citizen | | | | | |
| Lagged EI Last Year | 0.0117*** (0.0026) | 0.0121*** (0.0032) | 0.0094*** (0.0035) | 0.0072* (0.0041) | -0.0037 (0.0042) |
| Control Variables | All | All | All | All | All |
| DV Mean | 0.256 | 0.281 | 0.245 | 0.251 | 0.424 |
| N | 239338 | 193767 | 230200 | 128155 | 114846 |

Note: All models use the married sample and include the full set of control variables. Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 6: Robustness Check #2: Triple Differences Models

| Specification | Model 1 | Model 2 |
|---|----------------------------|----------------------------------|
| Control Group | EUCANZ Non-citizens | Non-Hispanic Non-citizens |
| Panel A: Triple Differences Effect | | |
| Treatment Group | -0.5494*** (0.0704) | -0.4649*** (0.0409) |
| EI | -0.0085 (0.0059) | -0.0010 (0.0045) |
| EI*Mex | 0.0185*** (0.0061) | 0.0110** (0.0044) |
| Control Variables | All + All*Mex | |
| Treatment Group DV Mean | 0.252 | 0.252 |
| Control Group DV Mean | 0.620 | 0.449 |
| N | 358743 | 545163 |
| Panel B: Assessing Parallel Pre-trends in Triple Differences | | |
| Four Years Prior to EI>0*Mex | 0.0120 (0.0151) | 0.0014 (0.0108) |
| Three Years Prior to EI>0*Mex | -0.0030 (0.0108) | 0.0028 (0.0087) |
| Two Years Prior to EI>0*Mex | -0.0149 (0.0102) | 0.0056 (0.0088) |
| One Year Prior to EI>0*Mex | -0.0096 (0.0118) | 0.0060 (0.0082) |
| EI*Mex | 0.0158** (0.0072) | 0.0121** (0.0048) |
| Control Variables | All + All*Mex | |
| Treatment Group DV Mean | 0.252 | 0.252 |
| Control Group DV Mean | 0.620 | 0.449 |
| N | 358743 | 545163 |

Note: All models use the married sample. The treatment group is low-skilled Mexican non-citizens. Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 7: Identification Check: Endogenous Exposure to Interior Immigration Enforcement

| Specification | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|--|--------------------|---|---|--|---|
| Dependent Variable | First Year EI>0 | | (Naturalized/ Non-Citizens) by (MSA, Year) | (Naturalized/Non-Citizen) Mexicans by (MSA, Year) | Married to Citizen |
| Share of Low-Skilled Mexican Non-citizens Married to a U.S. Citizen in MSA in 2005 | 0.1358 (0.5085) | -0.1946 (0.5431) | | | |
| Lagged EI | | | 0.0422 (0.0294) | 0.0272 (0.0298) | |
| EI | | | | | 0.0106*** (0.0029) |
| Control Variables | N/A | Collapsed individual traits, MSA controls in 2005, state FE | MSA and Year FE | MSA and Year FE | All Control Variables + MSA-year sex ratio among Mexican non-citizens within 5 years of one's age |
| Sample | MSAs | MSAs | MSA-Year Cells | MSA-Year Cells | Low-skill Mexican Non-citizens |
| N | | 208 | 3073 | 2463 | 283460 |

Note: Significance level: * 0.10, ** 0.05, *** 0.01.

Table 8: Mechanism #1 – Type of Citizen Spouse

| Panel A: Married to a Native Citizen or a Naturalized Citizen | | |
|---|--|--|
| Dependent Variable | Married to a Native | Married to a Naturalized Citizen |
| EI | 0.0064*** (0.0017) | 0.0036** (0.0018) |
| Control Variables | All | All |
| DV Mean | 0.123 | 0.128 |
| N | 283460 | 283460 |
| Panel B: Whether Married to a Native of Hispanic Origin | | |
| Dependent Variable | Married to a Hispanic Native | Married to a non-Hispanic Native |
| EI | 0.0044*** (0.0015) | 0.0019** (0.0008) |
| Control Variables | All | All |
| DV Mean | 0.104 | 0.020 |
| N | 283460 | 283460 |
| Panel C: Whether Married to a Naturalized Citizen of Hispanic Origin | | |
| Dependent Variable | Married to a Hispanic Naturalized Citizen | Married to a non-Hispanic Naturalized Citizen |
| EI | 0.0036** (0.0017) | -0.0001 (0.0002) |
| Control Variables | All | All |
| DV Mean | 0.126 | 0.002 |
| N | 283460 | 283460 |

Note: All models use the married low-skilled Mexican non-citizens sample and include the full set of control variables. Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 9: Mechanism #2 – New Intermarriages or Decreased Naturalization Rate among Non-citizens in Existing Intermarriages?

| Specification | Model 1 | | Model 2 |
|---------------------------|---|--|---|
| Dependent Variable | Married to a U.S. Native | | Naturalized |
| EI | 0.0209* | | -0.0080* |
| | (0.0119) | | (0.0048) |
| Control Variables | All | | All |
| DV Mean | 0.230 | | 0.325 |
| Sample | Low-Skill Mexican Non-citizens Who Got Married Last Year | | Low-Skill Mexican Non-citizens Married to a U.S. Citizen + Migrants Who Likely Naturalized Through Their Spouses |
| N | 5269 | | 133495 |

Note: These models use the ACS samples since 2008. Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01

Table 10: Mechanism #3 – The Timing of Intermarriage

| Dependent Variable | Married to a Citizen Spouse |
|---------------------------|--|
| EI | 0.0128*** (0.0035) |
| YSM3 | -0.1194*** (0.0093) |
| YSM3*EI | 0.0443*** (0.0110) |
| Control Variables | All |
| DV Mean | 0.281 |
| Sample | Low-Skill Mexican Immigrants Who Got Married After Arrival |
| N | 193767 |

Note: Standard errors are clustered at MSA level. Significance level: * 0.10, ** 0.05, *** 0.01.

Table 11: Mechanism #4 - The Role of Various Types of Interior Immigration Enforcement Policies

| Specification | Model 1 | Model 2 | Model 3 |
|----------------------------|---|---|---|
| Enforcement Measure | MSA-Level Police-based Enforcement | MSA-Level Employment-based Enforcement | MSA-Level Enforcement Index and State-Level Trust Acts |
| EI | 0.0118*** (0.0040) | 0.0180*** (0.0063) | 0.0079*** (0.002) |
| Trust Acts | | | -0.0150** (0.007) |
| Control Variables | | All | |
| DV Mean | | 0.272 | |
| N | | 283460 | |

Note: Trust Acts are collected at the state level. All models use the married low-skilled Mexican non-citizens sample. Significance level: * 0.10, ** 0.05, *** 0.01.

Figure 1
Intermarriage Rates Between Non-citizens and Citizens and Enforcement Index

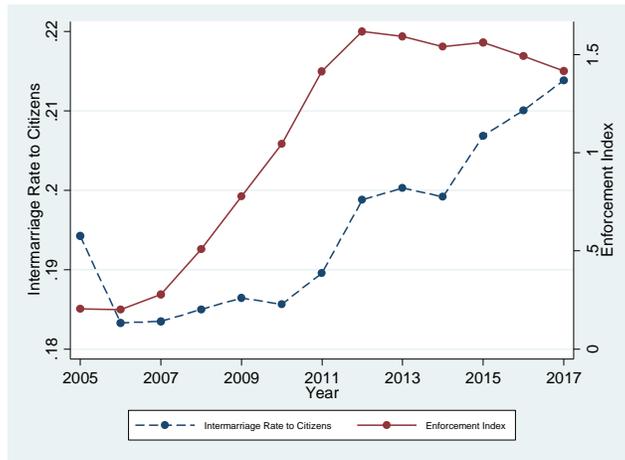


Figure 2
Intermarriage Rates Between Non-citizens and Citizens by Hispanic Origin

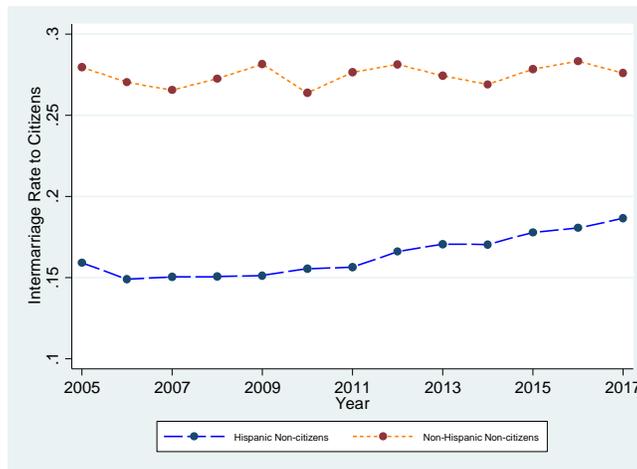
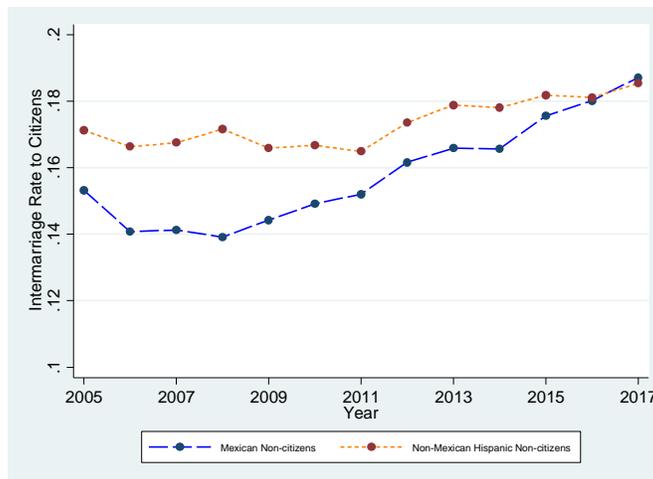


Figure 3
Intermarriage Rates Between Non-citizens and Citizens by Mexican Origin

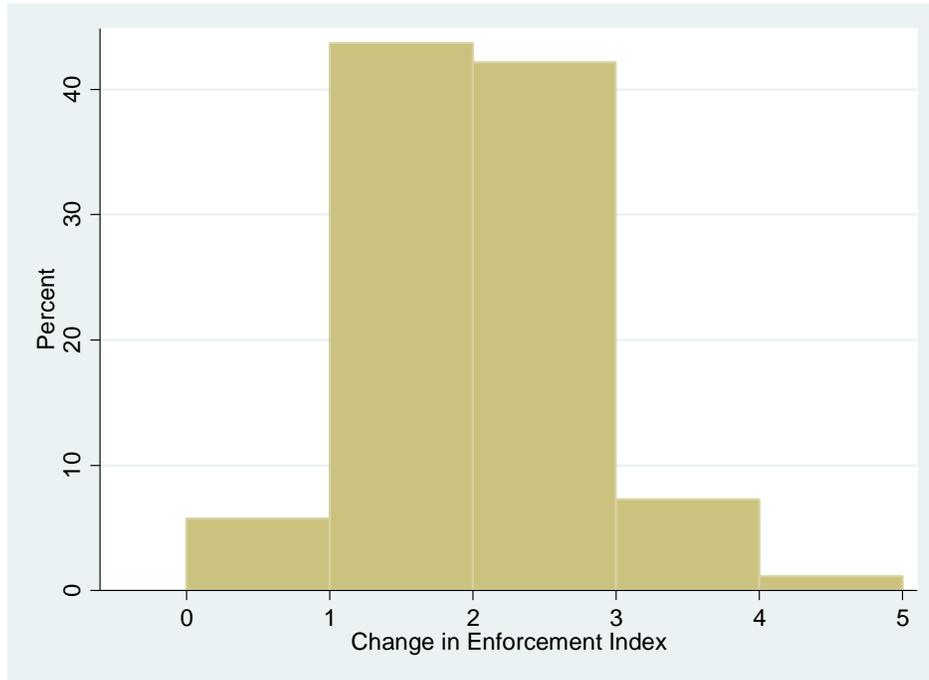


Appendix

Table A: Description of Enforcement Laws

| 287(g) Agreements (2002-2012) (2017-onwards) |
|---|
| <p>The aim of these policies is to make communities safer by the identification and removal of serious criminals.</p> <p>State and local enforcement entities signed a contract (Memorandum of Agreement -MOA) with the U.S. Immigration and Customs Enforcement (ICE).</p> <p>There are various functions:</p> <ul style="list-style-type: none"> • Task Force: allows local and state officers interrogate and arrest non-citizens during their regular duties on law enforcement operations. • Jail enforcement permits local officers to question immigrant who have been arrested on state and local charges about their immigration status. • Hybrid model: which allow participate in both types of programs. <p>Source: ICEs 287(g) Fact Sheet website, Amuedo-Dorantes and Bansak (2014), and Kostandini <i>et al.</i> (2013).</p> |
| Secure Communities (2009-2014) (2017-onwards) |
| <p>They are enacted in order to identify non-citizens who have committed serious crime using biometric information</p> <p>The program allows for the submission of biometric information on detainees that is contrasted against records in FBI and DHS databases.</p> <p>Source: ICE’s releases on activated jurisdictions: https://www.ice.gov/doclib/secure-communities/pdf/sc-activated.pdf</p> |
| Omnibus Immigration Laws (2010-onwards) |
| <p>Comprehensive laws that may include:</p> <ul style="list-style-type: none"> • A “show me your papers” clause, enabling the police to request proper identification documentation during a lawful stop. • Require that schools report students’ legal status. <p>Source: http://www.ncsl.org/documents/statefed/omnibus_laws.pdf</p> |
| E-Verify (2006-onwards) |
| <p>Electronic program that allows employers to screen newly hired workers for work eligibility.</p> <p>Source: National Conference of State Legislatures.</p> |

Figure A
Distribution of Changes in the Enforcement Index across MSAs over Sample Period



Note: Changes in the enforcement index are calculated as the difference between each MSA's maximum and minimum enforcement index values over the sample period.