E-Verify Mandates and Unauthorized Immigrants'
Access to Employer-Sponsored Health Insurance*

Brandyn F. Churchill[a]
Vanderbilt University
Department of Economics

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[a] Corresponding author: brandyn.f.churchill@vanderbilt.edu, 540.817.9499. PhD Student. Department of Economics, Vanderbilt University, VU Station B #351819, 2301 Vanderbilt Place, Nashville, TN, 37235-1819.

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Abstract

Over the last two decades, state and local governments have adopted policies requiring employers to electronically verify (E-Verify) the work eligibility of their new hires, in an effort to disrupt unauthorized immigrants' access to the formal labor market. These E-Verify mandates previously enjoyed bipartisan support, and the Trump administration has identified a nationwide E-Verify mandate as an immigration policy priority. I show in this paper that state E-Verify mandates are associated with a 5 percentage point reduction in the probability that likely-unauthorized immigrants are employed and a 2 percentage point reduction in the probability that they have employer-sponsored insurance. However, these changes are limited to one period after implementation. In all remaining periods, the relationships are not distinguishable from zero. I show that this pattern can be explained by selective outmigration of otherwise unemployed and uninsured likely-unauthorized immigrants. By preventing unauthorized immigrants from moving to a more favorable policy environment, a nationwide E-Verify mandate would likely further limit unauthorized immigrants' access to private health insurance.

1. INTRODUCTION

Immigrants disproportionately rely on the labor market for health insurance, due to restrictions on public insurance for new authorized arrivals and unauthorized immigrants (Borjas 2003), and over the last two decades state and local governments have experimented with policies intended to disrupt unauthorized immigrants' access to the formal labor market. One such policy is the requirement that at least some employers electronically verify (E-Verify) that their new hires are eligible to work in the United States. These E-Verify mandates previously enjoyed bipartisan support (Politico 2013), and the Trump administration has repeatedly identified a nationwide E-Verify mandate as an immigration policy priority (White House 2017; White House 2018).

At the same time, the Trump administration has expressed concern about the potential for uninsured immigrants to drive up health care costs for US citizens (White House 2019); nearly a quarter of lawful permanent residents and over 40 percent of unauthorized immigrants lack health insurance (KFF 2017). By damaging unauthorized immigrants' labor market prospects—and access to their only source of insurance—a nationwide E-Verify would likely exacerbate this perceived problem.

In this paper, I show that state-level E-Verify mandates reduce the probability that likely-unauthorized immigrants have employer-sponsored health insurance without affecting the probability that naturalized citizens, Hispanic natives, or white non-Hispanic natives have employer-sponsored insurance. Interestingly, the reduction for likely-unauthorized immigrants is limited to the period immediately after implementation. In all subsequent periods, the relationship between E-Verify mandates, employment, and employer-sponsored health insurance is zero. I show that this pattern can be explained by selective outmigration of otherwise uninsured likely-unauthorized immigrants, an option which would be generally unavailable after

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the implementation of a nationwide mandate.

This paper contributes to the literature on immigrants' access to insurance by demonstrating a plausibly-causal link between E-Verify mandates and employer-sponsored health insurance coverage (Borjas 2003; Buchmueller et al. 2008; Bronchetti 2014; Dillender 2017). Additionally, it adds to a growing body of work on the effect of E-Verify mandates on likely-unauthorized immigrants which has thus far focused primarily on employment outcomes and migration decisions (Amuedo-Dorantes and Bansak 2014; Bohn et al. 2014; Orrenius and Zavodny 2015; Orrenius and Zavodny 2016). It also contributes to a broader literature on the relationship between immigration enforcement and the outcomes of children (Bitler and Hoynes 2011; Watson 2014; Amuedo-Dorantes, Arenas-Arroyo, and Sevilla 2018; East 2019) by showing that these children with likely-unauthorized parents experience a similar reduction in the probability of having employer-sponsored health insurance.

The rest of this paper proceeds as follows: Section 2 discusses existing work on E-Verify, as well as the literature on immigrants and health insurance. The data, methods, and summary statistics are discussed in Section 3. Section 4 then presents results, considering the three channels through which E-Verify mandates may affect the probability that likely-unauthorized immigrants have health insurance. Finally, Section 5 discusses broad conclusions and opportunities for future work.

2. EXISTING LITERATURE

Since 2007, nine states have implemented laws requiring all employers to utilize E-Verify, and an additional fourteen states require public employees or contractors to be screened through E-Verify. Proponents argue that these mandates can reduce the flow of unauthorized immigrants

(or induce return migration), while also benefitting citizen workers. For instance, Congressman Lamar Smith (R-Texas) stated, "E-Verify is the most effective deterrent to illegal immigration because it shuts off the jobs magnet and saves jobs for hardworking Americans" (CNN 2018).

2.1 E-Verify and Employment

The Immigration Reform and Control Act of 1986 barred firms from knowingly hiring or employing unauthorized immigrants. However, uneven enforcement (Reyes et al. 2002) did little to stem the flow of unauthorized labor into the United States (Amuedo-Dorantes and Bansak 2014). A decade later, the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 established the Basic Pilot program. Now known as E-Verify, this program compares information from a new hire's Form I-9 against databases maintained by the Social Security Administration and Department of Homeland Security, helping employers assure they hire authorized workers (Stumpf 2012). E-Verify was made available to select states beginning in 1997, with all states having access by 2003 (Orrenius and Zavodny 2015).

Growing evidence indicates that E-Verify mandates are harmful to unauthorized immigrants. Bohn, Lofstrom, and Raphael (2014) found that the 2007 Legal Arizona Workers Act reduced the fraction of the state's population comprised of Hispanic non-citizens, while several other authors have found that E-Verify mandates damage the employment and wage prospects for likely-unauthorized workers. For instance, Amuedo-Dorantes and Bansak (2014) found that E-Verify mandates reduced the employment rate of likely-unauthorized immigrants and improved the job prospects of those competing with unauthorized labor. Bohn and Lofstrom (2013) found reductions in wage-and-salary employment for non-citizen Hispanics, but did not find evidence of positive spillovers for US natives. In contrast to these papers, Orrenius and Zavodny (2015) did not find evidence of employment reductions. They did, however, find that

E-Verify mandates reduced hourly earnings for likely-unauthorized immigrants while improving labor market outcomes for some US citizens.

2.2 Immigrants and Health Insurance

The 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) barred lawful permanent residents (LPRs) from most means-tested programs during their first five years in the US. Borjas (2003) found that the PRWORA eligibility changes did reduce Medicaid participation, though affected immigrants compensated by increasing their labor supply to gain employer-sponsored insurance. However, a number of papers suggest that there is less crowd-out for immigrant children (Currie 2000; Kaushal and Kaestner 2005, 2007; Lurie 2008). Royer (2005) found that PRWORA-related eligibility changes led to reductions in prenatal care among pregnant immigrant women without affecting birth outcomes.

Under PRWORA, states had the option to offer these LPRs public insurance, though they could not use federal money until 2002. After this point, limited funds were available for prenatal care through the SCHIP "unborn child" option, and these funds were expanded in 2009 through the SCHIP reauthorization bill (Bitler and Hoynes 2011). Bronchetti (2014) examined these state actions to restore access to public health insurance. She found that expanded eligibility increased take-up of public insurance among immigrant children, resulting in greater health care utilization and improved health.

In addition to reductions expected mechanically from changes in eligibility, there is a growing awareness that hostile policy environments may exacerbate reductions in program take-up (Fix and Passel 1999; Borjas 2001; Kandula et al. 2004). For example, the PRWORA-induced reductions in Medicaid participation could not be entirely explained by eligibility changes, leading Borjas (2003) to attribute disproportionate response to chilling effects. Sommers (2010)

found that the Deficit Reduction Act (DRA) of 2005, which imposed citizenship documentation requirements on Medicaid applicants, reduced the share of adult immigrants enrolled in Medicaid, though the overall adult insurance rate was not affected.

There is also evidence that some unauthorized immigrants forgo health care visits due to fears of interacting with law enforcement officers (Núñez and Heyman 2007; Heyman et al. 2009). Watson (2014) found that increased federal immigration enforcement lowered Medicaid participation among children with immigrant mothers, while also decreasing (increasing) the probability that these children were reported to be in *Very Good Health* (*Poor Health*). Similarly, Alsan and Yang (2018) found that county participation in the Secure Communities program reduced the probability that a Hispanic citizen utilized means-tested benefit programs, such as SNAP and SSI.

3. DATA, MEASURES, AND METHODS

To determine state E-Verify legislation, I first consulted the National Council of State Legislatures (2015) and Urban Institute (2017). I then determined specific implementation dates from examining each piece of legislation. These bills and dates are listed in Table 1, while Figure 1 shows the 9 states which have ever implemented a universal E-Verify mandate (darker color) and the 14 states which have implemented at most a public mandate (lighter color). Two indicator variables, $UNIVERSAL_{st}$ and $PUBLIC_{st}$, are constructed from monthly data. First, a state-year-month indicator takes on the value of 1 if a mandate was implemented for at least half the month. If a state has a mandate for at least 6 months, it is coded as having a mandate in year t.

3.1 Data and Measures

I obtain information on health insurance coverage from the 2000-2016 Current Population Survey's Annual Social and Economic Supplement (ASEC), extracted from the IPUMS-CPS database (Flood et al. 2018). In Table 2, I present summary statistics for E-Verify coverage and the main dependent variables.[1] Because the ASEC does not contain information on authorization status, I identify likely-unauthorized immigrants using the residual imputation strategy described by Borjas (2017). I start with a sample of all 18-64 year old foreign-born individuals, and then I consider each respondent a legal immigrants if s/he (i) arrived before 1980, (ii) reports being citizens, (iii) receives Social Security benefits, (iv) is a veteran or currently in the Armed Forces, (v) works in the government sector, (vi) resides in public housing or receives rental subsidies, or is the spouse of a person who resides in public housing or receives rental subsidies, (vii) was born in Cuba, (viii) works in an occupation requiring licensing, (ix) is the spouse of a legal immigrant or citizen. The remaining foreign-born individuals are classified as likely-unauthorized.[2]

I make one notable adjustment to Borjas's (2017) procedure. While the author considers anyone receiving Medicaid, Medicare, or Military Insurance as being likely-authorized, I drop this restriction so as to not risk selecting treatment status (authorization) using a variant of the dependent variable (health insurance). However, I show in my analysis that my results are robust to including this restriction, as well as using other commonly accepted definitions of likely-unauthorized. Using this procedure, I estimate approximately 12 million unauthorized immigrants were in the United States in 2016.

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[1] Summary statistics for the additional covariates are reported in Table A1.
[2] The code for this procedure is graciously provided on Borjas's website: https://scholar.harvard.edu/files/gborjas/files/le2020archive.zip

Over the full sample period, nearly 5 percent of likely-unauthorized immigrants reside in a state with a universal E-Verify mandate compared to only 6 percent of likely-authorized individuals, compared to 10 percent who reside in a state with a public E-Verify mandate. Likely-unauthorized immigrants are less likely than naturalized immigrants (0.33 vs 0.62), Hispanic natives (0.33 vs 0.53), and white non-Hispanic natives (0.33 vs 0.69) to be covered by employer-sponsored insurance.

3.2 Potential Channels

An E-Verify mandate may directly reduce the probability that an unauthorized immigrant has employer-sponsored health insurance through the *employment channel*. The literature has identified a negative relationship between the implementation of an E-Verify mandate and likely-unauthorized immigrants' labor market outcomes. If the affected individuals would have otherwise enrolled in employer-sponsored insurance, the overall coverage rate will fall. This is especially true for the population targeted by E-Verify, since unauthorized immigrants are generally ineligible for public insurance. However, the employment channel can also affect naturalized immigrants and children of likely-unauthorized immigrants.

Additionally, E-Verify mandates may affect the *composition* of a state. Faced with diminished labor market outcomes and a hostile policy environment, unauthorized immigrants may simply choose to leave a state (Bohn et al. 2014; Orrenius and Zavodny 2016). If these individuals would otherwise have lost insurance due to the implementation of a mandate, any estimated reductions in the probability of having insurance will be attenuated.

3.3 Empirical Strategy

I begin by implementing the following event-study specification on the sample of likely-unauthorized immigrants:

$$Y_{ist} = \alpha + \sum_{j=-8,j\neq-1}^{3} \beta_j\, D_{st}^{j} + \mu PUBLIC_{st} + \eta_{Pre} + \eta_{Post} + \theta_s + \tau_t + \varepsilon_{ist} \qquad (1)$$

where Y_{ist} is an indicator for whether person, *i,* in state, *s,* was employed or had insurance in year, *t*. D_{st}^{j} is an indicator for whether state, *s*, had adopted a universal E-Verify mandate *j* periods from year *t*. Similarly, η_{Pre} and η_{Post} are indicators for observations occurring outside the balanced sample window. Equation (1) also includes an indicator for whether a state had implemented public E-Verify mandate, time-invariant state fixed effects, θ_s, and state-invariant year fixed effects, τ_t. Robust standard errors are clustered at the state level (Bertrand et al. 2004).

Using an event-study specification allows me to examine whether the probability that likely-unauthorized immigrants were insured was trending prior to the implementation of an E-Verify mandate. Though less efficient than the traditional difference-in-differences estimator, it imposes no assumptions about how the treatment effect varies over time. This is especially important in light of recent work on the mechanics of difference-in-differences. Goodman-Bacon (2019) showed that the difference-in-differences estimator with variation in treatment timing can be decomposed into a weighted average of all two-group/two-period difference-in-differences estimators. Because states treated in one period serve as control states in the subsequent period, the difference-in-differences estimate will be biased if the effect size increases over time. Critically, the author also demonstrated that identification is not entirely due to the treatment, but is also driven by covariate variation.

Following the event-study results, I next utilize the standard two-way fixed effects framework, shown in equation (2), where UNIVERSAL$_{st}$ indicates whether the state had implemented a universal E-Verify mandate in a given year, while PUBLIC$_{st}$ indicates whether a

state had implemented a public mandate.

$$Y_{ist} = \alpha + \beta_1 \text{UNIVERSAL}_{st} + \beta_2 \text{PUBLIC}_{st} + \mathbf{H'}_{st}\phi + \mathbf{E'}_{st}\rho \qquad (2)$$

$$+ \mathbf{B'}_{st}\pi + \mathbf{X'}_{ist}\gamma + \theta_s + \tau_t + \varepsilon_{ist}$$

The sample is restricted to likely-unauthorized immigrants, so that β_1 identifies the relationship

between insurance and the implementation of a universal mandate and β_2 does the same for the

implementation of a public mandate. As mentioned above, recent work cautions against the

inclusion of unnecessary covariates, because they inadvertently contribute to identification

(Goodman-Bacon 2019). Mindful of this fact, I explore the sensitivity of my estimates to a

variety of policy, business cycle, and demographic controls (Gelbach 2016).

Because a number of states were concurrently expanding immigrant access to public

health insurance, $\mathbf{H'}_{st}$ includes several immigrant-related health policy controls. For instance, in

2016, 18 states allowed unauthorized pregnant women access to Medicaid, while 32 states

extended these benefits to newly arrived pregnant lawful permanent residents who would

otherwise have been ineligible. Equation (2) also controls for whether states offered Medicaid to

lawful permanent resident children during the five-year ban, public health insurance for all

lawful permanent residents during the five-year ban, or public health insurance to unauthorized

immigrant children. Finally, $\mathbf{H'}_{st}$ includes controls for whether a state offered food assistance for

lawful permanent resident children during the five-year ban, as well for whether a state expanded

Medicaid as part of the Affordable Care Act (Urban Institute 2017).

The vector $\mathbf{E'}_{st}$ includes controls for state-level enforcement measures implemented over

the same period. These include whether some or all of the counties with the highest immigrant

population had entered into 287(g) agreements with the Department of Homeland Security.

Under this program, local law enforcement officers are deputized and charged with arresting and

detaining those suspected of immigration violations (Capps et al. 2011). $\mathbf{E'}_{st}$ also controls for

whether the state had begun participating in the Secure Communities program, through which biometric information of arrestees is checked against a DHS database of legal immigrants (Miles and Cox 2014). These policy measures were obtained from the Urban Institute's Immigration Policy Resource (2017).

The vector $\mathbf{B'_{st}}$ controls for state-level business cycle characteristics, including the natural log of real value of residential building permits in the state and the state unemployment rate. Finally, equation (2) also controls for individual level demographic characteristics, $\mathbf{X'_{ist}}$, including whether an individual is of Hispanic origin, white, black, male, proficient in English, or married, as well as indicator variables for each age between 18 and 64 (Dillender 2017).

4. RESULTS

I begin by plotting the event-study coefficients for employment and employer-sponsored equation in Figure 2, while the exact coefficients and tests of joint-significance are reported in Table A2. As shown in panel (a), the probability that a likely-unauthorized immigrant was employed was not trending downward prior to the implementation of a universal E-Verify mandate. However, post-implementation, this probability falls by approximately 8 percentage points. Interestingly, this decline is largely limited to the year after implementation, with the probability of being employed largely recovering in the subsequent periods.

Similarly, panel (b) shows that the probability that a likely-unauthorized immigrant had employer-sponsored health insurance was unrelated to whether a state eventually implemented a universal E-Verify mandate. Indeed, I cannot reject the null hypothesis that the pre-implementation coefficients are jointly equal to zero. However, in the period after implementation of a universal E-Verify mandate, this probability falls by nearly 8 percentage points, and I can reject the null hypothesis that the post-implementation coefficients are jointly

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equal to zero at the 1 percent level. Moreover, I can reject the hypothesis that the pre-implementation coefficients are equal to the post-implementation coefficients. The probability of possessing employer-sponsored health insurance exhibits a similar dynamic structure as the probability of being employed and recovers two periods after implementation.

In Figure 3, I further explore how E-Verify mandates are related to the probability of having employer-sponsored health insurance. I first show in panel (a) that the decline observed in Figure 2 is due to a reduction in the probability of being the policyholder for employer-sponsored health insurance. This is perhaps unsurprising because being the policyholder of employer-sponsored health insurance is directly linked to being employed. However, this reduction is limited to the period after implementation. Meanwhile, I show in panel (b) that there is a smaller reduction in the probability of being a covered as a dependent for employer-sponsored health insurance immediately after a mandate's implementation. However, there is an increase in the probability of being covered as a dependent in all subsequent years. These figures suggest that likely-unauthorized immigrants who would otherwise be uninsured compensate by becoming dependents on other employer-sponsored insurance plans. Alternatively, this pattern of results may be explained by selective outmigration of likely-unauthorized immigrants (Bohn et al. 2014; Orrenius and Zavodny 2016) changing the composition of those who remain in the state.

4.1 Difference-in-Differences Estimates
In Table 3, I present estimates utilizing the difference-in-differences equivalent of the sparse event-study framework from the prior two figures. I find that the implementation of an E-Verify mandate is associated with an approximate 6 percentage point reduction in the probability of being employed (column 1), as well as a 3 percentage point reduction in the probability of

having employer-sponsored health insurance (column 2). Consistent with the prior evidence, I find that this change is driven by a reduction in the probability of being the policyholder for employer-sponsored insurance (column 3), while I do not detect a statistically significant change in the probability of being a covered dependent (column 4). I do find similar changes in the probability of having employer-sponsored health insurance related to the implementation of public E-Verify mandates. While smaller than my estimated change in employment, these estimates are consistent with Amuedo-Dorantes and Bansak (2014) who found that public mandates were associated with a 2.6 percentage point reduction in the employment of likely-unauthorized men.

In Table 4, I test how the inclusion of a variety of covariates affects these estimated relationships, and based on the prior estimates I focus on the probability of being the policyholder for employer-sponsored health insurance. Using the order invariant conditional decomposition proposed by Gelbach (2016), I show that the estimated relationships obtained using the sparse framework produce nearly identical estimates to the specification accounting for health policies, immigration enforcement measures, business cycle controls, and demographic characteristics.[3] I continue to find that universal E-Verify mandates are associated with a 5 percentage point reduction in the probability of being employed, while public mandates are associated with an approximate 2 percentage point reduction (column 2). Similarly, I find that E-Verify mandates are associated with a 2.5 percentage point reduction in the probability of being the policyholder for employer-sponsored health insurance (column 5).

To assuage concerns that these results are driven by a particular state, I plot the universal and public mandate coefficients obtained after the iterative exclusion of each of the treatment

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[3] I implement the Gelbach (2016) decomposition using the b1x2 command in Stata.

states in Figure 4. I continue to find that E-Verify mandates are associated with a 2 percentage point reduction in the probability that a likely-unauthorized immigrant is the policyholder for employer-sponsored health insurance. Similarly, I show in Table A3 that the results are robust to utilizing a probit specification, including controls for birthplace, including region and state-specific linear time trends, and restricting attention to only states which were ever treated.[4]

I next conduct a series of falsification tests on groups unlikely to be negatively affected by the implementation of an E-Verify mandate.[5] In Table 5, I show that the estimated relationship between E-Verify mandates and being the policyholder for employer-sponsored health insurance is unique to likely-unauthorized immigrants. For naturalized citizens (column 2), Hispanic natives (column 3), and white non-Hispanic natives (column 4), the point estimates are consistently small and statistically insignificant.

In Table 6, I test whether E-Verify mandates are associated with a reduction in the probability that children of likely-unauthorized immigrants have access to employer-sponsored health insurance. In the sparse bivariate framework accounting for only state and year fixed effects, I find that universal E-Verify mandates are associated with a 3.6 percentage point reduction in the probability that children with likely-unauthorized parents are covered by employer-sponsored insurance (column 1). Similarly, public E-Verify mandates are associated with a nearly 5 percentage point reduction.[6] This relationship persists after I control for child and

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[4] I do not include unit-specific trends in my baseline specification due to recent advances in our understanding of the mechanics behind difference-in-differences. Specifically, Goodman-Bacon (2019) shows that state specific trends increase the weight placed on states treated at the panel's extremes, and that the estimated difference-in-differences treatment effect will be downwardly biased if the effect varies over time.

[5] E-Verify mandates may improve outcomes for those competing with unauthorized labor, so that the falsification tests could generate non-zero outcomes. In any event, these estimates should not be negative.

[6] The sample is restricted to children 14 years and younger who have either a likely-unauthorized mother or a likely-unauthorized father (or both). Because Borjas's (2017) assumes that any foreign-born person married to a citizen is an authorized immigrant, the correlation between having a likely-unauthorized mother and father is 0.82. It is worth noting that though the point estimate is larger and statistically significant for public mandates but not universal mandates, the confidence intervals share considerable overlap. The 95 percent confident interval for universal

parent demographics (column 2), which include indicators for the child's age, citizenship status, and race/ethnicity, as well as indicators for mother's education and father's education. I do not detect a relationship between E-Verify and access to employer-sponsored insurance for children without a likely-unauthorized parent (column 3). Overall, Table 6 is consistent with evidence that immigration enforcement measures can have negative consequences for non-targeted individuals (Amuedo-Dorantes, Arenas-Arroyo, and Sevilla 2018).

4.2 Sensitivity to Likely-Unauthorized Definition

In Table 7, I show that the relationship between E-Verify mandates and the probability of being the policyholder for employer-sponsored health insurance is more pronounced for likely-unauthorized immigrants who are Hispanic and less educated. Specifically, I find that likely-unauthorized Hispanic immigrants are approximately 3 percentage points less likely to report being the policyholders for employer-sponsored health insurance after the implementation of a universal E-Verify mandate (column 3), while the point estimate for their non-Hispanic counterparts is small and statistically insignificant (column 4). Similarly, likely-unauthorized immigrants with at most a high school degree are 4 percentage point less likely to be the policyholders for employer-sponsored insurance (column 5), while the point estimate for those with more than a high school degree is positive and statistically insignificant (column 6).

Given that the relationship between E-Verify mandate and health insurance is more pronounced for likely-unauthorized immigrants who are low-educated and Hispanic, I explore the sensitivity of my estimates to how I assign authorization status. As mentioned previously, the

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mandates is between -0.080 and 0.008. For public mandates this interval is -0.084 to -0.010. The sample size changes between columns (1) and (2) because the inclusion of parental demographic characteristics results in missing data for those outside of two parent households.

ASEC does not contain information on authorization status, and I instead classify an individual

as likely-unauthorized using a modified version of the residual imputation scheme proposed by

Borjas (2017).[7] Alternatively, other authors have classified individuals as likely-unauthorized

based on a combination of citizenship, education, and ethnicity. For example, Amuedo-Dorantes

and Bansak (2014) classify a person as a likely-unauthorized immigrant if s/he is a non-citizen

Hispanic between the ages of 18 and 45 with at most a high school degree. Similarly, Orrenius

and Zavodny (2015) consider a person a likely-unauthorized immigrant if s/he is a non-citizen

immigrant with at most a high school degree who was born in Mexico.

The sample of likely-unauthorized immigrants identified by Amuedo-Dorantes and

Bansak (2014) and Orrenius and Zavodny (2015) is likely comprised primarily of unauthorized

individuals, though the authors probably misclassify some unauthorized immigrants as

authorized. In contrast, the classification scheme proposed by Borjas (2017) probably captures

the majority of the unauthorized population, while also misclassifying some authorized

immigrants as likely-unauthorized. Indeed, I show in Table 8 that the correlation between these

schemes is surprisingly small. Fortunately, I show in Table 9 that my results are robust to using

all of these definitions.

4.3 Employment Outcomes

I now further explore the labor market mechanisms through which E-Verify mandates may affect

access to employer-sponsored health insurance. While I have already shown that E-Verify

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[7] In his original scheme—which is explained in full on page 6—Borjas (2017) assumes that anyone receiving Medicaid, Medicare, or Military Insurance is an authorized immigrant. His residual imputation procedure adapts the methodology of Warren and Passel (1987)—which underpins the official DHS estimates of the unauthorized population. Similarly, Warren (2014) and Passel and Cohn (2014) also presume that individuals receiving benefits requiring citizenship or legal residency are authorized immigrants. I drop these health insurance restrictions from my primary estimation, so as to avoid selecting my sample using a variant of the dependent variable. However, I show in Table 9 that my results are robust to using Borjas's (2017) original imputation scheme.

mandates are associated with reductions in the probability that likely-unauthorized immigrants are employed, E-Verify mandates may also change the types of jobs held by these individuals. In Table 10, I show that employed individuals are indeed more likely to be the policyholders for employer-sponsored health insurance than those who are unemployed (0.31 vs 0.07). However, the type of job matters. Conditional on being employed, self-employed individuals are considerably less likely to be the policyholders than those who are employed for wages (0.12 vs. 0.33). As such, E-Verify mandates may reduce access to employer-sponsored insurance by shifting unauthorized immigrants into self-employment, and I show in Table 11 that E-Verify mandates are associated with an increase in the probability that an employed likely-unauthorized immigrant is self-employed (column 1).

I also show in Table 10 that likely-unauthorized immigrants employed at large firms (100+ employees) are more likely to be the policyholders for employer-sponsored insurance than those at smaller firms (0.52 vs. 0.20). If larger firms are more likely to comply with E-Verify mandates or begin using E-Verify in response to public mandates, the policies may shift unauthorized immigrants towards smaller firms that are less likely to offer health insurance coverage. Consistent with this possibility, I show in Table 11 that likely-unauthorized immigrants who are privately employed are less likely to work at larger firms after the implementation of an E-Verify mandate (column 2).

4.4 Composition Effects

Thus far, the evidence indicates that state E-Verify mandates reduce the probability that likely-unauthorized immigrants have employer-sponsored health insurance. However, the event study analysis indicates that the negative relationship is short lived. Two years after implementation, the changes in employment and access to insurance return to zero. In Figure 5, I test whether this

pattern can be explained by selective outmigration. Consistent with prior literature (Bohn et al. 2014; Orrenius and Zavodny 2016), I find that there is no relationship between the implementation of a universal E-Verify mandate and the share of the foreign-born population comprised of likely-unauthorized immigrants in the pre-period. However, two periods after implementation this share falls by 4 percentage points, and I can reject the null hypothesis that the post-implementation coefficients are jointly equal to zero. Additionally, I reject the null hypothesis that the pre- and post-implementation coefficients are equivalent. Thus, it appears that the long term effects of E-Verify mandates on employment and access to health insurance are mitigated by likely-unauthorized immigrants opting to leave the state.

I further explore this relationship in Table 12. Consistent with the event study analysis, I find that universal E-Verify mandates are associated with a 3 percentage point reduction in the share of foreign-born individuals comprised of likely-unauthorized immigrants (column 1). Next, I show that the relationship between E-Verify mandates and the probability of being the policyholder for employer-sponsored insurance is more pronounced for those who have not moved out of the state within the last year (column 2). Likewise, I continue to find the same relationship when I include the share of the foreign-born population comprised of likely-unauthorized immigrants as a covariate (column 3). Overall, it appears that while E-Verify mandates are negatively related to likely-unauthorized immigrants' access to employer-sponsored insurance, this relationship is mitigated by otherwise uninsured individuals leaving the state.

5. DISCUSSION

The United States is currently debating the future of immigration policy. Despite receiving significant attention from policymakers and the popular press, the full implications of many

proposed policies remain under-studied. In this paper, I show that that E-Verify mandates reduce the probability that a likely-unauthorized immigrant has health insurance by approximately 2 percentage points. This is due to reductions in the probability of being employed and, consequently, the probability of having private health insurance. Additionally, I find evidence that E-Verify mandates negatively affect naturalized immigrants living in mixed-status households, though the remaining naturalized immigrants are shifted from public to private health insurance.

As President Trump acknowledged in his October 2019 proclamation, immigration and health policy are not two distinct issues, and attempts to address one will invariably have spillovers onto the other. While his administration is currently developing plans to limit the number of uninsured immigrants in the US, its support for a nationwide E-Verify mandate runs counter to these goals. While I find that the negative relationship between E-Verify and unauthorized immigrants' access to employer-sponsored health insurance is mitigated by outmigration of likely-unauthorized individuals, this outlet would likely be less available in the presence of a nationwide mandate. However, imposing additional costs on unauthorized immigration may be seen as a feature and not a bug by those favoring more stringent immigration enforcement, regardless of who ultimately pays the bill.

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Table 1: States implementing E-Verify mandates

State	Bill	Type	Passage Date	Implementation Date
Alabama	HB 56	Universal	06/09/2011	04/01/2012
Arizona	HB 2779	Universal	07/02/2007	12/31/2007
Colorado	HB 1343	Public	06/09/2006	08/07/2006
Florida	EO 11-02	Public	01/04/2011	01/04/2011
Georgia	SB 529	Public	04/17/2006	07/01/2007
Georgia	HB 87	Universal	05/13/2011	01/01/2012
Idaho	EO 09-10	Public	05/29/2009	07/01/2009
Indiana	SB 590	Public	05/10/2011	07/01/2011
Louisiana	HB 646	Universal	07/01/2011	08/18/2011
Michigan	HB 5365	Public	06/26/2012	03/01/2013
Minnesota	EO 08-01	Public	01/01/2008	01/01/2008
Mississippi	SB 2988	Universal	03/17/2008	07/01/2008
Missouri	HB 1549	Public	07/07/2008	01/01/2009
Nebraska	L 403	Public	04/08/2009	10/01/2009
North Carolina	SB 1523	Public	08/23/2006	01/01/2007
North Carolina	HB 36	Universal	06/23/2011	10/01/2012
Oklahoma	HB 1804	Public	05/08/2007	02/02/2010
Pennsylvania	SB 637	Public	07/05/2012	01/01/2013
Rhode Island	EO 08/01	Public	03/27/2008	10/17/2008
South Carolina	HB 4400	Public	06/04/2008	01/01/2009
South Carolina	SB 20	Universal	06/27/2011	01/01/2012
Tennessee	HB 1378	Universal	06/07/2011	10/01/2011
Texas	SB 372	Public	06/10/2015	09/01/2015
Utah	SB 81	Public	03/13/2008	07/01/2009
Utah	SB 251	Universal	03/31/2010	07/01/2010
Virginia	HB 737	Public	04/11/2010	12/01/2012
West Virginia	SB 659	Public	03/16/2012	06/24/2012

Source: National Conference of State Legislatures (2015); Urban Institute (2017).
Note: Louisiana and Tennessee originally had exceptions to E-Verify, whereby employers could instead just retain work authorization documentation. The results are not sensitive to excluding these states from those imposing universal mandates. Minnesota dropped E-Verify in April of 2008, though it was reinstated legislatively in July of that year. Rhode Island abandoned its E-Verify requirement in January 2011.

Table 2: Summary statistics of primary variables

	Likely-Unauthorized Immigrants	Naturalized Immigrants	Hispanic Natives	White Non-Hispanic Natives
Universal Mandate	0.048	0.036	0.050	0.059
	(0.214)	(0.187)	(0.218)	(0.236)
Public Mandate	0.102	0.115	0.109	0.141
	(0.302)	(0.319)	(0.312)	(0.348)
Employed	0.668	0.722	0.653	0.714
	(0.471)	(0.478)	(0.476)	(0.452)
Employer-Sponsored Insurance				
Any	0.327	0.618	0.528	0.692
	(0.469)	(0.486)	(0.479)	(0.462)
Policyholder	0.231	0.432	0.356	0.470
	(0.422)	(0.495)	0.479	(0.499)
Dependent	0.110	0.224	0.199	0.260
	(0.303)	(0.417)	(0.399)	(0.439)
Observations	131,978	134,410	151,679	1,273,252

Sources: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016, National Council of State Legislatures (2015); Urban Institute (2017).

Note: Authorization status is assigned using the residual imputation method proposed by Borjas (2017). Specifically, a foreign-born person is considered to be authorized if s/he (a) arrived before 1980, (b) is a citizen, (c) receives Social Security benefits or SSI, (d) is a veteran or is currently in the Armed Forces, (e) works in the government sector, (f) resides in public housing or receives rental subsidies, or is the spouse of someone who resides in public housing or receives rental subsidies, (g) was born in Cuba, (h) works in an occupation requiring some form of licensing, (i) is the spouse of a legal immigrant or citizen. All remaining foreign-born persons are classified as likely-unauthorized. The sample is restricted to individuals between the ages of 18 and 64 and summary statistics utilize the sample weights. The employment observations include 129,211 likely-unauthorized immigrants, 129,948 naturalized citizens, 146,679 Hispanic natives, and 1,264,158 white non-Hispanic natives. Additional summary statistics are reported in Table A1.

Table 3: The relationship between E-Verify, employment, and being the policyholder for employer-sponsored health insurance is unique to likely-unauthorized immigrants

	(1)	(2)	(3)	(4)
		Employer-Sponsored Insurance		
	Employed	Any	Policyholder	Dependent
Universal Mandate	-0.055***	-0.028	-0.026*	0.002
	(0.009)	(0.022)	(0.014)	(0.012)
Public Mandate	-0.012*	-0.031**	-0.026***	-0.006
	(0.007)	(0.014)	(0.009)	(0.007)
Observations	129,211	131,978	131,978	131,978

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable in Panel I is an indicator for being employed, while the dependent variable in Panel II is an indicator for having employer-sponsored health insurance. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Table 4: The relationship between E-Verify mandates, employment, and being the policyholder for employer-sponsored health insurance is robust to the inclusion of additional covariates

	(1)	(2)	(3)	(4)	(5)	(6)
	Employed			Policyholder for Employer-Sponsored Insurance		
	Specification			Specification		
	Base	Full	Explained	Base	Full	Explained
Universal Mandate	-0.055***	-0.049***	-0.006	-0.026*	-0.025**	-0.004
	(0.009)	(0.009)	(0.006)	(0.014)	(0.010)	(0.008)
Health Policies	N	Y	0.003	N	Y	0.003
Immigration Enforcement	N	Y	-0.000	N	Y	-0.000
Business Cycle Controls	N	Y	-0.002	N	Y	-0.000
Demographic Characteristics	N	Y	-0.006	N	Y	-0.003
Public Mandate	-0.012*	-0.017***	0.005	-0.026***	-0.023***	0.002
	(0.007)	(0.006)	(0.005)	(0.009)	(0.008)	(0.005)
Health Policies	N	Y	0.002	N	Y	0.001
Immigration Enforcement	N	Y	0.001	N	Y	0.000
Business Cycle Controls	N	Y	-0.000	N	Y	-0.000
Demographic Characteristics	N	Y	0.003	N	Y	-0.003

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable in columns (1) and (2) is an indicator for being employed, while the dependent variable in columns (4) and (5) is an indicator for having employer-sponsored health insurance. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. The coefficients in columns (1) and (4) are from a regression which includes state and year fixed effects, while those in columns (2) and (5) are from a regression including controls for health policies, immigration enforcement, business cycle characteristics, and demographic controls. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights. Columns (3) and (6) are from an order invariant conditional decomposition proposed by Gelbach (2016) to analyze how the covariates affect the estimates of interest. The sum of these numbers then explains the difference in the coefficients between columns (1) and (2) with any differences attributed to rounding error. The sample in columns (1) and (2) is 129,211 likely-unauthorized immigrants, and the procedure for determining authorization is explained in Table 2. The sample size in columns (3) and (4) is 131.978 likely-unauthorized immigrants.
*** p<0.01, ** p<0.05, * p<0.10

Table 5: The relationship between E-Verify and being the policyholder for employer-sponsored health insurance is unique to likely-unauthorized immigrants

	(1) Likely-Unauthorized Immigrants	(2) Naturalized Citizens	(3) Hispanic Natives	(4) White Non-Hispanic Natives
Universal Mandate	-0.025**	0.013	-0.004	-0.003
	(0.010)	(0.009)	(0.011)	(0.005)
Public Mandate	-0.023***	-0.006	-0.004	0.001
	(0.008)	(0.008)	(0.007)	(0.005)
Observations	131,978	134,410	151,679	1,273,252

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable is an indicator for being the policyholder for employer-sponsored health insurance. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights. *** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table 6: E-Verify mandates are negatively associated with the probability that children with likely-unauthorized parents have employer-sponsored health insurance, while there is no relationship for children without likely-unauthorized parents

	(1) Children w/ Likely- Unauthorized Parents	(2) Children w/ Likely- Unauthorized Parents	(3) Children w/o Likely- Unauthorized Parents
Universal Mandate	-0.036	-0.014	-0.006
	(0.022)	(0.017)	(0.010)
Public Mandate	-0.047**	-0.041***	0.000
	(0.018)	(0.014)	(0.006)
State and Year FE?	Y	Y	Y
Additional Covariates?	N	Y	Y
Observations	65,487	52,206	571,857

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016

Note: The dependent variable in is an indicator for being covered by employer-sponsored health insurance. The sample is limited to children 14 years of age or younger. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. The demographic controls include indicators for the child's age, the child's race/ethnicity (white, black, Hispanic, with other omitted), the child's citizenship (US citizen and naturalized citizen with non-citizen omitted), and indicators for parental education (less than high school, high school, some college, or college graduate with beyond college omitted). Columns (1) and (2) examine children with a likely-unauthorized parent, and the sample falls in column (2) because the inclusion of parental demographic characteristics includes missing data for children not in two parent households. Column (3) restricts the sample to those who do not have a likely-unauthorized mother or a likely-unauthorized father. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights.
*** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table 7: The relationship between E-Verify and the probability of being the policyholder for employer-sponsored health insurance is most pronounced for Hispanic and less-educated likely-unauthorized immigrants

	(1)	(2)	(3)	(4)	(5)	(6)
	Males	Females	Hispanic	Non-Hispanic	≤ HS Degree	> HS Degree
Universal Mandate	-0.029*	-0.023*	-0.034***	-0.000	-0.036***	0.011
	(0.015)	(0.013)	(0.011)	(0.019)	(0.011)	(0.015)
Public Mandate	-0.023*	-0.024**	-0.019**	-0.026*	-0.021***	-0.023
	(0.013)	(0.010)	(0.008)	(0.013)	(0.008)	(0.014)
Observations	70,412	61,566	89,149	42,829	92,772	39,206

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable is an indicator for having employer-sponsored insurance. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights. Column (1) restricts the sample to male likely-unauthorized immigrants, column (2) to female likely-unauthorized immigrants. Similarly, column (3) restricts the sample to Hispanic likely-unauthorized immigrants, column (4) non-Hispanic likely-unauthorized immigrants, column (5) to likely-unauthorized immigrants with at most a high school degree, and column (6) to likely-unauthorized immigrants with more than a high school degree. Authorization status is assigned using the residual imputation method proposed by Borjas (2017) and is described in Table 2.
*** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table 8: There is considerable variation in how the literature classifies someone as a likely-unauthorized immigrant

	(1) Borjas (2017) w/o Public Health Insurance Restriction	(2) Borjas (2017) w/ Public Health Insurance Restriction	(3) Amuedo-Dorantes and Bansak (2014)	(4) Orrenius and Zavodny (2015)
Borjas (2017) w/o Public Health Ins. Restriction	1.000			
Borjas (2017) w/ Public Health Ins. Restriction	0.911	1.000		
Amuedo-Dorantes and Bansak (2014)	0.433	0.394	1.000	
Orrenius and Zavodny (2015)	0.371	0.335	0.682	1.000

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The table shows the correlation in foreign-born individuals classified as likely-unauthorized using various strategies from the literature. The strategy used in this paper mimics Borjas (2017) but excludes the restriction on public health insurance. Specifically, a foreign-born person is considered to be authorized if s/he (a) arrived before 1980, (b) is a citizen, (c) receives Social Security benefits or SSI, (d) is a veteran or is currently in the Armed Forces, (e) works in the government sector, (f) resides in public housing or receives rental subsidies, or is the spouse of someone who resides in public housing or receives rental subsidies, (g) was born in Cuba, (h) works in an occupation requiring some form of licensing, (i) is the spouse of a legal immigrant or citizen. All remaining foreign-born persons are classified as likely-unauthorized. Borjas (2017)—shown in column (2)—classifies an immigrant who receives public health insurance as being authorized. Amuedo-Dorantes and Bansak (2014) classify non-citizen Hispanic immigrants between 18 and 45 with at most a high school degree as being likely-unauthorized. Orrenius and Zavodny (2015) consider an immigrant likely-unauthorized if s/he is a non-citizen with at most a high school degree who was born in Mexico. The correlations utilize the sample weights.

Table 9: The relationship between E-Verify and the probability of being the policy holder for employer-sponsored health insurance is robust to the criteria for being classified as likely-unauthorized

	(1) Borjas (2017) w/o Public Health Insurance Restriction	(2) Borjas (2017) w/ Public Health Insurance Restriction	(3) Amuedo-Dorantes and Bansak (2014)	(4) Orrenius and Zavodny (2015)
Universal Mandate	-0.025** (0.010)	-0.034*** (0.011)	-0.021** (0.010)	-0.025** (0.010)
Public Mandate	-0.023*** (0.008)	-0.031*** (0.009)	-0.019** (0.007)	-0.004 (0.007)
Observations	131,978	117,514	81,388	75,404

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable is an indicator for being the policyholder for employer-sponsored health insurance. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights.
*** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table 10: Likely-unauthorized immigrants are most likely to be the policyholders for employer-sponsored health insurance if they are privately employed at large firms

	(1) Employed	(2) Not Employed	(3) Self-Employed | Employed	(4) Privately Employed | Employed	(5) Privately Employed at a Firm w/ $\geq$ 100 Employees	(6) Privately Employed at a Firm w/ $<$ 100 Employees
Employer-Sponsored Insurance	0.311 (0.463)	0.068 (0.253)	0.115 (0.320)	0.328 (0.470)	0.517 (0.500)	0.198 (0.398)
Observations	86,437	42,774	6,442	79,923	33,120	46,803

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: Descriptive statistics utilize the sample weights.

Table 11: E-Verify mandates are associated with an increase in the probability that employed likely-unauthorized immigrants are self-employed and a decrease in the probability that those who are privately employed work for a large firm

	(1) Self-Employed | Employed	(2) Privately Employed at a Firm w/ ≥ 100 Employees
Universal Mandate	0.016**	-0.029**
	(0.008)	(0.013)
Public Mandate	0.005	-0.014
	(0.006)	(0.009)
Observations	86,437	79,923

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016

Note: The dependent variable in column (1) is an indicator for being classified as self-employed, and in column (2) an indicator for working at a firm with more than 100 employees. The sample in column (1) is restricted to employed likely-unauthorized immigrants, while the sample in column (2) is likely-unauthorized immigrants who are privately employed. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights.

*** $p<0.01$, ** $p<0.05$, * $p<0.10$

**Table 12**: E-Verify mandates are associated with outmigration of likely-unauthorized immigrants

	(1) Likely-Unauthorized as a % of Foreign-Born	(2) Employer-Sponsored Insurance | Lives in the same state as last year	(3) Employer-Sponsored Insurance controlling for % Likely-Unauthorized
Universal Mandate	-0.031***	-0.029***	-0.024**
	(0.011)	(0.011)	(0.010)
Public Mandate	-0.008	-0.027***	-0.023***
	(0.010)	(0.008)	(0.008)
Mean	0.390	0.231	0.231
Standard Deviation	(0.074)	(0.421)	(0.422)
Observations	867	122,023	131,978

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable in column (1) is the share of the foreign-born population comprised of likely-unauthorized immigrants. The dependent variable in columns (2) and (3) is an indicator for having employer-sponsored health insurance. The independent variables are state-level indicators for having implemented a universal E-Verify mandate for at least half the year or a public E-Verify mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. Standard errors, shown in parentheses, are clustered at the state level. Each estimate utilizes the sample weights. The share of foreign-born individuals comprised of likely-unauthorized immigrants is obtained by collapsing the ASEC microdata using the sample weights. The regression is then weighted by the sum of these weights.
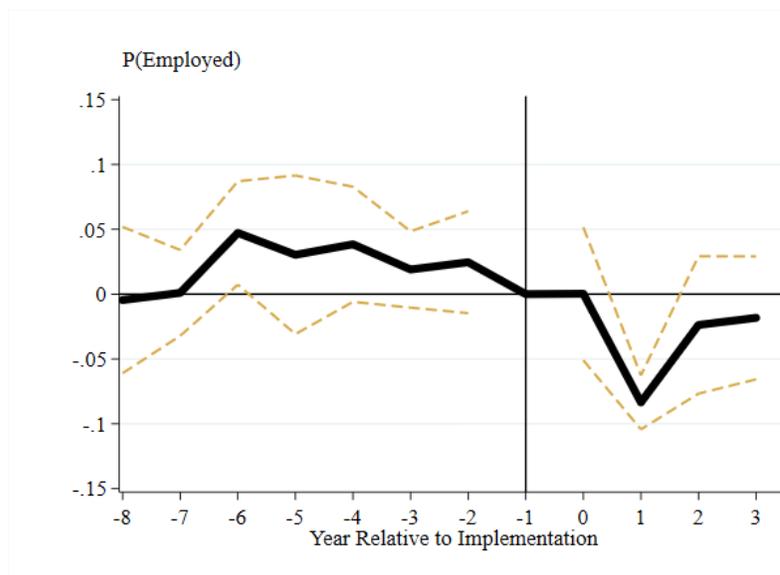*** $p<0.01$, ** $p<0.05$, * $p<0.10$

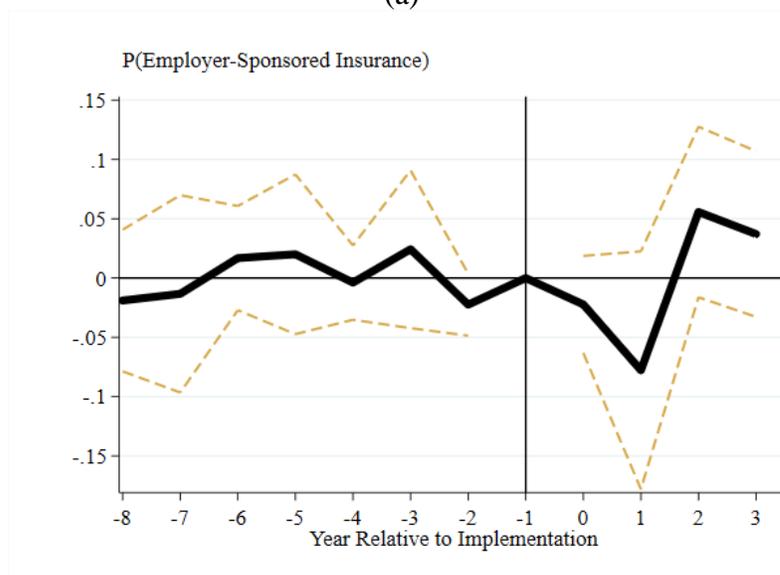**Figure 1**: States that have ever implemented an E-Verify mandate
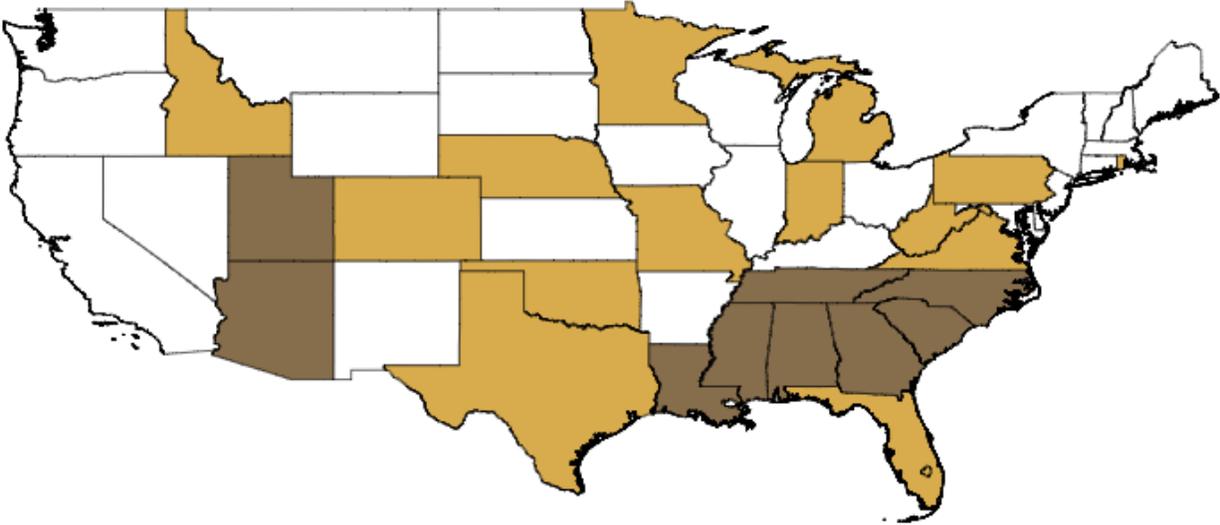
Source: National Conference of State Legislatures (2015); Urban Institute (2017)
Note: The lighter color indicates states which have implemented at most a public E-Verify mandate, while the darker color indicates states which have implemented a universal E-Verify mandate.

Figure 2: The relationship between E-Verify and the probability of having employer-sponsored health insurance is robust to iteratively excluding each treatment state

(a)

(b)

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable is an indicator for having employer-sponsored insurance. The specification follows column (1) of Table 4. Panel (a) shows how the estimated coefficient for a universal E-Verify mandate changes after the iterative exclusion of each of the treatment states. Panel (b) does the same for the public mandate coefficient, and the coefficients in panels (a) and (b) are from the same regression. Each estimate utilizes the sample weights.

Figure 3: The relationship between E-Verify and the probability of having employer-sponsored health insurance is robust to iteratively excluding each treatment state
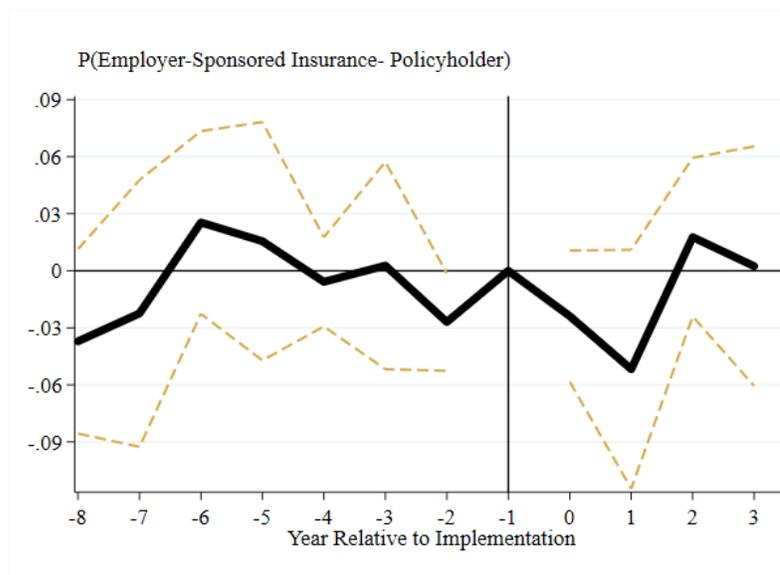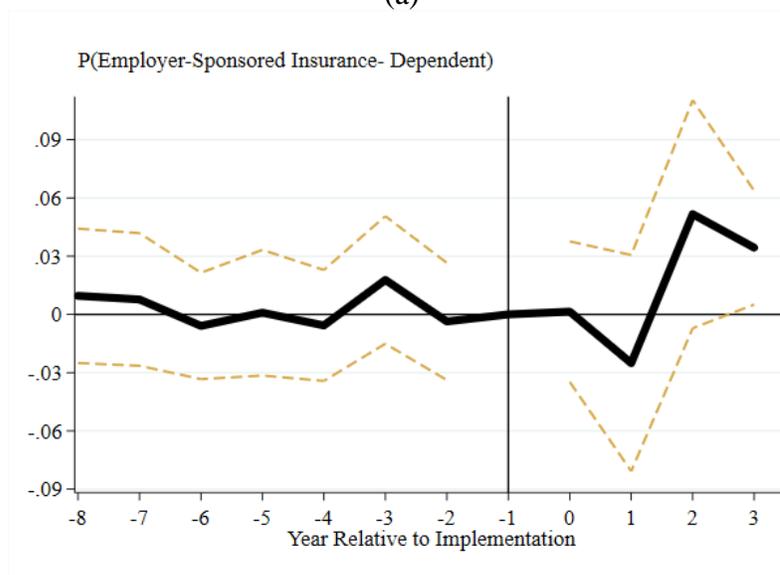

(a)

(b)

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable is an indicator for having employer-sponsored insurance. The specification follows column (1) of Table 4. Panel (a) shows how the estimated coefficient for a universal E-Verify mandate changes after the iterative exclusion of each of the treatment states. Panel (b) does the same for the public mandate coefficient, and the coefficients in panels (a) and (b) are from the same regression. Each estimate utilizes the sample weights.

Figure 4: The relationship between E-Verify and the probability of being the policyholder for employer-sponsored health insurance is robust to iteratively excluding each treatment state
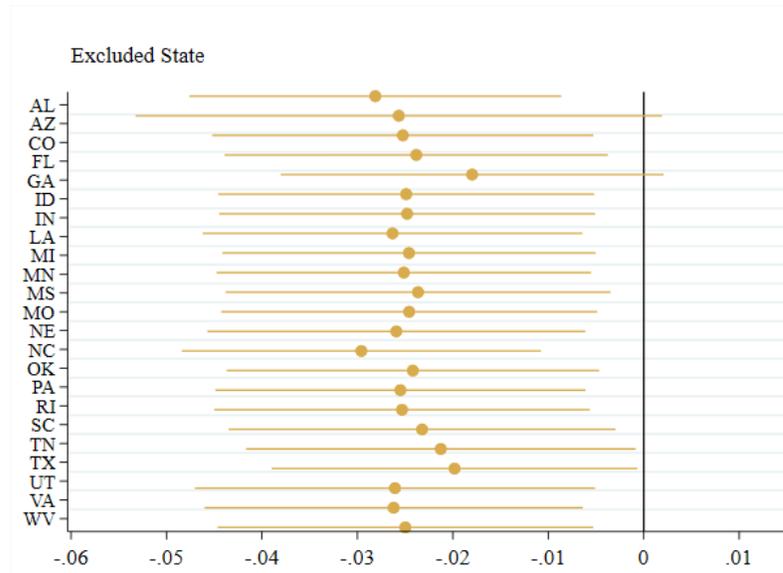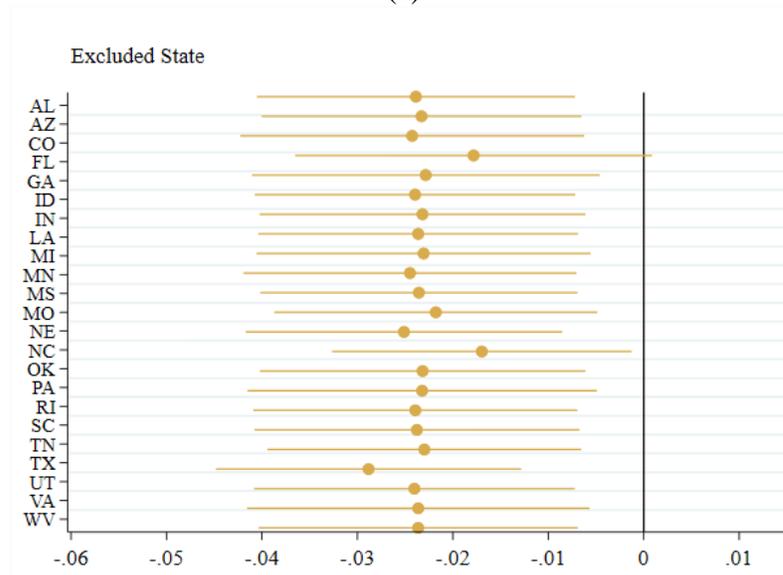

(a)

(b)

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable is an indicator for being the policyholder for employer-sponsored insurance. The specification follows column (1) of Table 4. Panel (a) shows how the estimated coefficient for a universal E-Verify mandate changes after the iterative exclusion of each of the treatment states. Panel (b) does the same for the public mandate coefficient, and the coefficients in panels (a) and (b) are from the same regression. Each estimate utilizes the sample weights.

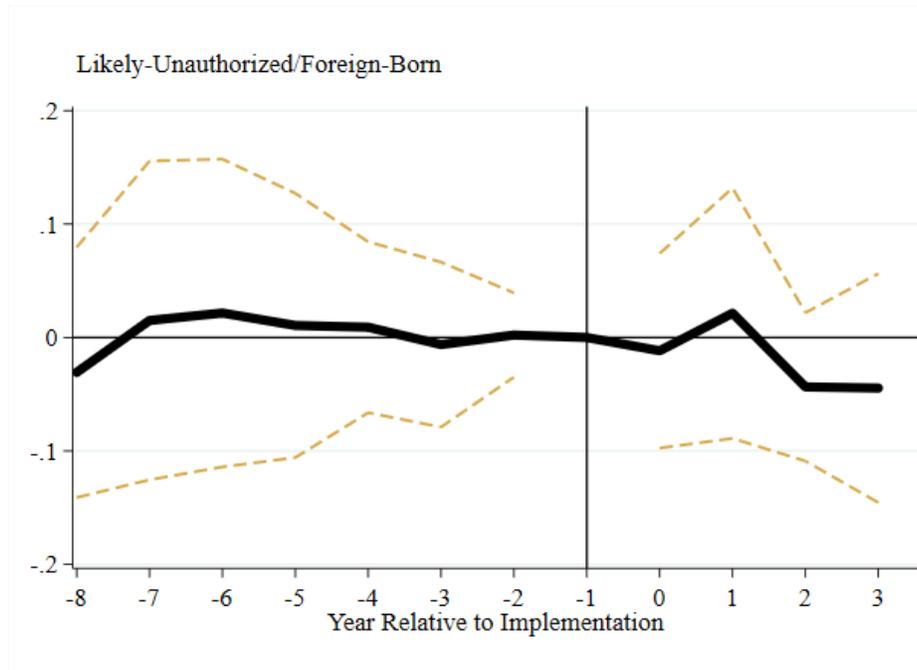**Figure 5**: E-Verify mandates and the share of the foreign-born population comprised of likely-unauthorized immigrants

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016
Note: The dependent variable is the share of the foreign-born population comprised of likely-unauthorized immigrants. The share is calculated from the ASEC microdata using the sample weights, and the regression is weighted by the sum of these weights. The independent variables are indicators for being *j* periods away from the implementation of a universal E-Verify mandate. Exact coefficients and tests of joint significance are reported in Table A2.

Table A1: Additional summary statistics

	Likely-Unauthorized Immigrants	Naturalized Citizens	Hispanic Natives	White Non-Hispanic Natives
Education				
< High School	0.424	0.155	0.179	0.073
	(0.494)	(0.362)	(0.383)	(0.260)
High School Diploma	0.256	0.247	0.333	0.295
	(0.436)	(0.431)	(0.471)	(0.456)
Some College	0.130	0.233	0.340	0.313
	(0.336)	(0.423)	(0.474)	(0.464)
College Diploma	0.118	0.232	0.108	0.215
	(0.322)	(0.4220	(0.311)	(0.411)
Advanced Degree	0.072	0.133	0.039	0.105
	(0.259)	(0.339)	(0.195)	(0.307)
Demographics				
Age	35.508	44.252	34.173	41.525
	(10.828)	(11.680)	(12.570)	(13.301)
Hispanic	0.640	0.342	1.000	-
	(0.480)	(0.475)		
White	0.114	0.229	-	1.000
	(0.318)	(0.420)		
Black	0.058	0.099	-	-
	(0.233)	(0.299)		
Male	0.558	0.475	0.493	0.497
	(0.497)	(0.499)	(0.500)	(0.500)
Married	0.534	0.687	0.393	0.578
	(0.497)	(0.464)	(0.488)	(0.494)
Business Cycle Controls				
ln(Real Value of Residential Building Permits)	16.013	15.962	16.178	15.442
	(1.040)	(1.030)	(1.039)	(1.034)
State Unemployment Rate	6.524	6.727	6.713	6.227
	(2.167)	(2.228)	(2.158)	(2.053)
% Covered by Enforcement Policies				
287(g)	0.446	0.446	0.531	0.270
	(0.497)	(0.497)	(0.499)	(0.444)
Secure Communities	0.379	0.410	0.450	0.353
	(0.485)	(0.492)	(0.498)	(0.478)
% Covered by Health Policies				
Medicaid for Unauthorized Pregnant Women	0.617	0.649	0.629	0.411
	(0.486)	(0.477)	(0.483)	(0.492)
Public Insurance for LPR w/ in 5-year ban	0.425	0.484	0.387	0.249
	(0.494)	(0.500)	(0.487)	(0.433)
Medicaid for LPR Pregnant Women	0.710	0.743	0.715	0.557
	(0.454)	(0.437)	(0.452)	(0.497)
Medicaid for LPR Kids	0.740	0.758	0.764	0.526
	(0.438)	(0.428)	(0.424)	(0.499)
Public Insurance for Unauthorized Kids	0.180	0.226	0.130	0.140
	(0.384)	(0.418)	(0.336)	(0.347)
Food Assistance for LPR Adults w/ in 5-year ban	0.306	0.325	0.320	0.168
	(0.461)	(0.468)	(0.466)	(0.374)

ACA Medicaid Expansion	0.190	0.234	0.233	0.134
	(0.392)	(0.423)	(0.423)	(0.340)
Observations	131,978	134,410	151,679	1,273,252

Sources: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016, National Council of State Legislatures (2015); Urban Institute (2017).

Note: The sample is restricted to individuals between the ages of 18 and 64 and summary statistics utilize the sample weights.

Table A2: Event-study coefficients examining the relationship between E-Verify mandates and employment, being the policyholder for employer-sponsored insurance, and state composition

	(1)	(2)	(3)	(4)	(5)
		Employer-Sponsored Health Insurance			Likely-Unauthorized/
	Employed	Any	Policyholder	Dependent	Foreign-Born Population
Pre-Implementation					
-8	-0.005	-0.019	-0.037	0.010	-0.032
	(0.029)	(0.030)	(0.025)	(0.018)	(0.058)
-7	0.001	-0.013	-0.022	0.008	0.012
	(0.017)	(0.042)	(0.036)	(0.017)	(0.073)
-6	0.047**	0.017	0.025	-0.006	0.017
	(0.020)	(0.022)	(0.025)	(0.014)	(0.069)
-5	0.030	0.020	0.016	0.001	0.008
	(0.031)	(0.034)	(0.032)	(0.017)	(0.057)
-4	0.038*	-0.004	-0.006	-0.006	0.009
	(0.023)	(0.016)	(0.012)	(0.015)	(0.038)
-3	0.019	0.024	0.003	0.018	-0.008
	(0.015)	(0.034)	(0.028)	(0.017)	(0.035)
-2	0.025	-0.022*	-0.027**	-0.004	0.002
	(0.020)	(0.013)	(0.013)	(0.015)	(0.018)
Jointly Equal Zero?					
F-Stat	2.01	0.780	15.420	2.860	1.400
Prob>F	0.072	0.605	0.000	0.014	0.227
Post-Implementation					
0	0.000	-0.022	-0.024	0.001	-0.011
	(0.026)	(0.021)	(0.018)	(0.018)	(0.044)
1	-0.083***	-0.078	-0.052	-0.025	0.023
	(0.011)	(0.051)	(0.032)	(0.028)	(0.058)
2	-0.024	0.056	0.018	0.052*	-0.039
	(0.027)	(0.037)	(0.021)	(0.030)	(0.036)
3	-0.018	0.037	0.002	0.034**	-0.041

	(0.024)	(0.036)	(0.032)	(0.015)	(0.053)
Jointly Equal Zero?					
F-Stat	22.120	15.810	5.510	16.220	5.250
Prob>F	0.000	0.000	0.000	0.000	0.001
Pre=Post?					
F-Stat	16.820	32.990	32.990	49.350	11.350
Prob>F	0.000	0.000	0.000	0.000	0.000
Observations	129,211	131,978	131,978	131,978	867

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016

Note: The dependent variable in column (1) is an indicator for being employed, while the dependent variable in column (2) is an indicator for being the policyholder of employer-sponsored health insurance. The dependent variable in column (3) is the share of the foreign-born population comprised of likely-unauthorized immigrants. This share is calculated from the ASEC microdata using the sample weights, and the regression is weighted by the sum of these weights, while columns (1) and (2) retain the microdata structure and utilize the sample weights. The independent variables are indicators for being j periods away from the implementation of a universal E-Verify mandate. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, and health care policies. Columns (1) and (2) also control for demographic characteristics. Column (3) does not include these controls because they are selected on the dependent variable.

*** $p<0.01$, ** $p<0.05$, * $p<0.10$

Table A3: Robustness of the estimates to alternative specifications

	(1) Probit Estimation	(2) Birthplace Control	(3) Region-Specific LTT	(4) State-Specific LTT	(5) Ever Treated
Universal Mandate	-0.028***	-0.022**	-0.026***	-0.013	-0.031***
	(0.010)	(0.011)	(0.009)	(0.019)	(0.010)
Public Mandate	-0.024***	-0.022***	-0.022***	-0.031***	-0.030***
	(0.009)	(0.008)	(0.008)	(0.007)	(0.006)
Observations	131,978	131,978	131,978	131,978	50,378

Source: Current Population Survey Annual Social and Economic Supplement (ASEC) 2000-2016.

Note: Each column indicates a separate regression. The dependent variable is an indicator for being the policy holder for employer-sponsored health insurance. The independent variables are indicators for whether a state implemented a universal E-Verify mandate or a public mandate for at least half the year. Each estimate controls for time-invariant state fixed effects, state-invariant year fixed effects, business cycle characteristics, immigration enforcement policies, health care policies, and demographics. Standard errors, shown in parentheses, are clustered at the state level. Column (1) utilizes a probit estimation framework and reports the marginal effects. Column (2) includes indicators for birthplace. Column (3) includes region-specific linear time trends, while column (4) includes state-specific linear time trends. Column (5) restricts the sample to states which ever implemented an E-Verify mandate. The estimates utilize the sample weights.
*** $p<0.01$, ** $p<0.05$, * $p<0.10$