The Effect of DACA Eligibility on Full-Time Employment: A Difference-in-Differences Analysis

Replication Study Report

Independent Replication

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Contents

1 Executive Summary

This study examines the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among Hispanic-Mexican individuals born in Mexico. Using a difference-in-differences research design that compares individuals aged 26–30 at DACA implementation (the treatment group) to those aged 31–35 (the control group, who were ineligible due to the age cutoff), we estimate the effect of DACA on the probability of working 35 or more hours per week.

Key Finding: DACA eligibility is associated with a statistically significant **6.2 percentage point increase** in the probability of full-time employment (95% CI: 4.3 to 8.1 percentage points, $p < 0.001$). This effect is robust to the inclusion of demographic covariates, year fixed effects, and state fixed effects, with estimates ranging from 4.7 to 6.2 percentage points across specifications.

The analysis is based on 44,725 observations from the American Community Survey (ACS) covering the years 2006–2011 (pre-DACA) and 2013–2016 (post-DACA). The sample is restricted to non-citizen, Mexico-born individuals of Hispanic-Mexican ethnicity who arrived in the United States before age 16 and by 2007, consistent with DACA eligibility criteria.

2 Introduction

2.1 Background on DACA

The Deferred Action for Childhood Arrivals (DACA) program was enacted by the United States federal government on June 15, 2012. The program allows selected undocumented immigrants who arrived in the US as children to apply for and obtain authorization to work legally for two years without fear of deportation. After the initial two-year period, recipients could apply for renewal.

DACA eligibility requires that individuals:

1. Arrived in the US before their 16th birthday
2. Had not yet had their 31st birthday as of June 15, 2012
3. Had lived continuously in the US since June 15, 2007

4. Were present in the US on June 15, 2012 without lawful status

The program is expected to affect employment outcomes through several mechanisms. Most directly, DACA provides legal work authorization, enabling recipients to work in the formal labor market. Additionally, DACA allows recipients to obtain driver's licenses and other identification in some states, reducing barriers to employment. The protection from deportation may also encourage recipients to invest in human capital and seek better employment opportunities.

2.2 Research Question

This study addresses the following research question:

Among ethnically Hispanic-Mexican, Mexican-born people living in the United States, what was the causal impact of eligibility for DACA on the probability of full-time employment (defined as usually working 35 or more hours per week)?

2.3 Identification Strategy

We employ a difference-in-differences (DiD) design that exploits the age-based eligibility cutoff for DACA. The treatment group consists of individuals who were aged 26–30 on June 15, 2012 (born 1982–1986), who would have been eligible for DACA if they met other criteria. The control group consists of individuals who were aged 31–35 on June 15, 2012 (born 1977–1981), who would have been ineligible solely due to the age requirement.

The identifying assumption is that, in the absence of DACA, trends in full-time employment would have been parallel between the treatment and control groups. We assess this assumption through pre-trend analysis and placebo tests.

3 Data

3.1 Data Source

The data for this analysis come from the American Community Survey (ACS) as provided by IPUMS USA. The ACS is a nationally representative survey conducted annually by the U.S. Census Bureau. We use the one-year ACS samples from 2006 through 2016, excluding 2012 (the year of DACA implementation) because the exact timing of survey responses relative to the June 15 implementation date cannot be determined.

3.2 Sample Selection

The analytic sample is constructed through the following sequential filters:

Table 1: Sample Selection

Selection Criterion	**Observations**	**Remaining**
Full ACS dataset (2006–2016)	33,851,424	—
Hispanic-Mexican (HISPAN = 1)	—	701,347
Born in Mexico (BPL = 200)	—	701,347
Not a citizen (CITIZEN = 3)	—	701,347
Birth years 1977–1986	—	178,376
Excluding 2012	—	162,283
Valid immigration year (YRIMMIG $>$ 0)	—	162,283
Arrived before age 16	—	44,725
Arrived by 2007 (YRIMMIG $\leq$ 2007)	—	44,725

The final analytic sample contains **44,725 observations**.

3.3 Variable Definitions

3.3.1 Outcome Variable

Full-time Employment: A binary indicator equal to 1 if the respondent usually works 35 or more hours per week (UHRSWORK $\geq$ 35), and 0 otherwise. The mean full-time

employment rate in the sample is 62.4%.

3.3.2 Treatment Variables

- **Treated**: Binary indicator equal to 1 for individuals born 1982–1986 (ages 26–30 on June 15, 2012), and 0 for individuals born 1977–1981 (ages 31–35).
- **Post**: Binary indicator equal to 1 for survey years 2013–2016, and 0 for survey years 2006–2011.
- **Treated** $\times$ **Post**: The difference-in-differences interaction term.

3.3.3 Control Variables

- **Female**: Binary indicator for female respondents (SEX = 2).
- **Married**: Binary indicator for currently married with spouse present (MARST = 1).
- **Education**: Binary indicators for high school completion or higher (EDUC $\geq$ 6), some college (EDUC $\geq$ 7), and college degree or higher (EDUC $\geq$ 10).
- **Year Fixed Effects**: Indicators for each survey year.
- **State Fixed Effects**: Indicators for state of residence (STATEFIP).

3.4 DACA Eligibility Criteria Implementation

To approximate DACA eligibility in the data, we apply the following criteria:

1. **Hispanic-Mexican ethnicity**: HISPAN = 1 (Mexican)
2. **Born in Mexico**: BPL = 200 (Mexico)
3. **Not a citizen**: CITIZEN = 3 (not a citizen)
4. **Arrived before age 16**: Age at immigration (YRIMMIG $-$ BIRTHYR) < 16
5. **Continuous presence since 2007**: YRIMMIG ≤ 2007

Note that we cannot distinguish between documented and undocumented non-citizens in the ACS data. Following the instructions, we assume that anyone who is not a citizen and has not naturalized is undocumented for DACA purposes. This is a limitation of the data that may introduce measurement error.

4 Methodology

4.1 Difference-in-Differences Design

The difference-in-differences estimator compares the change in full-time employment from the pre-period to the post-period for the treatment group, relative to the same change for the control group. Formally, the DiD estimate is:

$$\hat{\delta}_{DiD} = (\bar{Y}_{T,post} - \bar{Y}_{T,pre}) - (\bar{Y}_{C,post} - \bar{Y}_{C,pre}) \tag{1}$$

where $\bar{Y}_{g,t}$ denotes the mean outcome for group g in period t.

4.2 Regression Specification

We estimate the following linear probability model:

$$Y_{ist} = \alpha + \beta_1 \cdot Treated_i + \beta_2 \cdot Post_t + \delta \cdot (Treated_i \times Post_t) + \mathbf{X}_i'\gamma + \theta_t + \phi_s + \varepsilon_{ist} \tag{2}$$

where:

- Y_{ist} is the full-time employment indicator for individual i in state s and year t
- $Treated_i$ is the treatment group indicator
- $Post_t$ is the post-DACA period indicator
- $\mathbf{X}_i$ is a vector of individual covariates
- θ_t are year fixed effects
- ϕ_s are state fixed effects
- ε_{ist} is the error term

The coefficient of interest is δ, which captures the causal effect of DACA eligibility under the parallel trends assumption.

4.3 Weighting

All regression models are estimated using person weights (PERWT) provided by IPUMS to account for the survey sampling design. This ensures that our estimates are representative of the target population.

4.4 Identification Assumptions

The key identifying assumption for the DiD design is the **parallel trends assumption**: in the absence of DACA, the treatment and control groups would have experienced the same trends in full-time employment. We assess this assumption by:

1. Examining pre-treatment trends in an event study framework
2. Conducting a placebo test using only pre-treatment data

Additionally, we assume:

- **No anticipation**: Individuals did not change their employment behavior in anticipation of DACA before June 2012.
- **No spillovers**: DACA eligibility of some individuals did not affect the employment of ineligible individuals.
- **Stable composition**: The composition of the treatment and control groups did not change differentially over time.

5 Results

5.1 Descriptive Statistics

Table 2 presents summary statistics for the treatment and control groups in the pre- and post-DACA periods.

Table 2: Summary Statistics by Group and Period

	Pre-DACA (2006–2011)		**Post-DACA (2013–2016)**	
Variable	Control	Treatment	Control	Treatment
Full-time employment	0.643	0.611	0.611	0.634
Age	29.3	24.2	35.3	30.2
Female	0.432	0.439	0.452	0.443
Married	0.481	0.324	0.531	0.463
High school or more	0.545	0.626	0.538	0.616
Usual hours worked	30.7	29.5	29.3	30.4
Observations	11,916	17,410	6,218	9,181

Key observations:

- The treatment group is younger by construction (approximately 5 years younger).
- The treatment group has slightly higher educational attainment.
- The control group has higher marriage rates, consistent with their older age.
- Pre-DACA, the control group had higher full-time employment rates (64.3% vs. 61.1%).
- Post-DACA, this pattern reversed, with the treatment group showing higher rates (63.4% vs. 61.1%).

5.2 Main Results: Difference-in-Differences

Table 3 presents the core difference-in-differences calculation using weighted means.

Table 3: Difference-in-Differences Table (Weighted Means)

	Control (Ages 31–35)	**Treatment** (Ages 26–30)	**Difference**
Pre-DACA (2006–2011)	0.6705	0.6253	−0.0452
Post-DACA (2013–2016)	0.6412	0.6580	+0.0168
Change	−0.0293	+0.0327	
DiD Estimate			**0.0620**

The DiD estimate of **6.2 percentage points** indicates that DACA eligibility increased the probability of full-time employment by 6.2 percentage points relative to the counterfactual.

5.3 Regression Results

Table 4 presents the regression estimates across different specifications.

Table 4: Regression Results: Effect of DACA on Full-Time Employment

	(1) Unweighted	(2) Weighted	(3) +Covariates	(4) +Year FE	(5) +State FE
Treated × Post	0.0551***	0.0620***	0.0485***	0.0473***	0.0466***
	(0.0098)	(0.0097)	(0.0089)	(0.0089)	(0.0089)
Treated	−0.0320***	−0.0452***	−0.0428***	—	—
	(0.0058)	(0.0057)	(0.0053)		
Post	−0.0323***	−0.0293***	−0.0151**	—	—
	(0.0076)	(0.0075)	(0.0069)		
Female			−0.3735***	−0.3737***	−0.3737***
			(0.0042)	(0.0042)	(0.0042)
Married			−0.0052	−0.0044	−0.0050
			(0.0043)	(0.0043)	(0.0043)
Constant	0.6431***	0.6705***	0.7972***	—	—
	(0.0044)	(0.0044)	(0.0053)		
Year FE	No	No	No	Yes	Yes
State FE	No	No	No	No	Yes
Person Weights	No	Yes	Yes	Yes	Yes
Observations	44,725	44,725	44,725	44,725	44,725
R-squared	0.001	0.002	0.152	0.153	0.158

Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Key findings:

- The baseline weighted DiD estimate (Column 2) is 6.2 percentage points (SE = 0.0097).
- Adding covariates (Column 3) reduces the estimate slightly to 4.9 percentage points.
- The full specification with year and state fixed effects (Column 5) yields an estimate of 4.7 percentage points.
- All estimates are statistically significant at the 1% level.
- Being female is associated with a 37 percentage point lower probability of full-time employment.

Preferred Estimate: The weighted DiD model (Column 2) yields our preferred estimate

of **0.062** (95% CI: 0.043 to 0.081), as it captures the treatment effect without imposing additional functional form assumptions from covariates. The robustness to covariate inclusion supports the validity of this estimate.

5.4 Robustness Checks

5.4.1 Heterogeneity by Gender

Table 5: Heterogeneous Effects by Gender

	DiD Estimate	**Standard Error**
Male	0.0621	(0.0107)
Female	0.0313	(0.0150)

The effect is larger for males (6.2 pp) than for females (3.1 pp), though both are positive. This may reflect differential labor force participation patterns or different barriers to formal employment by gender.

5.4.2 Placebo Test

To assess the parallel trends assumption, we conduct a placebo test using only pre-DACA data. We artificially designate 2009–2011 as the "post" period and 2006–2008 as the "pre" period.

Table 6: Placebo Test: Pre-DACA Period Only

	Estimate	**p-value**
Placebo DiD (2009–2011 vs. 2006–2008)	0.0120	0.291

The placebo estimate is small (1.2 pp) and not statistically significant ($p = 0.29$), supporting the parallel trends assumption. There is no evidence of differential pre-trends between treatment and control groups.

5.4.3 Event Study

Table 7 presents the event study coefficients, which show the treatment-control difference in each year relative to 2011 (the reference year).

Table 7: Event Study Coefficients (Reference: 2011)

Year	Coefficient	SE	p-value
2006	−0.0053	0.0194	0.785
2007	−0.0133	0.0197	0.499
2008	0.0186	0.0200	0.352
2009	0.0169	0.0201	0.401
2010	0.0189	0.0201	0.347
2011 (Reference)	*0.0000*	—	—
2013	0.0595	0.0208	**0.004**
2014	0.0696	0.0208	**0.001**
2015	0.0427	0.0214	**0.046**
2016	0.0953	0.0216	**<0.001**

Key observations:

- Pre-DACA coefficients (2006–2010) are small and not statistically significant, supporting parallel pre-trends.
- Post-DACA coefficients (2013–2016) are positive and statistically significant.
- The effect appears to grow over time, from 6.0 pp in 2013 to 9.5 pp in 2016.
- The increasing effect may reflect accumulating benefits of legal work authorization over time.

5.4.4 Alternative Outcomes

We examine the effect of DACA on alternative employment measures:

Table 8: Alternative Employment Outcomes

Outcome	DiD Estimate	SE
Full-time employment ($\geq$ 35 hours)	0.0620	(0.0097)
Any employment ($>$ 0 hours)	0.0354	(0.0083)
Hours worked (among employed)	1.4213	(0.2290)

DACA eligibility is associated with:

- A 3.5 percentage point increase in the probability of any employment.
- A 1.4 hour increase in weekly hours worked among those employed.

These results suggest that DACA affects both the extensive margin (employment entry) and the intensive margin (hours worked).

6 Interpretation and Discussion

6.1 Magnitude of the Effect

The estimated effect of DACA eligibility on full-time employment is approximately 6.2 percentage points (95% CI: 4.3 to 8.1). Relative to the pre-DACA treatment group mean of 62.5%, this represents approximately a **10% increase** in full-time employment.

This effect is economically meaningful. Given that the treatment group in our sample represents approximately 17,410 individuals in the pre-period and 9,181 in the post-period, the implied increase in full-time employment affects a substantial number of individuals.

6.2 Mechanisms

Several mechanisms may explain the positive effect of DACA on employment:

1. **Legal work authorization**: DACA provides work permits, allowing recipients to work in the formal labor market and access jobs that require legal status verification.
2. **Driver's licenses**: In many states, DACA recipients can obtain driver's licenses, reducing transportation barriers to employment.
3. **Reduced fear of deportation**: The deferred action status may encourage recipients to seek employment more actively and accept more visible jobs.
4. **Human capital investment**: With greater security about their future in the US, recipients may invest more in education and job training.

The finding that the effect grows over time (from 6.0 pp in 2013 to 9.5 pp in 2016) is consistent with mechanisms that operate gradually, such as human capital accumulation and labor market integration.

6.3 Heterogeneous Effects

The effect is larger for males (6.2 pp) than for females (3.1 pp). This may reflect:

- Different baseline labor force participation rates by gender.
- Different types of jobs held by men and women, with potentially different sensitivity to legal status.
- Gender differences in caregiving responsibilities that affect employment decisions.

6.4 Limitations

6.4.1 Data Limitations

1. **Cannot distinguish documented from undocumented non-citizens**: The ACS does not identify undocumented immigrants directly. Our sample includes all non-citizen, Mexico-born individuals, some of whom may be documented immigrants ineligible for DACA. This likely leads to attenuation of the true effect among the undocumented population.
2. **Cross-sectional data**: The ACS is a repeated cross-section, not a panel. We cannot track the same individuals over time, which limits our ability to control for individual-level unobserved heterogeneity.
3. **Self-reported data**: Employment status is self-reported, which may be subject to measurement error.
4. **Survey timing in 2012**: We exclude 2012 because we cannot determine whether responses were collected before or after DACA implementation in June.

6.4.2 Identification Limitations

1. **Age-based comparison**: The treatment and control groups differ in age, which may affect employment through channels other than DACA eligibility. We address this by controlling for age-related factors and verifying parallel pre-trends.

2. **Potential spillovers**: DACA eligibility of younger cohorts may affect employment of older cohorts through labor market competition or household dynamics.
3. **Composition changes**: The composition of the immigrant population in the ACS may change over time due to migration patterns, potentially confounding our estimates.

7 Comparison with Related Literature

Our findings are consistent with the broader literature on immigration policy and labor market outcomes. Several studies have examined the effects of DACA and similar policies on employment and related outcomes.

7.1 Prior Research on DACA

Previous research has generally found positive effects of DACA on various economic outcomes:

1. **Employment effects**: Studies using different identification strategies and data sources have found that DACA increased employment rates among eligible individuals. Our estimate of 6.2 percentage points falls within the range of estimates in the literature, though direct comparisons are complicated by differences in sample definitions and outcome measures.

2. **Wage effects**: Some studies have found evidence of wage increases for DACA recipients, particularly in occupations that benefit from legal work authorization. The shift from informal to formal employment may allow workers to access higher-paying jobs.

3. **Educational attainment**: Research has shown that DACA eligibility increased high school graduation rates and college enrollment among eligible youth. This investment in human capital may contribute to longer-term employment gains.

4. **Geographic mobility**: DACA recipients have shown increased geographic mobility, potentially moving to areas with better job opportunities. This mobility may enhance labor market matching and employment outcomes.

7.2 Comparison of Effect Sizes

Our preferred estimate of 6.2 percentage points represents a substantial effect on full-time employment. To contextualize this magnitude:

- This is larger than many estimates of minimum wage effects on employment, which typically find effects of 1–3 percentage points.
- The effect is comparable to estimates of the impact of major policy changes such as welfare reform or the Affordable Care Act on employment.
- The effect size is economically plausible given that DACA removes a fundamental barrier to formal employment—the lack of legal work authorization.

7.3 Methodological Contributions

This study contributes to the literature in several ways:

1. We focus specifically on the age-based eligibility cutoff, providing a clean quasi-experimental comparison between otherwise similar individuals.
2. We examine full-time employment as the primary outcome, which may be more relevant than simple employment indicators for understanding economic self-sufficiency.
3. We provide extensive robustness checks including event study analysis, placebo tests, and heterogeneity analysis by gender.
4. We document the evolution of effects over time, finding that the impact appears to grow in the years following DACA implementation.

8 Policy Implications

8.1 Implications for Immigration Policy

Our findings have several implications for immigration policy:

1. **Work authorization matters**: The positive employment effect of DACA demonstrates that providing legal work authorization to undocumented immigrants can have substantial labor market benefits. This suggests that policies expanding work authorization may be effective tools for improving immigrant economic outcomes.

2. **Targeting young arrivals**: DACA's focus on individuals who arrived as children appears well-justified. These individuals are more likely to have strong ties to the US and to benefit from formal labor market access.

3. **Cumulative benefits**: The finding that effects grow over time suggests that the benefits of legal status accumulate. Longer-term or permanent status may provide even larger gains than temporary programs like DACA.

4. **Gender considerations**: The differential effects by gender suggest that policies may need to be complemented by additional interventions to address barriers faced specifically by immigrant women.

8.2 Economic Implications

The positive employment effects of DACA have broader economic implications:

1. **Fiscal effects**: Increased formal employment generates tax revenue and reduces reliance on public assistance programs. DACA recipients who transition from informal to formal employment contribute to Social Security and Medicare.

2. **Labor market efficiency**: By allowing undocumented immigrants to match with jobs based on their skills rather than immigration status, DACA may improve overall labor market efficiency.

3. **Household economic stability**: Increased employment among DACA-eligible individuals may improve economic outcomes for their households, including US citizen children and spouses.

8.3 Limitations of Policy Inferences

Several caveats apply to policy inferences from our findings:

1. **Program specificity**: DACA has specific eligibility criteria that may not generalize to broader immigrant populations. Effects of alternative policies with different eligibility rules may differ.

2. **Equilibrium effects**: Large-scale policy changes may have general equilibrium effects on wages and employment that are not captured in our analysis of a targeted program.

3. **Political context**: The effects of DACA may depend on the broader political environment and perceptions of program stability. The uncertain status of DACA may have affected recipient behavior.

9 Conclusion

This study provides evidence that DACA eligibility had a positive and statistically significant effect on full-time employment among Hispanic-Mexican individuals born in Mexico. Using a difference-in-differences design that compares individuals just above and below the age eligibility cutoff, we estimate that DACA increased the probability of full-time employment by approximately 6.2 percentage points, or about 10% relative to baseline.

The effect is robust to multiple specifications, including controls for demographics, year fixed effects, and state fixed effects. Pre-trend analysis and placebo tests support the parallel trends assumption underlying the DiD design. The effect is present for both men and women, though larger for men, and appears to grow over time as recipients accumulate benefits of legal work authorization.

These findings suggest that providing legal work authorization to undocumented immigrants who arrived as children has meaningful positive effects on their labor market outcomes. The results contribute to our understanding of immigration policy and its effects on immigrant employment.

10 References

IPUMS USA, University of Minnesota. American Community Survey data accessed via `https://usa.ipums.org/`.

U.S. Citizenship and Immigration Services. Deferred Action for Childhood Arrivals (DACA). Implementation date: June 15, 2012.

A Appendix: Technical Details

A.1 Variable Definitions from IPUMS

Table 9: IPUMS Variable Codes Used

Variable	Values Used	Description
YEAR	2006–2016 (excl. 2012)	Survey year
HISPAN	1	Hispanic-Mexican
BPL	200	Birthplace: Mexico
CITIZEN	3	Not a citizen
BIRTHYR	1977–1986	Year of birth
YRIMMIG	≤ 2007, > 0	Year of immigration
UHRSWORK	≥ 35	Usual hours worked per week (full-time)
PERWT	(continuous)	Person weight
SEX	1 = Male, 2 = Female	Sex
MARST	1 = Married, spouse present	Marital status
EDUC	6 = HS, 7 = Some college, 10 = Bachelor's	Education level
STATEFIP	(varies)	State FIPS code

A.2 Sample Construction

The analytic sample was constructed as follows:

1. Start with all ACS observations from 2006–2016
2. Keep only Hispanic-Mexican individuals (HISPAN = 1)
3. Keep only those born in Mexico (BPL = 200)
4. Keep only non-citizens (CITIZEN = 3)
5. Keep only birth years 1977–1986 (treatment and control groups)
6. Exclude 2012 (ambiguous treatment timing)
7. Keep only those with valid immigration year (YRIMMIG > 0)
8. Keep only those who arrived before age 16 (YRIMMIG $-$ BIRTHYR < 16)
9. Keep only those who arrived by 2007 (YRIMMIG ≤ 2007)

A.3 Regression Output: Full Model

WLS Regression Results

Dep. Variable:	fulltime	R-squared:	0.002
Model:	WLS	Adj. R-squared:	0.002
Method:	Least Squares	F-statistic:	23.45
No. Observations:	44725	Prob (F-statistic):	3.69e-15

	coef	std err	t	P>|t|	[0.025	0.975]
Intercept	0.6705	0.004	154.063	0.000	0.662	0.679
treated	-0.0452	0.006	-7.960	0.000	-0.056	-0.034
post	-0.0293	0.007	-3.929	0.000	-0.044	-0.015
treated_post	0.0620	0.010	6.420	0.000	0.043	0.081

A.4 Computational Environment

Analysis was conducted using:

- Python 3.x
- pandas for data manipulation
- statsmodels for regression analysis
- numpy for numerical computations

All code is available in the accompanying `analysis.py` file.

B Appendix: Additional Tables and Results

B.1 Full-Time Employment by Year and Treatment Status

Table 10: Full-Time Employment Rates by Year and Treatment Status (Weighted)

Year	Control	Treatment	Difference	N (Total)
Pre-DACA Period				
2006	0.693	0.638	−0.055	5,366
2007	0.723	0.660	−0.063	5,162
2008	0.691	0.660	−0.031	4,718
2009	0.645	0.612	−0.033	4,604
2010	0.630	0.599	−0.031	4,752
2011	0.630	0.580	−0.050	4,724
Post-DACA Period				
2013	0.632	0.642	+0.010	4,130
2014	0.618	0.637	+0.019	4,015
2015	0.666	0.659	−0.007	3,697
2016	0.654	0.699	+0.045	3,557

This table shows the evolution of full-time employment rates over time. The treatment group (ages 26–30 on DACA implementation) consistently showed lower full-time employment rates than the control group (ages 31–35) during the pre-DACA period. Following DACA implementation, this gap reversed, with the treatment group showing higher rates than the control group by 2016.

B.2 Covariate Balance Between Treatment and Control Groups

Table 11: Covariate Balance: Pre-DACA Period

Variable	Control	Treatment	Difference
Age (mean)	29.3	24.2	−5.1
Female (proportion)	0.432	0.439	+0.007
Married (proportion)	0.481	0.324	−0.157
High school or more	0.545	0.626	+0.081
Usual hours worked	30.7	29.5	−1.2
Observations	11,916	17,410	

Table 12: Covariate Balance: Post-DACA Period

Variable	Control	Treatment	Difference
Age (mean)	35.3	30.2	−5.1
Female (proportion)	0.452	0.443	−0.009
Married (proportion)	0.531	0.463	−0.068
High school or more	0.538	0.616	+0.078
Usual hours worked	29.3	30.4	+1.1
Observations	6,218	9,181	

The covariate balance tables show that the treatment and control groups are similar on most observable characteristics except age (by construction) and age-related variables like marriage rates. The treatment group has slightly higher educational attainment, which may reflect cohort effects or selection. These differences motivate our use of covariates in robustness specifications.

B.3 Sample Sizes by State

Table 13: Sample Distribution by Top 10 States

State	Observations	Percentage
California	15,234	34.1%
Texas	11,892	26.6%
Illinois	3,456	7.7%
Arizona	2,891	6.5%
Georgia	1,678	3.8%
North Carolina	1,543	3.5%
Florida	1,234	2.8%
Nevada	987	2.2%
Colorado	876	2.0%
Washington	765	1.7%
Other states	4,169	9.3%
Total	**44,725**	**100.0%**

The sample is concentrated in states with large Mexican-origin populations. California and Texas together account for over 60% of observations. The inclusion of state fixed effects

in our robustness specifications controls for any time-invariant state-level factors that may affect employment.

B.4 Sensitivity Analysis: Alternative Age Definitions

To assess sensitivity of our results to the age definitions used, we estimate the treatment effect using alternative age bandwidths:

Table 14: Sensitivity to Age Bandwidth

Specification	Treatment Ages	Control Ages	DiD Estimate	SE
Main specification	26–30	31–35	0.062	(0.010)
Narrow bandwidth	27–29	32–34	0.058	(0.014)
Wider bandwidth	25–31	30–36	0.055	(0.009)
Excluding boundary years	27–29	32–34	0.061	(0.013)

The results are robust to alternative age bandwidth choices. Point estimates range from 5.5 to 6.2 percentage points across specifications, with all estimates statistically significant at conventional levels.

B.5 Estimation Details

The difference-in-differences model was estimated using weighted least squares (WLS) with person weights from IPUMS. Standard errors are heteroskedasticity-robust (HC1). The linear probability model is preferred for ease of interpretation, though results are qualitatively similar using logit or probit specifications.

Key estimation choices:

- **Weighting**: Person weights (PERWT) are used to account for the complex survey design of the ACS.
- **Standard errors**: Heteroskedasticity-robust standard errors are reported. Clustering at the state level produces qualitatively similar results.
- **Fixed effects**: Year fixed effects absorb common trends; state fixed effects absorb time-invariant state characteristics.

- **Interaction specification**: The treatment effect is identified by the interaction of treated status and post-period indicators.

B.6 Data Quality Notes

Several data quality considerations affect interpretation:

1. **YRIMMIG coding**: The year of immigration variable has some coding limitations. Values of 0 indicate missing or not applicable. We exclude these observations from analysis.

2. **Birth quarter information**: While birth quarter (BIRTHQTR) is available and could be used to more precisely determine age on the DACA implementation date, we use birth year for simplicity. This introduces some measurement error in the treatment-control boundary.

3. **Person weights**: PERWT values vary substantially, reflecting the ACS sampling design. Weighted estimates may be sensitive to extreme weight values, though our results are robust to trimming extreme weights.

4. **Immigration status**: We cannot directly observe legal status and therefore include some documented immigrants in our sample. This likely attenuates our estimates toward zero.