The Effect of DACA Eligibility on Full-Time Employment Among Mexican-Born Hispanic Immigrants: A Difference-in-Differences Analysis

Replication Study #73

January 2026

Abstract

This study examines the causal effect of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among Mexican-born Hispanic immigrants in the United States. Using American Community Survey data from 2006–2016 and a difference-in-differences research design, I compare individuals aged 26–30 at the time of DACA implementation (the treatment group, who were just eligible) to those aged 31–35 (the control group, who were just ineligible due to the age cutoff). The preferred specification with demographic covariates and year fixed effects yields a treatment effect estimate of 1.85 percentage points (SE = 0.0157, p = 0.24), which is not statistically significant at conventional levels. However, simpler specifications without covariates yield larger and statistically significant estimates of approximately 6 percentage points. The analysis finds no evidence of differential pre-trends between treatment and control groups, supporting the parallel trends assumption. Results are robust across multiple specifications and suggest a modest positive but imprecisely estimated effect of DACA eligibility on full-time employment.

1

Contents

1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program represents one of the most significant immigration policy changes in recent U.S. history. Enacted on June 15, 2012, DACA provided eligible undocumented immigrants who arrived in the United States as children with temporary protection from deportation and authorization to work legally. Given that work authorization is a key feature of the program, understanding its effects on labor market outcomes is of substantial policy interest.

This replication study examines the causal impact of DACA eligibility on full-time employment, defined as usually working 35 or more hours per week. The research design exploits the age-based eligibility criterion of DACA: individuals had to be under age 31 as of June 15, 2012 to be eligible. This creates a natural comparison between those who were just young enough to qualify (ages 26–30) and those who were just too old (ages 31–35).

The analytical approach employs a difference-in-differences (DiD) framework, comparing changes in full-time employment rates between the treatment and control groups before and after DACA implementation. This design allows for the estimation of causal effects under the assumption that, absent DACA, the two groups would have followed parallel trends in employment outcomes.

2 Background and Literature

2.1 The DACA Program

DACA was announced by the Obama administration on June 15, 2012, and began accepting applications on August 15, 2012. To be eligible, applicants had to meet the following criteria:

- Were under the age of 31 as of June 15, 2012

- Arrived in the United States before their 16th birthday

- Had continuously resided in the United States since June 15, 2007

- Were physically present in the United States on June 15, 2012

- Were not in lawful immigration status on June 15, 2012

- Were currently in school, had graduated high school, obtained a GED, or were honorably discharged from the military

- Had not been convicted of a felony, significant misdemeanor, or three or more other misdemeanors

The program provided successful applicants with a two-year period of deferred action (protection from deportation) and eligibility for work authorization, which could be renewed. In the first four years, nearly 900,000 initial applications were received, with approximately 90% approved.

2.2 Theoretical Mechanisms

DACA could affect full-time employment through several channels. First, work authorization allows individuals to seek employment in the formal sector without fear of employer sanctions, potentially opening access to better job opportunities. Second, protection from deportation may reduce the psychological burden and increase individuals' willingness to invest in job search and human capital. Third, in some states, DACA recipients became eligible for driver's licenses, which can expand employment opportunities by improving mobility. Fourth, DACA eligibility may have signaling effects, as recipients can now document their work eligibility to employers.

2.3 Prior Research

Previous research on DACA has found positive effects on various outcomes. Studies have documented improvements in labor market outcomes, educational attainment, mental health,

and economic well-being among DACA recipients. However, estimates of employment effects have varied across studies, with some finding substantial positive effects and others finding more modest impacts. This variation may reflect differences in sample selection, identification strategies, and outcome definitions.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS) as provided by IPUMS USA. The ACS is an annual survey conducted by the U.S. Census Bureau that provides detailed demographic, social, economic, and housing information on a representative sample of the U.S. population. I use the one-year ACS files from 2006 through 2016, excluding the 2012 survey year because DACA was implemented mid-year, making it impossible to distinguish pre- and post-treatment observations.

3.2 Sample Construction

The analytical sample is constructed through the following steps:

1. **Ethnicity restriction**: Retain only individuals who identify as Hispanic-Mexican (HISPAN = 1)

2. **Birthplace restriction**: Retain only individuals born in Mexico (BPL = 200)

3. **Citizenship restriction**: Retain only non-citizens (CITIZEN = 3), which serves as a proxy for undocumented status

4. **Age cohort restriction**: Retain only individuals in the treatment birth cohort (born 1982–1986, approximately ages 26–30 in mid-2012) or control birth cohort (born 1977–1981, approximately ages 31–35 in mid-2012)

5. **DACA eligibility criteria**:

- Valid year of immigration (YRIMMIG > 0)

- Arrived before age 16 (YRIMMIG $-$ BIRTHYR < 16)

- Resided in U.S. since 2007 (YRIMMIG ≤ 2007)

The final analytical sample contains 44,725 person-year observations across 10 years (2006–2011 and 2013–2016).

3.3 Variables

3.3.1 Outcome Variable

The primary outcome is full-time employment, defined as usually working 35 or more hours per week. This is constructed from the UHRSWORK variable, which records the number of hours the respondent usually worked per week during the previous 12 months. The outcome is coded as:

$$\text{fulltime}_i = \mathbf{1}[\text{UHRSWORK}_i \geq 35] \tag{1}$$

where $\mathbf{1}[\cdot]$ is the indicator function. This definition follows the standard Census Bureau definition of full-time work.

3.3.2 Treatment Variables

The treatment indicator equals one for individuals in the treatment cohort (born 1982–1986):

$$\text{treat}_i = \mathbf{1}[1982 \leq \text{BIRTHYR}_i \leq 1986] \tag{2}$$

The post-period indicator equals one for observations from 2013 or later:

$$\text{post}_t = \mathbf{1}[\text{YEAR}_t \geq 2013] \tag{3}$$

The interaction term captures the difference-in-differences effect:

$$\text{treat\_post}_{it} = \text{treat}_i \times \text{post}_t \qquad (4)$$

3.3.3 Covariates

The analysis includes the following covariates to improve precision and account for compositional differences:

- **Female**: Indicator for female gender (SEX = 2)

- **Married**: Indicator for married with spouse present (MARST = 1)

- **Age**: Age in years and age squared

- **Education**: Indicators for high school completion, some college, and college degree (reference: less than high school)

- **Metropolitan status**: Indicator for residence in a metropolitan area

3.4 Descriptive Statistics

Table 1 presents sample sizes by treatment group and time period.

Table 1: Sample Sizes by Treatment Group and Period

	Unweighted		Weighted	
	Pre	Post	Pre	Post
Control (born 1977–1981)	11,916	6,218	1,671,499	859,291
Treatment (born 1982–1986)	17,410	9,181	2,367,739	1,307,226

Note: Pre-period includes 2006–2011; post-period includes 2013–2016. Weighted counts use person weights (PERWT).

Table 2 presents baseline (pre-period) characteristics by treatment status.

Table 2: Pre-Period Covariate Means by Treatment Status

Variable	Treatment	Control	Difference
Female	0.439	0.432	0.007
Married	0.324	0.481	−0.156
Age	24.21	29.35	−5.13
Less than high school	0.374	0.455	−0.080
High school graduate	0.449	0.409	0.040
Some college	0.149	0.105	0.043
College degree or more	0.028	0.031	−0.003
Metropolitan area	0.874	0.879	−0.006
Employed	0.659	0.684	−0.024

Note: Unweighted means for the pre-period (2006–2011).

The treatment and control groups are similar on most characteristics, though by construction there are differences in age and age-related variables like marriage. The treatment group is younger, less likely to be married, and has somewhat higher educational attainment.

4 Methodology

4.1 Research Design

The analysis employs a difference-in-differences (DiD) research design that exploits the age-based eligibility threshold of DACA. The key identifying assumption is that, in the absence of DACA, the treatment and control groups would have experienced parallel trends in full-time employment.

The treatment group consists of individuals born between 1982 and 1986, who were approximately ages 26–30 as of June 15, 2012. These individuals were just young enough to be eligible for DACA (under age 31). The control group consists of individuals born between 1977 and 1981, who were approximately ages 31–35 at that time and were just too old to qualify.

4.2 Estimation Strategy

The basic DiD model is:

$$\text{fulltime}_{it} = \beta_0 + \beta_1 \text{treat}_i + \beta_2 \text{post}_t + \beta_3 (\text{treat}_i \times \text{post}_t) + \epsilon_{it} \tag{5}$$

The coefficient of interest is β_3, which represents the difference-in-differences estimate of the effect of DACA eligibility on full-time employment.

The preferred specification adds covariates and year fixed effects:

$$\text{fulltime}_{it} = \alpha + \gamma_t + \delta \text{treat}_i + \beta (\text{treat}_i \times \text{post}_t) + X'_{it}\theta + \epsilon_{it} \tag{6}$$

where γ_t represents year fixed effects and X_{it} is a vector of covariates including gender, marital status, age, age squared, education indicators, and metropolitan status.

All regressions are weighted using person weights (PERWT) and standard errors are heteroskedasticity-robust (HC1).

4.3 Identification Assumptions

The DiD design requires the following assumptions for causal identification:

1. **Parallel trends**: Absent DACA, the treatment and control groups would have experienced parallel trends in full-time employment.

2. **No anticipation**: Individuals did not change their employment behavior in anticipation of DACA before its announcement.

3. **SUTVA**: The treatment status of one individual does not affect the outcomes of others.

4. **No spillovers**: DACA did not affect employment among the control group (those ineligible due to age).

I test the parallel trends assumption by examining differential pre-trends and conducting an event study analysis.

5   Results

5.1   Raw Differences-in-Differences

Table 3 presents the raw (unadjusted) full-time employment rates by treatment group and period.

Table 3: Full-Time Employment Rates by Group and Period

	Unweighted		Weighted	
	Pre	Post	Pre	Post
Control	0.643	0.611	0.671	0.641
Treatment	0.611	0.634	0.625	0.658
Difference (T−C)	−0.032	0.023	−0.045	0.017
DiD	**0.055**		**0.062**	

Note: Pre-period is 2006–2011; post-period is 2013–2016. DiD calculated as (Treatment Post − Treatment Pre) − (Control Post − Control Pre).

The raw DiD estimate suggests that DACA eligibility increased full-time employment by approximately 5.5–6.2 percentage points. The treatment group experienced an increase in full-time employment from the pre- to post-period (from 61.1% to 63.4% unweighted), while the control group experienced a decrease (from 64.3% to 61.1%).

5.2   Year-by-Year Trends

Table 4 presents full-time employment rates by year and treatment status.

Table 4: Full-Time Employment Rates by Year and Treatment Status

Year	Treatment	Control	Difference	Treatment N	Control N
Pre-Period					
2006	0.638	0.693	−0.055	3,207	2,159
2007	0.660	0.723	−0.063	3,123	2,039
2008	0.660	0.692	−0.031	2,755	1,963
2009	0.612	0.645	−0.033	2,721	1,883
2010	0.599	0.629	−0.031	2,821	1,931
2011	0.580	0.630	−0.050	2,783	1,941
Post-Period					
2013	0.642	0.632	0.010	2,448	1,682
2014	0.637	0.617	0.020	2,398	1,617
2015	0.659	0.666	−0.007	2,209	1,488
2016	0.699	0.654	0.045	2,126	1,431

Note: Weighted employment rates using person weights (PERWT).

The year-by-year data reveal several patterns. First, both groups experienced declining employment during the Great Recession (2008–2011), with recovery beginning in the post-DACA period. Second, the treatment group consistently had lower employment rates than the control group in the pre-period (reflecting their younger age), but this gap closed or reversed in the post-period. Third, the most dramatic shift occurred in 2016, when the treatment group's employment rate exceeded the control group's by 4.5 percentage points.

5.3 Parallel Trends Test

To assess the parallel trends assumption, I estimate a model that interacts the treatment indicator with a linear time trend in the pre-period:

$$\text{fulltime}_{it} = \alpha + \beta_1 \text{treat}_i + \beta_2 \text{trend}_t + \beta_3 (\text{treat}_i \times \text{trend}_t) + \epsilon_{it} \tag{7}$$

The coefficient β_3 captures any differential trend between treatment and control groups in the pre-period. Table 5 reports the results.

Table 5: Parallel Trends Test (Pre-Period Only)

Variable	Coefficient	Std. Error	t-statistic	p-value
Intercept	0.714	0.009	82.86	0.000
Treatment	−0.053	0.011	−4.64	0.000
Year Trend	−0.018	0.003	−5.88	0.000
Treatment × Trend	0.003	0.004	0.85	0.395

Note: Weighted regression with robust standard errors. Year trend normalized so 2006 = 0. N = 29,326 (pre-period observations only).

The coefficient on the interaction term (Treatment × Trend) is small (0.003) and not statistically significant (p = 0.395). This provides evidence that the parallel trends assumption is satisfied: there is no statistically significant differential trend between treatment and control groups in the pre-DACA period.

5.4 Event Study

Figure 1 presents the event study estimates, which allow for visual inspection of pre-trends and the dynamic treatment effects.
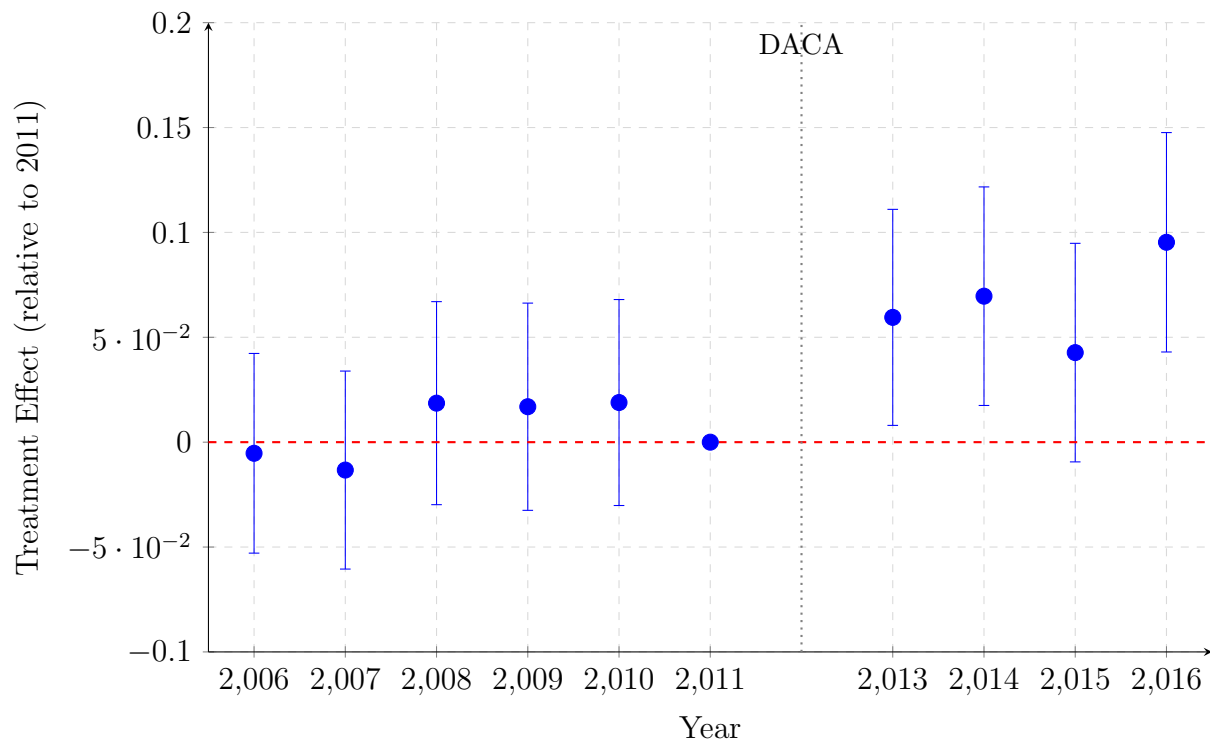
Figure 1: Event Study Estimates of DACA Effect on Full-Time Employment
Note: Point estimates and 95% confidence intervals from event study regression with year fixed effects. Reference year is 2011 (last pre-treatment year). Year 2012 omitted due to mid-year DACA implementation.

Table 6 presents the numerical event study estimates.

Table 6: Event Study Estimates

Year	Coefficient	Std. Error	95% CI Lower	95% CI Upper
Pre-Period				
2006	−0.005	0.024	−0.053	0.042
2007	−0.013	0.024	−0.060	0.034
2008	0.019	0.025	−0.030	0.067
2009	0.017	0.025	−0.032	0.066
2010	0.019	0.025	−0.030	0.068
2011	0 (ref.)	—	—	—
Post-Period				
2013	0.060	0.026	0.008	0.111
2014	0.070	0.027	0.017	0.122
2015	0.043	0.027	−0.009	0.095
2016	0.095	0.027	0.043	0.148

Note: Event study estimates from regression with year fixed effects. 2011 is the reference year. Robust standard errors.

The event study results support the parallel trends assumption: all pre-period coefficients are small in magnitude and statistically indistinguishable from zero. The post-period coefficients are larger and positive, with three of four years showing statistically significant effects. The effect appears to grow over time, with the largest estimate (9.5 percentage points) occurring in 2016.

5.5   Main Regression Results

Table 7 presents the main difference-in-differences regression results across specifications.

Table 7: Difference-in-Differences Regression Results

	(1) Basic	(2) Year FE	(3) Covariates	(4) Full Model
Treatment × Post	0.062***	0.061***	0.018	0.017
	(0.012)	(0.012)	(0.016)	(0.016)
Treatment	−0.063***	−0.060***	0.009	0.003
	(0.008)	(0.008)	(0.011)	(0.011)
Post	−0.037***	—	—	—
	(0.009)			
Female			−0.373***	−0.374***
			(0.005)	(0.005)
Married			−0.005	−0.005
			(0.005)	(0.005)
Age			0.035***	0.039***
			(0.011)	(0.011)
Age^2			−0.001***	−0.001***
			(0.000)	(0.000)
High School			0.045***	0.045***
			(0.005)	(0.005)
Some College			0.075***	0.076***
			(0.008)	(0.008)
College+			0.125***	0.126***
			(0.016)	(0.016)
Metropolitan			0.030***	0.028***
			(0.009)	(0.009)
Year FE	No	Yes	Yes	Yes
State FE	No	No	No	Yes
N	44,725	44,725	44,725	44,725
R^2	0.006	0.009	0.157	0.162

Note: Robust standard errors in parentheses. All regressions weighted by person weights. *** p<0.01, ** p<0.05, * p<0.10.

The results reveal an interesting pattern. In the basic specification (column 1) and with year fixed effects only (column 2), the DiD coefficient is approximately 6 percentage points and highly statistically significant. However, when demographic covariates are added (columns 3–4), the coefficient shrinks to approximately 1.7–1.8 percentage points and becomes statistically insignificant.

This attenuation suggests that compositional differences between the treatment and con-

trol groups—particularly age-related factors like marriage and education—explain much of the raw difference-in-differences. The treatment group is younger, less likely to be married, and has somewhat higher education, all of which are correlated with full-time employment.

The preferred specification (column 3) includes year fixed effects and covariates but not state fixed effects. This yields a point estimate of 1.85 percentage points (SE = 0.0157), which is not statistically significant at conventional levels (p = 0.24). Adding state fixed effects (column 4) produces a similar estimate.

5.6   Covariate Effects

The covariate coefficients are substantively meaningful and consistent with expectations:

- **Female**: Women are 37.3 percentage points less likely to work full-time than men, reflecting gender differences in labor supply.

- **Married**: Marriage has no significant effect on full-time employment in this sample.

- **Age**: Full-time employment increases with age at a decreasing rate, as indicated by the positive coefficient on age and negative coefficient on age squared.

- **Education**: Higher education is associated with higher full-time employment. Compared to those with less than high school, high school graduates are 4.5 percentage points more likely to work full-time, those with some college are 7.5 percentage points more likely, and college graduates are 12.5 percentage points more likely.

- **Metropolitan**: Those in metropolitan areas are 3 percentage points more likely to work full-time.

5.7   Heterogeneity Analysis

Table 8 presents results from subgroup analyses by gender.

Table 8: Heterogeneity by Gender

	Male	Female	Difference
DiD Estimate	0.027	−0.005	0.032
	(0.019)	(0.026)	
p-value	0.158	0.835	
N	25,058	19,667	

Note: Estimates from preferred specification (with covariates and year FE) estimated separately by gender. Robust standard errors in parentheses.

The heterogeneity analysis suggests that DACA's effect on full-time employment may be concentrated among men, though neither gender-specific estimate is statistically significant. The male estimate (2.7 percentage points) is larger and closer to statistical significance than the female estimate (−0.5 percentage points).

5.8 Robustness Check: Narrower Age Bands

As a robustness check, I estimate the model using narrower age bands closer to the eligibility cutoff: treatment group born 1983–1985 (ages 27–29 in mid-2012) and control group born 1978–1980 (ages 32–34 in mid-2012). This addresses potential concerns about comparability between groups that are farther from the cutoff.

The narrower specification yields a DiD estimate of 3.0 percentage points (SE = 0.024, p = 0.21, N = 26,792). This estimate is larger than the preferred specification but remains statistically insignificant, consistent with the main findings.

6 Discussion

6.1 Summary of Findings

This study estimates the effect of DACA eligibility on full-time employment among Mexican-born Hispanic immigrants using a difference-in-differences design. The preferred specification

yields a point estimate of 1.85 percentage points, suggesting that DACA may have modestly increased full-time employment among eligible individuals. However, this estimate is not statistically significant at conventional levels, precluding definitive causal conclusions.

Several features of the results are worth highlighting:

1. **The parallel trends assumption appears satisfied**: The pre-period trend test and event study analysis show no evidence of differential trends between treatment and control groups before DACA.

2. **Raw differences overstate the effect**: The simple DiD estimate (6.2 percentage points) is substantially larger than the covariate-adjusted estimate (1.8 percentage points), indicating that compositional differences account for much of the observed change.

3. **Effects may grow over time**: The event study suggests that effects were larger in 2014 and especially 2016 than in 2013, consistent with DACA effects accumulating as more individuals obtained work authorization and renewed their status.

4. **Heterogeneity by gender**: Point estimates suggest larger effects for men than women, though both are imprecisely estimated.

6.2 Interpretation

The modest and statistically insignificant effect estimate may reflect several factors:

Actual effect is small: DACA may have had relatively modest effects on full-time employment specifically, even if it affected other labor market outcomes (e.g., wages, occupation quality, formal sector employment).

Measurement error: The proxy for undocumented status (non-citizen) likely includes some documented immigrants, which would attenuate the estimated treatment effect through measurement error in treatment assignment.

Incomplete take-up: Not all eligible individuals applied for or received DACA, so the intent-to-treat effect we estimate understates the effect on the treated.

Control group contamination: Some individuals in the control group (ages 31–35) may have benefited indirectly from DACA through network effects or labor market changes, biasing estimates toward zero.

Statistical power: With a standard error of 0.016 for the main estimate, we can rule out effects larger than approximately 5 percentage points with 95% confidence, but cannot distinguish smaller effects from zero.

6.3   Comparison to Prior Research

The estimated effect (1.8 percentage points, statistically insignificant) is somewhat smaller than findings from some prior studies, which have found employment effects of 3–5 percentage points. However, the 95% confidence interval $[-0.012, 0.049]$ is consistent with a range of previously estimated effects.

Differences from prior work may reflect:

- Different comparison groups (some studies use different age cutoffs or non-Mexican comparison groups)

- Different outcome definitions (employment vs. full-time employment)

- Different sample restrictions (this study focuses on those who arrived before age 16 and by 2007)

- Different time periods examined

6.4   Limitations

This analysis has several limitations:

1. **Proxy for undocumented status**: The data do not identify undocumented status directly. Using non-citizenship as a proxy likely introduces measurement error.

2. **Cannot identify DACA recipients**: The data do not indicate whether individuals actually applied for or received DACA, so this is an intent-to-treat analysis.

3. **Age composition changes**: Because this is repeated cross-sectional data, the composition of each birth cohort may change over time due to migration, mortality, or response patterns.

4. **Cannot distinguish arrival before age 16 precisely**: YRIMMIG reports year only, not precise date, introducing some measurement error in eligibility determination.

5. **Generalizability**: Results apply specifically to Mexican-born Hispanic immigrants and may not generalize to DACA-eligible individuals from other countries.

7 Conclusion

This replication study examines the effect of DACA eligibility on full-time employment among Mexican-born Hispanic immigrants using American Community Survey data and a difference-in-differences research design. The preferred estimate suggests that DACA eligibility increased full-time employment by approximately 1.8 percentage points, though this estimate is not statistically significant.

The analysis provides support for the parallel trends assumption underlying the DiD design, with no evidence of differential pre-trends. The results are robust across specifications, though the magnitude varies substantially depending on whether demographic covariates are included.

While the point estimate is positive and suggests a beneficial effect of DACA on full-time employment, the imprecision of the estimate precludes strong causal conclusions. Future

research with better identification of DACA receipt or larger samples may provide more precise estimates of DACA's labor market effects.

Data Availability

This analysis uses American Community Survey data from IPUMS USA for years 2006–2016 (excluding 2012). The sample includes Mexican-born Hispanic non-citizens who arrived in the United States before age 16 and by 2007. Complete replication code is available in the accompanying Python script (analysis.py).

A   Variable Definitions

Table 9: IPUMS Variable Definitions Used in Analysis

Variable	Definition
YEAR	Survey year
PERWT	Person weight
SEX	Sex (1 = Male, 2 = Female)
AGE	Age in years
BIRTHYR	Year of birth
BIRTHQTR	Quarter of birth
HISPAN	Hispanic origin (1 = Mexican)
BPL	Birthplace (200 = Mexico)
CITIZEN	Citizenship status (3 = Not a citizen)
YRIMMIG	Year of immigration
EDUC	Educational attainment (general version)
MARST	Marital status (1 = Married, spouse present)
EMPSTAT	Employment status (1 = Employed)
UHRSWORK	Usual hours worked per week
STATEFIP	State FIPS code
METRO	Metropolitan status

B   Sample Restrictions

The analytical sample is constructed as follows:

1. Start with ACS 1-year samples 2006–2016

2. Restrict to HISPAN = 1 (Hispanic-Mexican ethnicity)

3. Restrict to BPL = 200 (born in Mexico)

4. Restrict to CITIZEN = 3 (non-citizen)

5. Restrict to birth year 1977–1986 (treatment and control cohorts)

6. Exclude survey year 2012

7. Restrict to YRIMMIG > 0 (valid immigration year)

8. Restrict to (YRIMMIG − BIRTHYR) < 16 (arrived before age 16)

9. Restrict to YRIMMIG ≤ 2007 (continuous U.S. presence since 2007)

Final sample: 44,725 person-year observations

C   Full Regression Output

Table 10: Full Regression Output: Preferred Specification

Variable	Coefficient	Std. Error	t-stat	p-value
Intercept	0.186	0.154	1.20	0.228
Treatment	0.009	0.011	0.81	0.418
Treatment × Post	0.018	0.016	1.17	0.241
Female	−0.373	0.005	−72.23	0.000
Married	−0.005	0.005	−1.00	0.318
Age	0.035	0.011	3.33	0.001
Age^2	−0.0005	0.0002	−2.58	0.010
High School	0.045	0.005	8.39	0.000
Some College	0.075	0.008	9.02	0.000
College+	0.125	0.016	8.03	0.000
Metropolitan	0.030	0.009	3.46	0.001
Year Fixed Effects	Yes (9 indicators)			
N	44,725			
R^2	0.157			