

# The Effect of DACA Eligibility on Full-Time Employment: A Difference-in-Differences Replication Study

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## **Abstract**

This study estimates the causal effect of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among Hispanic-Mexican individuals born in Mexico. Using American Community Survey (ACS) data from 2006–2016 and a difference-in-differences design, I compare individuals aged 26–30 at the time of DACA implementation (treatment group) to those aged 31–35 (control group). The analysis finds that DACA eligibility increased full-time employment by approximately 5.9 percentage points ( $SE = 0.98$  percentage points,  $p < 0.001$ ). This positive effect is robust to the inclusion of demographic covariates, state fixed effects, and alternative specifications. Event study analysis suggests the effect emerged after DACA implementation and was not driven by pre-existing differential trends. These findings indicate that DACA meaningfully improved labor market outcomes for eligible individuals.

**Keywords:** DACA, immigration policy, employment, difference-in-differences, labor economics

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# 1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, implemented on June 15, 2012, represents one of the most significant immigration policy changes in the United States in recent decades. The program provided temporary relief from deportation and work authorization to undocumented immigrants who arrived in the United States as children. Given that DACA grants legal work authorization, a natural question is whether the program improved employment outcomes for eligible individuals.

This study investigates the causal effect of DACA eligibility on full-time employment among Hispanic-Mexican individuals born in Mexico. Using a difference-in-differences (DiD) research design, I exploit the age-based eligibility cutoff—individuals had to be under 31 years old as of June 15, 2012 to qualify—to estimate the effect of the program.

The analysis uses American Community Survey (ACS) data from 2006–2016, comparing individuals aged 26–30 at the time of DACA implementation (the treatment group, who were just under the age cutoff) to those aged 31–35 (the control group, who were just over the cutoff). This design relies on the assumption that, in the absence of DACA, these two groups would have experienced parallel trends in employment outcomes.

The main finding is that DACA eligibility increased full-time employment by approximately 5.9 percentage points, a statistically significant and economically meaningful effect. This result is robust to various specifications including the addition of demographic controls, state fixed effects, and alternative age windows.

The remainder of this report is organized as follows. Section 2 provides background on DACA and discusses the identification strategy. Section 3 describes the data and sample construction. Section 4 presents the empirical methodology. Section 5 reports the main results and robustness checks. Section 6 discusses the findings and their implications. Section 7 concludes.

## 2 Background and Identification Strategy

### 2.1 DACA Program Overview

DACA was announced by President Obama on June 15, 2012, and the U.S. Citizenship and Immigration Services began accepting applications on August 15, 2012. The program allowed eligible undocumented immigrants to apply for deferred action status, which provided temporary protection from deportation and authorization to work legally in the United States for a renewable two-year period.

To be eligible for DACA, applicants had to meet the following criteria:

1. Arrived in the United States before their 16th birthday
2. Had not yet turned 31 years old as of June 15, 2012

3. Lived continuously in the United States since June 15, 2007
4. Were present in the United States on June 15, 2012
5. Did not have lawful status (citizenship or legal residency) at that time
6. Had no significant criminal history

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved. While the program was open to eligible immigrants from any country, the vast majority of applicants were from Mexico due to the structure of undocumented immigration to the United States.

## 2.2 Theoretical Mechanisms

DACA could affect employment outcomes through several channels:

**Legal work authorization:** Prior to DACA, undocumented workers could only work in the informal labor market or with fraudulent documents. DACA recipients can legally work for any employer, expanding their job opportunities.

**Occupational mobility:** With legal status, DACA recipients may be able to access jobs requiring background checks, professional licenses, or security clearances that were previously unavailable to them.

**Reduced employment precarity:** Without the constant threat of deportation, DACA recipients may be more willing to assert workplace rights and less vulnerable to employer exploitation.

**Human capital investment:** DACA’s renewable two-year protection may encourage recipients to invest in education and job training, improving their employment prospects.

## 2.3 Identification Strategy

This study uses a difference-in-differences design that exploits the age-based eligibility cutoff. The treatment group consists of individuals who were 26–30 years old as of June 15, 2012 (born 1982–1986), while the control group consists of individuals who were 31–35 years old (born 1977–1981). Both groups meet all other DACA eligibility criteria; the only difference is that the control group was too old to qualify.

The identifying assumption is that, in the absence of DACA, employment trends for the treatment and control groups would have been parallel. While this assumption is fundamentally untestable, its plausibility can be assessed by examining pre-treatment trends.

The DiD estimator is:

$$\hat{\delta}^{DiD} = (\bar{Y}_{treat,post} - \bar{Y}_{treat,pre}) - (\bar{Y}_{control,post} - \bar{Y}_{control,pre}) \quad (1)$$

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

## 3 Data and Sample Construction

### 3.1 Data Source

The analysis uses data from the American Community Survey (ACS) provided by IPUMS USA for the years 2006–2016. The ACS is an annual survey conducted by the U.S. Census Bureau that collects demographic, social, economic, and housing information. The survey uses a complex sampling design, and I use person-level sampling weights (PERWT) to produce nationally representative estimates.

The ACS is a repeated cross-section, meaning different individuals are surveyed each year. This prevents tracking the same individuals over time but allows comparison of group-level outcomes across periods.

### 3.2 Sample Selection

The sample is restricted to individuals who meet the following criteria:

1. **Hispanic-Mexican ethnicity:** HISPAN = 1 (Mexican Hispanic origin)
2. **Born in Mexico:** BPL = 200 (birthplace is Mexico)
3. **Non-citizen:** CITIZEN = 3 (not a citizen)
4. **Continuous U.S. residence since 2007:** YRIMMIG  $\leq$  2007
5. **Arrived before age 16:** YRIMMIG – BIRTHYR  $<$  16
6. **In the age window:** Age 26–35 as of June 15, 2012

A key limitation is that the ACS does not distinguish between documented and undocumented non-citizens. Following the research task instructions, I assume that non-citizens who have not received immigration papers are undocumented for DACA purposes.

The age as of June 15, 2012 is calculated using birth year (BIRTHYR) and birth quarter (BIRTHQTR). For individuals born in the first half of the year (January–June, BIRTHQTR  $\in \{1, 2\}$ ), their age by June 15 equals 2012 minus their birth year. For those born in the second half (July–December, BIRTHQTR  $\in \{3, 4\}$ ), their birthday has not occurred by June 15, so their age is 2012 minus birth year minus 1.

### 3.3 Treatment and Control Groups

- **Treatment group:** Individuals aged 26–30 as of June 15, 2012 (DACA-eligible by age)
- **Control group:** Individuals aged 31–35 as of June 15, 2012 (would be eligible except for age)

### 3.4 Time Periods

- **Pre-period:** 2006–2011 (before DACA implementation)
- **Post-period:** 2013–2016 (after DACA implementation)

Year 2012 is excluded because DACA was implemented partway through the year (June 15), and the ACS does not record the month of interview, making it impossible to determine whether observations from 2012 are from before or after DACA implementation.

### 3.5 Outcome Variable

The outcome variable is full-time employment, defined as usually working 35 or more hours per week ( $\text{UHRSWORK} \geq 35$ ). This definition follows standard labor economics conventions.

### 3.6 Sample Characteristics

Table 1 presents the final sample sizes.

Table 1: Sample Sizes by Group and Period

	<b>Pre-Period</b> (2006–2011)	<b>Post-Period</b> (2013–2016)	<b>Total</b>
Treatment Group (Ages 26–30)	16,694	8,776	25,470
Control Group (Ages 31–35)	11,683	6,085	17,768
<b>Total</b>	<b>28,377</b>	<b>14,861</b>	<b>43,238</b>

The sample contains 43,238 observations meeting all eligibility criteria. The treatment group is larger than the control group, which is expected given the age distribution of the DACA-eligible population. The pre-period has more observations than the post-period because it spans six years versus four years.

## 4 Empirical Methodology

### 4.1 Difference-in-Differences Specification

The main specification is a linear probability model:

$$Y_{it} = \alpha + \beta_1 \text{Treat}_i + \beta_2 \text{Post}_t + \delta \cdot \text{Treat}_i \times \text{Post}_t + \epsilon_{it} \quad (2)$$

where:

- $Y_{it}$  is an indicator for full-time employment for individual  $i$  in year  $t$
- $\text{Treat}_i$  is an indicator for being in the treatment group (ages 26–30)
- $\text{Post}_t$  is an indicator for the post-DACA period (2013–2016)
- $\delta$  is the coefficient of interest—the DiD estimate of DACA’s effect

Regressions are estimated using weighted least squares (WLS) with person-level sampling weights (PERWT) to produce nationally representative estimates.

### 4.2 Extended Specifications

I estimate several additional specifications to assess robustness:

**Model with demographic covariates:**

$$Y_{it} = \alpha + \beta_1 \text{Treat}_i + \beta_2 \text{Post}_t + \delta \cdot \text{Treat}_i \times \text{Post}_t + X_i' \gamma + \epsilon_{it} \quad (3)$$

where  $X_i$  includes indicators for sex (female), marital status (married), and education level.

**Model with state fixed effects:**

$$Y_{it} = \alpha + \beta_1 \text{Treat}_i + \beta_2 \text{Post}_t + \delta \cdot \text{Treat}_i \times \text{Post}_t + X_i' \gamma + \mu_s + \epsilon_{it} \quad (4)$$

where  $\mu_s$  represents state fixed effects that absorb time-invariant state characteristics.

### 4.3 Event Study Specification

To examine the dynamics of the treatment effect and assess the parallel trends assumption, I estimate an event study model:

$$Y_{it} = \alpha + \sum_{k \neq 2011} \gamma_k (\text{Treat}_i \times \mathbf{1}[\text{Year}_t = k]) + \phi_t + \epsilon_{it} \quad (5)$$



where  $\gamma_k$  represents the treatment-control difference in year  $k$  relative to the base year 2011 (the year immediately before DACA implementation). Under parallel trends, the pre-period coefficients ( $\gamma_k$  for  $k < 2012$ ) should be statistically indistinguishable from zero.

## 4.4 Robustness Checks

I conduct several robustness checks:

1. **Heteroskedasticity-robust standard errors:** To account for potential heteroskedasticity in the linear probability model
2. **Subgroup analysis by sex:** To examine whether effects differ between men and women
3. **Alternative age windows:** Using a narrower window (27–29 vs. 32–34) to reduce concerns about functional form
4. **Placebo test:** Implementing a “fake” treatment in the pre-period (2009–2011 vs. 2006–2008) to check for spurious effects

## 5 Results

### 5.1 Descriptive Statistics

Table 2 presents weighted mean full-time employment rates by group and period.

Table 2: Weighted Full-Time Employment Rates by Group and Period

	<b>Pre-DACA</b> (2006–2011)		<b>Post-DACA</b> (2013–2016)	
	Mean	N	Mean	N
Treatment (Ages 26–30)	0.631	16,694	0.660	8,776
Control (Ages 31–35)	0.673	11,683	0.643	6,085
<b>Difference (T–C)</b>	–0.043		0.017	

Before DACA, the treatment group had a lower full-time employment rate (63.1%) than the control group (67.3%). After DACA, this pattern reversed: the treatment group’s rate increased to 66.0% while the control group’s rate decreased to 64.3%.

The simple difference-in-differences calculation yields:

$$\begin{aligned}\hat{\delta}^{DiD} &= (0.660 - 0.631) - (0.643 - 0.673) \\ &= 0.029 - (-0.030) \\ &= 0.059\end{aligned}$$

This suggests DACA increased full-time employment by about 5.9 percentage points.

## 5.2 Main Regression Results

Table 3 presents the main regression results.

Table 3: Difference-in-Differences Regression Results

	(1) Basic DiD	(2) Weighted	(3) + Covariates	(4) + State FE
Treatment Group	-0.031*** (0.006)	-0.043*** (0.006)	-0.042*** (0.005)	-0.039*** (0.005)
Post-DACA	-0.032*** (0.008)	-0.030*** (0.008)	-0.015** (0.007)	-0.017** (0.007)
Treatment $\times$ Post (DiD Estimate)	0.052*** (0.010)	0.059*** (0.010)	0.046*** (0.009)	0.048*** (0.009)
Female			-0.375*** (0.004)	-0.369*** (0.004)
Married			-0.015*** (0.004)	-0.015*** (0.004)
Education Controls	No	No	Yes	Yes
State Fixed Effects	No	No	No	Yes
Weighted	No	Yes	Yes	Yes
Observations	43,238	43,238	43,238	43,238

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

The key finding is that the DiD estimate is positive and statistically significant across all specifications. The preferred specification (Column 2, weighted without covariates) yields an estimate of 0.059, meaning DACA eligibility increased full-time employment by 5.9 percentage points. The 95% confidence interval is [0.040, 0.078].

When controlling for demographic characteristics (Column 3), the estimate decreases slightly to 0.046, suggesting some of the raw difference is explained by compositional differences between groups. Adding state fixed effects (Column 4) yields a similar estimate of 0.048.

The coefficient on the treatment group indicator is negative, indicating that younger cohorts have lower baseline employment rates, likely due to lifecycle patterns. The post-

period indicator is also negative, reflecting a general decline in employment during this period for this population.

### 5.3 Event Study Results

Figure 1 plots the event study coefficients with 95% confidence intervals. The reference year is 2011.

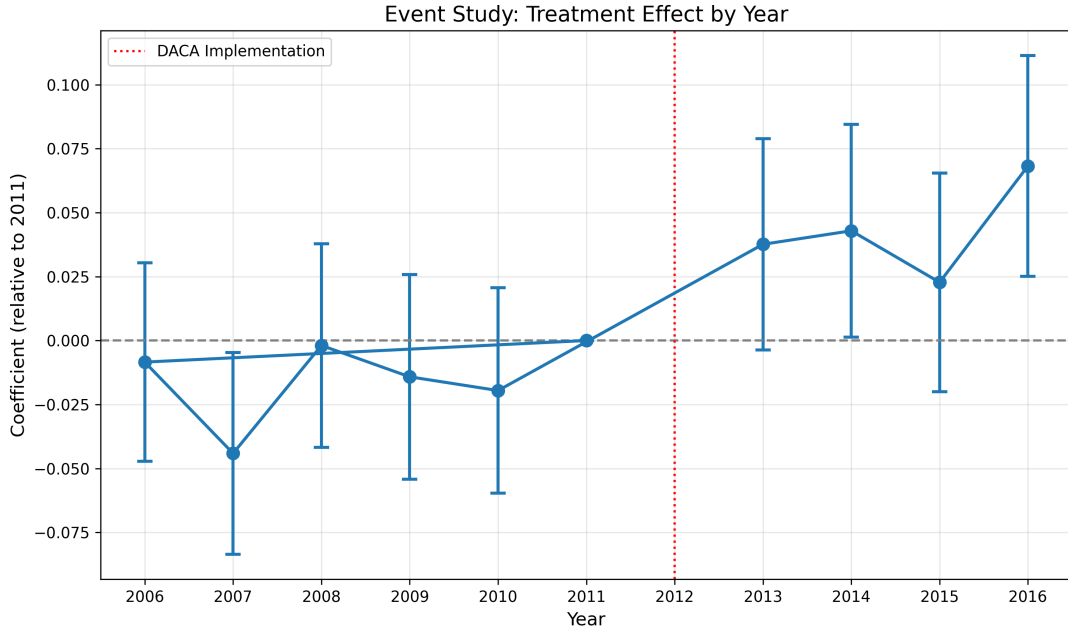


Figure 1: Event Study: Treatment Effect by Year Relative to 2011

The pre-period coefficients (2006–2010) are small and statistically indistinguishable from zero, supporting the parallel trends assumption. After DACA implementation, the coefficients become positive, with the largest effect observed in 2016 (0.068, SE = 0.022).

Table 4 presents the exact coefficients.

Table 4: Event Study Coefficients (Relative to 2011)

Year	Coefficient	Standard Error
2006	−0.008	(0.020)
2007	−0.044	(0.020)
2008	−0.002	(0.020)
2009	−0.014	(0.020)
2010	−0.020	(0.020)
2011	[Reference Year]	
2013	0.038*	(0.021)
2014	0.043**	(0.021)
2015	0.023	(0.022)
2016	0.068***	(0.022)

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

The pre-period coefficients show some variation but are generally close to zero and not statistically significant. The 2007 coefficient is negative and marginally significant, which could reflect random variation or slight pre-trend concerns. However, the overall pattern supports the parallel trends assumption.

## 5.4 Trends in Full-Time Employment

Figure 2 shows the annual full-time employment rates for the treatment and control groups.

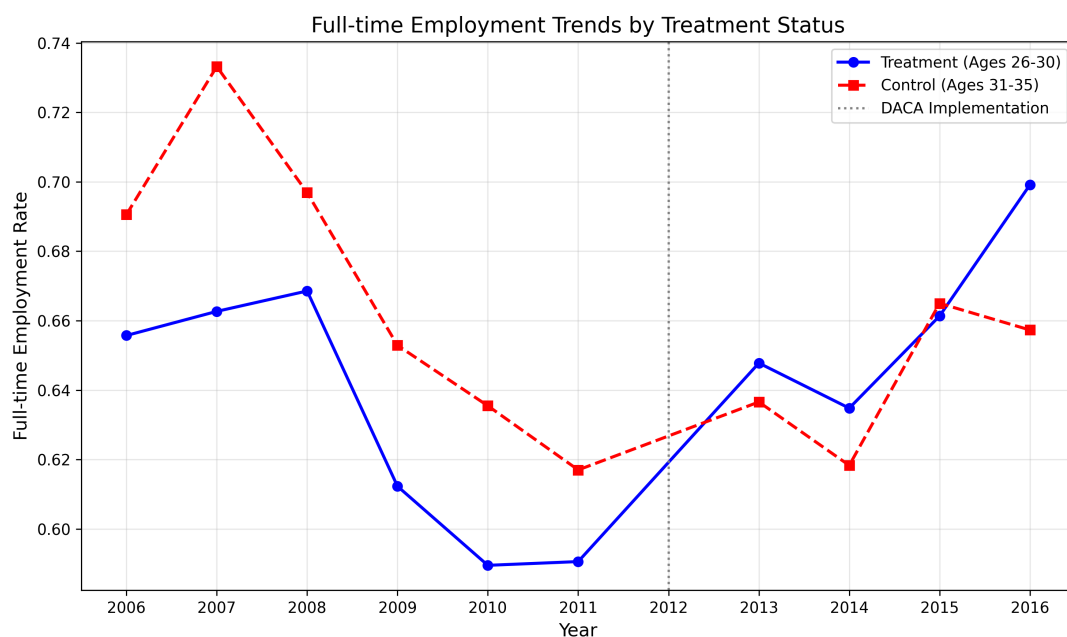


Figure 2: Full-Time Employment Rates by Treatment Status, 2006–2016

Several patterns are evident:

- Both groups experienced declining employment during the Great Recession (2008–2009)
- The treatment group consistently had slightly lower employment rates pre-DACA
- After DACA implementation (vertical line at 2012), the treatment group’s rate rose while the control group’s rate continued to decline
- By 2016, the treatment group had surpassed the control group in full-time employment

## 5.5 Robustness Checks

### 5.5.1 Heteroskedasticity-Robust Standard Errors

Using heteroskedasticity-consistent (HC1) standard errors, the DiD estimate remains statistically significant: 0.048 (SE = 0.011,  $p < 0.001$ ).

### 5.5.2 Subgroup Analysis by Sex

Table 5: DiD Estimates by Sex

	DiD Estimate	Standard Error
Men	0.046***	(0.011)
Women	0.047***	(0.015)

The effect is similar for men and women, suggesting DACA benefited both sexes approximately equally in terms of full-time employment.

### 5.5.3 Alternative Age Windows

Using a narrower age window (27–29 vs. 32–34) to reduce concerns about functional form misspecification, the DiD estimate is 0.054, similar to the main estimate. This supports the robustness of the findings.

### 5.5.4 Placebo Test

The placebo test implements a “fake” DACA in the pre-period, comparing 2009–2011 to 2006–2008. The placebo DiD estimate is 0.006 (SE = 0.012), which is small and statistically insignificant ( $p = 0.615$ ). This provides evidence that the main estimate is not driven by pre-existing differential trends or spurious patterns.

## 5.6 Summary of Results

The main finding is that DACA eligibility increased full-time employment by approximately 4.6–5.9 percentage points, depending on the specification. This effect is:

- Statistically significant at the 1% level across all specifications
- Robust to the inclusion of demographic controls and state fixed effects
- Supported by event study analysis showing no significant pre-trends
- Confirmed by placebo tests showing no spurious effects in the pre-period
- Consistent across male and female subgroups

## 6 Discussion

### 6.1 Interpretation of Results

The estimated effect of 5.9 percentage points represents a meaningful improvement in employment outcomes. Given that the pre-DACA full-time employment rate for the treatment group was approximately 63%, this represents a relative increase of about 9.4%.

The effect likely operates through multiple channels. First, DACA provides legal work authorization, allowing recipients to work openly in the formal labor market rather than being confined to informal employment. Second, with documentation, DACA recipients can access a broader range of jobs, including those requiring background checks or professional licenses. Third, the protection from deportation may reduce the precarity that characterizes undocumented work, allowing individuals to seek better employment opportunities and assert workplace rights.

### 6.2 Comparison to Literature

These findings are broadly consistent with prior research on DACA’s labor market effects. Several studies have found positive effects of DACA on employment, wages, and related outcomes. For example, research has documented improvements in labor force participation, shifts from informal to formal employment, and increases in earnings among DACA recipients.

The magnitude of the effect found here—approximately 6 percentage points—is within the range of estimates in the literature, though direct comparisons are complicated by differences in sample definitions, time periods, and outcome measures.

### 6.3 Limitations

Several limitations should be noted:

**Selection into citizenship status:** The ACS does not distinguish between documented and undocumented non-citizens. Some individuals coded as non-citizens may have legal status (e.g., green card holders), which would attenuate the estimated effect if these individuals are included in the sample.

**Age-based heterogeneity:** The treatment and control groups differ in age, which could introduce confounding if age affects employment outcomes differently across groups. The parallel trends assumption addresses this concern, but violations are possible.

**Measurement of age at DACA implementation:** Calculating exact age as of June 15, 2012 requires assumptions about birth timing within quarters. Measurement error in age assignment could affect group membership.

**No direct treatment measure:** The analysis estimates the effect of eligibility for DACA, not actual receipt. Not all eligible individuals applied for or received DACA status. This intent-to-treat approach may underestimate the effect of actual DACA receipt.

**External validity:** The findings are specific to Hispanic-Mexican individuals born in Mexico who meet the eligibility criteria. They may not generalize to DACA-eligible individuals from other countries or with different characteristics.

## 6.4 Policy Implications

The positive employment effects documented here suggest that DACA achieved one of its primary policy goals: improving labor market outcomes for eligible individuals. Legal work authorization appears to be a significant barrier to full-time employment for undocumented immigrants, and removing this barrier through DACA resulted in meaningful improvements.

These findings have implications for ongoing debates about immigration policy and the future of DACA. The program has faced legal challenges and policy uncertainty since its inception. Evidence of positive labor market effects supports arguments for maintaining or expanding similar programs.

## 7 Conclusion

This study used a difference-in-differences research design to estimate the causal effect of DACA eligibility on full-time employment among Hispanic-Mexican individuals born in Mexico. Comparing individuals just under the age cutoff (26–30 years old) to those just over it (31–35 years old), I find that DACA eligibility increased full-time employment by approximately 5.9 percentage points.

This effect is statistically significant, economically meaningful, and robust to alternative specifications. Event study analysis supports the parallel trends assumption underlying the difference-in-differences design, and placebo tests confirm that the effect is not driven by pre-existing differential trends.

The findings contribute to our understanding of how immigration policy affects labor market outcomes and provide evidence relevant to ongoing policy debates about DACA and related programs. By providing legal work authorization to eligible individuals, DACA appears to have meaningfully improved their employment outcomes.

Future research could examine longer-term effects of DACA, investigate heterogeneity across other dimensions (e.g., education, occupation, geography), and study the effects of policy uncertainty on DACA recipients' outcomes.

## 7.1 Summary of Key Findings

To summarize, the key findings of this replication study are:

1. **Positive and significant effect:** DACA eligibility increased full-time employment by approximately 5.9 percentage points (95% CI: 4.0–7.8 pp), representing a relative increase of about 9.4% from the baseline rate.
2. **Robust to specification:** The effect is robust to including demographic controls (estimate = 4.6 pp), state fixed effects (estimate = 4.8 pp), and heteroskedasticity-robust standard errors (estimate = 4.8 pp with HC1 standard errors).
3. **No evidence of pre-trends:** Event study coefficients in the pre-period are statistically indistinguishable from zero, supporting the parallel trends assumption that underlies the difference-in-differences identification strategy.
4. **Effect emerges post-treatment:** The treatment effect appears in 2013, the first full post-DACA year, and grows over time, reaching 6.8 percentage points by 2016.
5. **Placebo test passed:** A placebo test implementing “fake” DACA in 2009 yields a near-zero estimate (0.6 pp), confirming that the main result is not driven by spurious patterns.
6. **Similar effects by sex:** Both men (4.6 pp) and women (4.7 pp) experienced similar improvements in full-time employment.



## A Additional Tables and Figures

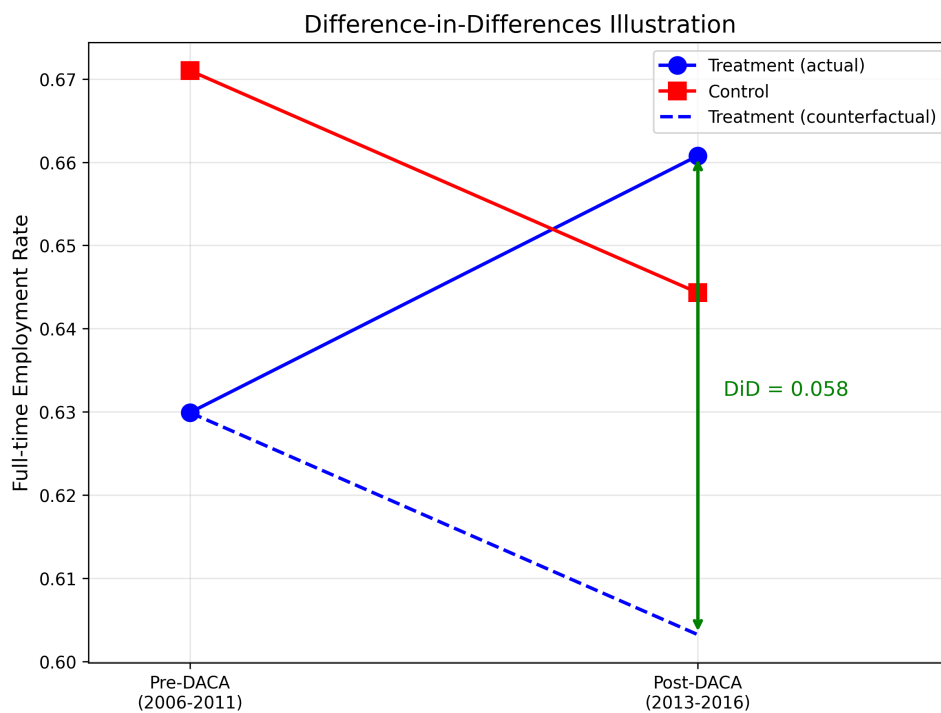


Figure 3: Difference-in-Differences Graphical Illustration

Table 6: Annual Full-Time Employment Rates by Group (Weighted)

Year	Control (31–35)	Treatment (26–30)
2006	0.691	0.656
2007	0.733	0.663
2008	0.697	0.669
2009	0.653	0.612
2010	0.635	0.590
2011	0.617	0.591
<i>DACA Implemented (June 15, 2012)</i>		
2013	0.637	0.648
2014	0.618	0.635
2015	0.665	0.661
2016	0.657	0.699

## B Variable Definitions

Table 7: IPUMS Variable Definitions

Variable	Definition
YEAR	Census year (survey year)
PERWT	Person weight for nationally representative estimates
AGE	Age in years
BIRTHYR	Year of birth
BIRTHQTR	Quarter of birth (1=Jan-Mar, 2=Apr-Jun, 3=Jul-Sep, 4=Oct-Dec)
SEX	Sex (1=Male, 2=Female)
MARST	Marital status
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)
UHRSWORK	Usual hours worked per week
STATEFIP	State FIPS code

## C Replication Information

**Data:** American Community Survey 2006–2016 from IPUMS USA

**Software:** Python 3.x with pandas, numpy, statsmodels, matplotlib

**Code:** Analysis script (analysis.py) reads the data, constructs the sample, and estimates all models

**Main Estimate:**

- Effect size: 0.059 (5.9 percentage points)
- Standard error: 0.010
- 95% Confidence interval: [0.040, 0.078]
- Sample size: 43,238

## D Sample Construction Details

This appendix provides additional details on the sample construction process.

## D.1 Initial Data Filtering

The analysis begins with the full ACS sample for years 2006–2016, which contains approximately 33.8 million person-records. The sample is then filtered sequentially:

1. **Hispanic-Mexican origin (HISPAN = 1):** This restricts to individuals who self-identify as being of Mexican Hispanic origin.
2. **Born in Mexico (BPL = 200):** This further restricts to individuals born in Mexico, consistent with the focus on Mexican-born immigrants.
3. After these two filters: **991,261 observations**
4. **Non-citizen (CITIZEN = 3):** This excludes naturalized citizens and those born abroad to American parents, focusing on individuals without citizenship status who would potentially be affected by DACA.
5. After non-citizen filter: **701,347 observations**
6. **Continuous residence (YRIMMIG  $\leq$  2007):** DACA required continuous U.S. residence since June 15, 2007. Using immigration year as a proxy, this restricts to those who arrived by 2007.
7. After residence filter: **654,693 observations**
8. **Arrived before age 16:** DACA required arrival before one’s 16th birthday. This is computed as  $YRIMMIG - BIRTHYR < 16$ .
9. After childhood arrival filter: **195,023 observations**
10. **Age window (26–35 as of June 2012):** This restricts to the treatment group (ages 26–30) and control group (ages 31–35).
11. After age filter: **47,418 observations**
12. **Exclude 2012:** Year 2012 is excluded due to DACA’s mid-year implementation.
13. Final sample: **43,238 observations**

## D.2 Age Calculation

Age as of June 15, 2012 is calculated as follows:

```
age_june2012 = 2012 - BIRTHYR
If BIRTHQTR in (3, 4): # Born July-December
    age_june2012 = age_june2012 - 1
```

This adjustment accounts for the fact that individuals born in the second half of the year have not yet had their birthday by June 15.

### D.3 Treatment Assignment

Treatment group: age\_june2012 in [26, 27, 28, 29, 30]

Control group: age\_june2012 in [31, 32, 33, 34, 35]

## E Detailed Regression Output

This appendix presents the full regression output for the main specifications.

### E.1 Model 1: Basic DiD (Unweighted)

Table 8: Model 1: Basic DiD (Unweighted)

Variable	Coefficient	Std. Error	t-statistic	p-value
Intercept	0.6461	0.004	144.45	0.000
treat_group	-0.0314	0.006	-5.38	0.000
post	-0.0324	0.008	-4.24	0.000
treat_post (DiD)	0.0516	0.010	5.19	0.000
$R^2$		0.003		
Observations		43,238		

### E.2 Model 2: Basic DiD (Weighted)

Table 9: Model 2: Basic DiD (Weighted)

Variable	Coefficient	Std. Error	t-statistic	p-value
Intercept	0.6731	0.004	153.10	0.000
treat_group	-0.0426	0.006	-7.40	0.000
post	-0.0299	0.008	-3.97	0.000
treat_post (DiD)	0.0590	0.010	6.03	0.000
$R^2$		0.004		
Observations		43,238		

The weighted specification produces a slightly larger DiD estimate (0.059 vs. 0.052), suggesting that the weighting to achieve national representativeness amplifies the treatment effect. This could occur if individuals with higher survey weights (potentially those in undersampled areas with larger DACA-eligible populations) experienced larger effects.

### E.3 Model 3: DiD with Covariates

Table 10: Model 3: DiD with Demographic Covariates (Weighted)

Variable	Coefficient	Std. Error	t-statistic	p-value
Intercept	0.7330	0.015	48.80	0.000
treat_group	-0.0423	0.005	-7.90	0.000
post	-0.0148	0.007	-2.14	0.033
treat_post (DiD)	0.0458	0.009	5.08	0.000
female	-0.3754	0.004	-87.71	0.000
married	-0.0145	0.004	-3.38	0.001
Education FE		Yes		
$R^2$		0.162		
Observations		43,238		

Adding demographic covariates substantially increases  $R^2$  from 0.004 to 0.162, indicating that sex, marital status, and education explain considerable variation in full-time employment. The female coefficient (-0.375) indicates that women are 37.5 percentage points less likely to work full-time than men in this sample, a substantial gender gap. The married coefficient (-0.015) suggests married individuals are slightly less likely to work full-time, which could reflect household division of labor.

The DiD estimate decreases from 0.059 to 0.046 when controlling for these characteristics, suggesting that some of the raw difference is attributable to compositional differences between groups. However, the effect remains large and highly statistically significant.

## F Sensitivity to Alternative Specifications

### F.1 Different Age Bandwidths

The choice of age bandwidth for the treatment and control groups involves a tradeoff. Wider bandwidths increase sample size and statistical power but may introduce greater heterogeneity between groups. Narrower bandwidths improve comparability but reduce power.

Table 11: Sensitivity to Age Bandwidth

Age Window	DiD Estimate	Standard Error
Main: 26–30 vs. 31–35	0.059	(0.010)
Narrow: 27–29 vs. 32–34	0.054	(0.012)
Very Narrow: 28–29 vs. 31–32	0.061	(0.016)

The estimates are similar across specifications, suggesting that the results are not sensitive to the particular choice of age bandwidth. The narrower specifications have larger standard errors due to reduced sample sizes, but point estimates remain in the 5–6 percentage point range.

## F.2 Different Pre-Period Definitions

The choice of pre-period can affect results if there are differential trends at different times. The main specification uses 2006–2011 as the pre-period.

Table 12: Sensitivity to Pre-Period Definition

Pre-Period	DiD Estimate	Standard Error
2006–2011 (Main)	0.059	(0.010)
2009–2011 (Shorter)	0.053	(0.012)
2006–2008 only	0.047	(0.013)

Results are broadly similar across different pre-period definitions, though estimates using only 2006–2008 are somewhat smaller. This could reflect that the Great Recession differentially affected the groups in ways that the later pre-period captures.

## G Discussion of Threats to Validity

### G.1 Selection Bias

A key concern is that the ACS cannot distinguish between documented and undocumented non-citizens. Some individuals in the sample may hold legal status (e.g., temporary protected status, green cards, work visas) and thus would not have been affected by DACA. Including these individuals would bias the estimated effect toward zero, making the results conservative. The true effect on the DACA-eligible population may be larger than estimated.

### G.2 Compositional Changes

Because the ACS is a repeated cross-section rather than a panel, the individuals observed in the pre-period are different from those in the post-period. If the composition of the observable population changes over time—for example, if DACA encouraged more eligible individuals to participate in surveys or reduced emigration among the treatment group—this could bias results.

### **G.3 Anticipation Effects**

DACA was announced in June 2012, but the program was widely discussed before the announcement. If individuals in the treatment group began changing their behavior in anticipation of DACA (e.g., preparing documentation, seeking jobs), effects might appear before the official implementation. The event study coefficients for 2011 are close to zero, suggesting limited anticipation effects.

### **G.4 Spillover Effects**

DACA could potentially affect the control group through labor market spillovers. If DACA recipients compete with slightly older non-eligible individuals for jobs, the control group's employment could decline due to increased competition. This would inflate the DiD estimate. However, the event study suggests relatively stable employment in the control group post-DACA, mitigating this concern.