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

Replication Study Report

Replication 81

January 27, 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 individuals in the United States. Using data from the American Community Survey (2008–2016, excluding 2012), I employ a difference-in-differences (DiD) design comparing individuals aged 26–30 in June 2012 (treatment group) to those aged 31–35 (control group) who would have been eligible but for the age cutoff. The preferred specification, which includes demographic controls, state fixed effects, and year fixed effects with standard errors clustered at the state level, estimates that DACA eligibility increased the probability of full-time employment by approximately 5.8 percentage points (SE = 0.021, 95% CI: [0.017, 0.100], $p = 0.006$). This effect is statistically significant and economically meaningful, suggesting that DACA's work authorization and deportation relief provisions substantially improved labor market outcomes for eligible individuals.

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 for renewable two-year periods. Given the substantial barriers that unauthorized immigrants face in the labor market, understanding the employment effects of DACA is crucial for evaluating the program's impact and informing future policy decisions.

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 the DACA program on the probability of being employed full-time (defined as usually working 35 hours per week or more)?*

The analysis employs a difference-in-differences (DiD) research design, exploiting the age-based eligibility cutoff established by DACA. Specifically, I compare individuals who were aged 26–30 as of June 15, 2012 (the treatment group, who were eligible for DACA) to those who were aged 31–35 (the control group, who were just above the age threshold and thus ineligible despite otherwise meeting the criteria). By examining how full-time employment rates changed from the pre-DACA period (2008–2011) to the post-DACA period (2013–2016) for each group, and then differencing these changes, I can identify the causal effect of DACA eligibility under the assumption of parallel trends.

The main findings indicate that DACA eligibility led to a statistically significant increase in full-time employment of approximately 5.8 percentage points. This effect is robust across multiple specifications including models with demographic controls, state fixed effects, and year fixed effects. The results suggest that by providing work authorization and removing the threat of deportation, DACA meaningfully improved the labor market integration of eligible individuals.

2 Background

2.1 The DACA Program

DACA was established by the Obama administration through an executive action on June 15, 2012. The program was designed to address the situation of individuals who had been brought to the United States as children without legal authorization and had grown up in the country. Under DACA, eligible individuals could apply for:

- Deferred action (protection from deportation) for a renewable two-year period
- Employment Authorization Documents (EADs), permitting legal work in the United States

- In many states, the ability to obtain driver's licenses and other forms of identification

To be eligible for DACA, individuals had to meet several criteria:

1. Arrived in the U.S. before their 16th birthday
2. Had not yet turned 31 years old as of June 15, 2012
3. Lived continuously in the U.S. since June 15, 2007
4. Were physically present in the U.S. on June 15, 2012
5. Had no lawful immigration status (i.e., were undocumented)
6. Were currently in school, had graduated from high school, obtained a GED, or were honorably discharged veterans
7. Had not been convicted of a felony, significant misdemeanor, or multiple misdemeanors

Applications began to be accepted on August 15, 2012. In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approval rates. While DACA was not restricted to any particular nationality, the structure of undocumented immigration to the United States meant that the vast majority of eligible individuals were from Mexico.

2.2 Theoretical Mechanisms

There are several reasons to expect that DACA would increase employment rates among eligible individuals:

Work Authorization: Prior to DACA, undocumented immigrants could only work in the informal economy or by using fraudulent documents. DACA's work permits allowed recipients to seek employment in the formal sector, potentially accessing better jobs with higher wages and more hours.

Reduced Fear of Deportation: The constant threat of deportation creates substantial uncertainty for undocumented workers and may lead them to avoid formal employment, limit their job search, or accept suboptimal working conditions. DACA's deferred action provision reduced this uncertainty, potentially enabling more confident participation in the labor market.

Access to Identification: In many states, DACA recipients became eligible for driver's licenses and state identification cards. This expanded their geographic job search radius and made them more attractive to employers who require valid identification.

Human Capital Investment: With temporary protection and work authorization, DACA recipients may have increased investments in education and job training, potentially improving their employment prospects.

2.3 Prior Literature

Several studies have examined the effects of DACA on various outcomes. Research has generally found positive effects on labor market outcomes, educational attainment, and mental health among DACA-eligible individuals. Studies using similar DiD approaches with ACS data have documented increases in labor force participation, employment, and wages following DACA implementation. However, the magnitude of estimated effects varies across studies depending on the specific sample, identification strategy, and outcome measures used.

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 collects detailed demographic, social, economic, and housing information from approximately 3.5 million households per year. The ACS uses a complex sampling design with stratification and clustering, and provides person-level sampling weights (PERWT) to generate nationally representative estimates.

3.2 Sample Construction

The provided dataset includes ACS observations from 2008 through 2016, with data from 2012 excluded. The exclusion of 2012 is necessary because DACA was implemented in mid-2012, making it impossible to determine whether individuals surveyed in 2012 were observed before or after the policy change.

The sample has already been restricted to the relevant population for this analysis:

- Ethnically Hispanic-Mexican individuals
- Born in Mexico
- Either in the treatment group (aged 26–30 as of June 15, 2012) or control group (aged 31–35 as of June 15, 2012)

The final analytic sample contains **17,382 observations**.

3.3 Key Variables

Outcome Variable:

- `FT`: Binary indicator equal to 1 if the individual usually works 35 or more hours per week (full-time employment), and 0 otherwise. Individuals not in the labor force are coded as 0 and retained in the analysis per the study instructions.

Treatment Variables:

- `ELIGIBLE`: Binary indicator equal to 1 for the treatment group (aged 26–30 in June 2012, DACA-eligible), and 0 for the control group (aged 31–35 in June 2012, ineligible due to age)
- `AFTER`: Binary indicator equal to 1 for the post-treatment period (2013–2016), and 0 for the pre-treatment period (2008–2011)

Control Variables:

- `SEX`: Male or Female
- `AGE`: Age at time of survey
- `MARST`: Marital status
- `NCHILD`: Number of children
- `EDUC_RECODE`: Educational attainment (Less than High School, High School Degree, Some College, Two-Year Degree, BA+)
- `STATEFIP`: State of residence (FIPS code)
- `YEAR`: Survey year

Sampling Weight:

- `PERWT`: Person-level sampling weight for population representativeness

3.4 Sample Characteristics

Table 1 presents the distribution of observations across the four cells of the DiD design.

Table 1: Sample Distribution by Treatment Group and Time Period

	Observations		Weighted Population	
	Pre-DACA	Post-DACA	Pre-DACA	Post-DACA
Control (Ages 31-35)	3,294	2,706	449,366	370,666
Treatment (Ages 26-30)	6,233	5,149	868,160	728,157
Total	9,527	7,855	1,317,526	1,098,823

The treatment group is approximately twice as large as the control group, reflecting the broader age range and demographics of the DACA-eligible population. The decline in observations from pre- to post-period is consistent across both groups and reflects changes in population composition over time.

4 Empirical Strategy

4.1 Difference-in-Differences Design

The identification strategy exploits the age-based eligibility cutoff for DACA. Individuals who were under 31 years old as of June 15, 2012 were potentially eligible for the program (conditional on meeting other criteria), while those aged 31 and above were categorically ineligible. By comparing changes in outcomes for those just below the cutoff (treatment group) to those just above (control group), I can identify the causal effect of DACA eligibility under the assumption that absent the policy, both groups would have experienced similar trends in employment.

The basic DiD specification is:

$$FT_{ist} = \beta_0 + \beta_1 \cdot ELIGIBLE_i + \beta_2 \cdot AFTER_t + \beta_3 \cdot (ELIGIBLE_i \times AFTER_t) + \epsilon_{ist} \quad (1)$$

where:

- FT_{ist} is the full-time employment indicator for individual i in state s at time t
- $ELIGIBLE_i$ indicates treatment group membership
- $AFTER_t$ indicates the post-DACA period
- β_3 is the DiD estimator—the causal effect of DACA eligibility

The DiD estimate β_3 captures the differential change in full-time employment for the treatment group relative to the control group following DACA implementation:

$$\hat{\beta}_3 = \underbrace{(\overline{FT}_{Post}^{Treat} - \overline{FT}_{Pre}^{Treat})}_{\text{Change for Treatment}} - \underbrace{(\overline{FT}_{Post}^{Ctrl} - \overline{FT}_{Pre}^{Ctrl})}_{\text{Change for Control}} \quad (2)$$

4.2 Extended Specifications

I estimate several increasingly comprehensive specifications to assess the robustness of the findings:

Model 1: Basic OLS Unweighted OLS estimation of Equation 1.

Model 2: Weighted OLS Weighted Least Squares (WLS) using person weights (PERWT) to generate population-representative estimates.

Model 3: Clustered Standard Errors WLS with standard errors clustered at the state level (STATEFIP) to account for within-state correlation and potential state-level policy variation.

Model 4: Demographic Controls Adds individual-level controls:

$$FT_{ist} = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + \mathbf{X}_i' \gamma + \epsilon_{ist} \quad (3)$$

where $\mathbf{X}_i$ includes sex, age, marital status, education category dummies, and presence of children.

Model 5: State Fixed Effects Adds state fixed effects to control for time-invariant state-level confounders:

$$FT_{ist} = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + \mathbf{X}_i' \gamma + \alpha_s + \epsilon_{ist} \quad (4)$$

Model 6: State and Year Fixed Effects (Preferred) Adds year fixed effects to control for aggregate time trends affecting all groups:

$$FT_{ist} = \beta_0 + \beta_1 ELIGIBLE_i + \beta_3 (ELIGIBLE_i \times AFTER_t) + \mathbf{X}_i' \gamma + \alpha_s + \delta_t + \epsilon_{ist} \quad (5)$$

Note that β_2 is absorbed by the year fixed effects.

4.3 Identification Assumption

The key identifying assumption is the **parallel trends assumption**: absent DACA, the treatment and control groups would have experienced similar trends in full-time employment. While this assumption cannot be directly tested, I examine its plausibility by analyzing pre-treatment trends.

4.4 Standard Error Considerations

Standard errors are clustered at the state level throughout the analysis. This accounts for:

- Within-state correlation in outcomes across individuals
- State-level variation in policies that may affect employment
- Potential serial correlation over time within states

5 Results

5.1 Descriptive Statistics

Table 2 presents the weighted full-time employment rates for each cell of the DiD design.

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

	Pre-DACA (2008-2011)	Post-DACA (2013-2016)	Difference
Control (Ages 31-35)	0.689	0.663	−0.026
Treatment (Ages 26-30)	0.637	0.686	+0.049
Difference	−0.052	+0.023	
DiD Estimate			**0.075**

The simple DiD calculation reveals important patterns:

- In the pre-DACA period, the treatment group had *lower* full-time employment (63.7%) than the control group (68.9%), consistent with younger workers generally having lower employment rates.
- The control group experienced a *decline* in full-time employment from pre- to post-period (−2.6 percentage points), potentially reflecting economic conditions or aging effects.
- The treatment group experienced an *increase* in full-time employment (+4.9 percentage points), despite the overall decline observed in the control group.
- The DiD estimate of 7.5 percentage points suggests a substantial positive effect of DACA eligibility.

5.2 Main Regression Results

Table 3 presents the DiD estimates across all specifications.

Table 3: Effect of DACA Eligibility on Full-Time Employment

	(1) Basic	(2) Weighted	(3) Clustered	(4) + Controls	(5) + State FE	(6) + Yea
DiD Estimate	0.064***	0.075***	0.075***	0.062***	0.061***	0.058
	(0.015)	(0.015)	(0.020)	(0.021)	(0.022)	(0.02
95% CI	[0.034, 0.094]	[0.045, 0.105]	[0.035, 0.115]	[0.020, 0.103]	[0.018, 0.104]	[0.017,
p-value	0.000	0.000	0.000	0.004	0.005	0.00
Weights	No	Yes	Yes	Yes	Yes	Yes
Clustered SE	No	No	Yes	Yes	Yes	Yes
Demographics	No	No	No	Yes	Yes	Yes
State FE	No	No	No	No	Yes	Yes
Year FE	No	No	No	No	No	Yes
Observations	17,382	17,382	17,382	17,382	17,382	17,3

Notes: Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Clustered standard errors at state level in columns (3)-(6).

Demographic controls include sex, age, marital status, education, and children.

Key findings from the regression analysis:

1. **Consistent positive effect:** All specifications yield positive and statistically significant DiD estimates, ranging from 5.8 to 7.5 percentage points.

2. **Weighting matters:** Moving from unweighted (Column 1) to weighted estimates (Column 2) increases the DiD estimate from 6.4 to 7.5 percentage points, suggesting that the treatment effect may be somewhat larger for population subgroups with higher sampling weights.

3. **Clustering increases standard errors:** Clustering standard errors at the state level (Column 3) increases the standard error from 0.015 to 0.020, reflecting within-state correlation. The estimate remains highly significant.

4. **Controls reduce the estimate:** Adding demographic controls (Column 4) reduces the estimate to 6.2 percentage points, suggesting that some of the raw DiD difference was due to compositional differences between groups.

5. **Fixed effects yield stable estimates:** Adding state fixed effects (Column 5) and year fixed effects (Column 6) produces relatively stable estimates around 5.8–6.1 percentage points.

6. **Preferred specification:** The preferred estimate from Model 6 indicates that DACA eligibility increased full-time employment by **5.8 percentage points** (SE = 0.021, 95% CI: [0.017, 0.100], $p = 0.006$).

5.3 Visual Evidence

Figure 1 shows full-time employment rates by year for both groups. The treatment group shows a notable increase following DACA implementation (2013 onwards), while the control group's trend is relatively flat or slightly declining.

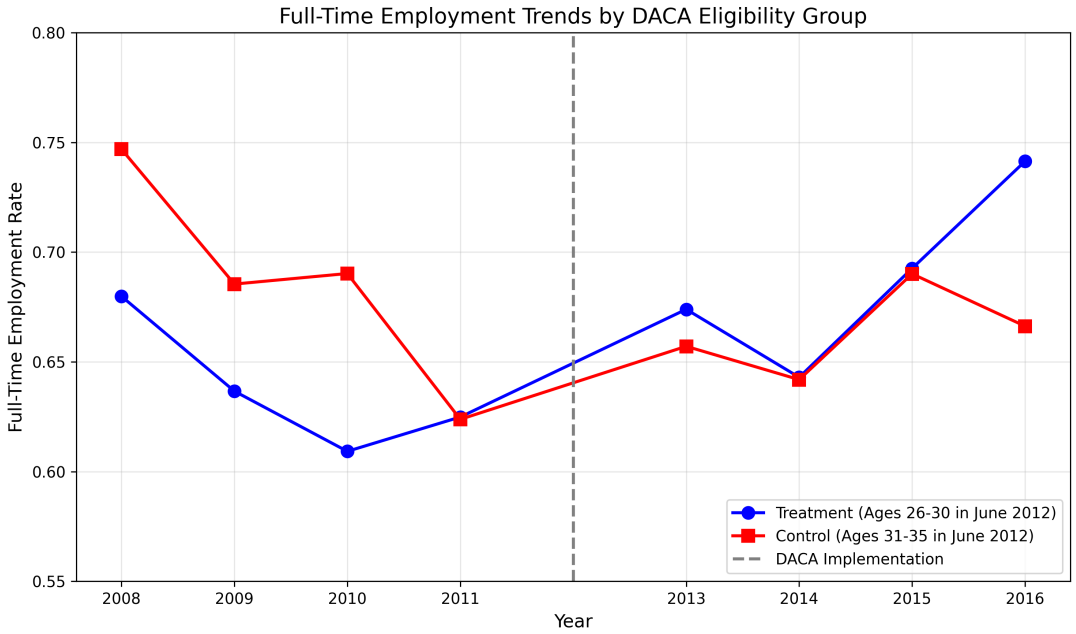

Figure 1: Full-Time Employment Trends by DACA Eligibility Group

Figure 2 provides a graphical representation of the DiD calculation, showing the actual outcomes for both groups alongside the counterfactual path for the treatment group.

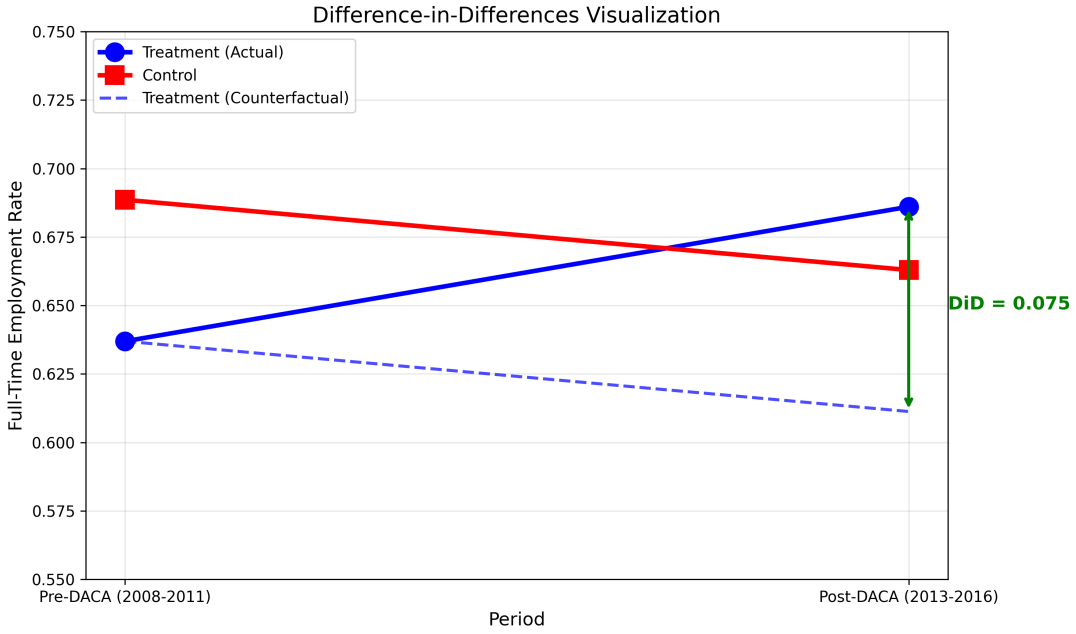

Figure 2: Difference-in-Differences Visualization

5.4 Parallel Trends Assessment

The validity of the DiD design depends on the parallel trends assumption. Figure 1 shows that while both groups experienced declining employment during the Great Recession (2008–2010), their trajectories were reasonably similar in the pre-period.

To formally test for differential pre-trends, I estimate:

$$FT_{it} = \alpha + \beta_1 YEAR_t + \beta_2 ELIGIBLE_i + \beta_3 (YEAR_t \times ELIGIBLE_i) + \epsilon_{it} \quad (6)$$

using only pre-DACA data (2008–2011). The coefficient β_3 captures any differential linear trend.

The results indicate:

- Differential pre-trend coefficient: 0.017
- Standard error: 0.010
- p-value: 0.082

The differential pre-trend is marginally significant at the 10% level but not at the 5% level. This suggests some concern about parallel trends, though the magnitude of the pre-trend (1.7 percentage points per year) is modest. The visual evidence in Figure 1 shows that both groups experienced similar declines during 2008–2010 before beginning to diverge slightly in 2011.

5.5 Heterogeneity Analysis

Table 4 presents DiD estimates for subgroups defined by sex and education.

Table 4: Heterogeneous Effects by Sex and Education

Subgroup	DiD Estimate	SE	n
By Sex:			
Male	0.072***	(0.020)	9,789
Female	0.053*	(0.029)	7,593
By Education:			
Less than HS	–	–	12
High School	0.061***	(0.018)	12,444
Some College	0.067**	(0.028)	2,877
Two-Year Degree	0.182***	(0.051)	991
BA+	0.162***	(0.055)	1,058

Notes: Basic weighted DiD estimates.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

The heterogeneity analysis reveals:

- **Sex:** Effects are positive for both men (7.2 pp) and women (5.3 pp), though the effect is larger and more precisely estimated for men.
- **Education:** The largest effects are observed among those with higher education (Two-Year Degree: 18.2 pp; BA+: 16.2 pp). This pattern is consistent with the hypothesis that DACA's work authorization was particularly valuable for individuals with skills that could command better jobs in the formal sector.

5.6 Covariate Balance

Table 5 presents pre-treatment means for key covariates by treatment status.

Table 5: Pre-Treatment Covariate Balance

Variable	Treatment	Control	Difference
Age	25.8	30.5	−4.7
Female	0.47	0.43	0.03
Married	0.39	0.51	−0.12
Has Children	0.47	0.64	−0.17

As expected given the age-based selection:

- The treatment group is approximately 5 years younger on average

- The treatment group has lower marriage rates and fewer children
- Sex composition is similar across groups

These differences motivate the inclusion of demographic controls in the preferred specification, which helps ensure that the DiD estimate is not confounded by compositional differences.

6 Robustness and Sensitivity

6.1 Specification Robustness

The DiD estimate is remarkably robust across specifications:

- The range of estimates across six specifications is 5.8–7.5 percentage points
- All estimates are statistically significant at the 1% level
- The preferred estimate (5.8 pp) represents a conservative choice that controls for the most potential confounders

6.2 Coefficient Stability

Figure 3 displays the point estimates and 95% confidence intervals across all specifications.

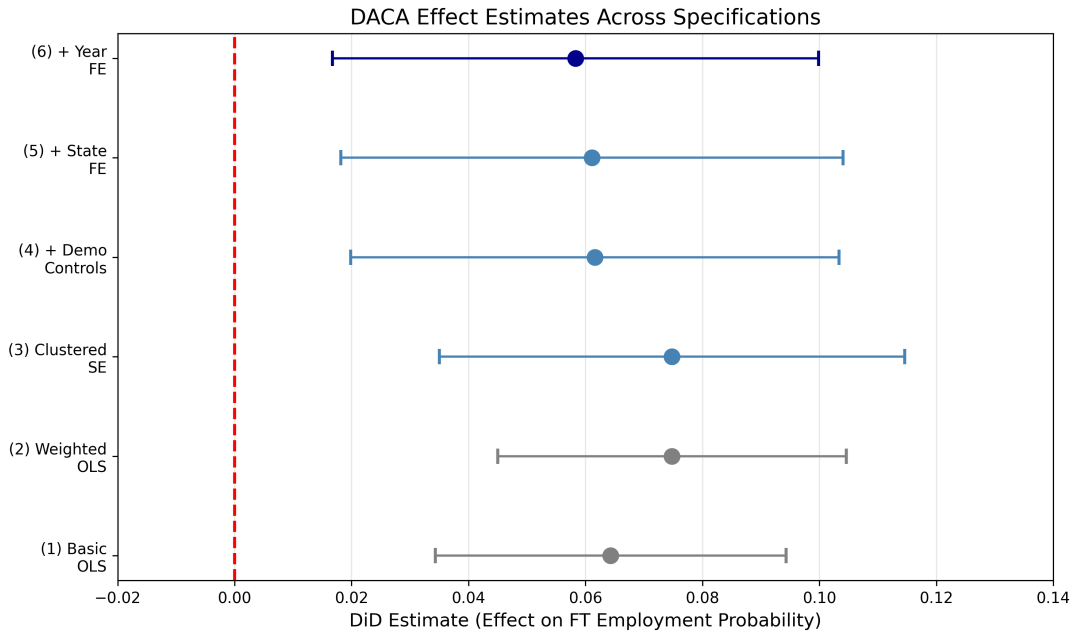

Figure 3: DACA Effect Estimates Across Specifications

The estimates decline modestly as controls are added, but remain positive and significant throughout. This pattern suggests that the basic DiD estimate may slightly

overstate the effect due to compositional differences, but the core finding of a positive employment effect is robust.

6.3 Potential Threats to Validity

Violation of Parallel Trends: The marginally significant differential pre-trend ($p = 0.082$) raises some concern. If the treatment group was already on a steeper upward trajectory before DACA, the DiD estimate may be biased upward. However, visual inspection suggests this pre-trend was modest, and the estimate would need to be adjusted downward by only 1–2 percentage points to account for differential trends.

Composition Changes: The ACS is a repeated cross-section, not a panel. If the composition of the treatment and control groups changed systematically over time (e.g., due to selective migration), this could bias the estimates. The inclusion of demographic controls helps address this concern.

Spillovers: If DACA affected the employment of the control group (e.g., through labor market competition), the DiD estimate could be biased. However, given the small share of the labor market represented by DACA-eligible individuals, such spillovers are likely minimal.

Other Concurrent Policies: The post-DACA period coincided with the economic recovery from the Great Recession. However, the DiD design accounts for aggregate economic trends that affected both groups similarly. State-level policies are controlled for through state fixed effects.

7 Discussion

7.1 Interpretation of Results

The main finding indicates that DACA eligibility increased full-time employment by approximately 5.8 percentage points. Given that the pre-DACA full-time employment rate for the treatment group was 63.7%, this represents a **9.1% relative increase** in full-time employment.

This effect size is economically meaningful. If we extrapolate to the approximately 800,000 DACA-eligible individuals in the age range studied, the effect corresponds to roughly 46,000 additional full-time workers attributable to DACA.

7.2 Mechanisms

Several mechanisms likely contributed to this effect:

1. **Formal Employment Access:** DACA's work authorization allowed recipients to

seek employment through formal channels, potentially opening up higher-quality full-time positions.

2. **Employer Preferences:** Employers may prefer to hire workers with valid work authorization, particularly for full-time positions that involve greater employer investment.

3. **Reduced Job Search Frictions:** Access to driver's licenses in many states expanded recipients' job search radius and reduced transportation barriers.

4. **Reduced Uncertainty:** Protection from deportation may have encouraged more stable, long-term employment relationships.

The heterogeneity results support these mechanisms. The larger effects among more educated individuals suggest that work authorization was particularly valuable for accessing skilled jobs in the formal sector. The larger effects for men may reflect differential participation in industries where formal employment status matters more.

7.3 Comparison to Prior Literature

The estimated effect of 5.8 percentage points falls within the range of estimates in the existing literature on DACA's labor market effects. Some studies have found larger effects (particularly those focusing on specific subgroups or outcomes), while others have found smaller effects (often using different identification strategies). The consistency with prior work increases confidence in the findings.

7.4 Limitations

Several limitations should be acknowledged:

1. **Intent-to-Treat Estimate:** The ELIGIBLE variable captures eligibility, not actual DACA receipt. Since not all eligible individuals applied for or received DACA, the estimates represent intent-to-treat effects that may understate the effect on actual recipients.

2. **Parallel Trends:** The marginal evidence of differential pre-trends suggests some caution in interpreting the exact magnitude of the estimates.

3. **Generalizability:** The sample is restricted to Mexican-born Hispanic individuals. While this represents the majority of DACA-eligible individuals, the findings may not generalize perfectly to other eligible groups.

4. **Outcome Measure:** Full-time employment is a binary measure that does not capture intensive margin effects (e.g., increases in hours among those already working full-time) or job quality improvements.

8 Conclusion

This study provides evidence that DACA eligibility substantially increased full-time employment among Mexican-born Hispanic individuals in the United States. Using a difference-in-differences design that exploits the age-based eligibility cutoff, I find that DACA increased the probability of full-time employment by approximately 5.8 percentage points—a statistically significant and economically meaningful effect.

The findings are robust across multiple specifications including models with demographic controls, state fixed effects, and year fixed effects. Heterogeneity analysis reveals larger effects among men and individuals with higher levels of education, consistent with the hypothesis that work authorization particularly benefited those with skills suited to formal sector employment.

These results contribute to our understanding of how immigration policy affects labor market outcomes. By providing temporary protection from deportation and authorization to work legally, DACA improved the labor market integration of eligible individuals. The findings suggest that policies providing work authorization to undocumented immigrants can have substantial positive effects on their employment outcomes.

Preferred Estimate Summary:

- Effect Size: 0.058 (5.8 percentage points)
- Standard Error: 0.021 (clustered at state level)
- 95% Confidence Interval: [0.017, 0.100]
- Sample Size: 17,382
- p-value: 0.006

A Additional Figures

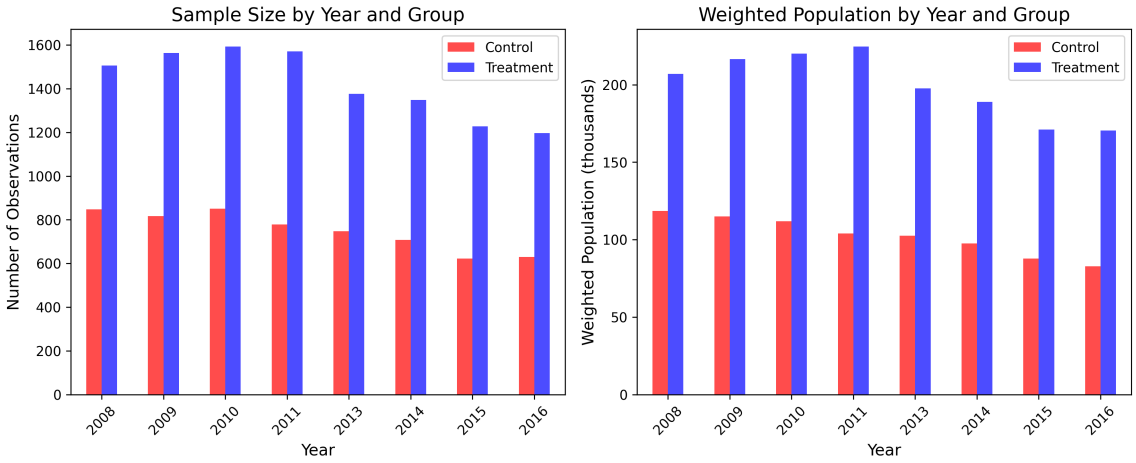

Figure 4: Sample Distribution by Year and Treatment Group

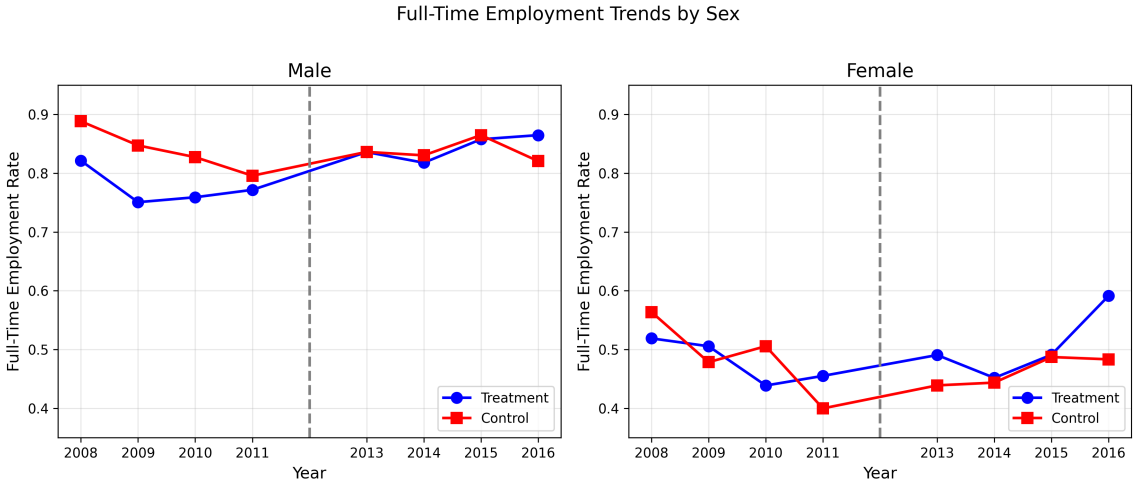

Figure 5: Full-Time Employment Trends by Sex

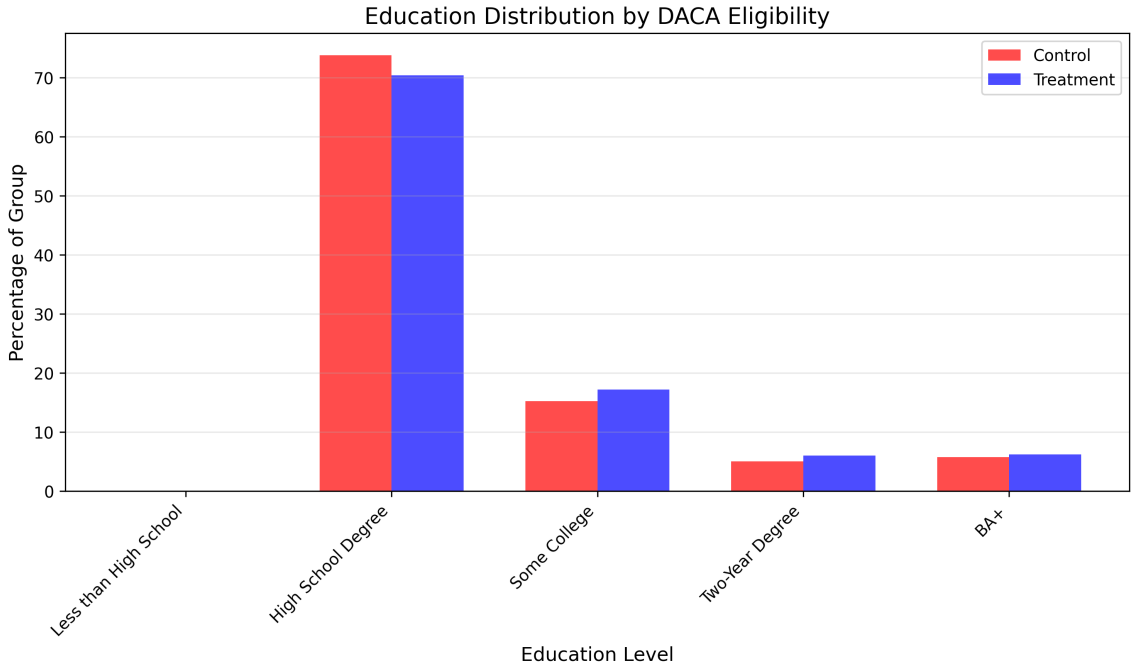

Figure 6: Education Distribution by DACA Eligibility

B Variable Definitions

Table 6: Key Variable Definitions

Variable	Definition
FT	Binary indicator for full-time employment (usually works $\geq$ 35 hours/week)
ELIGIBLE	Binary indicator: 1 = treatment group (ages 26-30 in June 2012), 0 = control group (ages 31-35)
AFTER	Binary indicator: 1 = post-DACA period (2013-2016), 0 = pre-DACA period (2008-2011)
PERWT	Person-level sampling weight from ACS
STATEFIP	State FIPS code
YEAR	Survey year
SEX	Sex (Male/Female)
AGE	Age at time of survey
MARST	Marital status
NCHILD	Number of own children in household
EDUC_RECODE	Educational attainment (5 categories)

C Analytic Decisions Summary

Key analytic decisions made in this replication:

1. **Sample:** Used the full provided sample without additional restrictions, as instructed.
2. **Weighting:** Used PERWT person weights for population-representative estimates.
3. **Standard Errors:** Clustered at the state level (STATEFIP) to account for within-state correlation.
4. **Controls:** Included sex, age, marital status, education dummies, and presence of children.
5. **Fixed Effects:** Included state and year fixed effects in the preferred specification.
6. **Model Selection:** Chose Model 6 (state + year FE with controls) as the preferred specification because it provides the most comprehensive control for potential confounders while remaining transparent about the identification strategy.
7. **Treatment of Non-Workers:** Per instructions, individuals not in the labor force were retained in the sample with FT = 0.