Replication Report: The Effect of DACA Eligibility on Full-Time Employment Among Mexican-Born Hispanics in the United States

Independent Replication #38

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Abstract

This report presents an independent replication analysis examining the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on the probability of full-time employment among Mexican-born Hispanic individuals in the United States. Using a difference-in-differences design, I compare individuals aged 26–30 at DACA implementation (treatment group) to those aged 31–35 (control group) using American Community Survey data from 2008–2011 (pre-DACA) and 2013–2016 (post-DACA). The preferred specification, which includes year and state fixed effects, individual covariates, survey weights, and state-clustered standard errors, yields an estimated treatment effect of 5.9 percentage points (95% CI: [1.8, 10.1], $p = 0.005$). This suggests that DACA eligibility significantly increased full-time employment among eligible individuals. The results are robust across multiple specifications, though pre-trend analysis suggests some caution in interpretation.

Contents

1 Introduction

1.1 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 provided a selected set of undocumented immigrants who had arrived unlawfully in the US the opportunity to apply for and obtain authorization to work legally for two years without fear of deportation. Because the program offers legal work authorization and also allows recipients to apply for drivers' licenses or other identification in some states, economic theory predicts that the program would increase employment rates among those eligible.

1.2 Eligibility Criteria

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

- Arrived unlawfully in the US before their 16th birthday
- Had not yet had their 31st birthday as of June 15, 2012
- Lived continuously in the US since June 15, 2007
- Were present in the US on June 15, 2012 and did not have lawful status (citizenship or legal residency) at that time

Applications for the program began to be received on August 15, 2012, and in the first four years nearly 900,000 initial applications were received, approximately 90% of which were approved. After the initial two years of work authorization, people could reapply for an additional two years.

1.3 Research Question

This replication 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 Deferred Action for Childhood Arrivals (DACA) program on the probability that the eligible person is employed full-time (defined as usually working 35 hours per week or more)?*

2 Research Design

2.1 Identification Strategy

This study employs a difference-in-differences (DiD) identification strategy. The key assumption underlying this approach is that, in the absence of DACA, the treatment and control groups would have experienced parallel trends in full-time employment rates.

2.2 Treatment and Control Groups

Treatment Group: Individuals who were ages 26–30 at the time when the policy went into place (June 15, 2012). These individuals were eligible for DACA based on the age criterion.

Control Group: Individuals who were ages 31–35 at the time the policy went into place. These individuals would have been eligible for DACA if not for their age exceeding the 31-year threshold.

This design exploits the arbitrary age cutoff at 31 years old as of June 15, 2012, comparing those just below the cutoff (eligible) to those just above (ineligible but otherwise similar).

2.3 Time Periods

Pre-Treatment Period: 2008–2011 (before DACA implementation)

Post-Treatment Period: 2013–2016 (after DACA implementation)

The year 2012 is excluded from analysis because it cannot be determined whether survey respondents from 2012 were observed before or after the June 15 implementation date.

2.4 Econometric Specification

The basic difference-in-differences model is specified as:

$$FT_i = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + \varepsilon_i \quad (1)$$

where:

- $FT_i = 1$ if individual i usually works 35+ hours per week, 0 otherwise
- $ELIGIBLE_i = 1$ if individual i was aged 26–30 on June 15, 2012
- $AFTER_t = 1$ if observation is from 2013–2016
- β_3 is the coefficient of interest (DiD estimate)

The preferred specification extends this model:

$$FT_i = \beta_0 + \beta_1 ELIGIBLE_i + \beta_3(ELIGIBLE_i \times AFTER_t) + \gamma_t + \delta_s + \mathbf{X}_i'\boldsymbol{\theta} + \varepsilon_i \qquad (2)$$

where:

- γ_t = year fixed effects
- δ_s = state fixed effects
- $\mathbf{X}_i$ = vector of individual covariates (sex, marital status, age, education)

Standard errors are clustered at the state level to account for within-state correlation.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS) as provided by IPUMS USA. The ACS is a large-scale, nationally representative survey conducted annually by the U.S. Census Bureau.

3.2 Sample Construction

The provided data file includes ACS data from 2008 through 2016, omitting all data from 2012. The sample has been pre-constructed to include:

- Ethnically Hispanic-Mexican individuals
- Mexican-born individuals
- Individuals meeting all DACA eligibility criteria except the age requirement

As instructed, no additional sample restrictions were applied; the entire provided file constitutes the analytic sample.

3.3 Key Variables

3.3.1 Outcome Variable

FT (Full-Time Employment): Binary indicator equal to 1 for anyone usually working 35 or more hours per week, and 0 otherwise. This variable captures full-time employment status regardless of whether the individual is formally employed, unemployed, or not in the labor force.

3.3.2 Treatment Indicators

ELIGIBLE: Binary indicator equal to 1 for individuals in the treatment group (ages 26–30 on June 15, 2012) and 0 for the control group (ages 31–35).

AFTER: Binary indicator equal to 1 for observations from years 2013–2016 (post-DACA period) and 0 for years 2008–2011 (pre-DACA period).

3.3.3 Covariates

The analysis includes the following covariates:

- **SEX**: Sex of respondent (1 = Male, 2 = Female in IPUMS coding)
- **MARST**: Marital status (1 = Married, spouse present)
- **AGE**: Age at time of survey
- **EDUC_RECODE**: Educational attainment (Less than High School, High School Degree, Some College, Two-Year Degree, BA+)
- **STATEFIP**: State FIPS code
- **YEAR**: Survey year

3.3.4 Survey Weight

PERWT: Person-level survey weight used to produce population-representative estimates.

3.4 Sample Description

Table 1 presents the sample distribution by treatment group and time period.

Table 1: Sample Sizes by Group and Time Period

	Pre-DACA (2008–2011)	**Post-DACA (2013–2016)**	**Total**
Treatment (Ages 26–30)	6,233	5,149	11,382
Control (Ages 31–35)	3,294	2,706	6,000
Total	9,527	7,855	17,382

Table 2 presents the sample distribution by year.

Table 2: Sample Size by Year

Year	**N**
2008	2,354
2009	2,379
2010	2,444
2011	2,350
2013	2,124
2014	2,056
2015	1,850
2016	1,825
Total	17,382

4 Descriptive Statistics

4.1 Age Distribution

Table 3 confirms that the treatment and control groups are correctly defined based on age at DACA implementation.

Table 3: Age at DACA Implementation (June 15, 2012)

Group	**Mean**	**Std. Dev.**	**Min**	**Max**
Treatment (Ages 26–30)	28.1	1.43	26.0	30.75
Control (Ages 31–35)	32.9	1.22	31.0	35.0

4.2 Demographic Characteristics

Table 4 presents demographic characteristics by treatment group.

Table 4: Demographic Characteristics by Treatment Group

Characteristic	**Treatment**	**Control**
Sex (%)		
Male	51.8	52.9
Female	48.2	47.1
Marital Status (%)		
Married, spouse present	41.8	51.6
Married, spouse absent	4.0	3.7
Separated	2.8	3.9
Divorced	3.9	6.7
Widowed	0.2	0.4
Never married	47.3	33.7
Education (%)		
Less than High School	0.5	0.5
High School Degree	70.4	73.8
Some College	17.2	15.3
Two-Year Degree	6.0	5.1
BA+	6.3	5.8

The groups are largely comparable, though the treatment group has a higher proportion of never-married individuals (47.3% vs. 33.7%), consistent with their younger ages.

4.3 Full-Time Employment Rates

Table 5 presents full-time employment rates by group and period, both unweighted and weighted using survey weights.

Table 5: Full-Time Employment Rates by Group and Period

	Pre-DACA	**Post-DACA**	**Change**
Unweighted			
Treatment (26–30)	0.6263	0.6658	+0.0394
Control (31–35)	0.6697	0.6449	−0.0248
DiD			**0.0643**
Weighted (PERWT)			
Treatment (26–30)	0.6369	0.6860	+0.0491
Control (31–35)	0.6886	0.6629	−0.0257
DiD			**0.0748**

The simple difference-in-differences calculation shows that full-time employment increased for the treatment group (+3.9 to +4.9 percentage points) while it declined for the control group (−2.5 percentage points), yielding a DiD estimate of 6.4 to 7.5 percentage points depending on weighting.

5 Main Results

5.1 Regression Results

Table 6 presents the main regression results across multiple specifications.

Table 6: Difference-in-Differences Regression Results

Model	DiD Estimate	SE	95% CI	p-value
(1) Basic (Unweighted)	0.0643	0.0153	[0.034, 0.094]	<0.001
(2) Basic (Weighted)	0.0748	0.0152	[0.045, 0.105]	<0.001
(3) Year FE (Weighted)	0.0721	0.0151	[0.042, 0.102]	<0.001
(4) Year + State FE (Weighted)	0.0710	0.0152	[0.041, 0.101]	<0.001
(5) Full Covariates	0.0592	0.0142	[0.031, 0.087]	<0.001
(6) Robust SE (HC1)	0.0592	0.0166	[0.027, 0.092]	<0.001
(7) State-Clustered SE	0.0592	0.0211	[0.018, 0.101]	0.005

Notes: The outcome variable is FT (full-time employment). Models 2–7 use survey weights (PERWT). Full covariates include sex, marital status, age, and education dummies. All models include a constant term.

5.2 Interpretation of Results

The coefficient of interest, β_3 on the interaction term $ELIGIBLE \times AFTER$, is consistently positive and statistically significant across all specifications. The estimates range from 0.059 to 0.075 depending on the specification.

Preferred Specification (Model 7): The preferred specification includes year and state fixed effects, individual covariates, survey weights, and state-clustered standard errors. This specification yields:

- **Effect Size**: 0.0592 (5.92 percentage points)
- **Standard Error**: 0.0211 (clustered at state level)
- **95% Confidence Interval**: [0.0177, 0.1006]
- **p-value**: 0.005

This suggests that DACA eligibility is associated with a statistically significant 5.9 percentage point increase in the probability of full-time employment among the treatment group relative to the control group.

5.3 Covariate Effects

Table 7 presents the estimated effects of covariates from the full model.

Table 7: Covariate Effects from Full Model (Model 5)

Variable	**Coefficient**	**SE**
ELIGIBLE	−0.0306	0.0113
ELIGIBLE × AFTER	0.0592	0.0142
Female	−0.2215	0.0080
Married	0.0788	0.0084
Age	0.0071	0.0017
High School Degree	0.0401	0.0362
Some College	0.0581	0.0370
Two-Year Degree	0.1028	0.0394
BA+	0.0855	0.0389

Notes: Education categories compared to "Less than High School" reference group. Year and state fixed effects included but not shown.

The covariate effects are consistent with economic theory:

- Being female is associated with a 22 percentage point lower probability of full-time employment
- Being married is associated with an 8 percentage point higher probability
- Each year of age is associated with a 0.7 percentage point increase
- Higher education levels are associated with higher full-time employment rates

6 Robustness Checks

6.1 Standard Error Specifications

Table 8 compares results across different standard error specifications.

Table 8: Comparison of Standard Error Specifications

SE Type	**DiD**	**SE**	**t-stat**	**p-value**
OLS (Homoskedastic)	0.0592	0.0142	4.17	<0.001
Heteroskedasticity-Robust (HC1)	0.0592	0.0166	3.56	<0.001
State-Clustered	0.0592	0.0211	2.81	0.005

The point estimate remains identical across specifications, as expected. The clustered standard errors are approximately 49% larger than the OLS standard errors, reflecting within-state correlation. Despite the larger standard errors, the effect remains statistically significant at conventional levels.

6.2 Alternative Model Specifications

The results are robust to:

1. Including/excluding survey weights
2. Including/excluding year fixed effects
3. Including/excluding state fixed effects
4. Including/excluding individual covariates

The estimates range from 0.059 to 0.075, all statistically significant at the 1% level.

7 Pre-Trends and Validity Assessment

7.1 Year-by-Year Employment Rates

Table 9 presents full-time employment rates by year and group.

Table 9: Weighted Full-Time Employment Rates by Year

Year	**Treatment**	**Control**	**Difference**
Pre-DACA Period			
2008	0.680	0.747	−0.067
2009	0.637	0.685	−0.049
2010	0.609	0.690	−0.081
2011	0.625	0.624	+0.001
Post-DACA Period			
2013	0.674	0.657	+0.017
2014	0.643	0.642	+0.001
2015	0.693	0.690	+0.003
2016	0.741	0.666	+0.075

7.2 Event Study Analysis

Table 10 summarizes the event study coefficients. The reference year is 2011, the last pre-treatment year.

Table 10: Event Study Coefficients (Reference: 2011)

Year	Coefficient	SE	95% CI	p-value
Pre-DACA Period				
2008	−0.067	0.032	[−0.130, −0.005]	0.035
2009	−0.047	0.033	[−0.111, 0.018]	0.154
2010	−0.076	0.033	[−0.140, −0.012]	0.020
2011	*Reference Year*			
Post-DACA Period				
2013	+0.017	0.034	[−0.050, 0.084]	0.610
2014	−0.017	0.035	[−0.086, 0.052]	0.628
2015	−0.011	0.035	[−0.080, 0.057]	0.745
2016	+0.059	0.035	[−0.010, 0.128]	0.093

7.3 Assessment of Parallel Trends

The event study results reveal some concerns about the parallel trends assumption:

1. **Pre-DACA differences**: The coefficients for 2008 and 2010 are significantly negative, suggesting the treatment group had relatively lower full-time employment rates compared to the control group in those years (relative to 2011).

2. **Convergence by 2011**: By 2011 (the reference year), the groups had converged, with the treatment group showing similar employment rates to the control group.

3. **Post-DACA effects**: The post-DACA coefficients are generally close to zero in 2013–2015 but become positive in 2016, suggesting the treatment effect may have materialized with a lag.

The non-parallel pre-trends suggest caution in interpreting the results. However, the convergence of the groups by 2011 and the subsequent relative improvement of the treatment group post-2012 is still consistent with a positive DACA effect.

7.4 Placebo Test

To further assess the validity of the research design, I conduct a placebo test using only pre-DACA data (2008–2011). I create a "fake" treatment at 2010, treating 2010–2011 as the post-period and 2008–2009 as the pre-period.

Table 11: Placebo Test Results (Fake Treatment in 2010)

Coefficient	**Estimate**	**SE**	**p-value**
Placebo DiD	0.0182	0.0223	0.413

The placebo test yields a statistically insignificant estimate of 1.8 percentage points (p = 0.413). The failure to find a significant placebo effect provides some support for the validity of the research design.

8 Heterogeneity Analysis

8.1 Heterogeneity by Sex

Table 12 presents results separately for males and females.

Table 12: Heterogeneous Effects by Sex

Group	**DiD Estimate**	**SE**	**p-value**
Males	0.061	0.020	0.002
Females	0.041	0.027	0.129

The effect appears to be larger and statistically significant for males (6.1 percentage points, p = 0.002) compared to females (4.1 percentage points, p = 0.129). However, the difference between these estimates is not statistically significant.

8.2 Heterogeneity by Education

Table 13 presents results by education level.

Table 13: Heterogeneous Effects by Education Level

Education Level	**DiD Estimate**	**SE**	**p-value**
High School or Less	0.046	0.019	0.018
Some College or More	0.098	0.032	0.002

Interestingly, the effect appears larger for those with at least some college education (9.8 percentage points) compared to those with a high school degree or less (4.6 percentage points). Both estimates are statistically significant.

9 Discussion

9.1 Summary of Findings

This replication analysis finds evidence that DACA eligibility had a positive effect on full-time employment among Mexican-born Hispanic individuals in the United States. The preferred estimate suggests that DACA eligibility increased the probability of full-time employment by approximately 5.9 percentage points (95% CI: [1.8, 10.1]).

9.2 Mechanisms

Several mechanisms could explain this finding:

1. **Legal work authorization**: DACA provided eligible individuals with legal authorization to work, removing a major barrier to formal employment.
2. **Driver's licenses**: In many states, DACA recipients became eligible to obtain driver's licenses, facilitating access to employment opportunities.
3. **Reduced employment uncertainty**: The two-year renewable protection from deportation may have encouraged both employers and workers to invest in more stable, full-time employment relationships.
4. **Psychological effects**: The security provided by DACA may have encouraged individuals to seek better employment opportunities rather than remaining in the shadows.

9.3 Limitations

Several limitations should be noted:

1. **Pre-trends**: The event study analysis reveals some non-parallel trends in the pre-DACA period, which could bias the DiD estimates. However, the convergence of trends by 2011 and the placebo test results provide some reassurance.
2. **Age comparability**: While the treatment and control groups are similar in most observable characteristics, they differ substantially in age, which could confound the results if age-related factors affect employment trends differently for the two groups.
3. **Repeated cross-section**: The ACS is not panel data, so we cannot track the same individuals over time. This prevents us from controlling for individual fixed effects and may introduce compositional changes in the sample.

4. **Intent-to-treat**: This analysis estimates an intent-to-treat effect based on eligibility, not actual DACA receipt. The effect on actual recipients would likely be larger.

5. **General equilibrium effects**: The analysis cannot account for potential spillover effects on non-DACA individuals, such as increased labor market competition.

9.4 Comparison to Literature

The finding of a positive employment effect is consistent with prior research on DACA. Studies have found that DACA increased labor force participation, formal employment, and wages among eligible individuals. The magnitude of the effect found here (approximately 6 percentage points) is within the range of estimates reported in the literature.

10 Conclusion

This independent replication analysis provides evidence that DACA eligibility had a positive and statistically significant effect on full-time employment among Mexican-born Hispanic individuals in the United States. The preferred estimate suggests that DACA increased full-time employment by approximately 5.9 percentage points (95% CI: [1.8, 10.1], $p = 0.005$).

The results are robust across multiple specifications, including models with and without survey weights, year and state fixed effects, and individual covariates. The placebo test does not find a significant effect, supporting the validity of the research design.

However, some non-parallel pre-trends in the data warrant caution in interpreting these results as purely causal. Future research using alternative identification strategies (e.g., regression discontinuity designs exploiting the age cutoff) may help address these concerns.

Overall, the findings suggest that providing legal work authorization to undocumented immigrants can have meaningful positive effects on their labor market outcomes.

11 Analytic Decisions

This section documents the key analytic decisions made during the replication:

1. **Sample restrictions**: None applied beyond those in the provided data file, as instructed.

2. **Survey weights**: PERWT used for all weighted analyses to produce population-representative estimates.

3. **Fixed effects**: Year fixed effects included to control for aggregate time trends; state fixed effects included to control for time-invariant state-level differences.

4. **Covariates**: Sex (female indicator), marital status (married indicator), age, and education dummies included to improve precision and comparability.

5. **Standard errors**: Clustered at the state level to account for within-state correlation; also reported with heteroskedasticity-robust (HC1) standard errors.

6. **Preferred specification**: Model 7 (full covariates with state-clustered standard errors) selected as the preferred estimate because it includes appropriate controls, uses survey weights, and accounts for within-state correlation.

12 Preferred Estimate Summary

Preferred Estimate

Effect Size: 0.0592 (5.92 percentage points)
Standard Error: 0.0211
95% Confidence Interval: [0.0177, 0.1006]
p-value: 0.005
Sample Size: 17,382

Interpretation: DACA eligibility is associated with a 5.9 percentage point increase in the probability of full-time employment among the treatment group (ages 26–30 at implementation) relative to the control group (ages 31–35), statistically significant at the 1% level.

A Appendix: Additional Tables

A.1 Full Regression Output

Table 14 presents the full regression output from the basic unweighted model.

Table 14: Full Regression Output: Basic DiD Model (Model 1)

Variable	**Coef.**	**Std. Err.**	**t**	**p-value**
Intercept	0.6697	0.0083	80.59	$<$0.001
ELIGIBLE	-0.0434	0.0103	-4.22	$<$0.001
AFTER	-0.0248	0.0124	-2.01	0.045
ELIGIBLE $\times$ AFTER	0.0643	0.0153	4.20	$<$0.001

N = 17,382. R-squared = 0.002.

A.2 State Distribution

Table 15 presents the distribution of observations across the ten states with the largest samples.

Table 15: Sample Distribution: Top 10 States

State	**N**	**% of Sample**
California	5,892	33.9%
Texas	4,235	24.4%
Arizona	1,123	6.5%
Illinois	987	5.7%
Florida	623	3.6%
Nevada	521	3.0%
Georgia	498	2.9%
Colorado	456	2.6%
North Carolina	412	2.4%
Washington	389	2.2%
Other States	2,246	12.9%
Total	17,382	100.0%

Note: State distribution is approximate based on STATEFIP codes.

B Appendix: Technical Details

B.1 Software and Replication

The analysis was conducted using Python 3.14 with the following packages:

- pandas (data manipulation)
- numpy (numerical operations)
- statsmodels (regression analysis)
- scipy (statistical tests)

All code is provided in the file `analysis_script.py` and can be executed from a clean session in the replication folder.

B.2 Variable Definitions

FT Binary indicator for full-time employment. Equal to 1 if UHRSWORK $\geq$ 35, 0 otherwise.

ELIGIBLE Binary indicator for treatment group membership. Equal to 1 if AGE_IN_JUNE_2012 is between 26 and 30.75 (inclusive), 0 if between 31 and 35.

AFTER Binary indicator for post-DACA period. Equal to 1 if YEAR $\in$ {2013, 2014, 2015, 2016}, 0 if YEAR $\in$ {2008, 2009, 2010, 2011}.

PERWT Person-level survey weight from ACS/IPUMS.

SEX Sex of respondent (IPUMS coding: 1 = Male, 2 = Female).

MARST Marital status (IPUMS coding: 1 = Married, spouse present; 2 = Married, spouse absent; 3 = Separated; 4 = Divorced; 5 = Widowed; 6 = Never married).

AGE Age at time of survey.

EDUC_RECODE Educational attainment, recoded into five categories: Less than High School, High School Degree, Some College, Two-Year Degree, BA+.

STATEFIP State FIPS code.

YEAR Survey year.

C Appendix: Methodological Considerations

C.1 The Difference-in-Differences Framework

The difference-in-differences (DiD) estimator is one of the most commonly used identification strategies in applied economics for estimating causal effects of policies or treatments. The fundamental idea is to compare the change in outcomes over time for a treated group to the change in outcomes over time for an untreated comparison group.

Formally, let Y_{it} denote the outcome for individual i at time t, let D_i indicate treatment group membership, and let $Post_t$ indicate the post-treatment period. The basic DiD regression is:

$$Y_{it} = \alpha + \beta D_i + \gamma Post_t + \delta(D_i \times Post_t) + \varepsilon_{it} \tag{3}$$

The coefficient δ captures the causal effect of treatment under the parallel trends assumption.

C.2 The Parallel Trends Assumption

The key identifying assumption of DiD is that, in the absence of treatment, the treated and control groups would have followed parallel trends in the outcome variable. Mathematically:

$$E[Y_{it}(0)|D_i = 1, Post_t = 1] - E[Y_{it}(0)|D_i = 1, Post_t = 0] = E[Y_{it}(0)|D_i = 0, Post_t = 1] - E[Y_{it}(0)|D_i = 0, P \tag{4}$$

where $Y_{it}(0)$ denotes the potential outcome under no treatment.

This assumption cannot be directly tested because we cannot observe the counterfactual outcome for the treated group in the post-period. However, we can examine pre-trends to assess the plausibility of this assumption. If the groups had parallel trends before treatment, it is more plausible that they would have continued on parallel trends in the absence of treatment.

C.3 Potential Threats to Identification

Several potential threats to identification should be considered:

1. **Anticipation effects**: If individuals anticipated DACA before its implementation, they may have changed their behavior in advance, which could bias the estimates.

2. **Compositional changes**: Since the ACS is a repeated cross-section, different individuals are sampled each year. If the composition of the treatment or control groups changes differentially over time, this could bias the estimates.

3. **Age effects**: The treatment and control groups differ in age by construction. If there are age-specific trends in employment that differ from linear age effects, this could bias the estimates.

4. **Spillover effects**: DACA may have affected employment outcomes for non-DACA individuals (e.g., through changes in labor market competition), which could violate the stable unit treatment value assumption (SUTVA).

5. **Selective enforcement**: The degree to which DACA was implemented may have varied across states or over time, which could affect the magnitude of the treatment effect.

C.4 Standard Error Considerations

The choice of standard error specification is important for valid inference in DiD designs:

1. **Classical (homoskedastic) standard errors**: Assume constant variance across observations. Generally inappropriate for microdata with heterogeneous individuals.

2. **Heteroskedasticity-robust (HC) standard errors**: Account for varying variance across observations but assume independence. The HC1 correction adjusts for degrees of freedom.

3. **Clustered standard errors**: Account for within-group correlation. In this analysis, clustering at the state level is appropriate because: (a) DACA implementation may vary across states; (b) state-level economic conditions affect employment; (c) individuals within states face similar labor market conditions.

As shown in the results, the clustered standard errors are approximately 49% larger than the classical standard errors, indicating substantial within-state correlation that would be ignored by classical inference.

C.5 Survey Weights

The American Community Survey uses a complex sampling design with stratification and clustering. The person weights (PERWT) are designed to produce population-representative estimates when applied. Using these weights ensures that our estimates generalize to the target population of Mexican-born Hispanics in the United States, rather than just to the sample.

In weighted least squares regression, each observation is weighted by PERWT, which is equivalent to treating each observation as if it represents PERWT individuals in the population. This approach produces consistent estimates of population parameters under the assumption that the model is correctly specified.

C.6 Fixed Effects

The inclusion of fixed effects serves to control for unobserved heterogeneity:

1. **Year fixed effects**: Control for aggregate time trends that affect all individuals equally. For example, the Great Recession (2008–2009) affected employment broadly, and year fixed effects absorb these aggregate shocks.
2. **State fixed effects**: Control for time-invariant differences across states, such as differences in labor market structure, industrial composition, or immigration enforcement.

With year and state fixed effects, the AFTER main effect is absorbed by the year dummies, and the identification comes solely from the interaction term.

D Appendix: Sensitivity Analysis

D.1 Sensitivity to Model Specification

Table 16 summarizes how the main estimate varies across different model specifications.

Table 16: Sensitivity of DiD Estimate to Model Specification

Specification Change	**DiD Estimate**	**Change from Baseline**
Baseline (Full Model, Clustered SE)	0.0592	—
Weighting		
Without survey weights	0.0574	−0.0018
With survey weights	0.0592	—
Fixed Effects		
No fixed effects	0.0748	+0.0156
Year FE only	0.0721	+0.0129
State FE only	0.0612	+0.0020
Year + State FE	0.0592	—
Covariates		
Without covariates	0.0710	+0.0118
With covariates	0.0592	—

Notes: Baseline specification includes survey weights, year and state fixed effects, and individual covariates (sex, marital status, age, education).

The estimates are relatively stable across specifications, ranging from 0.057 to 0.075. The addition of covariates reduces the estimate somewhat, suggesting that compositional differences between groups and time periods partly explain the raw differences. However, the qualitative conclusion—a positive and statistically significant effect of DACA eligibility on full-time employment—is robust.

D.2 Alternative Outcome Definitions

While this analysis focuses on full-time employment (working 35+ hours per week), alternative outcome definitions could be considered:

- **Any employment**: Whether the individual is employed at all (EMPSTAT = 1)
- **Labor force participation**: Whether the individual is in the labor force (LABFORCE = 2)
- **Hours worked**: Continuous measure of usual hours worked (UHRSWORK)

- **Wage employment**: Employment for wages rather than self-employment

These alternative outcomes could provide additional insight into the mechanisms through which DACA affects labor market outcomes.

D.3 Limitations of the Analysis

This replication analysis has several limitations that should be acknowledged:

1. **Measurement of eligibility**: The analysis uses the provided ELIGIBLE variable, which is based on age at DACA implementation. Some individuals in the treatment group may not have actually applied for or received DACA, meaning the estimates are intent-to-treat effects.

2. **Self-reported data**: Employment status is self-reported in the ACS, which may be subject to measurement error or social desirability bias.

3. **Cross-sectional data**: The ACS does not follow the same individuals over time, so we cannot control for individual fixed effects or examine within-person changes.

4. **Limited pre-period**: Only four years of pre-DACA data are available, which limits the precision of pre-trend tests.

5. **Age gap**: The five-year age gap between treatment and control groups may introduce confounding if age-related factors affect employment trends differently for different age cohorts.

Despite these limitations, the analysis provides credible evidence of a positive effect of DACA eligibility on full-time employment, consistent with economic theory and prior research.