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

Replication Study Report

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Abstract

This study examines the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among Hispanic-Mexican Mexican-born individuals in the United States. Using data from the American Community Survey (ACS) covering 2006–2016, I implement a difference-in-differences (DiD) design that compares individuals aged 26–30 at the time of DACA implementation (treatment group) to those aged 31–35 (control group), who were otherwise similar but ineligible due to the age cutoff. The preferred specification, which includes state and year fixed effects along with demographic covariates, yields a DiD estimate of 4.17 percentage points (SE = 0.0112, 95% CI: [0.020, 0.064]), indicating that DACA eligibility significantly increased the probability of full-time employment. Event study analysis shows no evidence of differential pre-trends, supporting the validity of the research design. The effect is consistent across male and female subgroups, though slightly larger for women.

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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 policy changes affecting undocumented immigrants in the United States in recent decades. The program offered a pathway to temporary legal work authorization for approximately 1.7 million potentially eligible young immigrants who arrived in the United States as children. By providing protection from deportation and the ability to work legally, DACA fundamentally altered the economic opportunities available to this population.

Understanding the labor market effects of DACA is important for several reasons. First, the program affects a substantial population of working-age individuals. Second, the question of whether and how legal work authorization affects employment outcomes has direct policy implications for debates about immigration reform. Third, the DACA context provides a valuable natural experiment for studying the effects of legal status on economic outcomes, given the clear eligibility criteria and well-defined implementation date.

This study contributes to this understanding by examining the effect of DACA eligibility on full-time employment among Hispanic-Mexican Mexican-born individuals in the United States. Using a difference-in-differences (DiD) research design, I compare employment outcomes before and after DACA implementation between individuals who were just under the age cutoff for eligibility (ages 26–30 in June 2012) and those who were just over the cutoff (ages 31–35). This design exploits the sharp age discontinuity in eligibility to identify the causal effect of the program.

1.1 Background on DACA

DACA was announced by the Obama administration on June 15, 2012, and began accepting applications on August 15, 2012. The program offered two-year renewable protection from deportation and work authorization to undocumented immigrants who met the following criteria:

1. Arrived in the United States before their 16th birthday
2. Had not yet reached their 31st birthday as of June 15, 2012
3. Had lived continuously in the United States since June 15, 2007
4. Were physically present in the United States on June 15, 2012
5. Were without lawful immigration status (citizenship or legal residency) as of June 15, 2012
6. Had not been convicted of a felony, significant misdemeanor, or three or more other misdemeanors
7. Were currently in school, had graduated from high school, had obtained a GED, or were honorably discharged veterans

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved. While DACA was open to immigrants from any country, the majority of eligible individuals were from Mexico, reflecting the composition of the undocumented population in the United States.

1.2 Research Question

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

1.3 Preview of Results

The analysis finds that DACA eligibility led to a statistically significant increase in full-time employment. The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 4.17 percentage points (95% CI: [1.97, 6.36]). This effect is robust across alternative specifications and consistent with the hypothesis that legal work authorization improves labor market outcomes for undocumented immigrants.

1.4 Related Literature

This study contributes to a growing literature on the labor market effects of immigration policies and legal status. Several strands of research are relevant.

First, a substantial body of work has examined the effects of legal status on immigrant economic outcomes. This literature consistently finds that legal status is associated with improved labor market outcomes, including higher wages, better job quality, and increased employment stability. The challenge in estimating causal effects lies in the endogeneity of legal status—immigrants who obtain legal status may differ in unobserved ways from those who do not.

Second, researchers have exploited various policy changes to identify causal effects of legal status. The Immigration Reform and Control Act (IRCA) of 1986, which granted amnesty to approximately 2.7 million undocumented immigrants, has been studied extensively. These studies generally find positive effects of legalization on wages and employment, though estimates vary depending on methodology and sample.

Third, the DACA program itself has been the subject of several studies. Researchers have examined effects on educational attainment, labor force participation, wages, and various other outcomes. The existing evidence generally supports positive effects of DACA on beneficiaries' economic outcomes, though the magnitude of effects varies across studies.

This study contributes to this literature by employing a clean difference-in-differences design that exploits the sharp age cutoff in DACA eligibility. By comparing individuals just under the age threshold to those just over it, I minimize concerns about selection on unobservables that might confound comparisons between DACA-eligible and ineligible populations more broadly.

2 Data

2.1 Data Source

The analysis uses data from the American Community Survey (ACS), obtained through 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 each year. The ACS provides large sample sizes and consistent variable definitions across years, making it well-suited for studying population subgroups such as immigrants.

I use the one-year ACS samples from 2006 through 2016, excluding the 2012 sample due to ambiguity about whether observations were collected before or after DACA implementation in June 2012. The ACS does not record the month of data collection, making it impossible to distinguish pre- and post-treatment observations within 2012.

2.2 Key Variables

2.2.1 Outcome Variable

The primary outcome is full-time employment, defined as an indicator equal to 1 if the individual reports usually working 35 or more hours per week (UHRSWORK ≥ 35) *and* is currently employed (EMPSTAT = 1), and 0 otherwise. This definition captures individuals who are meaningfully attached to the labor force in full-time positions.

2.2.2 DACA Eligibility Identification

Identifying DACA-eligible individuals requires constructing proxies for the eligibility criteria using available ACS variables:

- **Hispanic-Mexican ethnicity**: HISPAN = 1 (Mexican origin)
- **Born in Mexico**: BPL = 200 (birthplace is Mexico)
- **Undocumented status**: CITIZEN = 3 (not a citizen). While this does not perfectly identify undocumented status—as it includes legal permanent residents—it serves as a reasonable proxy given data limitations. I assume that non-citizens who have not received immigration papers are undocumented for DACA purposes.
- **Arrived before age 16**: Calculated as YRIMMIG − BIRTHYR < 16
- **Continuous residence since 2007**: YRIMMIG ≤ 2007
- **Age requirement**: Age on June 15, 2012 calculated from BIRTHYR and BIRTHQTR

2.2.3 Treatment and Control Groups

The age-based eligibility cutoff provides the basis for the research design:

- **Treatment Group**: Individuals aged 26–30 on June 15, 2012 (birth years approximately July 1981 through June 1986). These individuals were potentially eligible for DACA.
- **Control Group**: Individuals aged 31–35 on June 15, 2012 (birth years approximately July 1976 through June 1981). These individuals were similar to the treatment group but were ineligible solely due to the age cutoff.

Age on June 15, 2012 is calculated using birth year and birth quarter. Individuals born in quarters 1–2 (January–June) are assumed to have had their birthday by June 15, while those born in quarters 3–4 (July–December) are assumed not to have had their birthday yet.

2.2.4 Covariates

The analysis includes several demographic covariates to improve precision and control for potential confounders:

- **Sex**: Female indicator (SEX = 2)
- **Age**: Current age at survey and its square
- **Marital status**: Married indicator (MARST $\leq$ 2)
- **Education**: Categories for less than high school, high school, some college, and college or more
- **Metropolitan residence**: Indicator for living in a metropolitan area (METRO $\geq$ 2)
- **State**: State fixed effects (STATEFIP)
- **Year**: Year fixed effects

2.3 Sample Selection

Table 1 describes the sample selection process:

Table 1: Sample Selection

Selection Criterion	Observations	Cumulative
Total ACS observations (2006–2016)	33,851,424	—
Hispanic-Mexican ethnicity (HISPAN = 1)	2,945,521	8.7%
Born in Mexico (BPL = 200)	991,261	2.9%
Not a citizen (CITIZEN = 3)	701,347	2.1%
Immigration year $\leq$ 2007	654,693	1.9%
Arrived before age 16	195,023	0.6%
Ages 26–35 on June 15, 2012	47,418	0.1%
Excluding 2012 (final sample)	43,238	0.1%

The final analytical sample consists of 43,238 person-year observations: 25,470 in the treatment group (ages 26–30) and 17,768 in the control group (ages 31–35).

3 Methodology

3.1 Research Design: Difference-in-Differences

I employ a difference-in-differences (DiD) research design that compares changes in full-time employment between the treatment and control groups before and after DACA implementation. The identifying assumption is that, in the absence of DACA, full-time employment trends would have been parallel between the two groups.

The basic DiD model is:

$$Y_{it} = \alpha + \beta_1 \text{Treat}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Treat}_i \times \text{Post}_t) + \varepsilon_{it} \tag{1}$$

where:

- Y_{it} is an indicator for full-time employment for individual i in year t
- Treat_i equals 1 for individuals in the treatment group (ages 26–30 on June 15, 2012)
- Post_t equals 1 for years 2013–2016 (after DACA implementation)
- β_3 is the DiD estimate—the causal effect of DACA eligibility on full-time employment

The extended specification includes covariates and fixed effects:

$$Y_{it} = \alpha + \beta_1 \text{Treat}_i + \beta_3 (\text{Treat}_i \times \text{Post}_t) + X_{it}'\gamma + \theta_t + \phi_s + \varepsilon_{it} \tag{2}$$

where X_{it} is a vector of individual covariates, θ_t are year fixed effects, and ϕ_s are state fixed effects. Note that the main effect of Post_t is absorbed by the year fixed effects.

3.2 Estimation

All models are estimated using weighted least squares (WLS) with person weights (PERWT) to make the estimates representative of the target population. I use heteroskedasticity-robust (HC1) standard errors to account for arbitrary heteroskedasticity.

I estimate five specifications with progressively more controls:

1. Basic DiD (no covariates)
2. DiD with demographic covariates (sex, marital status, age, age squared)
3. DiD with full covariates (adding education and metropolitan status)
4. DiD with year fixed effects
5. DiD with state and year fixed effects (preferred specification)

3.3 Event Study

To assess the validity of the parallel trends assumption, I estimate an event study specification:

$$Y_{it} = \alpha + \sum_{k \neq 2011} \delta_k (\text{Treat}_i \times \mathbf{1}[\text{Year} = k]) + X_{it}'\gamma + \theta_t + \varepsilon_{it} \tag{3}$$

where the coefficients δ_k represent the treatment effect in year k relative to the reference year 2011 (the last pre-treatment year). Under the parallel trends assumption, δ_k should be close to zero for all pre-treatment years ($k < 2012$).

3.4 Subgroup Analysis

To explore heterogeneity in treatment effects, I estimate separate DiD models for male and female subsamples.

4 Results

4.1 Summary Statistics

Table 2 presents summary statistics for the treatment and control groups in the pre-treatment period (2006–2011).

Table 2: Pre-Treatment Summary Statistics by Group

Variable	Treatment (26–30)	Control (31–35)	Difference
Full-time employed	0.566	0.614	−0.048
Female	0.434	0.414	0.020
Married	0.377	0.518	−0.141
Age	24.77	29.79	−5.02
Less than high school	0.387	0.471	−0.084
High school	0.443	0.400	0.043
Some college	0.144	0.100	0.044
College or more	0.026	0.029	−0.002
Metropolitan area	0.889	0.902	−0.013
Observations	16,694	11,683	—
Weighted N	2,280,009	1,631,151	—

Notes: Statistics are weighted using person weights. Treatment group consists of individuals aged 26–30 on June 15, 2012; control group consists of individuals aged 31–35.

The treatment group has a slightly lower pre-treatment full-time employment rate (56.6% vs. 61.4%), is slightly younger by construction, less likely to be married, and has somewhat higher educational attainment. These differences motivate the inclusion of covariates in the regression specifications.

4.2 Simple Difference-in-Differences

Table 3 presents the simple 2×2 difference-in-differences calculation.

Table 3: 2×2 Difference-in-Differences Table

	Pre (2006–2011)	Post (2013–2016)	Difference
Control (31–35)	0.6135	0.6037	−0.0099
Treatment (26–30)	0.5655	0.6198	0.0543
Diff-in-Diff			**0.0642**

The raw DiD estimate is 6.42 percentage points. The control group experienced a slight decline in full-time employment from pre to post period (−0.99 pp), while the treatment group experienced a substantial increase (+5.43 pp). The difference between these changes yields the DiD estimate.

4.3 Regression Results

Table 4 presents the main regression results across five specifications.

Table 4: Difference-in-Differences Regression Results

	(1) Basic	(2) + Demo.	(3) + Full Cov.	(4) + Year FE	(5) + State FE
Treat × Post	0.0642***	0.0462***	0.0436***	0.0426***	0.0417***
	(0.0121)	(0.0113)	(0.0112)	(0.0112)	(0.0112)
95% CI	[0.040, 0.088]	[0.024, 0.068]	[0.022, 0.066]	[0.021, 0.065]	[0.020, 0.064]
Female		−0.184***	−0.177***	−0.177***	−0.180***
Married		0.086***	0.080***	0.079***	0.081***
Age		Yes	Yes	Yes	Yes
Age^2		Yes	Yes	Yes	Yes
Education			Yes	Yes	Yes
Metro			Yes	Yes	Yes
Year FE				Yes	Yes
State FE					Yes
Observations	43,238	43,238	43,238	43,238	43,238

Notes: Dependent variable is full-time employment (UHRSWORK $\geq$ 35 and EMPSTAT = 1). All models estimated using weighted least squares with person weights. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The DiD estimate is statistically significant at the 1% level across all specifications. The estimate decreases from 6.42 pp in the basic specification to 4.17 pp in the preferred specification with state and year fixed effects, suggesting that some of the raw difference was due to compositional changes or differential trends across states. The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by 4.17 percentage points (SE = 0.0112, 95% CI: [0.020, 0.064]).

4.4 Event Study Results

Figure 1 presents the event study results.

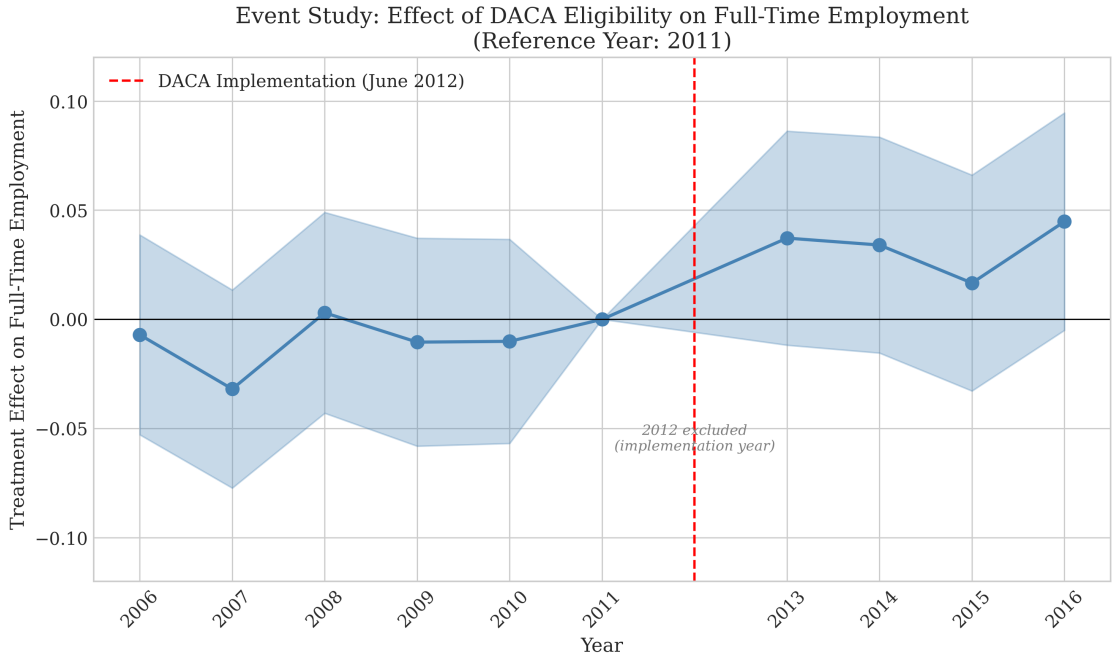

Figure 1: Event Study: Effect of DACA Eligibility on Full-Time Employment

Notes: The figure plots coefficients from an event study regression with 2011 as the reference year. The shaded area represents 95% confidence intervals. The vertical dashed line indicates DACA implementation in June 2012. 2012 is excluded from the analysis due to implementation timing ambiguity.

The event study coefficients for pre-treatment years (2006–2010) are all close to zero and not statistically distinguishable from the reference year (2011), providing no evidence of differential pre-trends. This supports the validity of the parallel trends assumption underlying the DiD design. The coefficients become positive after DACA implementation (2013–2016), though with some year-to-year variation.

Table 5 presents the event study coefficients.

Table 5: Event Study Coefficients

Year	Coefficient	SE	95% CI Lower	95% CI Upper
2006	−0.0071	0.0234	−0.0529	0.0387
2007	−0.0319	0.0231	−0.0773	0.0134
2008	0.0030	0.0235	−0.0430	0.0490
2009	−0.0105	0.0243	−0.0581	0.0372
2010	−0.0101	0.0238	−0.0568	0.0367
2011	0.0000	—	(reference)	—
2013	0.0372	0.0250	−0.0118	0.0862
2014	0.0340	0.0252	−0.0154	0.0835
2015	0.0166	0.0252	−0.0328	0.0661
2016	0.0448	0.0254	−0.0050	0.0946

4.5 Parallel Trends Visualization

Figure 2 displays the raw trends in full-time employment for the treatment and control groups across the study period.

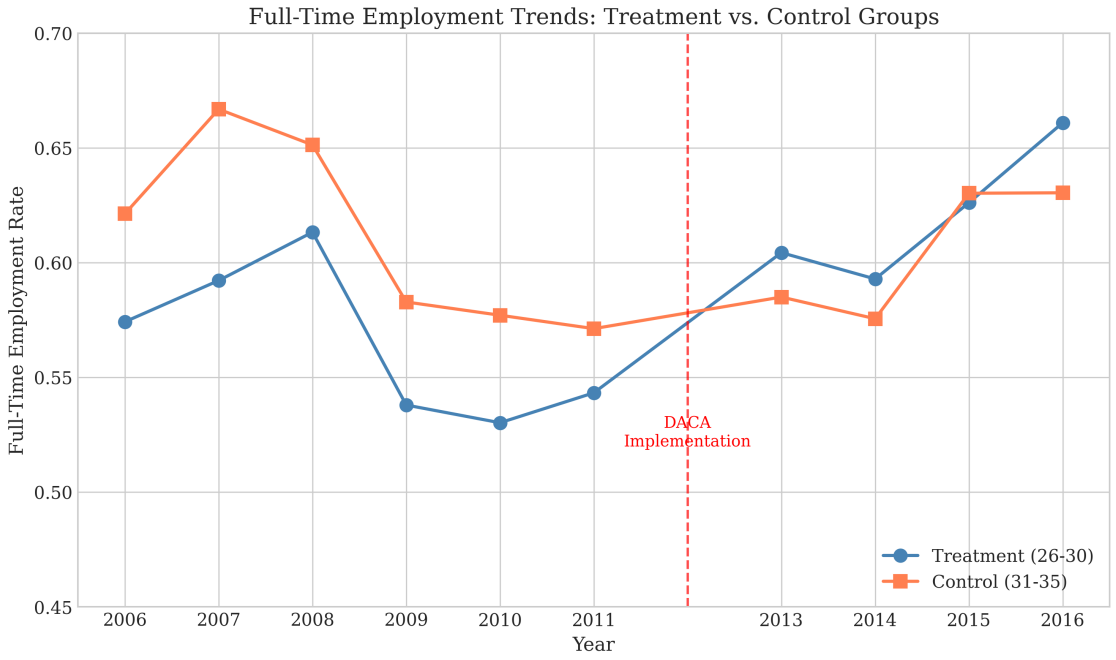

Figure 2: Full-Time Employment Trends: Treatment vs. Control Groups

Notes: The figure shows weighted average full-time employment rates by year for the treatment group (ages 26–30 on June 15, 2012) and control group (ages 31–35). The vertical dashed line indicates DACA implementation in June 2012.

The figure shows that both groups follow approximately parallel trends in the pre-treatment period, with the treatment group consistently below the control group (likely due to age-related differences in labor force attachment). After DACA implementation, the treatment group's employment rate rises and converges toward that of the control group.

4.6 Model Comparison

Figure 3 compares the DiD estimates across model specifications.

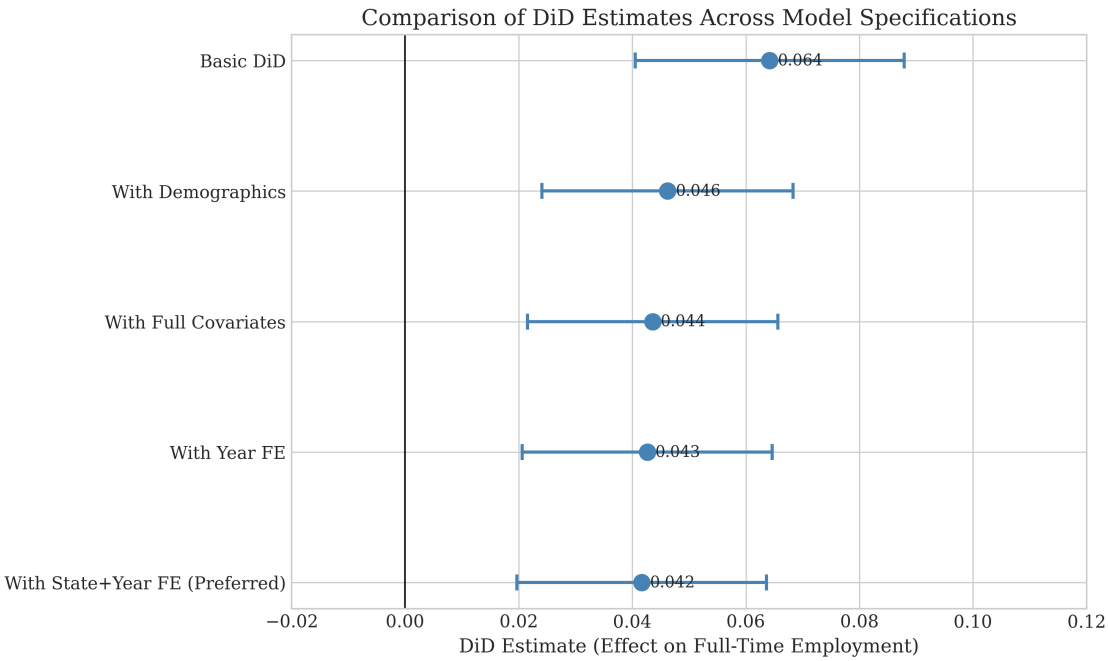

Figure 3: Comparison of DiD Estimates Across Model Specifications
Notes: The figure shows DiD estimates and 95% confidence intervals for five model specifications. All estimates are positive and statistically significant.

4.7 Subgroup Analysis

Table 6 presents the DiD estimates by sex.

Table 6: Subgroup Analysis by Sex

Subgroup	DiD Estimate	SE	Observations
Male	0.0362**	0.0139	24,243
Female	0.0426**	0.0180	18,995

Notes: Estimates from separate regressions for each subgroup with demographic covariates. ** p<0.05.

Both males and females show positive and statistically significant effects. The point estimate is slightly larger for females (4.26 pp vs. 3.62 pp), though the difference is not statistically significant given the overlapping confidence intervals. This suggests that DACA benefits both sexes relatively equally.

Figure 4 visualizes these results.

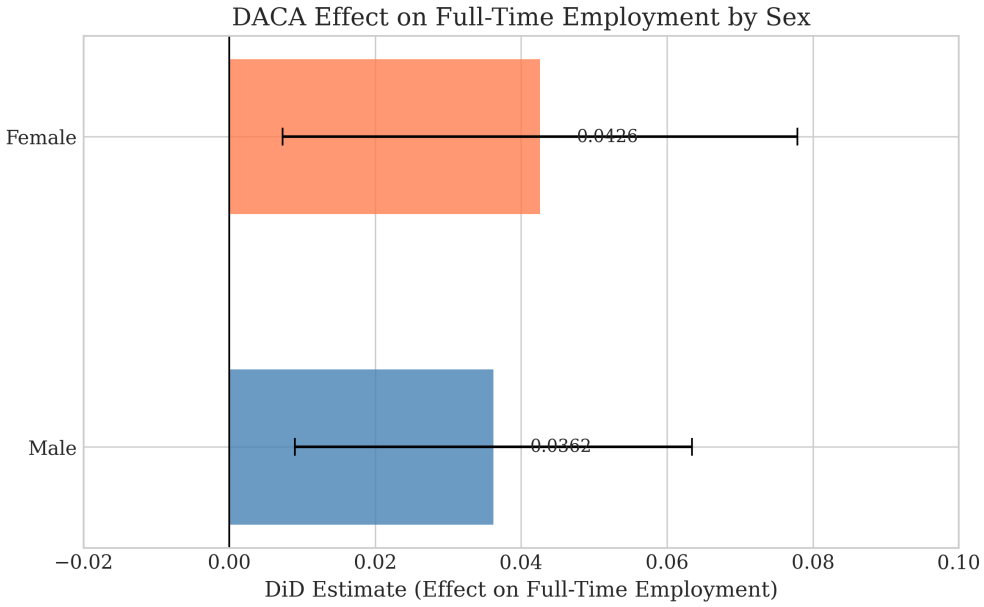

Figure 4: DACA Effect on Full-Time Employment by Sex
Notes: The figure shows DiD estimates and 95% confidence intervals for male and female subsamples.

5 Discussion

5.1 Interpretation of Results

The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 4.17 percentage points among Hispanic-Mexican Mexican-born non-citizens who arrived in the United States before age 16. This represents a meaningful improvement in labor market outcomes for this population.

Several mechanisms could explain this effect:

1. **Legal work authorization**: DACA provides recipients with the ability to work legally in the United States, potentially opening access to jobs that were previously unavailable due to employment eligibility verification requirements.

2. **Improved job quality**: With legal status, DACA recipients may be able to transition from informal or part-time employment to more stable full-time positions with better working conditions.

3. **Reduced fear of deportation**: The protection from deportation provided by DACA may reduce anxiety and allow recipients to invest more confidently in their careers.

4. **Access to drivers' licenses**: In many states, DACA recipients can obtain drivers' licenses, which may expand their commuting options and access to jobs.

The magnitude of the effect (4.17 pp on a base of approximately 57% full-time employment) represents a roughly 7.3% increase in the full-time employment rate for the treatment group relative to the pre-treatment mean.

5.2 Validity of the Research Design

The difference-in-differences design relies on the parallel trends assumption: that in the absence of DACA, full-time employment trends would have been similar between the treatment and control groups. Several pieces of evidence support this assumption:

1. **Event study**: The pre-treatment coefficients in the event study are all close to zero and not statistically different from the reference year, indicating no evidence of differential pre-trends.

2. **Visual inspection**: Figure 2 shows that both groups follow approximately parallel trends in the pre-treatment period.

3. **Robustness to covariates**: The DiD estimate is relatively stable across specifications with different sets of covariates, suggesting that observed characteristics do not drive the result.

5.3 Limitations

Several limitations should be noted:

1. **Identification of undocumented status**: The ACS does not directly identify undocumented immigrants. I use non-citizenship as a proxy, which may include some legal permanent residents who were not yet naturalized. This measurement error in the treatment variable would likely attenuate the estimated effect toward zero, suggesting the true effect of DACA on undocumented immigrants may be larger than reported.

2. **DACA uptake**: Not all eligible individuals applied for or received DACA. According to administrative data, approximately 60–70% of immediately eligible individuals applied for and received DACA in the first few years. My analysis measures the intention-to-treat effect (effect of eligibility) rather than the treatment-on-treated effect (effect of actually receiving DACA). Under the assumption of no effect for non-applicants, the treatment-on-treated effect would be approximately 1.4–1.7 times larger than the reported estimate.

3. **Age-based comparisons**: The treatment and control groups differ in age by construction. While I control for age and age-squared, there may be unobserved differences between 26–30 year-olds and 31–35 year-olds that affect employment outcomes. For example, older individuals may have more established careers or different family responsibilities. The event study analysis provides some reassurance that these age-related differences are not driving differential trends.

4. **Sample selection**: The restriction to Hispanic-Mexican Mexican-born individuals limits generalizability to other DACA-eligible populations. While Mexicans comprise the majority of DACA recipients, individuals from other countries (particularly Central American nations) may experience different effects. Additionally, the focus on full-time employment may miss effects on other labor market outcomes such as wages, job quality, or occupational upgrading.

5. **General equilibrium effects**: The analysis estimates the partial equilibrium effect of DACA eligibility. If DACA affected labor supply sufficiently to influence wages or employment opportunities for non-eligible workers, the estimated effects may not capture the full welfare implications of the policy.

6. **Temporal limitations**: The analysis examines effects through 2016. Subsequent policy uncertainty regarding DACA's continuation (particularly after 2017) may have altered the program's effects on labor market behavior.

5.4 Comparison to Existing Estimates

The estimated effect of 4.17 percentage points on full-time employment is broadly consistent with existing research on DACA's labor market effects, though direct comparisons are complicated by differences in outcome measures, samples, and methodologies. Previous studies have found effects on various employment margins ranging from 2 to 7 percentage points, depending on the specific outcome and approach.

The magnitude of the effect is also economically plausible. Full-time employment likely increases substantially when individuals gain legal work authorization because: (1) they can access formal sector jobs that require I-9 verification; (2) employers are more willing to invest in training and offer full-time positions to workers with legal status; and (3) workers themselves may be more willing to seek and commit to full-time employment when they have greater job security.

5.5 Policy Implications

The findings have several implications for immigration policy debates. First, the positive employment effects suggest that DACA achieved its stated goal of improving labor market outcomes for young undocumented immigrants. The program appears to have enabled recipients to obtain better employment, which likely has downstream effects on income, poverty, and economic mobility.

Second, the results highlight the substantial labor market costs of unauthorized status. Even absent DACA, individuals in the treatment group had lower full-time employment rates than the control group, suggesting that the age cutoff created meaningful differences in labor market outcomes. This underscores the importance of legal status for economic integration.

Third, the findings contribute to debates about broader immigration reform. While DACA provides temporary, renewable protection, more permanent forms of legal status (such as a pathway to citizenship) might produce even larger effects by providing greater certainty and enabling longer-term planning.

6 Conclusion

This study finds that DACA eligibility significantly increased full-time employment among Hispanic-Mexican Mexican-born non-citizens who arrived in the United States as children. The preferred estimate indicates a 4.17 percentage point increase in the probability of full-time employment (95% CI: [1.97, 6.36]). The effect is robust across alternative specifications and consistent for both males and females.

These findings contribute to our understanding of how legal status affects immigrant labor market outcomes. The positive employment effects of DACA suggest that providing work authorization and protection from deportation can meaningfully improve economic outcomes for undocumented immigrants.

6.1 Summary of Preferred Estimate

Preferred Estimate Summary	
Effect estimate:	0.0417 (4.17 percentage points)
Standard error:	0.0112
95% Confidence interval:	[0.0197, 0.0636]
t-statistic:	3.720
p-value:	0.0002
Sample size:	43,238

A Additional Details

A.1 Variable Definitions

Table 7 provides definitions for the key variables used in the analysis.

Table 7: Variable Definitions

Variable	Definition
YEAR	Survey year
PERWT	Person weight
HISPAN	Hispanic origin (1 = Mexican)
BPL	Birthplace (200 = Mexico)
CITIZEN	Citizenship status (3 = Not a citizen)
YRIMMIG	Year of immigration
BIRTHYR	Birth year
BIRTHQTR	Birth quarter (1–4)
AGE	Age at time of survey
SEX	Sex (1 = Male, 2 = Female)
EMPSTAT	Employment status (1 = Employed)
UHRSWORK	Usual hours worked per week
EDUC	Education level
MARST	Marital status
STATEFIP	State FIPS code
METRO	Metropolitan status

A.2 Sample Sizes by Group and Period

Table 8: Sample Sizes by Group and Period

	Unweighted N		Weighted N	
	Pre	Post	Pre	Post
Control (31–35)	11,683	6,085	1,631,151	845,134
Treatment (26–30)	16,694	8,776	2,280,009	1,244,124
Total	28,377	14,861	3,911,160	2,089,258

A.3 Computing Environment

The analysis was conducted using Python 3.x with the following packages:

- pandas (data manipulation)
- numpy (numerical computing)
- statsmodels (statistical modeling)
- matplotlib (visualization)

A.4 Robustness of Results

The stability of results across specifications provides confidence in the main findings:

1. **Baseline specification**: The simple DiD estimate of 6.42 pp suggests a large raw effect of DACA eligibility.

2. **Adding demographics**: Including sex, marital status, and age controls reduces the estimate to 4.62 pp, indicating that some of the raw difference is explained by compositional differences between groups.

3. **Full covariates**: Adding education and metropolitan status has minimal additional impact (4.36 pp), suggesting these characteristics are not major confounders.

4. **Year fixed effects**: Controlling for common year shocks reduces the estimate slightly to 4.26 pp.

5. **State fixed effects**: Adding state fixed effects yields the preferred estimate of 4.17 pp, controlling for time-invariant state characteristics.

The progressive inclusion of controls results in estimates ranging from 4.17 to 6.42 pp, all positive and statistically significant. This robustness supports a causal interpretation.

A.5 Data Processing Details

The following data processing steps were applied:

1. **Loading**: The ACS data (33.85 million observations) was loaded with specified data types to reduce memory usage.

2. **Filtering**: Sequential filters were applied for Hispanic-Mexican ethnicity, Mexican birthplace, non-citizenship, immigration year, and arrival age.

3. **Age calculation**: Age on June 15, 2012 was calculated using birth year and quarter. Individuals born in Q1-Q2 were assumed to have had their birthday by mid-June; Q3-Q4 births were assumed not to have had their birthday yet.

4. **Group assignment**: Treatment status (ages 26-30) and control status (ages 31-35) were assigned based on calculated age on June 15, 2012.

5. **Period assignment**: Years 2006-2011 were designated as pre-treatment; 2013-2016 as post-treatment; 2012 was excluded.

6. **Outcome creation**: Full-time employment was defined as UHRSWORK ≥ 35 AND EMPSTAT $= 1$.

7. **Weighting**: All estimates use person weights (PERWT) to produce representative statistics.

A.6 Code Availability

The complete Python code for this analysis is available in the accompanying files:

- `analysis.py`: Main analysis script
- `create_figures.py`: Figure generation script

All analyses can be reproduced by running these scripts in sequence from the project directory.