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

Independent Replication 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 ethnically Hispanic-Mexican Mexican-born individuals in the United States. Using a difference-in-differences research design with American Community Survey data from 2008-2016 (excluding 2012), I compare changes in full-time employment rates between individuals aged 26-30 at the time of DACA implementation (treatment group) and those aged 31-35 (comparison group). The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 5.6 percentage points (SE = 0.014, p ¡ 0.001). This effect is robust across multiple specifications including models with demographic controls, state fixed effects, and year fixed effects. Pre-treatment trend analysis supports the parallel trends assumption underlying the difference-in-differences approach. The findings suggest that DACA had a meaningful positive effect on labor market outcomes for eligible individuals.

Contents

1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, enacted on June 15, 2012, represented a significant shift in U.S. immigration policy. The program provided temporary relief from deportation and work authorization for undocumented immigrants who arrived in the United States as children. Given that DACA confers legal work authorization, a natural question arises: did eligibility for the program lead to improved labor market outcomes for eligible individuals?

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 (treatment) on the probability that the eligible person is employed full-time (outcome)?*

Full-time employment is defined as usually working 35 hours per week or more. The treatment group consists of individuals who were ages 26-30 at the time when the policy went into place (June 2012). The comparison group consists of individuals who were ages 31-35 at that time—people who would otherwise have been eligible for DACA but exceeded the age cutoff of 31.

I use a difference-in-differences (DiD) research design to estimate the causal effect of DACA eligibility on full-time employment. This approach compares changes in full-time employment rates between the treatment group and comparison group from the pre-DACA period (2008-2011) to the post-DACA period (2013-2016). The key identifying assumption is that, absent DACA, the two age groups would have experienced parallel trends in full-time employment.

2 Background

2.1 DACA Program Overview

DACA was announced by the Obama administration on June 15, 2012. The program allowed eligible undocumented immigrants to apply for and obtain two-year renewable authorization to work legally in the United States without fear of deportation. Applications began being received on August 15, 2012.

2.2 Eligibility Requirements

To be eligible for DACA, individuals were required to:

- Have arrived unlawfully in the U.S. before their 16th birthday

- Have been under 31 years old as of June 15, 2012
- Have lived continuously in the U.S. since June 15, 2007
- Have been present in the U.S. on June 15, 2012 without lawful status

2.3 Program Uptake

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% being approved. Many recipients subsequently applied for and received renewal of their DACA status after the initial two-year period.

2.4 Expected Effects on Employment

DACA could affect employment outcomes through several channels. Most directly, the program provides legal work authorization, enabling recipients to work legally and access jobs that require employment verification. Additionally, in some states, DACA recipients became eligible to obtain driver's licenses, further expanding employment opportunities. These mechanisms suggest that DACA should increase employment rates and potentially the quality of employment among eligible individuals.

3 Data

3.1 Data Source

The data for this analysis come from the American Community Survey (ACS), provided by IPUMS USA. The ACS is a large-scale, nationally representative survey that collects detailed demographic, social, economic, and housing information from U.S. households on an annual basis.

3.2 Sample

The analytic sample consists of ethnically Hispanic-Mexican Mexican-born individuals observed in the ACS from 2008 through 2016, with the year 2012 excluded. The exclusion of 2012 reflects the ambiguity about whether individuals observed in that year are measured before or after DACA implementation (which occurred mid-year on June 15, 2012).

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

- Treatment group (ELIGIBLE = 1): Individuals aged 26-30 as of June 2012

- Comparison group (ELIGIBLE = 0): Individuals aged 31-35 as of June 2012

The provided data file includes a pre-constructed variable `ELIGIBLE` that identifies treatment and comparison group membership. The sample includes 17,382 observations total.

3.3 Key Variables

3.3.1 Outcome Variable

The outcome variable is `FT`, a binary indicator equal to 1 for individuals working full-time (usually working 35 hours per week or more) and 0 otherwise. Those not in the labor force are included in the analysis with values of 0.

3.3.2 Treatment Variables

- `ELIGIBLE`: Binary indicator equal to 1 for the treatment group (ages 26-30 in June 2012) and 0 for the comparison group (ages 31-35 in June 2012)
- `AFTER`: Binary indicator equal to 1 for post-DACA years (2013-2016) and 0 for pre-DACA years (2008-2011)
- `ELIGIBLE` $\times$ `AFTER`: Interaction term representing the difference-in-differences effect

3.3.3 Control Variables

The analysis includes several demographic and socioeconomic control variables:

- `SEX`: Male (1) or Female (2)
- `MARST`: Marital status (1=Married spouse present, 2=Married spouse absent, 3=Separated, 4=Divorced, 5=Widowed, 6=Never married)
- `NCHILD`: Number of own children in the household
- `EDUC_RECODE`: Education level (Less than High School, High School Degree, Some College, Two-Year Degree, BA+)
- `FAMSIZE`: Number of own family members in household
- `YRSUSA1`: Years in the United States
- `STATEFIP`: State of residence (for fixed effects)
- `YEAR`: Survey year (for fixed effects)

- `PERWT`: Person weight for weighted analysis

4 Methodology

4.1 Research Design

I employ a difference-in-differences (DiD) research design to estimate the causal effect of DACA eligibility on full-time employment. The DiD approach compares changes in outcomes between a treatment group and a comparison group across time periods before and after an intervention.

The fundamental DiD estimator is:

$$\hat{\delta}_{DiD} = (\bar{Y}_{Treated,After} - \bar{Y}_{Treated,Before}) - (\bar{Y}_{Comparison,After} - \bar{Y}_{Comparison,Before}) \quad (1)$$

This estimator captures the differential change in full-time employment for the treatment group relative to the comparison group, attributable to DACA eligibility.

4.2 Econometric Specification

The regression-based implementation of the DiD design is:

$$FT_i = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_i + \delta(ELIGIBLE_i \times AFTER_i) + \mathbf{X}_i'\gamma + \epsilon_i \quad (2)$$

where:

- FT_i is the full-time employment indicator for individual i
- $ELIGIBLE_i$ is the treatment group indicator
- $AFTER_i$ is the post-DACA period indicator
- $ELIGIBLE_i \times AFTER_i$ is the interaction term
- $\mathbf{X}_i$ is a vector of control variables
- δ is the DiD coefficient of interest

The coefficient δ estimates the average treatment effect of DACA eligibility on full-time employment, under the assumption that treatment and comparison groups would have experienced parallel trends in the absence of DACA.

4.3 Identifying Assumption

The key identifying assumption for the DiD design is the *parallel trends assumption*: in the absence of DACA, the treatment and comparison groups would have experienced the same trends in full-time employment over time. Mathematically:

$$E[Y_{0,After} - Y_{0,Before}|ELIGIBLE = 1] = E[Y_{0,After} - Y_{0,Before}|ELIGIBLE = 0] \quad (3)$$

where Y_0 denotes potential outcomes in the absence of treatment.

While this assumption is fundamentally untestable, I examine pre-treatment trends to assess its plausibility. If the two groups exhibited parallel trends in the pre-DACA period, it provides supportive evidence (though not proof) that the parallel trends assumption holds.

4.4 Model Specifications

I estimate several model specifications to assess the robustness of the findings:

1. **Model 1**: Basic DiD with no controls
2. **Model 2**: DiD with demographic controls (sex, marital status, number of children, education)
3. **Model 3**: DiD with demographic and economic controls (adds family size, years in USA)
4. **Model 4**: DiD with demographic controls and state fixed effects
5. **Model 5**: DiD with demographic controls and year fixed effects
6. **Model 6**: DiD with demographic controls, state fixed effects, and year fixed effects
7. **Model 7**: DiD with demographic controls and heteroskedasticity-robust standard errors
8. **Model 8**: Weighted DiD using ACS person weights (PERWT)

4.5 Subgroup Analysis

To explore heterogeneity in treatment effects, I estimate separate DiD models for subgroups defined by:

- Sex (male vs. female)

- Education level (high school, some college, two-year degree, BA+)
- Marital status (married vs. not married)

4.6 Parallel Trends Assessment

To assess the plausibility of the parallel trends assumption, I conduct two analyses:

1. **Pre-treatment trend test**: I estimate a model on pre-DACA data only, including an interaction between the treatment indicator and a linear time trend. A statistically insignificant interaction coefficient suggests no differential pre-treatment trends.
2. **Event study analysis**: I estimate a model with year-specific treatment effects relative to a reference year (2011), allowing examination of the treatment effect trajectory over time.

5 Results

5.1 Descriptive Statistics

Table 1 presents the sample sizes by treatment group and time period. The treatment group (ages 26-30) comprises 11,382 observations, while the comparison group (ages 31-35) comprises 6,000 observations. Observations are distributed across the pre-DACA period (2008-2011, N = 9,527) and post-DACA period (2013-2016, N = 7,855).

Table 1: Sample Sizes by Treatment Group and Period

Group	Pre-DACA	Post-DACA	Total
Comparison (ages 31-35)	3,294	2,706	6,000
Treatment (ages 26-30)	6,233	5,149	11,382
Total	9,527	7,855	17,382

Table 2 presents summary statistics for key variables. The sample is approximately 52% male and 48% female. The average age is 29.6 years, with an average of 20.9 years of residence in the United States. About 49% of the sample is married, and the average number of children is 1.36. The majority of the sample has a high school degree as their highest level of education (72%), with smaller proportions having some college (17%), a two-year degree (6%), or a BA+ (6%).

Table 2: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Full-time employment (FT)	0.649	0.477	0	1
Age	29.62	3.80	22	39
Female	0.478	0.500	0	1
Married	0.490	0.500	0	1
Number of children	1.36	1.39	0	9
Family size	4.42	2.16	1	20
Years in USA	20.87	5.99	0	40
Usual hours worked/week	31.35	17.96	0	99

5.2 Basic Difference-in-Differences

Table 3 presents full-time employment rates by treatment group and time period, along with the basic DiD calculation.

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

Group	Pre-DACA	Post-DACA	Change
Comparison (ages 31-35)	0.6697	0.6449	-0.0248
Treatment (ages 26-30)	0.6263	0.6658	+0.0394
Difference-in-Differences			**0.0643**

The treatment group exhibited a 3.94 percentage point increase in full-time employment from the pre-DACA to post-DACA period. In contrast, the comparison group experienced a 2.48 percentage point *decrease* in full-time employment over the same period. The difference-in-differences estimate is 6.43 percentage points, suggesting that DACA eligibility increased full-time employment by approximately 6.4 percentage points.

5.3 Regression Results

Table 4 presents the DiD estimates from multiple regression specifications. Across all specifications, the DiD coefficient is positive and statistically significant at conventional levels, indicating a robust positive effect of DACA eligibility on full-time employment.

Table 4: Difference-in-Differences Regression Results

Model	Estimate	Std. Error	p-value
(1) Basic DiD (no controls)	0.0643	0.0153	<0.001
(2) + Demographic controls	0.0556	0.0143	<0.001
(3) + Economic controls	0.0519	0.0143	<0.001
(4) + State fixed effects	0.0556	0.0143	<0.001
(5) + Year fixed effects	0.0541	0.0143	<0.001
(6) + State and year FE	0.0542	0.0143	<0.001
(7) Robust standard errors	0.0556	0.0142	<0.001
(8) Weighted (PERWT)	0.0640	0.0142	<0.001

Notes: N = 17,382 for all models. Controls in Model 2 include sex, marital status, number of children, and education dummies.

The basic DiD estimate (Model 1) of 0.0643 is slightly attenuated when demographic controls are added (Model 2: 0.0556), suggesting that some of the raw difference is explained by compositional differences between groups. The estimate remains stable across specifications with additional controls, state fixed effects, year fixed effects, and both types of fixed effects combined. The weighted estimate using ACS person weights (Model 8: 0.0640) is close to the unweighted basic estimate.

5.4 Preferred Specification

The preferred specification is Model 2, which includes demographic controls but not state or year fixed effects. This model balances parsimony with appropriate control for potential confounders. The preferred estimate is:

Preferred Estimate:

- Effect size: 0.0556 (5.56 percentage points)
- Standard error: 0.0143
- 95% Confidence interval: [0.0276, 0.0836]
- p-value: <0.001
- Sample size: 17,382

This estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 5.6 percentage points. Given that the baseline full-time employment rate in the treatment group was 62.6% in the pre-DACA period, this represents an approximately 8.9% relative increase in full-time employment.

5.5 Subgroup Analysis

Table 5 presents DiD estimates for population subgroups.

Table 5: Subgroup Analysis

Subgroup	Estimate	Std. Error	N
By Sex			
Male	0.0615	0.0173	9,075
Female	0.0452	0.0232	8,307
By Education			
High School Degree	0.0482	0.0181	12,444
Some College	0.1075	0.0382	2,877
Two-Year Degree	0.1256	0.0653	991
BA+	0.0856	0.0598	1,058
By Marital Status			
Married	0.0586	0.0214	8,524
Not Married	0.0758	0.0222	8,858

The effect of DACA eligibility appears somewhat larger for males (6.2 percentage points) than for females (4.5 percentage points), though the difference is not statistically significant given the overlapping confidence intervals. The effect is largest for individuals with some college education or a two-year degree, suggesting that DACA may have particularly benefited those with intermediate education levels. Unmarried individuals show a slightly larger effect than married individuals.

5.6 Parallel Trends Assessment

5.6.1 Pre-Treatment Trend Test

To assess the parallel trends assumption, I estimated a model on pre-DACA data (2008-2011) including an interaction between the treatment indicator and a linear year trend:

$$FT_i = \alpha + \beta_1 ELIGIBLE_i + \beta_2 YEAR_i + \beta_3 (ELIGIBLE_i \times YEAR_i) + \epsilon_i \tag{4}$$

The coefficient on the interaction term (β_3) was 0.0151 with a standard error of 0.0093 and p-value of 0.103. This statistically insignificant result suggests no evidence of differential pre-treatment trends, supporting the parallel trends assumption.

5.6.2 Full-Time Employment Trends by Year

Table 6 presents full-time employment rates by year and group.

Table 6: Full-Time Employment Rates by Year and Group

Year	Comparison	Treatment	Difference
Pre-DACA Period			
2008	0.7264	0.6667	-0.0597
2009	0.6569	0.6174	-0.0395
2010	0.6733	0.6064	-0.0669
2011	0.6175	0.6168	-0.0007
Post-DACA Period			
2013	0.6238	0.6420	+0.0181
2014	0.6492	0.6397	-0.0095
2015	0.6501	0.6797	+0.0296
2016	0.6598	0.7082	+0.0484

In the pre-DACA period, both groups showed declining full-time employment rates (consistent with the effects of the Great Recession), and the gap between groups narrowed over time. In the post-DACA period, the treatment group's employment rate recovered more strongly, eventually exceeding the comparison group's rate by 2016.

5.6.3 Event Study Results

Table 7 presents the event study coefficients, with 2011 as the reference year.

Table 7: Event Study Coefficients (Reference: 2011)

Year	Coefficient	Std. Error	95% CI
Pre-DACA			
2008	-0.059	0.029	[-0.116, -0.002]
2009	-0.039	0.029	[-0.096, 0.019]
2010	-0.066	0.029	[-0.123, -0.009]
Post-DACA			
2013	0.019	0.030	[-0.040, 0.078]
2014	-0.009	0.030	[-0.068, 0.051]
2015	0.030	0.031	[-0.031, 0.092]
2016	0.049	0.031	[-0.012, 0.111]

The event study reveals that pre-treatment coefficients (2008-2010) are negative relative to 2011, indicating some pre-treatment differences. However, these differences do not follow

a consistent trend, and the formal pre-trend test (above) does not reject the null of no differential trend. Post-DACA coefficients are generally positive and increasing over time, consistent with the treatment effect growing as more individuals gained DACA status and the program's effects accumulated.

6 Discussion

6.1 Summary of Findings

This study finds that DACA eligibility had a statistically significant positive effect on full-time employment among ethnically Hispanic-Mexican Mexican-born individuals. The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 5.6 percentage points (95% CI: 2.8 to 8.4 percentage points). This effect is robust across multiple model specifications, including models with demographic controls, state fixed effects, year fixed effects, and heteroskedasticity-robust standard errors.

6.2 Interpretation

The magnitude of the effect is economically meaningful. A 5.6 percentage point increase in full-time employment represents approximately an 8.9% relative increase from the baseline rate of 62.6% in the treatment group. This substantial effect is plausible given that DACA provided legal work authorization, enabling recipients to access formal employment and jobs requiring employment verification.

The positive effect may reflect several mechanisms:

1. **Legal work authorization**: DACA recipients could legally work, expanding their employment options
2. **Driver's licenses**: In some states, DACA recipients became eligible for driver's licenses, facilitating employment
3. **Reduced uncertainty**: Temporary relief from deportation may have encouraged longer-term employment investments
4. **Signaling**: DACA status may have signaled reliability to employers

6.3 Subgroup Heterogeneity

The subgroup analysis reveals some heterogeneity in the treatment effect. The effect appears larger for males than females, possibly reflecting gender differences in labor force participa-

tion patterns. The effect is particularly large for individuals with some college education or a two-year degree, suggesting that DACA may have been especially beneficial for those with intermediate education levels who could leverage their credentials once legal work authorization was obtained.

6.4 Validity of the Research Design

The difference-in-differences design relies on the parallel trends assumption. Several pieces of evidence support this assumption:

1. The formal pre-treatment trend test found no statistically significant differential trend ($p = 0.103$)
2. Both groups showed declining employment during the pre-DACA period (consistent with the Great Recession)
3. The comparison group of individuals aged 31-35 is closely comparable to the treatment group, differing only in age

However, some caution is warranted. The event study reveals some year-to-year variation in pre-treatment coefficients, and the treatment and comparison groups may differ in unobserved ways correlated with both age and employment outcomes.

6.5 Limitations

This study has several limitations:

1. **Sample selection**: The sample is limited to Hispanic-Mexican Mexican-born individuals, so findings may not generalize to other DACA-eligible populations
2. **Age-based comparison**: The comparison group (ages 31-35) differs from the treatment group (ages 26-30) only in age, but age-related factors other than DACA eligibility could affect employment
3. **Repeated cross-sections**: The ACS is a repeated cross-section, not a panel, so I cannot track the same individuals over time
4. **Binary outcome**: The full-time employment indicator does not capture changes in employment quality, wages, or job characteristics
5. **Intent-to-treat**: The analysis estimates the effect of eligibility for DACA, not actual receipt of DACA status

7 Conclusion

This replication study provides evidence that DACA eligibility had a positive causal effect on full-time employment among ethnically Hispanic-Mexican Mexican-born individuals in the United States. The preferred difference-in-differences estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 5.6 percentage points (SE = 0.014, p ¡ 0.001, 95% CI: [0.028, 0.084]).

This effect is robust across multiple model specifications and is supported by evidence consistent with the parallel trends assumption. The findings suggest that providing legal work authorization to undocumented immigrants can have meaningful positive effects on their labor market outcomes.

These results contribute to the broader literature on immigration policy and labor market outcomes, demonstrating that policies providing legal work authorization can facilitate employment integration for previously unauthorized immigrants. The findings have implications for ongoing policy debates about the future of DACA and potential pathways to legal status for undocumented immigrants.

8 Appendix: Full Model Results

8.1 Model 2 Full Results (Preferred Specification)

Table 8: Full Regression Results: Model 2 (Preferred Specification)

Variable	Coefficient	Std. Error	t-statistic	p-value
Intercept	0.6234	0.129	4.84	<0.001
ELIGIBLE	-0.0446	0.010	-4.58	<0.001
AFTER	-0.0093	0.012	-0.80	0.421
ELIGIBLE × AFTER	0.0556	0.014	3.89	<0.001
FEMALE	-0.3327	0.007	-47.72	<0.001
MARRIED	-0.0103	0.007	-1.42	0.154
NCHILD	-0.0120	0.003	-4.34	<0.001
High School (ref: <HS)	0.2082	0.129	1.62	0.105
Some College	0.2490	0.129	1.93	0.053
Two-Year Degree	0.2595	0.129	2.01	0.045
BA+	0.2954	0.129	2.29	0.022
N		17,382		
R-squared		0.132		

The full model results show that being female is associated with a 33.3 percentage point lower probability of full-time employment, reflecting gender differences in labor force participation. Having more children is associated with lower full-time employment. Higher education levels are associated with higher full-time employment, with BA+ degree holders having the highest employment rates.

8.2 Methodology Notes

8.2.1 Estimation

All models were estimated using ordinary least squares (OLS) regression. Although the outcome is binary, the linear probability model provides easily interpretable coefficients and consistent estimates of average marginal effects. Heteroskedasticity-robust standard errors (HC1) were computed as a robustness check.

8.2.2 Control Variables

Control variables were selected based on their theoretical relevance to employment outcomes:

- **Sex**: Gender differences in labor force participation are well-documented
- **Marital status**: Marriage may affect labor supply decisions differently by gender
- **Number of children**: Children may affect employment, especially for women
- **Education**: Human capital is a key determinant of employment

8.2.3 Fixed Effects

State fixed effects control for time-invariant differences across states in labor markets, immigrant populations, and state policies. Year fixed effects control for common shocks affecting all individuals in a given year (e.g., macroeconomic conditions).

8.3 Software and Replication

All analyses were conducted using Python 3 with the following packages:

- pandas 2.x for data manipulation
- numpy 1.x for numerical operations
- statsmodels 0.14.x for regression analysis

- scipy 1.x for statistical tests

The complete analysis code is available in the accompanying file `analysis_script.py`.

9 Appendix: Additional Technical Details

9.1 Variable Definitions from IPUMS

The following provides additional detail on key IPUMS ACS variables used in this analysis:

9.1.1 Employment Variables

The outcome variable FT is derived from `UHRSWORK`, which reports the usual number of hours worked per week. Individuals are classified as working full-time (FT=1) if they usually work 35 or more hours per week. This definition aligns with the Bureau of Labor Statistics' standard definition of full-time employment.

The underlying `EMPSTAT` variable distinguishes between employed (code 1), unemployed (code 2), and not in labor force (code 3). In this analysis, both unemployed and not-in-labor-force individuals are coded as FT=0, meaning the outcome captures the unconditional probability of full-time employment (not conditional on labor force participation).

9.1.2 Demographic Variables

`SEX` is coded as 1 for male and 2 for female in the original IPUMS data. For the analysis, I created a binary FEMALE indicator (0=male, 1=female).

`MARST` (marital status) has the following categories in IPUMS:

- 1 = Married, spouse present
- 2 = Married, spouse absent
- 3 = Separated
- 4 = Divorced
- 5 = Widowed
- 6 = Never married/single

For the MARRIED indicator, I coded individuals with MARST values of 1 or 2 as married.

9.1.3 Education Variables

The `EDUC_RECODE` variable simplifies the detailed IPUMS education codes into five categories:

- Less than High School: Includes all education levels below high school completion
- High School Degree: Completed high school or equivalent (GED)
- Some College: Attended college but did not complete a degree
- Two-Year Degree: Associate's degree or equivalent
- BA+: Bachelor's degree or higher (includes Master's, Professional, and Doctoral degrees)

In the regression models, education is represented by dummy variables with "Less than High School" as the reference category.

9.2 Sample Characteristics by Treatment Status

Table 9 presents a comparison of baseline characteristics between the treatment and comparison groups in the pre-DACA period.

Table 9: Balance Table: Pre-DACA Period Characteristics

Characteristic	Treatment (Ages 26-30)	Comparison (Ages 31-35)	Difference
Female (%)	47.2	48.9	-1.7
Married (%)	43.8	56.1	-12.3
Mean children	1.24	1.58	-0.34
Mean family size	4.32	4.56	-0.24
Mean years in USA	19.3	23.1	-3.8
High School (%)	72.5	70.8	1.7
Some College (%)	17.2	16.1	1.1
BA+ (%)	5.8	6.4	-0.6
Full-time employed (%)	62.6	67.0	-4.4
N	6,233	3,294	

The comparison group is older by design, which is reflected in somewhat higher rates of marriage, more children, and longer residence in the United States. These differences motivate the inclusion of demographic controls in the regression specifications.

9.3 Robustness to Alternative Specifications

9.3.1 Alternative Outcome Definitions

While the primary analysis uses full-time employment as the outcome, alternative employment measures could be considered:

- **Employment (any)**: Including part-time employment
- **Labor force participation**: Including those actively seeking work
- **Hours worked**: Continuous measure of usual weekly hours

The focus on full-time employment is motivated by the expectation that DACA's provision of legal work authorization would most directly affect access to formal, full-time positions.

9.3.2 Sensitivity to Age Window

The analysis uses ages 26-30 for the treatment group and 31-35 for the comparison group. Alternative age windows could be considered (e.g., 25-30 vs. 31-36), though narrower windows around the age-31 cutoff would reduce sample size and statistical power. The chosen 5-year windows balance comparability with adequate sample sizes.

9.3.3 State-Level Heterogeneity

States varied in their policies toward DACA recipients during this period. Some states allowed DACA recipients to obtain driver's licenses, in-state tuition, and other benefits, while others did not. The inclusion of state fixed effects in some specifications partially addresses this heterogeneity. A more detailed analysis could examine whether the DACA effect varied by state policy environment.

9.4 Comparison with Prior Literature

This analysis contributes to a growing literature examining the effects of DACA on economic outcomes. Prior studies have used various methodological approaches:

- **Age-based difference-in-differences**: Similar to this study, comparing those just below and above the age-31 cutoff
- **Regression discontinuity**: Exploiting the sharp age cutoff at 31
- **Triple differences**: Adding an additional comparison dimension such as citizenship status

The estimates in this study are broadly consistent with prior findings suggesting positive employment effects of DACA, though specific magnitudes vary across studies depending on sample definitions, outcome measures, and estimation strategies.

9.5 Policy Implications

The findings have several policy implications:

1. **Labor market integration**: Legal work authorization appears to facilitate formal employment for undocumented immigrants
2. **Temporary vs. permanent status**: Even temporary work authorization (DACA's two-year renewable terms) produced measurable employment gains
3. **Age considerations**: The age-31 cutoff created a natural experiment, but also highlights how arbitrary age restrictions can exclude otherwise-eligible individuals
4. **Broader immigration reform**: These findings suggest that extending legal work authorization more broadly could produce similar employment benefits

9.6 Data Availability and Replication

The analysis uses data from the American Community Survey (ACS) provided through IPUMS USA. The specific data extract was prepared for this replication study and includes:

- ACS samples from 2008-2011 and 2013-2016 (excluding 2012)
- Restricted to ethnically Hispanic-Mexican Mexican-born individuals
- Age restricted to those who would be 26-35 as of June 2012
- Pre-constructed ELIGIBLE, AFTER, and FT variables

The complete dataset contains 17,382 observations with 105 variables. All analysis code is provided in `analysis_script.py`, which can reproduce all results from the prepared data file.

9.7 Acknowledgments

This analysis uses data from IPUMS USA (Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rogers, and Megan Schouweiler. IPUMS USA: Version 15.0 [dataset]. Minneapolis, MN: IPUMS, 2024. https://doi.org/10.1812