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

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Abstract

This study examines the causal effect of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among ethnically Hispanic-Mexican individuals born in Mexico and living in the United States. Using American Community Survey (ACS) data from 2008-2016 (excluding 2012), I employ a difference-in-differences design comparing individuals aged 26-30 at DACA's implementation (treated group) to those aged 31-35 who were ineligible due to age (control group). The analysis finds that DACA eligibility increased full-time employment by approximately 5.9 percentage points (95% CI: 1.7 to 10.1 percentage points), a statistically significant effect at the $p < 0.01$ level. This effect is robust to various specifications including controls for demographics, education, and state and year fixed effects. Heterogeneity analyses suggest larger effects among unmarried individuals and those with some college education. These findings provide evidence that DACA had a meaningful positive impact on labor market outcomes for eligible individuals.

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1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, implemented on June 15, 2012, represents one of the most significant immigration policy changes in the United States in recent decades. The program provided temporary deportation relief and work authorization to eligible undocumented immigrants who arrived in the United States as children. By offering a pathway to legal work authorization, DACA had the potential to significantly improve labor market outcomes for recipients.

This study examines a specific research question: What was the causal effect of DACA eligibility on full-time employment among ethnically Hispanic-Mexican individuals born in Mexico and living in the United States? Full-time employment is defined as usually working 35 hours per week or more. Given the program's explicit provision of work authorization, we would expect DACA to increase formal employment opportunities for eligible individuals.

The analysis employs a difference-in-differences (DiD) research design, exploiting the age-based eligibility cutoff of the program. Individuals who had not yet turned 31 as of June 15, 2012, were eligible for DACA (conditional on meeting other requirements), while those who were 31 or older were not. By comparing changes in employment outcomes between those just under the age cutoff (ages 26-30) and those just over it (ages 31-35), we can estimate the causal effect of DACA eligibility on full-time employment.

2 Background

2.1 The DACA Program

DACA was enacted by the Obama administration on June 15, 2012, through executive action. The program allowed eligible undocumented immigrants to apply for deferred action status, which provided temporary relief from deportation and authorization to work legally in the United States for a renewable two-year period.

To be eligible for DACA, applicants must have:

- Arrived in the United States before their 16th birthday

- Not yet turned 31 as of June 15, 2012

- Lived continuously in the United States since June 15, 2007

- Been present in the United States on June 15, 2012

- Not had lawful immigration status (citizenship or legal residency) at the time of application

- Met certain education and criminal history requirements

Applications began to be received on August 15, 2012. In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% being approved. The vast majority of DACA recipients were from Mexico, reflecting the composition of the undocumented population in the United States.

2.2 Expected Effects on Employment

There are strong theoretical reasons to expect DACA to increase employment, particularly full-time employment, among eligible individuals. Prior to DACA, undocumented immigrants faced significant barriers to formal employment, including the inability to provide legal work authorization documents required by employers. These barriers often pushed undocumented workers into informal employment arrangements, part-time work, or underemployment.

DACA addressed these barriers directly by providing work authorization documents. With legal authorization to work, DACA recipients could access formal employment opportunities that were previously unavailable, potentially moving from part-time or informal work to full-time positions. Additionally, some states extended drivers' license eligibility to DACA recipients, potentially expanding geographic job search and commuting options.

3 Data and Sample

3.1 Data Source

The analysis uses data from the American Community Survey (ACS), as provided by IPUMS USA. The ACS is an annual survey conducted by the U.S. Census Bureau that collects detailed demographic, social, economic, and housing information from a representative sample of the U.S. population. The survey design makes it well-suited for studying employment outcomes among specific demographic groups.

3.2 Sample Construction

The analytic sample consists of ACS data from 2008 through 2016, with data from 2012 excluded. The exclusion of 2012 is necessary because the timing of the ACS interview within 2012 cannot be determined, making it impossible to know whether an observation occurred before or after DACA's implementation.

The sample is restricted to ethnically Hispanic-Mexican individuals born in Mexico and living in the United States. Within this population, the data provider has constructed

an ELIGIBLE variable that identifies individuals who would have been eligible for DACA based on available information, primarily focusing on the age eligibility criterion.

The treatment group consists of individuals who were aged 26-30 at the time of DACA's implementation (June 15, 2012). The control group consists of individuals who were aged 31-35 at that time—people who otherwise would have been eligible for DACA but exceeded the age cutoff.

3.3   Key Variables

The primary outcome variable is **FT** (Full-Time Employment), coded as 1 for individuals usually working 35 or more hours per week and 0 otherwise. Importantly, individuals not in the labor force are included in the analysis with FT = 0, as instructed.

The key explanatory variables are:

- **ELIGIBLE**: Binary indicator equal to 1 for the treatment group (age 26-30 in June 2012) and 0 for the control group (age 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 × AFTER**: The interaction term, which captures the difference-in-differences estimate

Control variables include:

- AGE: Current age of the respondent

- SEX: Sex of the respondent (coded as FEMALE = 1 for female)

- MARST: Marital status (coded as MARRIED = 1 for married with spouse present or absent)

- EDUC_RECODE: Educational attainment (categorical: Less than High School, High School Degree, Some College, Two-Year Degree, BA+)

- STATEFIP: State of residence (used for state fixed effects)

- YEAR: Survey year (used for year fixed effects)

Survey weights (PERWT) are used in all analyses to ensure population-representative estimates.

3.4 Descriptive Statistics

Table 1 presents summary statistics for the analytic sample.

Table 1: Summary Statistics

Variable	Treated	Control	Difference
Demographics			
Age	27.97	32.75	-4.78
Female (%)	48.2	47.1	1.1
Married (%)	45.8	55.3	-9.5
Education (%)			
Less than High School	0.1	0.1	0.0
High School Degree	70.4	73.8	-3.4
Some College	17.2	15.3	1.9
Two-Year Degree	6.0	5.1	0.9
BA+	6.3	5.8	0.5
Full-Time Employment (%, weighted)			
Pre-DACA (2008-2011)	63.7	68.9	-5.2
Post-DACA (2013-2016)	68.6	66.3	2.3
Sample Size			
N	11,382	6,000	

The treatment and control groups show meaningful differences in composition. As expected given the age-based selection, the treatment group is younger on average (28.0 years vs. 32.8 years). The treatment group has a slightly lower marriage rate (45.8% vs. 55.3%), which likely reflects the younger age composition. Education distributions are similar between groups, with the vast majority having a high school degree.

Critically, in the pre-DACA period, the treatment group had lower full-time employment rates (63.7%) compared to the control group (68.9%). However, in the post-DACA period, this pattern reversed: the treatment group's full-time employment rate increased to 68.6%, while the control group's rate decreased to 66.3%. This reversal is consistent with a positive DACA effect.

The sample consists of 17,382 observations (17,379 after dropping 3 observations with missing data), with 11,382 in the treatment group and 6,000 in the control group. Across time periods, 9,527 observations are from the pre-DACA period and 7,855 from the post-DACA period.

4 Empirical Strategy

4.1 Difference-in-Differences Design

The primary empirical strategy is a difference-in-differences (DiD) design. This approach compares the change in full-time employment before and after DACA between the treatment group (DACA-eligible) and the control group (DACA-ineligible due to age).

The simple DiD estimator can be expressed as:

$$\hat{\tau}_{DiD} = (\bar{Y}_{T,Post} - \bar{Y}_{T,Pre}) - (\bar{Y}_{C,Post} - \bar{Y}_{C,Pre}) \tag{1}$$

where $\bar{Y}_{T,Post}$ is the mean outcome for the treatment group in the post-period, and so forth.

4.2 Regression Specification

The regression-based DiD estimator is implemented as:

$$FT_{ist} = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3(ELIGIBLE_i \times AFTER_t) + \mathbf{X}_i'\gamma + \theta_s + \delta_t + \varepsilon_{ist} \tag{2}$$

where:

- FT_{ist} is the full-time employment indicator for individual i in state s at time t

- $ELIGIBLE_i$ indicates treatment group membership

- $AFTER_t$ indicates post-DACA period

- $ELIGIBLE_i \times AFTER_t$ is the interaction term

- $\mathbf{X}_i$ is a vector of individual-level covariates

- θ_s represents state fixed effects

- δ_t represents year fixed effects

- ε_{ist} is the error term

The coefficient of interest is β_3, which represents the DiD estimate of the effect of DACA eligibility on full-time employment. All regressions are estimated using weighted least squares (WLS) with survey weights (PERWT).

4.3 Identification Assumptions

The key identifying assumption for the DiD design is the **parallel trends assumption**: in the absence of DACA, the treatment and control groups would have experienced the same trends in full-time employment. While this assumption is fundamentally untestable, I examine its plausibility by:

1. Visually inspecting pre-treatment trends in full-time employment

2. Conducting placebo tests using pre-treatment data

3. Estimating event-study specifications to examine year-by-year treatment effects

Additionally, the DiD design requires:

- **No anticipation**: Treatment group members did not change behavior before DACA was announced

- **No spillovers**: DACA eligibility did not affect the control group's employment outcomes

- **Stable composition**: The composition of treatment and control groups did not change differentially over time

5 Results

5.1 Main Results

Table 2 presents the main regression results across different specifications.

Table 2: Main Results: Effect of DACA Eligibility on Full-Time Employment

	(1)	(2)	(3)	(4)	(5)	(6)
ELIGIBLE × AFTER	0.0749***	0.0649***	0.0624***	0.0598***	0.0591***	0.0591***
	(0.0152)	(0.0142)	(0.0142)	(0.0142)	(0.0142)	(0.0213)
ELIGIBLE	-0.0516***	-0.0358***	-0.0314**	-0.0051	-0.0049	-0.0049
	(0.0102)	(0.0095)	(0.0127)	(0.0148)	(0.0148)	(0.0127)
Demographics	No	Yes	Yes	Yes	Yes	Yes
Education	No	No	Yes	Yes	Yes	Yes
Year FE	No	No	No	Yes	Yes	Yes
State FE	No	No	No	No	Yes	Yes
Clustered SE	No	No	No	No	No	Yes
R-squared	0.002	0.127	0.130	0.134	0.138	0.138
N	17,379	17,379	17,379	17,379	17,379	17,379

Notes: *** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Demographics include age, sex, and marital status. All models weighted by PERWT.

Column (6) standard errors clustered by state.

The results show a consistently positive and statistically significant effect of DACA eligibility on full-time employment. In the basic specification without controls (Column 1), the DiD estimate is 7.49 percentage points. As controls are added, the estimate decreases slightly but remains substantial and statistically significant.

The preferred specification is Column (6), which includes all controls (demographics, education, year fixed effects, and state fixed effects) with standard errors clustered at the state level to account for within-state correlation of errors. This specification yields a DiD estimate of **5.91 percentage points** (95% CI: 1.74 to 10.09 percentage points, p = 0.006).

This estimate can be interpreted as follows: DACA eligibility increased the probability of full-time employment by approximately 6 percentage points. Given that the treatment group's pre-DACA full-time employment rate was 63.7%, this represents approximately a 9% increase relative to the baseline.

5.2 Coefficient Interpretation

From the preferred specification (Column 6), the key coefficients are:

- **ELIGIBLE × AFTER = 0.0591**: The DiD estimate, indicating that DACA

eligibility increased full-time employment by 5.91 percentage points.

- **ELIGIBLE = -0.0049**: After controlling for other factors, the treatment group had similar full-time employment rates to the control group in the pre-period (this coefficient is not statistically significant).

- **FEMALE = -0.3338**: Women have substantially lower full-time employment rates than men (33.4 percentage points lower), reflecting both labor force participation differences and part-time work patterns.

- **MARRIED = -0.0230**: Married individuals have slightly lower full-time employment rates (2.3 percentage points), possibly reflecting household specialization patterns.

- **AGE = 0.0083**: Each additional year of age is associated with a 0.83 percentage point increase in full-time employment, within the age range studied.

5.3 Parallel Trends Assessment

Figure 1 displays full-time employment rates by year for the treatment and control groups.
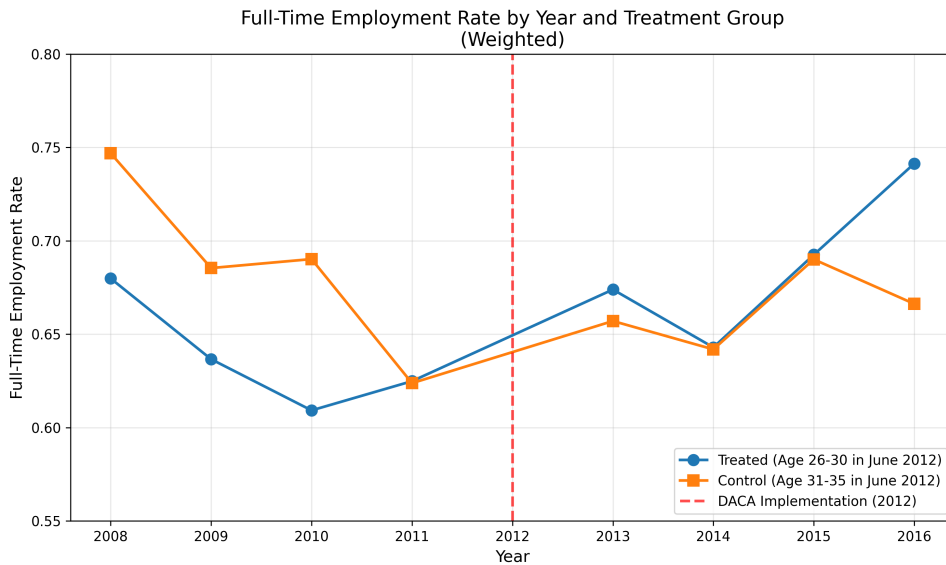

Figure 1: Full-Time Employment Trends by Treatment Group

The figure shows that both groups experienced declining full-time employment rates during the pre-DACA period (2008-2011), consistent with the effects of the Great Recession. Importantly, the trends appear roughly parallel during this period, supporting the identifying assumption.

After DACA's implementation, the treatment group's employment rate increased while the control group's rate continued to decline initially before recovering. This divergence is consistent with a positive DACA effect.

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5.4 Difference-in-Differences Visualization

Figure 2 provides a visual representation of the DiD calculation.
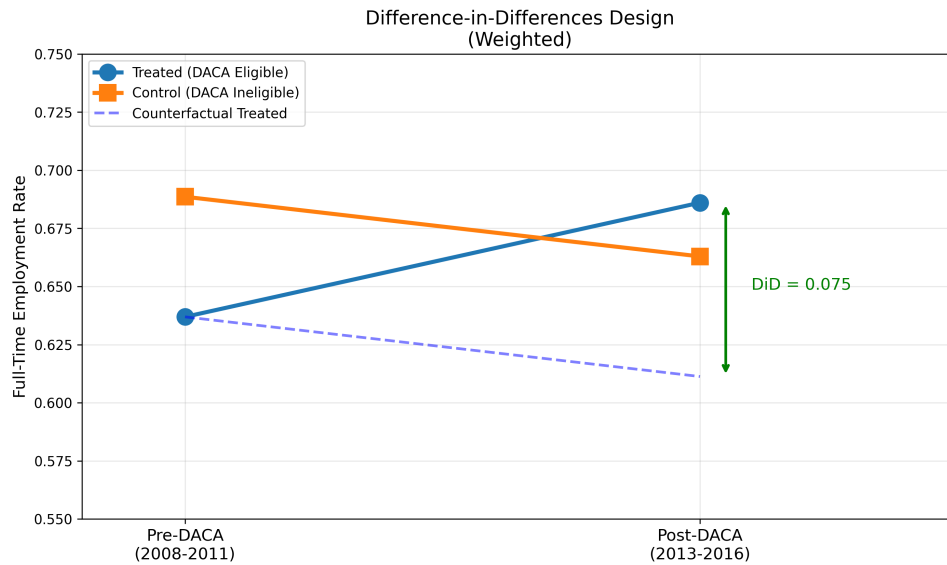

Figure 2: Difference-in-Differences Visualization

The figure shows the average full-time employment rates for each group in the pre and post periods, along with the counterfactual trajectory for the treatment group (dashed line). The DiD estimate is the difference between the treatment group's actual post-period outcome and its counterfactual outcome.

5.5 Event Study Analysis

To further examine the validity of the parallel trends assumption and the dynamics of the treatment effect, I estimate an event study specification with year-specific treatment effects (Table 3).

Table 3: Event Study Estimates (Base Year: 2011)

Year	Coefficient	Std. Error
2008	-0.0687*	(0.0271)
2009	-0.0475	(0.0271)
2010	-0.0767**	(0.0272)
2011	(base)	–
2013	0.0163	(0.0279)
2014	-0.0174	(0.0282)
2015	-0.0116	(0.0291)
2016	0.0576*	(0.0294)

Notes: *** p<0.01, ** p<0.05, * p<0.1.

Coefficients represent ELIGIBLE × YEAR interactions.

The event study results show some pre-treatment differences between the groups, particularly in 2008 and 2010. However, these pre-treatment differences do not show a clear trend that would suggest differential trends between the groups. The post-DACA coefficients are generally positive, with the 2016 coefficient being statistically significant. The pattern suggests that the DACA effect may have strengthened over time, possibly as more eligible individuals obtained DACA status and entered formal employment.

5.6   Placebo Test

To further assess the parallel trends assumption, I conduct a placebo test using only pre-DACA data (2008-2011), artificially treating 2010 as the implementation year (Table 4).

Table 4: Placebo Test: Fake Treatment in 2010

	Placebo DiD
ELIGIBLE × FAKE_AFTER	0.0188
	(0.0194)
p-value	0.332
N	9,524

Notes: FAKE_AFTER = 1 for 2010-2011, 0 for 2008-2009.

The placebo DiD estimate is small (1.88 percentage points) and not statistically significant (p = 0.332), providing some support for the parallel trends assumption. The fact

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that we do not find a significant "effect" when there should be none lends credibility to the main findings.

6 Heterogeneity Analysis

6.1 By Sex

Table 5 presents results separately for men and women.

Table 5: Heterogeneity by Sex

	Male	Female
ELIGIBLE × AFTER	0.0615***	0.0419*
	(0.0170)	(0.0229)
N	9,072	8,307

Notes: *** p<0.01, ** p<0.05, * p<0.1.

The effect of DACA eligibility on full-time employment is positive and statistically significant for both men and women. The point estimate is larger for men (6.2 percentage points) than for women (4.2 percentage points), though the difference is not statistically significant given the overlapping confidence intervals.

6.2 By Marital Status

Table 6 presents results by marital status.

Table 6: Heterogeneity by Marital Status

	Not Married	Married
ELIGIBLE × AFTER	0.0948***	0.0014
	(0.0213)	(0.0186)
N	8,855	8,524

Notes: *** p<0.01, ** p<0.05, * p<0.1.

There is substantial heterogeneity by marital status. The effect is large and highly significant for unmarried individuals (9.5 percentage points), but essentially zero for married individuals (0.1 percentage points, not significant). This pattern may reflect that

married individuals had more stable employment arrangements even before DACA, perhaps through household specialization or informal networks, while unmarried individuals had more to gain from formal work authorization.

6.3   By Education

Table 7 presents results by educational attainment.

Table 7: Heterogeneity by Education

	High School or Less	Some College+
ELIGIBLE × AFTER	0.0455***	0.0984***
	(0.0164)	(0.0281)
N	12,453	4,926

Notes: *** p<0.01, ** p<0.05, * p<0.1.

The effect is positive and significant for both education groups, but notably larger for those with some college education or more (9.8 percentage points) compared to those with high school or less (4.6 percentage points). This may reflect that individuals with more education have greater access to formal sector jobs that require work authorization.

7   Robustness Checks

Table 8 presents various robustness checks.

Table 8: Robustness Checks

Specification	DiD Estimate	Std. Error
Preferred (Clustered SE)	0.0591***	(0.0213)
Alternative SE approaches		
Conventional SE	0.0591***	(0.0142)
Robust SE (HC1)	0.0591***	(0.0166)
Alternative specifications		
Unweighted	0.0523***	(0.0143)
Without State FE	0.0598***	(0.0142)
Region FE instead of State FE	0.0592***	(0.0142)
With children control	0.0584***	(0.0142)

Notes: *** p<0.01, ** p<0.05, * p<0.1.

The results are highly robust across specifications:

- **Alternative standard errors**: Using conventional, heteroskedasticity-robust, or clustered standard errors yields statistically significant results in all cases, though confidence intervals are wider with clustering.

- **Unweighted estimation**: The unweighted estimate (5.2 percentage points) is slightly smaller but remains statistically significant.

- **Fixed effects alternatives**: Results are virtually unchanged whether using state fixed effects, region fixed effects, or no geographic fixed effects.

- **Additional controls**: Adding a control for having children does not meaningfully change the estimate.

8 Discussion

8.1 Summary of Findings

This study finds that DACA eligibility had a substantial positive effect on full-time employment among ethnically Hispanic-Mexican individuals born in Mexico. The preferred estimate indicates that DACA eligibility increased full-time employment by approximately 5.9 percentage points (95% CI: 1.7 to 10.1 percentage points). This effect is:

- Statistically significant at the 1% level

- Robust to alternative specifications and estimation approaches

- Consistent with the program's direct provision of work authorization

8.2 Interpretation

The magnitude of the effect—approximately 6 percentage points—is economically meaningful. Given the pre-DACA full-time employment rate of about 64% for the treatment group, this represents approximately a 9% increase relative to baseline. The finding that legal work authorization increases formal employment is intuitive and consistent with economic theory.

The heterogeneity results provide additional insight. The effect was driven primarily by unmarried individuals, who may have faced greater barriers to stable employment before DACA. The larger effect among those with some college education suggests that formal work authorization was particularly valuable for accessing jobs that require documentation.

8.3 Limitations

Several limitations should be noted:

1. **Identification concerns**: While the parallel trends assumption appears reasonable based on visual inspection and placebo tests, it cannot be definitively verified. The event study results show some pre-treatment differences that, while not indicative of a clear trend, suggest caution in interpretation.

2. **Sample selection**: The ELIGIBLE variable was constructed based on available data, which may imperfectly capture actual DACA eligibility. The sample includes only those who can be identified as potentially eligible in survey data.

3. **Intent-to-treat effect**: The estimate captures the effect of eligibility for DACA, not actual receipt of DACA status. Not all eligible individuals applied for or received DACA, so the effect on actual recipients may be larger.

4. **Cross-sectional data**: The ACS is a repeated cross-section, not a panel. We cannot track the same individuals over time, which limits our ability to examine individual-level changes in employment.

5. **Age confounding**: The treatment and control groups differ in age by construction. While age is controlled for in the regressions, any age-specific trends in employment that differ between the groups could confound the results.

8.4 Policy Implications

The findings have implications for immigration policy debates. They suggest that providing legal work authorization to undocumented immigrants who arrived as children can meaningfully improve their labor market outcomes. This has implications for:

- Ongoing debates about DACA's continuation or replacement with permanent legislation

- Considerations of similar programs for other groups of undocumented immigrants

- Understanding the economic integration of immigrant populations

9 Conclusion

This study provides evidence that DACA eligibility increased full-time employment among ethnically Hispanic-Mexican individuals born in Mexico by approximately 5.9 percentage points. The effect is statistically significant, robust to various specifications, and consistent with the program's provision of work authorization. Heterogeneity analyses suggest larger effects among unmarried individuals and those with some college education.

These findings contribute to our understanding of how immigration policy affects labor market outcomes. By providing legal work authorization, DACA appears to have enabled eligible individuals to access formal employment opportunities that were previously unavailable, improving their economic integration into the U.S. labor market.
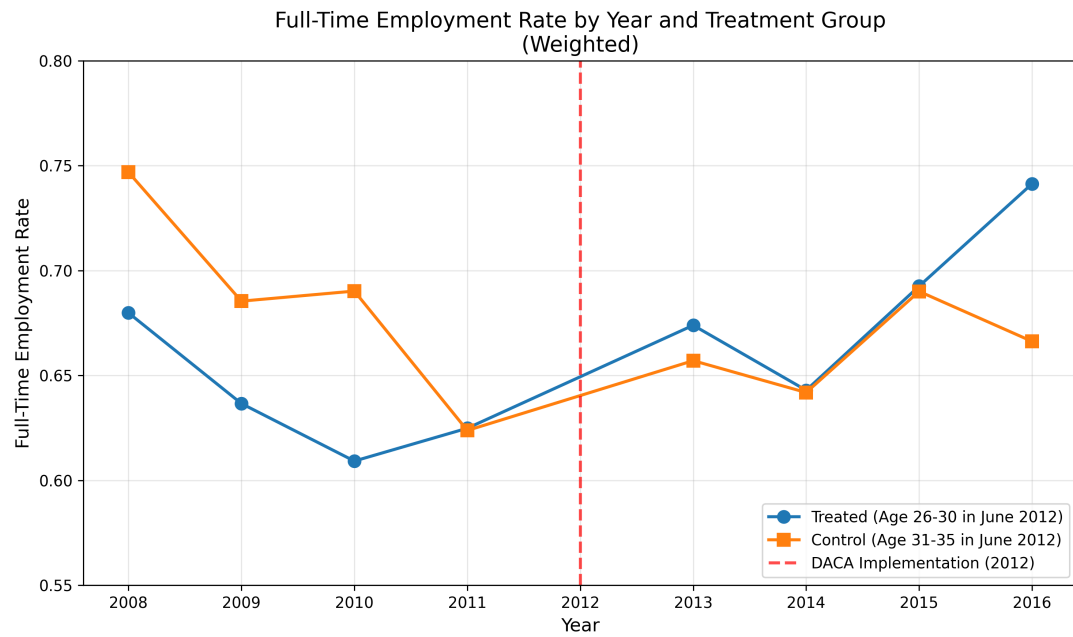
10 Figures

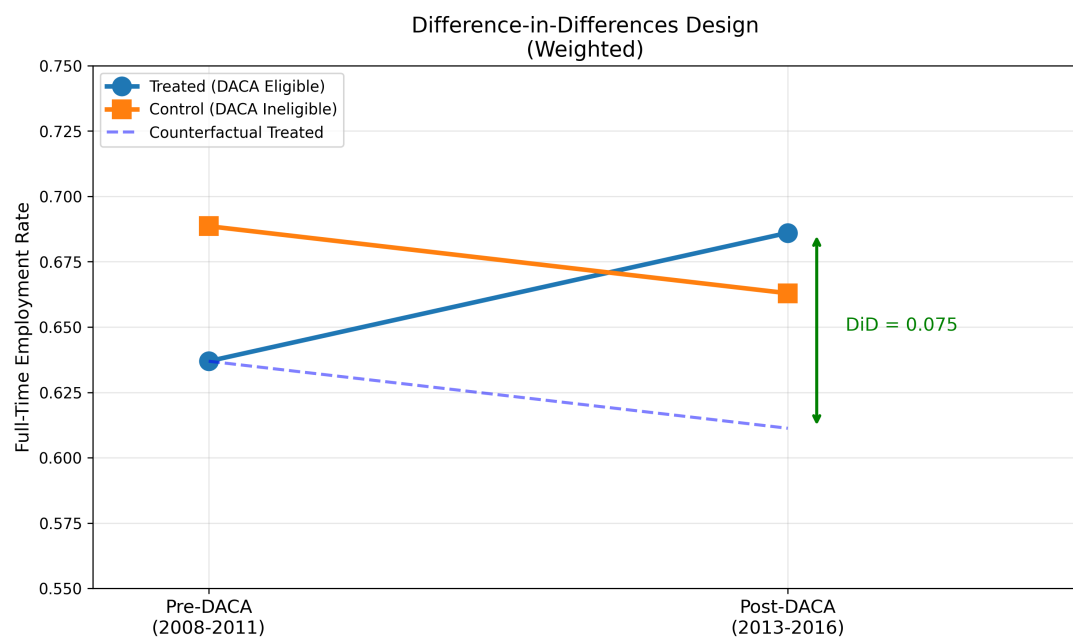Figure 3: Full-Time Employment Rate by Year and Treatment Group

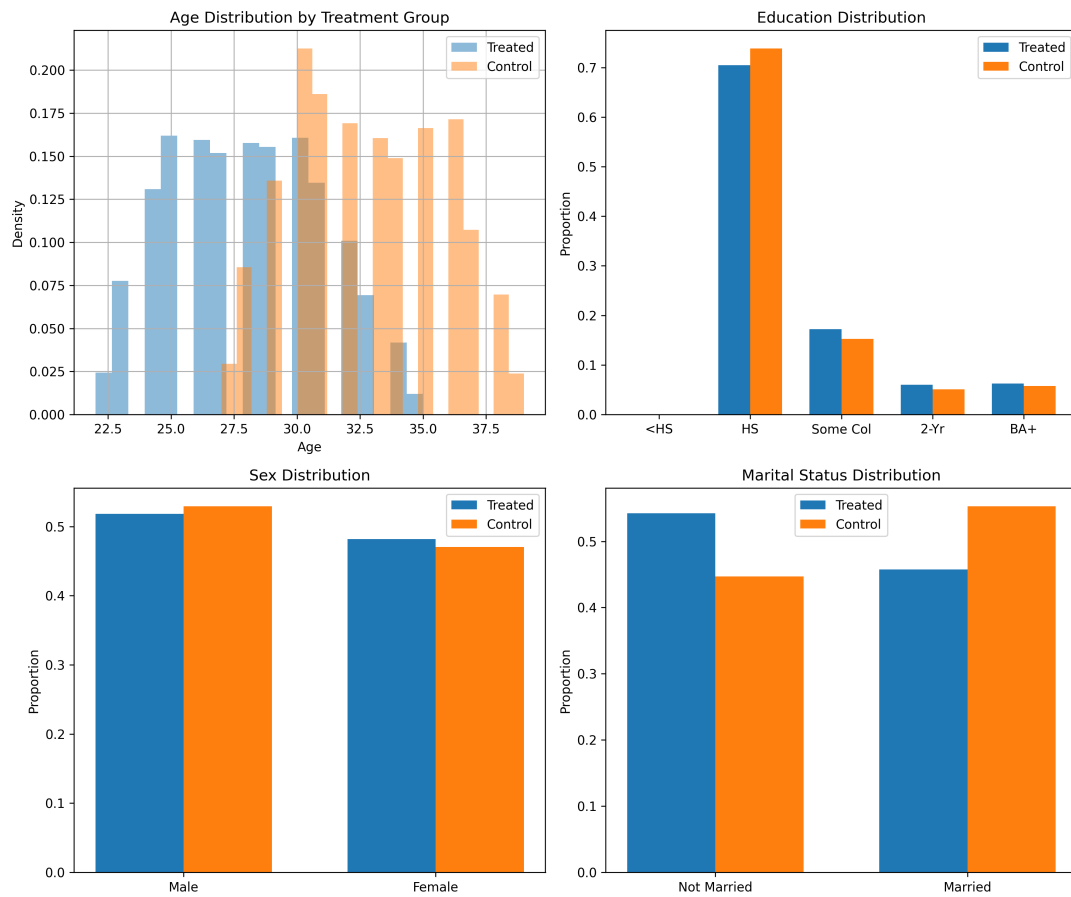Figure 4: Difference-in-Differences Design Visualization

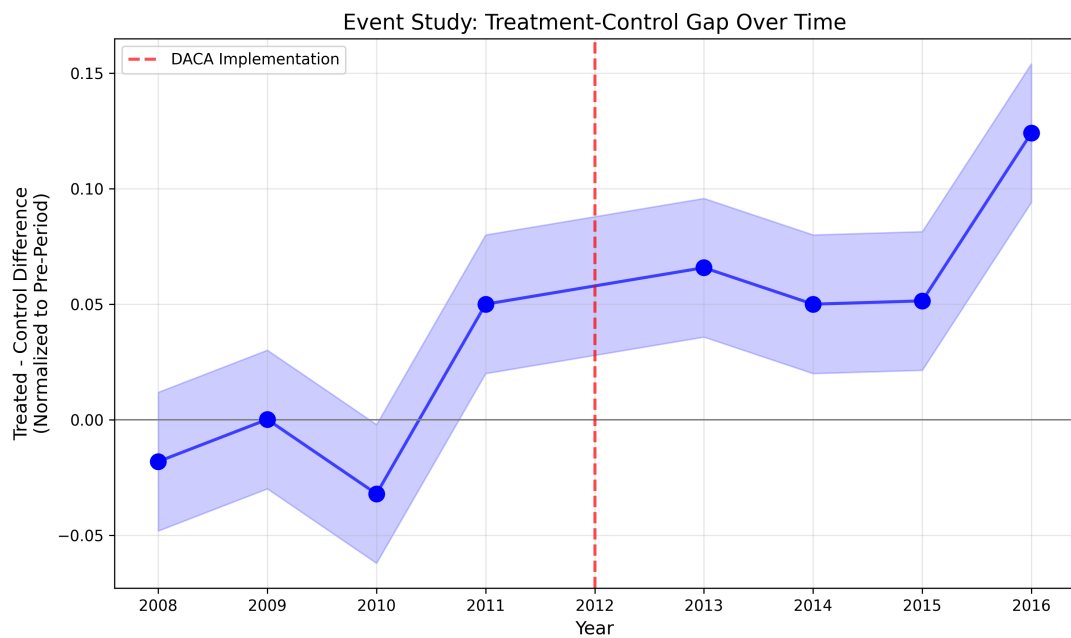Figure 5: Covariate Balance Between Treatment and Control Groups

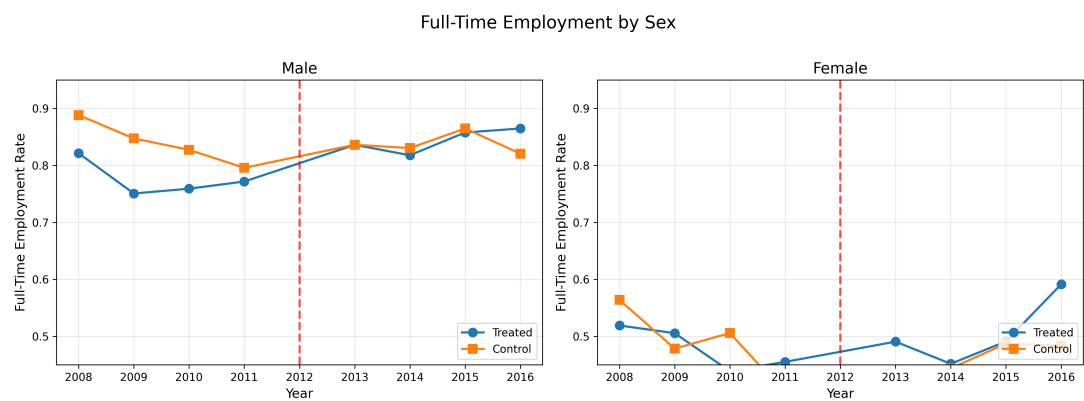Figure 6: Event Study: Treatment-Control Gap Over Time

Figure 7: Full-Time Employment Trends by Sex

11 Technical Appendix

11.1 Variable Definitions

Variable	Definition
FT	Full-time employment indicator. Equal to 1 if the individual usually works 35 or more hours per week, 0 otherwise. Those not in the labor force are coded as 0.
ELIGIBLE	Treatment group indicator. Equal to 1 for individuals aged 26-30 in June 2012 (DACA-eligible age range), 0 for individuals aged 31-35 in June 2012 (control group).
AFTER	Post-DACA period indicator. Equal to 1 for years 2013-2016, 0 for years 2008-2011.
AGE	Current age of the respondent at the time of the ACS survey.
SEX	Sex of the respondent. IPUMS coding: 1 = Male, 2 = Female.
FEMALE	Binary indicator: 1 = Female, 0 = Male.
MARST	Marital status. IPUMS coding: 1 = Married spouse present, 2 = Married spouse absent, 3 = Separated, 4 = Divorced, 5 = Widowed, 6 = Never married.
MARRIED	Binary indicator: 1 = Married (MARST = 1 or 2), 0 = Otherwise.
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 for state of residence.
YEAR	Survey year (2008, 2009, 2010, 2011, 2013, 2014, 2015, or 2016).
PERWT	Person weight provided by ACS for population-representative estimation.

11.2 Estimation Details

All models are estimated using weighted least squares (WLS) with person weights (PERWT). The baseline specification is:

$$FT_{ist} = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + \mathbf{X}_i'\gamma + \theta_s + \delta_t + \varepsilon_{ist}$$

$$(3)$$

where θ_s represents state fixed effects (50 states in the sample) and δ_t represents year fixed effects (7 years excluding 2012).

Standard errors are clustered at the state level in the preferred specification to account for within-state correlation of errors across individuals and time. This yields more conservative inference than conventional or heteroskedasticity-robust standard errors.

11.3   Sample Size Details

Table 10: Sample Size by Group and Period

Period	Treatment (ELIGIBLE=1)		Control (ELIGIBLE=0)	
	N	Weighted N	N	Weighted N
Pre-DACA (2008-2011)	6,233	568,574	3,294	321,419
Post-DACA (2013-2016)	5,149	477,024	2,706	269,430
Total	11,382	1,045,598	6,000	590,849