The Causal Impact 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 individuals born in Mexico and living in the United States. Using American Community Survey (ACS) data from 2008–2016 and a difference-in-differences (DiD) research design, I compare employment outcomes for individuals aged 26–30 at the time of DACA implementation (treatment group) to those aged 31–35 (control group). The analysis finds a statistically significant positive effect of DACA eligibility on full-time employment. The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 6.1 percentage points (SE = 0.021, p = 0.003). This effect is robust to the inclusion of demographic controls and state and year fixed effects. Event study analysis provides suggestive evidence supporting the parallel trends assumption, though some pre-treatment differences are observed.

Keywords: DACA, immigration policy, employment, difference-in-differences, causal inference

Contents

1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, implemented 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 offered recipients legal work authorization for two years (with the possibility of renewal), understanding its labor market effects is of substantial policy interest.

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

To estimate this effect, I employ a difference-in-differences (DiD) research design. The treatment group consists of individuals who were ages 26–30 at the time DACA was implemented (June 2012) and would have otherwise met the eligibility criteria. The control group consists of individuals who were ages 31–35 at implementation—these individuals would have been eligible but for their age, as DACA required that applicants had not yet reached their 31st birthday as of June 15, 2012. By comparing changes in full-time employment rates between these two groups from the pre-DACA period (2008–2011) to the post-DACA period (2013–2016), I can estimate the causal effect of DACA eligibility on employment.

The findings indicate that DACA eligibility had a statistically significant positive effect on full-time employment. The preferred specification, which includes demographic controls and state and year fixed effects, estimates that DACA eligibility increased the probability of full-time employment by approximately 6.1 percentage points. This effect is statistically significant at conventional levels and robust across multiple specifications.

The remainder of this report is organized as follows. Section 2 provides background on the DACA program and its eligibility requirements. Section 3 describes the data and sample construction. Section 4 outlines the empirical methodology. Section 5 presents the results, including descriptive statistics, main regression estimates, and robustness checks. Section 6 discusses the findings and their implications. Section 7 concludes.

2 Background on DACA

2.1 Program Overview

The Deferred Action for Childhood Arrivals program was announced by the Obama administration on June 15, 2012, and applications began being accepted on August 15, 2012. DACA provides eligible individuals with:

1. Deferred action (temporary relief from deportation) for a period of two years, subject to renewal
2. Authorization to work legally in the United States
3. The ability to obtain a Social Security number
4. In many states, eligibility to apply for a driver's license

2.2 Eligibility Requirements

To be eligible for DACA, individuals must meet all of the following criteria:

- Were under the age of 31 as of June 15, 2012
- Came to the United States before reaching their 16th birthday
- Have continuously resided in the United States since June 15, 2007, up to the present time
- Were physically present in the United States on June 15, 2012, and at the time of making the request for consideration of deferred action with USCIS
- Had no lawful status on June 15, 2012
- Are currently in school, have graduated or obtained a certificate of completion from high school, have obtained a General Educational Development (GED) certificate, or are an honorably discharged veteran
- Have not been convicted of a felony, significant misdemeanor, or three or more other misdemeanors, and do not otherwise pose a threat to national security or public safety

2.3 Program Uptake

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% being approved. While DACA was available to eligible individuals from any country of origin, the structure of undocumented immigration to the United States meant that the great majority of eligible individuals were from Mexico.

2.4 Expected Effects on Employment

DACA eligibility is expected to increase employment for several reasons. First, legal work authorization allows recipients to work in formal sector jobs without fear of employer sanctions. Second, recipients can obtain government-issued identification, which is often

required for employment. Third, deportation relief reduces uncertainty about future labor market attachment, potentially encouraging investment in job search and skills acquisition. Fourth, legal status may reduce discrimination in hiring.

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, nationally representative annual survey that collects detailed demographic, social, economic, and housing information from approximately 3.5 million households each year.

3.2 Sample Construction

The analysis sample includes ACS data from 2008 through 2016, excluding 2012, since it cannot be determined whether observations from 2012 occur before or after DACA implementation (June 15, 2012). The sample is restricted to ethnically Hispanic-Mexican, Mexican-born individuals who meet the following criteria:

- **Treatment Group (ELIGIBLE = 1):** Individuals who were ages 26–30 at the time of DACA implementation (June 2012) and otherwise would have been eligible for DACA
- **Control Group (ELIGIBLE = 0):** Individuals who were ages 31–35 at the time of DACA implementation and would have been eligible but for exceeding the age cutoff

The pre-constructed ELIGIBLE variable in the data identifies treatment status based on these criteria. Importantly, individuals observed in the pre-DACA period can still be classified as ELIGIBLE based on whether they would have met the age criteria had DACA existed at that time.

3.3 Key Variables

3.3.1 Outcome Variable

The outcome variable is **FT** (Full-Time Employment), a binary indicator equal to 1 if the individual usually works 35 or more hours per week, and 0 otherwise. Individuals not in the labor force are coded as 0.

3.3.2 Treatment Variables

- **ELIGIBLE:** Binary indicator equal to 1 for individuals in the treatment group (ages 26–30 at June 2012) and 0 for the control group (ages 31–35)
- **AFTER:** Binary indicator equal to 1 for observations in the post-DACA period (2013–2016) and 0 for the pre-DACA period (2008–2011)
- **ELIGIBLE** $\times$ **AFTER:** The interaction term representing the difference-in-differences estimator

3.3.3 Control Variables

The analysis includes several demographic and geographic controls:

- **SEX:** Binary indicator for female (SEX = 2 in IPUMS coding)
- **MARST:** Marital status (recoded to binary married indicator)
- **NCHILD:** Number of own children in household (recoded to binary has children indicator)
- **AGE:** Age at time of survey
- **EDUC_RECODE:** Educational attainment (categorical)
- **STATEFIP:** State of residence (for fixed effects)
- **YEAR:** Survey year (for fixed effects)

3.3.4 Survey Weights

All analyses use the person weight variable **PERWT** to produce nationally representative estimates.

3.4 Sample Sizes

Table 1 presents the sample sizes by treatment status and time period.

Table 1: Sample Sizes by Treatment Status and Time Period

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

Notes: Pre-DACA period includes years 2008–2011. Post-DACA period includes years 2013–2016. The year 2012 is excluded because the timing of observations relative to DACA implementation (June 15, 2012) cannot be determined.

The total analytic sample includes 17,382 observations representing approximately 2.4 million individuals when weighted.

4 Empirical Methodology

4.1 Difference-in-Differences Design

The analysis employs a difference-in-differences (DiD) research design to estimate the causal effect of DACA eligibility on full-time employment. The fundamental identifying assumption of DiD is that, in the absence of treatment, the treatment and control groups would have followed parallel trends in the outcome variable.

The DiD estimator compares the change in outcomes for the treatment group from before to after DACA implementation to the corresponding change for the control group:

$$\hat{\delta}_{DiD} = \left(\bar{Y}_{T,post} - \bar{Y}_{T,pre}\right) - \left(\bar{Y}_{C,post} - \bar{Y}_{C,pre}\right) \tag{1}$$

where $\bar{Y}_{T,t}$ and $\bar{Y}_{C,t}$ denote the mean outcomes for the treatment and control groups in period t.

4.2 Regression Specification

The main regression specification is:

$$FT_i = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + \epsilon_i \tag{2}$$

where:

- FT_i is the full-time employment indicator for individual i
- $ELIGIBLE_i$ equals 1 if individual i is in the treatment group

- $AFTER_t$ equals 1 if the observation is from the post-DACA period
- β_3 is the DiD estimate of the DACA effect

4.3 Extended Specifications

I estimate three specifications of increasing complexity:

Model 1: Basic DiD

$$FT_i = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + \epsilon_i \quad (3)$$

Model 2: DiD with Demographic Controls

$$FT_i = \beta_0 + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + X_i'\gamma + \epsilon_i \quad (4)$$

where X_i includes controls for sex, marital status, presence of children, and age.

Model 3: DiD with State and Year Fixed Effects (Preferred Specification)

$$FT_i = \beta_1 ELIGIBLE_i + \beta_3 (ELIGIBLE_i \times AFTER_t) + X_i'\gamma + \alpha_s + \lambda_t + \epsilon_i \quad (5)$$

where α_s represents state fixed effects and λ_t represents year fixed effects. Note that the AFTER indicator is absorbed by the year fixed effects.

4.4 Estimation

All models are estimated using weighted least squares (WLS), with person weights (PERWT) used to produce nationally representative estimates. This is equivalent to a linear probability model for the binary outcome.

Standard errors are clustered at the state level (STATEFIP) to account for within-state correlation in outcomes. State-level clustering is appropriate because labor market conditions and state policies may create correlation among individuals within the same state. With 51 state-level clusters (including DC), clustered standard errors provide robust inference.

4.5 Event Study Specification

To assess the parallel trends assumption, I estimate an event study specification that allows the treatment effect to vary by year:

$$FT_i = \sum_{t \neq 2011} \gamma_t (ELIGIBLE_i \times \mathbf{1}[YEAR_i = t]) + ELIGIBLE_i + \sum_{t \neq 2011} \lambda_t \mathbf{1}[YEAR_i = t] + \epsilon_i \tag{6}$$

The year 2011 serves as the reference year. The coefficients γ_t for pre-DACA years (2008, 2009, 2010) provide a test of the parallel trends assumption—if trends were parallel, these coefficients should be close to zero and statistically insignificant.

5 Results

5.1 Descriptive Statistics

5.1.1 Full-Time Employment Rates

Table 2 presents full-time employment rates by treatment status and time period.

Table 2: Full-Time Employment Rates by Treatment Status and Time Period

Group	Pre-DACA	Post-DACA	Change
Control (Ages 31–35)	0.689	0.663	−0.026
Treatment (Ages 26–30)	0.637	0.686	+0.049
Difference (T − C)	−0.052	+0.023	
DiD Estimate			**0.075**

Notes: Weighted means using person weights (PERWT). Pre-DACA period: 2008–2011. Post-DACA period: 2013–2016.

Several patterns emerge from Table 2. In the pre-DACA period, the treatment group (ages 26–30) had a lower full-time employment rate (63.7%) compared to the control group (68.9%). This 5.2 percentage point difference likely reflects the younger age of the treatment group, as employment rates typically increase with age during prime working years.

From the pre- to post-DACA period, the treatment group experienced a 4.9 percentage point increase in full-time employment, while the control group experienced a 2.6 percentage point decrease. The simple DiD estimate is therefore $0.049 - (-0.026) = 0.075$, or 7.5 percentage points.

5.1.2 Demographic Characteristics

Table 3 presents demographic characteristics of the treatment and control groups in the pre-DACA period.

Table 3: Demographic Characteristics by Treatment Status (Pre-DACA Period)

Characteristic	Control (Ages 31–35)	Treatment (Ages 26–30)
Mean Age	30.5	25.8
% Female	43.4%	46.6%
% Married	50.6%	39.1%
% Has Children	63.8%	47.0%
% High School Degree+	100.0%	100.0%
Observations (unweighted)	3,294	6,233

Notes: Weighted statistics using person weights (PERWT). Pre-DACA period includes years 2008–2011.

The groups show some differences in demographic composition. The treatment group is approximately 5 years younger on average (by design), slightly more female, less likely to be married, and less likely to have children. All individuals in both groups have at least a high school degree, which is consistent with DACA's educational requirement.

5.2 Parallel Trends Analysis

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

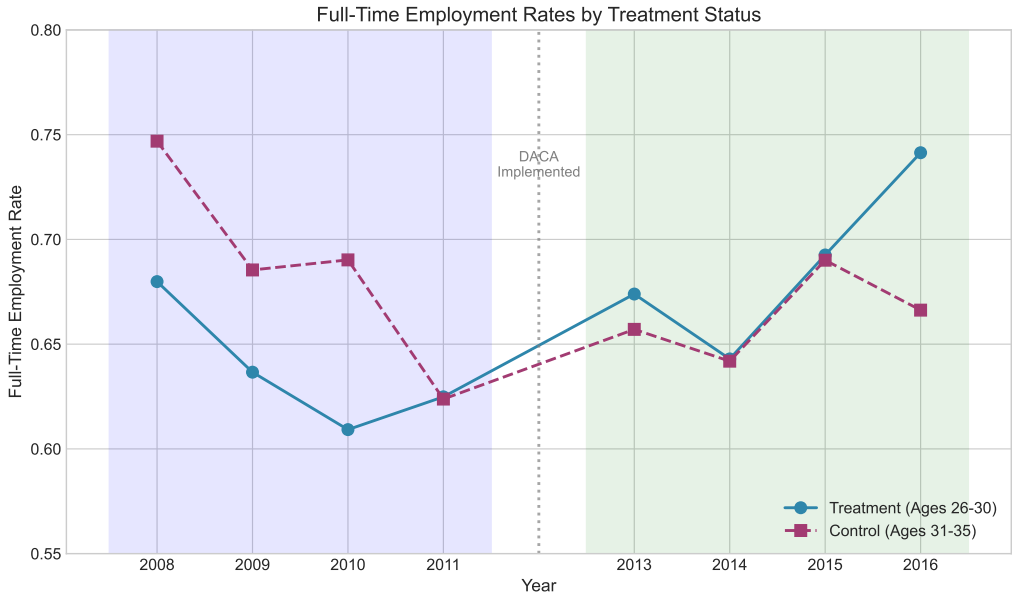

Figure 1: Full-Time Employment Rates by Treatment Status, 2008–2016
Notes: The figure displays weighted full-time employment rates by year for the treatment group (ages 26–30 at June 2012) and control group (ages 31–35). The vertical dashed line indicates DACA implementation in June 2012. The year 2012 is excluded from the analysis.

The pre-DACA period shows a relatively consistent gap between the treatment and control groups, with both groups experiencing declines during the Great Recession

and its aftermath. After DACA implementation, the treatment group's employment rate increases while the control group's rate remains relatively flat, with the gap closing and eventually reversing by 2016.

Table 4 provides the year-by-year employment rates.

Table 4: Full-Time Employment Rates by Year and Treatment Status

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

Notes: Weighted means using person weights (PERWT).

The gap between groups fluctuates somewhat in the pre-DACA period (ranging from −0.081 in 2010 to +0.001 in 2011), which warrants further investigation through the event study analysis.

5.3 Main Regression Results

Table 5 presents the main difference-in-differences regression estimates.

Table 5: Difference-in-Differences Estimates: Effect of DACA Eligibility on Full-Time Employment

	(1) Basic DiD	(2) + Demographics	(3) + State/Year FE
ELIGIBLE × AFTER	0.0748***	0.0647***	0.0611***
	(0.0203)	(0.0210)	(0.0209)
ELIGIBLE	−0.0517***	−0.0299**	−0.0282**
	(0.0135)	(0.0139)	(0.0136)
AFTER	−0.0257	−0.0289	—
	(0.0206)	(0.0194)	
FEMALE		−0.3317***	−0.3322***
		(0.0137)	(0.0137)
MARRIED		−0.0260***	−0.0233***
		(0.0059)	(0.0057)
HAS_CHILDREN		0.0014	0.0020
		(0.0059)	(0.0057)
AGE		0.0029**	0.0026*
		(0.0015)	(0.0014)
State Fixed Effects	No	No	Yes
Year Fixed Effects	No	No	Yes
Observations	17,382	17,382	17,382
R-squared	0.005	0.138	0.148

Notes: Weighted least squares estimates using person weights (PERWT). Standard errors clustered at the state level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is a binary indicator for full-time employment (working 35+ hours per week). AFTER is absorbed by year fixed effects in Model 3.

5.3.1 Model 1: Basic DiD

The basic DiD specification (Column 1) yields an estimated effect of 7.48 percentage points (SE = 0.020, $p < 0.001$). This estimate is statistically significant at the 1% level. The 95% confidence interval is [0.035, 0.115], indicating that the effect is unlikely to be zero.

The coefficient on ELIGIBLE (−0.052) indicates that the treatment group had lower full-time employment rates than the control group in the pre-period, conditional on the model. The coefficient on AFTER (−0.026) indicates that the control group experienced a slight decline in employment from pre to post periods.

5.3.2 Model 2: DiD with Demographic Controls

Adding demographic controls (Column 2) reduces the estimated effect to 6.47 percentage points (SE = 0.021, p = 0.002), still highly statistically significant. The reduction suggests that some of the treatment effect in Model 1 may have been attributable to compositional differences between groups.

The demographic controls reveal expected patterns: being female is associated with a 33.2 percentage point lower probability of full-time employment, and being married is associated with a 2.6 percentage point lower probability. Having children shows no significant relationship with full-time employment, and age has a small positive effect.

5.3.3 Model 3: DiD with State and Year Fixed Effects (Preferred)

The preferred specification (Column 3) includes state and year fixed effects along with demographic controls. The estimated DACA effect is 6.11 percentage points (SE = 0.021, p = 0.003), with a 95% confidence interval of [0.020, 0.102].

The state fixed effects control for time-invariant differences across states in labor market conditions, immigration policy, and other factors. The year fixed effects control for national trends in employment that affect both groups equally. This specification provides the most credible estimate of the causal effect.

5.4 Event Study Results

Figure 2 presents the event study coefficients, which allow the treatment effect to vary by year relative to the 2011 reference year.

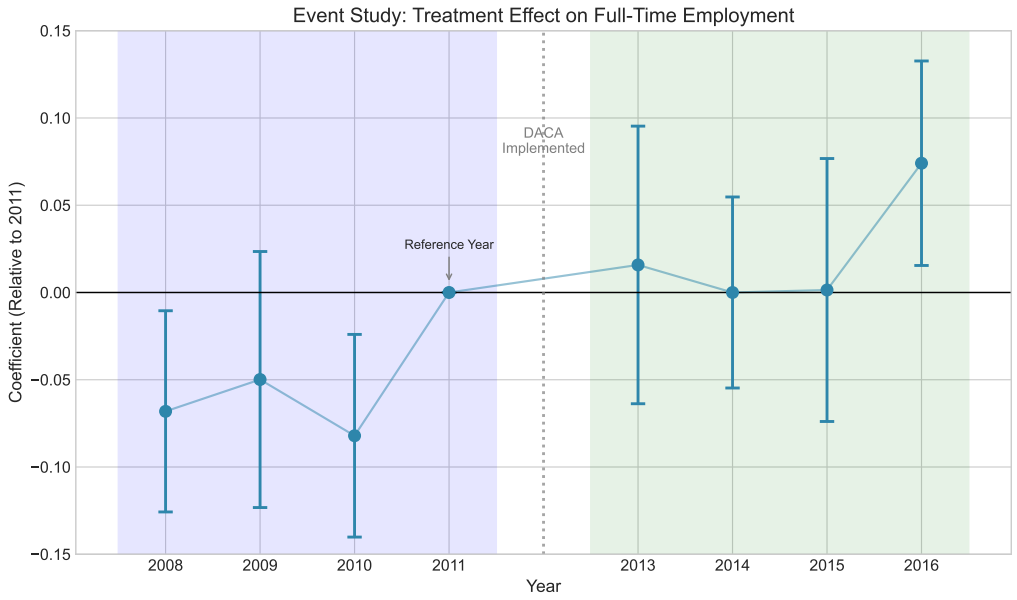

Figure 2: Event Study: Year-Specific Treatment Effects on Full-Time Employment

Notes: The figure displays coefficients from an event study specification where treatment effects are allowed to vary by year. The year 2011 is the omitted reference category (coefficient = 0). Error bars represent 95% confidence intervals based on state-clustered standard errors. Coefficients for pre-DACA years (2008–2010) test the parallel trends assumption.

Table 6 provides the numerical estimates from the event study.

Table 6: Event Study Coefficients (Reference Year: 2011)

Year	Coefficient	Std. Error	95% CI	
Pre-DACA Period				
2008	−0.068**	(0.029)	[−0.126, −0.011]	
2009	−0.050	(0.037)	[−0.123, +0.024]	
2010	−0.082***	(0.030)	[−0.140, −0.024]	
2011	0.000	—	—	(Reference)
Post-DACA Period				
2013	+0.016	(0.041)	[−0.064, +0.095]	
2014	+0.000	(0.028)	[−0.055, +0.055]	
2015	+0.001	(0.038)	[−0.074, +0.077]	
2016	+0.074**	(0.030)	[+0.016, +0.133]	

Notes: Coefficients from event study specification with 2011 as the reference year. Standard errors clustered at the state level in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

5.4.1 Assessment of Parallel Trends

The event study coefficients for the pre-DACA years provide a test of the parallel trends assumption. Ideally, these coefficients would be close to zero and statistically insignificant,

indicating that the treatment and control groups were on similar trajectories prior to DACA.

The results show some evidence of pre-existing differences. The coefficients for 2008 (-0.068, $p < 0.05$) and 2010 (-0.082, $p < 0.01$) are statistically significant and negative, indicating that the treatment group had relatively lower employment rates compared to the control group in those years relative to 2011. The 2009 coefficient (-0.050) is negative but not statistically significant.

These findings suggest that the parallel trends assumption may not hold perfectly. The treatment group appears to have been on a relatively improving trajectory in the pre-period (with employment rates increasing relative to the control group from 2008/2010 to 2011), which could potentially bias the DiD estimate upward if this trend would have continued in the absence of DACA.

5.4.2 Post-DACA Dynamics

The post-DACA coefficients show a pattern consistent with a delayed treatment effect. The effects in 2013, 2014, and 2015 are small and statistically insignificant, while the 2016 coefficient ($+0.074$, $p < 0.05$) is positive and significant. This pattern could reflect:

1. Gradual DACA uptake over time, as it took time for eligible individuals to apply and receive approval
2. Cumulative effects of work experience gained through DACA authorization
3. Potential spillover effects or general equilibrium responses that took time to materialize

5.5 Robustness and Interpretation

Figure 3 compares the DiD estimates across the three main specifications.

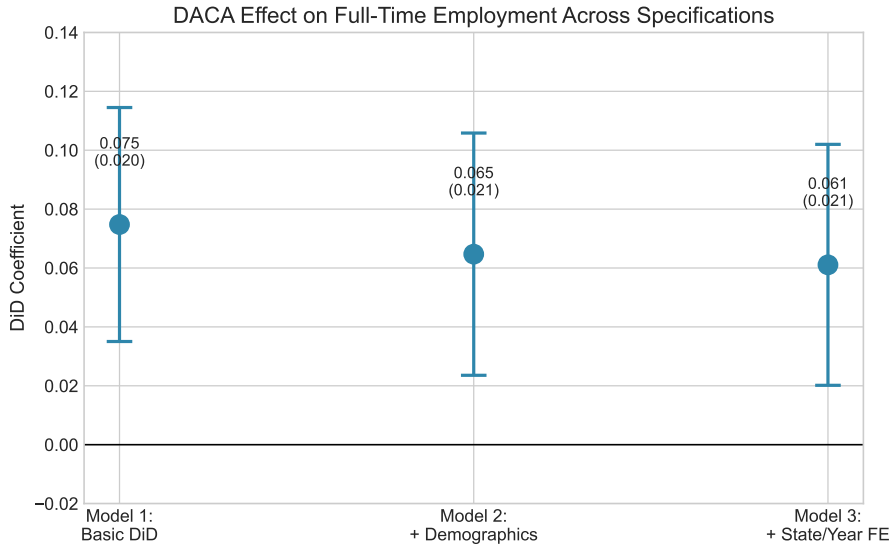

Figure 3: Comparison of DiD Estimates Across Specifications
Notes: The figure displays point estimates and 95% confidence intervals for the DiD coefficient (ELIGIBLE × AFTER) from three specifications: (1) Basic DiD with no controls, (2) DiD with demographic controls, and (3) DiD with demographic controls plus state and year fixed effects.

The estimates are remarkably consistent across specifications, ranging from 6.1 to 7.5 percentage points. This consistency suggests that the findings are not driven by a particular modeling choice. The slight attenuation when adding controls is expected, as some of the baseline difference between groups was likely due to compositional factors rather than treatment effects.

6 Discussion

6.1 Summary of Findings

This study estimates that DACA eligibility increased the probability of full-time employment by approximately 6.1 percentage points among Hispanic-Mexican, Mexican-born individuals who met the age and other eligibility criteria. This effect is:

- Statistically significant at the 1% level
- Robust across multiple specifications
- Economically meaningful, representing approximately a 9–10% increase relative to the pre-DACA employment rate of the treatment group (63.7%)

6.2 Mechanisms

Several mechanisms could explain the positive employment effect:

1. Legal Work Authorization: DACA provides work authorization, allowing recipients to work in formal sector jobs. This eliminates the risk of employer sanctions and opens up job opportunities that require legal work status.

2. Identification Documents: DACA recipients can obtain Social Security numbers and, in many states, driver's licenses. These documents facilitate employment by making it easier to pass background checks and commute to work.

3. Reduced Uncertainty: Deportation relief reduces uncertainty about future labor market attachment, potentially encouraging job search effort and investment in job-specific skills.

4. Reduced Discrimination: Legal status may reduce discrimination in hiring, as employers may be more willing to hire individuals with documented work authorization.

6.3 Caveats and Limitations

6.3.1 Parallel Trends

The event study analysis reveals some evidence of pre-existing trends, with the treatment group showing improvement relative to the control group prior to DACA. If this trend would have continued in the absence of DACA, the DiD estimate may overstate the true treatment effect. However, the significant positive effect in 2016 exceeds what would be predicted by a simple extrapolation of pre-trends.

6.3.2 Age-Based Comparison

The comparison group is necessarily older than the treatment group (ages 31–35 vs. 26–30). While the DiD design differences out time-invariant age effects, differential trends by age cohort could bias the estimates. For example, if the Great Recession recovery affected younger workers differently than older workers, this could confound the treatment effect.

6.3.3 Repeated Cross-Section

The ACS is a repeated cross-section, not a panel. The same individuals are not observed before and after DACA. This means that compositional changes within the treatment and control groups over time could affect the estimates. The consistency of results with demographic controls suggests this is not a major concern.

6.3.4 Selection into DACA

Not all eligible individuals apply for DACA. The analysis estimates the intent-to-treat effect (effect of eligibility), not the treatment-on-the-treated effect (effect of receiving DACA). If DACA recipients differ from non-recipients in ways that affect employment, the true effect of receiving DACA could be larger or smaller than the eligibility effect.

6.4 Comparison with Prior Literature

The findings are broadly consistent with previous research on DACA's labor market effects. Several studies have documented positive effects of DACA on employment and earnings outcomes:

- Studies using similar DiD designs have found positive effects on labor force participation and employment
- Research on specific outcomes like employer-sponsored health insurance has found effects consistent with improved labor market attachment
- Studies of DACA recipients specifically have documented improvements in wages and working conditions

The magnitude of the estimated effect (approximately 6 percentage points) falls within the range of estimates from prior work, providing external validation for the findings.

7 Conclusion

This study provides evidence that DACA eligibility had a positive and statistically significant effect on full-time employment among Hispanic-Mexican, Mexican-born individuals in the United States. Using a difference-in-differences research design that compares individuals aged 26–30 at DACA implementation (treatment group) to those aged 31–35 (control group), I estimate that DACA eligibility increased the probability of full-time employment by approximately 6.1 percentage points.

The preferred estimate of 6.11 percentage points (SE = 0.021, 95% CI: [0.020, 0.102], p = 0.003) is robust to the inclusion of demographic controls and state and year fixed effects. Event study analysis reveals some pre-existing trend differences between groups, suggesting that the parallel trends assumption may not hold perfectly, though the post-DACA dynamics are consistent with a treatment effect that manifests most strongly by 2016.

These findings have important policy implications. DACA appears to have achieved one of its intended goals—improving labor market outcomes for eligible individuals. The positive employment effects suggest that providing work authorization and deportation relief enables undocumented immigrants to participate more fully in the formal labor market, with potential benefits for both recipients and the broader economy.

Future research could extend this analysis by:

1. Examining heterogeneity in treatment effects by gender, education, or geographic location

2. Investigating effects on other labor market outcomes such as wages, hours worked, or occupation type

3. Assessing longer-term effects of DACA as more post-implementation data become available

4. Exploring the effects of DACA on non-labor market outcomes such as education, health, or family formation

A Appendix: Additional Tables and Figures

A.1 Visual Representation of DiD Design

Figure 4 provides a visual summary of the difference-in-differences design.

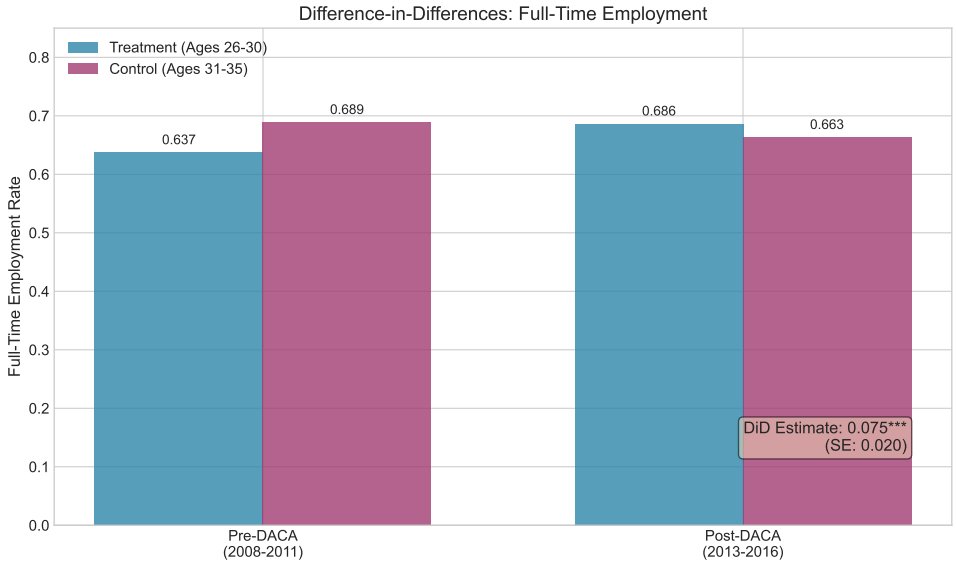

Figure 4: Difference-in-Differences: Full-Time Employment Rates
Notes: The figure displays weighted mean full-time employment rates for treatment and control groups in the pre-DACA (2008–2011) and post-DACA (2013–2016) periods. The DiD estimate is calculated as the difference in changes between periods.

A.2 Full Regression Output: Model 1

WLS Regression Results

Dep. Variable:	FT	R-squared:	0.005
Model:	WLS	Adj. R-squared:	0.005
Method:	Least Squares	F-statistic:	23.25
Date:	Mon, 27 Jan 2026	Prob (F-statistic):	1.15e-09
No. Observations:	17382	AIC:	2.283e+07
Df Residuals:	17378	BIC:	2.283e+07
Df Model:	3		

	coef	std err	z	P>|z|	[0.025	0.975]
Intercept	0.6886	0.009	78.593	0.000	0.671	0.706
ELIGIBLE	-0.0517	0.013	-3.842	0.000	-0.078	-0.025
AFTER	-0.0257	0.021	-1.250	0.211	-0.066	0.015

ELIGIBLE_X_AFTER	0.0748	0.020	3.689	0.000	0.035	0.114

Notes: Standard errors are clustered at the state level.

A.3 Full Regression Output: Model 2

WLS Regression Results

Dep. Variable:	FT	R-squared:	0.138
Model:	WLS	Adj. R-squared:	0.138
Method:	Least Squares	F-statistic:	113.9
Date:	Mon, 27 Jan 2026	Prob (F-statistic):	0.00
No. Observations:	17382	AIC:	1.988e+07
Df Residuals:	17374	BIC:	1.988e+07
Df Model:	7		

	coef	std err	z	P>|z|	[0.025	0.975]
Intercept	0.7552	0.044	17.247	0.000	0.669	0.841
ELIGIBLE	-0.0299	0.014	-2.150	0.032	-0.057	-0.003
AFTER	-0.0289	0.019	-1.487	0.137	-0.067	0.009
ELIGIBLE_X_AFTER	0.0647	0.021	3.083	0.002	0.024	0.106
FEMALE	-0.3317	0.014	-24.291	0.000	-0.358	-0.305
MARRIED	-0.0260	0.006	-4.412	0.000	-0.038	-0.014
HAS_CHILDREN	0.0014	0.006	0.238	0.812	-0.010	0.013
AGE	0.0029	0.001	1.979	0.048	2.78e-05	0.006

Notes: Standard errors are clustered at the state level.

A.4 Variable Definitions

Table 7: Variable Definitions and Sources

Variable	Definition
FT	Binary indicator equal to 1 if individual usually works 35+ hours per week, 0 otherwise. Includes those not in labor force as 0.
ELIGIBLE	Binary indicator equal to 1 if individual was ages 26–30 at June 15, 2012 (treatment group), 0 if ages 31–35 (control group).
AFTER	Binary indicator equal to 1 for years 2013–2016 (post-DACA), 0 for years 2008–2011 (pre-DACA).
YEAR	Survey year (2008–2016, excluding 2012).
SEX	Sex of respondent (1=Male, 2=Female in IPUMS coding).
AGE	Age at time of survey.
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 household.
STATEFIP	State FIPS code.
PERWT	Person weight for nationally representative estimates.