The Effect of DACA Eligibility on Full-Time Employment: An Independent Replication Study

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Abstract

This study examines the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on the probability of full-time employment among ethnically Hispanic-Mexican, Mexican-born non-citizens in the United States. Using data from the American Community Survey (ACS) for 2006–2016 and a difference-in-differences identification strategy, I find that DACA eligibility increased the probability of full-time employment by approximately 3.0 percentage points (SE = 0.42 percentage points, $p < 0.001$). This effect is robust to alternative specifications and is supported by an event study analysis showing no pre-trends prior to DACA implementation. The results suggest that legal work authorization through DACA facilitated entry into formal, full-time employment for eligible undocumented immigrants.

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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 U.S. immigration policy changes in recent decades. The program provides eligible undocumented immigrants who arrived in the United States as children with temporary relief from deportation and, critically, authorization to work legally in the United States. This study examines whether DACA eligibility causally affected the probability of full-time employment among the target population.

Understanding the labor market effects of DACA is important for several reasons. First, the program directly addresses one of the primary barriers to formal employment faced by undocumented immigrants: the lack of legal work authorization. Prior to DACA, eligible individuals could work only in the informal economy, typically in jobs that are more precarious, lower-paying, and less likely to offer full-time hours. Second, full-time employment serves as an indicator of economic integration and stability, with implications for individual well-being and contributions to the broader economy.

The research question addressed in this study is: 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 being employed full-time (defined as usually working 35 or more hours per week)?

To answer this question, I employ a difference-in-differences (DiD) research design, comparing changes in full-time employment rates before and after DACA implementation between DACA-eligible and non-eligible Mexican-born Hispanic non-citizens. The key identifying assumption is that, absent DACA, the full-time employment rates of eligible and non-eligible individuals would have followed parallel trends.

2 Background

2.1 The DACA Program

DACA was announced by the Obama administration on June 15, 2012, and began accepting applications on August 15, 2012. The program allows qualifying undocumented immigrants to apply for a two-year period of deferred action (protection from deportation) and employment authorization, which can be renewed.

To be eligible for DACA, applicants must meet the following criteria:

1. Arrived in the United States before their 16th birthday
2. Were under 31 years of age as of June 15, 2012

3. Lived continuously in the United States since June 15, 2007

4. Were present in the United States on June 15, 2012

5. Did not have lawful immigration status on June 15, 2012

6. Met certain educational requirements or honorable discharge from military service

7. Had not been convicted of certain criminal offenses

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved. The vast majority of DACA recipients are from Mexico, reflecting the composition of the undocumented immigrant population in the United States.

2.2 Theoretical Framework

DACA may affect full-time employment through several mechanisms. First, work authorization allows recipients to seek formal employment without fear of detection and deportation. This expands the set of available job opportunities to include positions that require legal work authorization documentation.

Second, DACA recipients can obtain Social Security numbers and state-issued identification in many states, reducing practical barriers to employment. These documents are often required for formal employment verification processes.

Third, the security provided by deferred action may enable recipients to invest in job search, training, or education that leads to better employment outcomes, including full-time positions with more stable hours.

Finally, employers may be more willing to hire and invest in workers who have legal work authorization, potentially leading to better job matches and more full-time opportunities.

3 Data

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 approximately 3 million households each year.

I use the one-year ACS samples for 2006 through 2016, excluding 2012. The exclusion of 2012 is necessary because DACA was implemented in mid-2012 and the ACS does not

record the month of survey response, making it impossible to distinguish pre-treatment from post-treatment observations within that year.

The pre-treatment period consists of 2006–2011 (six years), and the post-treatment period consists of 2013–2016 (four years).

3.2 Sample Selection

The analytic sample is constructed through the following restrictions:

1. **Hispanic-Mexican ethnicity**: Respondents who identify as Hispanic-Mexican (HISPAN = 1)
2. **Born in Mexico**: Respondents born in Mexico (BPL = 200)
3. **Non-citizen status**: Respondents who are not U.S. citizens (CITIZEN = 3). Following the study instructions, non-citizens who have not received naturalization papers are assumed to be undocumented for DACA purposes
4. **Working age**: Respondents aged 16–64
5. **Year restriction**: Observations from 2006–2011 and 2013–2016 (excluding 2012)

Table 1 shows how the sample size changes with each restriction. The final analytic sample contains 561,470 person-year observations.

Table 1: Sample Construction

Sample Restriction	N
Full ACS sample (2006–2016)	33,851,424
Hispanic-Mexican ethnicity (HISPAN = 1)	2,945,521
Born in Mexico (BPL = 200)	991,261
Non-citizens (CITIZEN = 3)	701,347
Exclude 2012 transition year	636,722
Working age (16–64)	561,470

Notes: Sample restrictions applied sequentially. The final analytic sample contains 561,470 observations.

3.3 Variable Definitions

3.3.1 Treatment Variable: DACA Eligibility

DACA eligibility is constructed based on the program's official criteria that can be identified in the ACS data:

1. **Arrived before age 16**: Age at immigration is calculated as YRIMMIG - BIRTHYR, and required to be less than 16

2. **Under 31 as of June 15, 2012**: Individuals must have been born after June 15, 1981. Using BIRTHYR and BIRTHQTR:

   - If BIRTHYR $>$ 1981: eligible
   - If BIRTHYR $=$ 1981 and BIRTHQTR ≥ 3 (July–December): eligible
   - If BIRTHYR $=$ 1981 and BIRTHQTR ≤ 2 (January–June): not eligible
   - If BIRTHYR $<$ 1981: not eligible

3. **Continuous residence since June 2007**: YRIMMIG $\leq$ 2007

An individual is classified as DACA-eligible if they meet all three criteria. Note that the data do not allow verification of the educational requirement or criminal history exclusions.

In the analytic sample, 83,611 observations (14.9%) are classified as DACA-eligible.

3.3.2 Outcome Variable: Full-Time Employment

Full-time employment is defined as usually working 35 or more hours per week, following standard definitions. This is constructed from the UHRSWORK variable:

$$\text{FullTime}_i = \mathbf{1}[\text{UHRSWORK}_i \geq 35]$$

The mean full-time employment rate in the sample is 57.9%.

3.3.3 Control Variables

The following control variables are included in the regression models:

- **Age**: Continuous variable, plus age squared to capture nonlinear effects
- **Female**: Binary indicator (SEX $=$ 2)
- **Married**: Binary indicator for married with spouse present or absent (MARST $=$ 1 or 2)
- **Education**: Three binary indicators for high school (EDUC $=$ 6), some college (EDUC $=$ 7, 8, or 9), and bachelor's degree or higher (EDUC $\geq$ 10), with less than high school as the omitted category

4 Empirical Strategy

4.1 Identification

The causal effect of DACA eligibility on full-time employment is identified using a difference-in-differences (DiD) design. This approach compares changes in outcomes over time between a treatment group (DACA-eligible individuals) and a control group (non-eligible individuals).

The identifying assumption is the parallel trends assumption: absent DACA, the change in full-time employment rates from the pre- to post-period would have been the same for eligible and non-eligible individuals. Under this assumption, the DiD estimator provides an unbiased estimate of the average treatment effect on the treated (ATT).

4.2 Estimation

The main specification is a linear probability model:

$$\text{FullTime}_{ist} = \beta_0 + \beta_1 \text{DACA}_i + \beta_2 \text{Post}_t + \delta(\text{DACA}_i \times \text{Post}_t) + X_i'\gamma + \mu_s + \lambda_t + \varepsilon_{ist} \quad (1)$$

where:

- FullTime_{ist} is an indicator for full-time employment for individual i in state s at time t
- DACA_i is an indicator for DACA eligibility
- Post_t is an indicator for the post-DACA period (2013–2016)
- δ is the DiD coefficient of interest, representing the causal effect of DACA eligibility
- X_i is a vector of individual controls (age, age squared, female, married, education)
- μ_s are state fixed effects
- λ_t are year fixed effects
- ε_{ist} is an error term

All regressions use heteroskedasticity-robust standard errors. The preferred specification also uses person weights (PERWT) to make the estimates representative of the population.

4.3 Event Study

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

$$\text{FullTime}_{ist} = \alpha + \sum_{k \neq 2011} \delta_k (\text{DACA}_i \times \mathbf{1}[t = k]) + X_i'\gamma + \mu_s + \lambda_t + \varepsilon_{ist} \tag{2}$$

where 2011 is the reference year (immediately prior to DACA). The coefficients δ_k for $k < 2012$ test for differential pre-trends, while coefficients for $k \geq 2013$ capture the dynamic treatment effects.

5 Results

5.1 Descriptive Statistics

Table 2 presents summary statistics for the analytic sample by DACA eligibility status. DACA-eligible individuals are substantially younger on average (22.5 years versus 39.5 years for non-eligible), reflecting the age criteria for the program. The eligible group has slightly higher educational attainment, with 42% having at least a high school education compared to 29% for the non-eligible group.

Table 2: Sample Characteristics by DACA Eligibility Status

	Non-Eligible	DACA-Eligible
Age	39.5	22.5
Female	0.461	0.449
Married	0.655	0.259
Education		
Less than high school	0.599	0.424
High school	0.291	0.418
Some college	0.065	0.136
Bachelor's or higher	0.044	0.021
Employment outcomes		
Full-time employed	0.595	0.460
Employed (any hours)	0.656	0.551
In labor force	0.713	0.630
N	477,859	83,611

Notes: Sample means. Full-time employment is defined as usually working 35+ hours per week.

Prior to DACA, the eligible group had lower full-time employment rates (43.1%) compared to the non-eligible group (60.4%). This difference likely reflects both the younger age of the eligible group and their lack of work authorization.

5.2 Raw Difference-in-Differences

Table 3 presents the raw DiD calculation. Full-time employment among DACA-eligible individuals increased from 43.1% pre-DACA to 49.6% post-DACA, a gain of 6.5 percentage points. Over the same period, full-time employment among non-eligible individuals actually declined from 60.4% to 57.9%, a decrease of 2.5 percentage points.

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

	Pre-DACA (2006–2011)	Post-DACA (2013–2016)	Difference
DACA-Eligible	0.431 (N=46,814)	0.496 (N=36,797)	+0.065
Non-Eligible	0.604 (N=298,978)	0.579 (N=178,881)	-0.025
Difference-in-Differences			**+0.090**

Notes: Cell entries are mean full-time employment rates. Sample sizes in parentheses.

The raw DiD estimate is 9.0 percentage points, suggesting a substantial positive effect of DACA eligibility on full-time employment. However, this estimate does not account for differences in observable characteristics between groups or common time trends affecting all workers.

5.3 Regression Results

Table 4 presents the main regression results across six specifications, progressively adding control variables and fixed effects.

Table 4: Effect of DACA Eligibility on Full-Time Employment

	(1)	(2)	(3)	(4)	(5)	(6)
DACA × Post	0.090***	0.042***	0.039***	0.038***	0.033***	0.030***
	(0.004)	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)
DACA Eligible	-0.173***	-0.038***	-0.044***	-0.039***	-0.026***	-0.027***
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Demographics		X	X	X	X	X
Education			X	X	X	X
State FE				X	X	X
Year FE					X	X
Weighted						X
N	561,470	561,470	561,470	561,470	561,470	561,470

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The outcome is an indicator for full-time employment (35+ hours/week). Demographics include age, age squared, female, and married. Education includes indicators for high school, some college, and bachelor's degree or higher (less than high school omitted). Column (6) uses person weights.

The basic DiD estimate without controls (Column 1) is 9.0 percentage points. Adding demographic controls (Column 2) reduces the estimate to 4.2 percentage points, as much of the raw difference reflects the younger age of the eligible group. Adding education controls (Column 3) makes a small additional reduction to 3.9 percentage points.

Including state fixed effects (Column 4) to control for time-invariant differences across states yields an estimate of 3.8 percentage points. Adding year fixed effects (Column 5) to flexibly control for common time trends produces an estimate of 3.3 percentage points.

The preferred specification (Column 6) additionally uses person weights to make the estimates representative of the population, yielding an effect size of 3.0 percentage points (SE = 0.42 percentage points, 95% CI: [2.2, 3.9]).

5.4 Event Study Results

Figure **??** presents the event study coefficients, with 2011 as the reference year. The pattern strongly supports the parallel trends assumption: the coefficients for the pre-DACA years (2006–2010) are all small in magnitude and statistically insignificant, ranging from -0.015 to +0.008.

Table 5: Event Study Estimates: DACA Effect by Year

Year	Coefficient	Std. Error
Pre-DACA (relative to 2011)		
2006	-0.015	(0.010)
2007	-0.014	(0.009)
2008	-0.001	(0.009)
2009	0.005	(0.009)
2010	0.008	(0.009)
Post-DACA (relative to 2011)		
2013	0.012	(0.009)
2014	0.023**	(0.009)
2015	0.039***	(0.009)
2016	0.041***	(0.009)

Notes: Coefficients from event study specification with 2011 as reference year. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

After DACA implementation, the coefficients become progressively larger and statistically significant: 1.2 percentage points in 2013 (not significant), 2.3 percentage points in 2014 ($p < 0.05$), 3.9 percentage points in 2015 ($p < 0.01$), and 4.1 percentage points in 2016 ($p < 0.01$). This pattern is consistent with a gradual take-up of DACA as applications were processed and recipients adjusted their employment.

5.5 Robustness Checks

5.5.1 Alternative Outcomes

Table 6 presents results for alternative employment outcomes. The effect on any employment (regardless of hours) is 4.0 percentage points (SE = 0.41), and the effect on labor force participation is 4.3 percentage points (SE = 0.39). Both effects are positive and statistically significant, suggesting that DACA increased overall employment and labor market attachment, not just full-time work conditional on employment.

Table 6: Robustness Checks: Alternative Outcomes and Subgroups

	Coefficient	Std. Error
Alternative outcomes (preferred specification)		
Full-time employment (baseline)	0.030***	(0.004)
Any employment (EMPSTAT=1)	0.040***	(0.004)
In labor force (LABFORCE=2)	0.043***	(0.004)
Subgroup analysis: by sex		
Males	0.026***	(0.006)
Females	0.026***	(0.006)

Notes: All specifications include demographic controls, education controls, state fixed effects, year fixed effects, and person weights. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

5.5.2 Subgroup Analysis by Sex

The effect of DACA on full-time employment is similar for males and females: 2.6 percentage points for each group. The slightly smaller estimates compared to the pooled sample reflect that the sex indicator in the full model is capturing some of the effect through differential trends in employment by gender.

6 Discussion

6.1 Interpretation of Results

The findings indicate that DACA eligibility increased the probability of full-time employment by approximately 3.0 percentage points. Given a baseline full-time employment rate of 43.1% among DACA-eligible individuals in the pre-period, this represents a 7.0% increase relative to baseline.

This effect is economically meaningful. Work authorization through DACA allows recipients to seek formal employment in sectors and occupations that require documentation. Full-time positions typically offer better wages, benefits, and job security than part-time or informal work arrangements.

The event study results provide strong support for the parallel trends assumption. The absence of differential pre-trends suggests that the estimated effect is not driven by pre-existing differences in employment trajectories between eligible and non-eligible groups.

The gradual increase in the treatment effect over time (from 1.2 percentage points in 2013 to 4.1 percentage points in 2016) is consistent with program take-up patterns. DACA

applications took time to process, and recipients may have needed time to search for and transition into full-time formal employment after receiving authorization.

6.2 Limitations

Several limitations should be noted. First, the ACS does not directly identify undocumented status. Following the study instructions, I assume that non-naturalized, non-citizen Mexican-born individuals are undocumented. This likely includes some individuals with legal non-immigrant status (e.g., work visas) who would not be DACA-eligible but are classified as such in my analysis. This measurement error would tend to attenuate the estimated effect toward zero.

Second, the eligibility criteria cannot be perfectly observed in the data. The educational and criminal history requirements for DACA cannot be verified, and the continuous residence requirement is imperfectly measured using year of immigration. Again, this likely attenuates the estimates.

Third, the control group of non-eligible Mexican-born non-citizens may be affected by spillover effects from DACA. If DACA increased competition for jobs, non-eligible workers might experience reduced employment, which would inflate the DiD estimate. Conversely, if DACA reduced the supply of workers in the informal sector, non-eligible workers might benefit, which would deflate the estimate.

Fourth, the linear probability model may produce predicted probabilities outside [0,1], though this is primarily an issue for prediction rather than causal inference. The DiD estimates represent average partial effects that are straightforward to interpret.

6.3 Comparison to Prior Literature

The estimated effect of 3.0 percentage points on full-time employment is broadly consistent with prior research on DACA's labor market effects. Studies using various data sources and methodologies have generally found positive effects of DACA on employment, wages, and educational attainment.

The magnitude of the effect is plausible given that DACA provides formal work authorization, which should have a substantial impact on the ability to obtain formal, full-time employment. The effect size is large enough to be economically meaningful while not so large as to be implausible.

7 Conclusion

This study provides evidence that DACA eligibility increased full-time employment among ethnically Hispanic-Mexican, Mexican-born non-citizens in the United States. Using a difference-in-differences design with data from the American Community Survey for 2006–2016, I find that DACA eligibility increased the probability of full-time employment by 3.0 percentage points (95% CI: 2.2 to 3.9 percentage points).

The effect is robust to the inclusion of demographic and education controls, state and year fixed effects, and the use of survey weights. An event study analysis shows no evidence of differential pre-trends prior to DACA implementation, supporting a causal interpretation of the results.

These findings suggest that legal work authorization through DACA enabled eligible undocumented immigrants to transition into formal, full-time employment. The policy implications depend on broader value judgments about immigration policy, but the results demonstrate that DACA achieved its stated goal of providing economic opportunities to recipients.

Appendix A: Variable Definitions

Table 7: Variable Definitions Using IPUMS Variable Names

Variable	Definition
Sample selection	
HISPAN	Hispanic origin, = 1 for Mexican
BPL	Birthplace, = 200 for Mexico
CITIZEN	Citizenship status, = 3 for non-citizen
AGE	Age in years, restricted to 16–64
YEAR	Survey year, 2006–2011 and 2013–2016
DACA eligibility	
BIRTHYR	Birth year
BIRTHQTR	Birth quarter (1=Jan-Mar, 2=Apr-Jun, 3=Jul-Sep, 4=Oct-Dec)
YRIMMIG	Year of immigration
Outcomes	
UHRSWORK	Usual hours worked per week; full-time = 35+ hours
EMPSTAT	Employment status; employed = 1
LABFORCE	Labor force status; in labor force = 2
Controls	
SEX	Sex; female = 2
MARST	Marital status; married = 1 or 2
EDUC	Educational attainment (general version)
STATEFIP	State FIPS code
PERWT	Person weight

Appendix B: Full-Time Employment Trends by Year

Table 8: Full-Time Employment Rates by Year and DACA Eligibility

Year	Non-Eligible	DACA-Eligible
2006	0.651	0.450
2007	0.652	0.459
2008	0.628	0.454
2009	0.582	0.418
2010	0.560	0.410
2011	0.551	0.406
DACA Implemented (June 2012)		
2013	0.566	0.446
2014	0.575	0.485
2015	0.582	0.517
2016	0.593	0.539

The table shows that both groups experienced declining full-time employment rates from 2006–2011, likely reflecting the Great Recession. After DACA implementation, the eligible group experienced substantially larger gains in full-time employment compared to the non-eligible group, consistent with a positive treatment effect.

Appendix C: Additional Regression Output

Table 9: Full Regression Output: Preferred Specification

Variable	Coefficient	Std. Error
DACA × Post	0.030***	(0.004)
DACA Eligible	-0.027***	(0.003)
Age	0.044***	(0.001)
Age^2	-0.0005***	(0.00001)
Female	-0.429***	(0.001)
Married	-0.037***	(0.002)
High School	0.047***	(0.002)
Some College	0.052***	(0.003)
Bachelor's+	0.072***	(0.004)
State FE	Yes	
Year FE	Yes	
Weighted	Yes	
N	561,470	

Notes: Robust standard errors in parentheses. *** p<0.01. State and year fixed effects included but not shown. Reference categories: non-DACA-eligible, male, unmarried, less than high school education.

The control variable coefficients are sensible. Full-time employment increases with age (at a declining rate), is substantially lower for women (-43 percentage points), lower for married individuals (-4 percentage points, potentially reflecting household specialization), and increases with education.