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

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Abstract

This study estimates the causal effect of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among Hispanic-Mexican, Mexican-born individuals in the United States. Using a difference-in-differences design that compares individuals aged 26–30 at DACA implementation (the treatment group) to those aged 31–35 (the control group), I find that DACA eligibility increased the probability of full-time employment by approximately 4.75 percentage points (SE = 0.011, 95% CI: [0.026, 0.069]). This effect is statistically significant at the 1% level and robust to various specification checks including placebo tests, alternative bandwidth choices, and subgroup analyses. The results suggest that DACA's provision of work authorization and deportation relief had meaningful positive effects on labor market outcomes for eligible individuals.

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 allowed certain undocumented immigrants who arrived in the United States as children to apply for renewable two-year deferrals from deportation and obtain work authorization. Given that DACA provided legal work authorization to a population previously restricted to informal employment, understanding its effects on labor market outcomes is of substantial policy interest.

This replication study examines a specific aspect of DACA's impact: whether eligibility for the program increased the probability of full-time employment among the targeted population. The research question is:

> *Among ethnically Hispanic-Mexican Mexican-born people living in the United States, what was the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on the probability that the eligible person is employed full-time (defined as usually working 35 hours per week or more)?*

To identify the causal effect, I employ a difference-in-differences (DiD) design that exploits the age-based eligibility cutoff for DACA. The treatment group consists of individuals aged 26–30 at the time of DACA implementation (June 15, 2012), while the control group comprises individuals aged 31–35 who would have been eligible except for exceeding the age limit of 30. By comparing changes in full-time employment rates between these two groups before and after DACA implementation, the design identifies the effect of DACA eligibility under the assumption that both groups would have followed parallel trends in the absence of the policy.

The analysis uses data from the American Community Survey (ACS) for the years 2006–2016, excluding 2012 due to the mid-year implementation of DACA. The main finding is that DACA eligibility is associated with a 4.75 percentage point increase in the probability of full-time employment among the treatment group relative to the control group, an effect that is both statistically significant and economically meaningful.

2 Background

2.1 The DACA Program

DACA was announced by the Obama administration on June 15, 2012, and applications began to be accepted on August 15, 2012. The program offered temporary relief from deportation and employment authorization to undocumented immigrants who met specific criteria. To be eligible, applicants needed to:

1. Have arrived in the United States before their 16th birthday
2. Have been under age 31 as of June 15, 2012
3. Have lived continuously in the United States since June 15, 2007
4. Have been physically present in the United States on June 15, 2012
5. Have not had lawful immigration status at the time of application
6. Meet certain educational or military service requirements
7. Have no significant criminal history

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved. Recipients could reapply for additional two-year periods of deferred action. While the program was not nationality-specific, the vast majority of DACA recipients were from Mexico, reflecting broader patterns of undocumented immigration to the United States.

2.2 Theoretical Mechanisms

Several mechanisms could explain why DACA might affect full-time employment:

Legal work authorization. Prior to DACA, undocumented immigrants could only work in informal or under-the-table arrangements. DACA provided recipients with Employment Authorization Documents (EADs), allowing them to work legally for any employer. This expanded the set of available jobs and potentially shifted recipients from part-time informal work to full-time formal employment.

Reduced fear of deportation. The deferred action component of DACA reduced the risk associated with formal employment. Recipients could provide proper documentation to employers without fear that this would lead to deportation proceedings.

Access to identification. DACA recipients became eligible to obtain state driver's licenses and other forms of identification in many states, reducing barriers to employment that requires such documentation.

Investment incentives. With renewable two-year periods of protection, DACA recipients faced stronger incentives to invest in job-specific human capital, potentially leading to better employment matches and more stable full-time positions.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS) 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 3.5 million households each year. The survey's large sample size makes it well-suited for studying subpopulations such as Mexican-born non-citizens.

I use the one-year ACS files for 2006–2016, excluding the 2012 file because DACA was implemented in the middle of that year (June 15), making it impossible to distinguish pre- and post-treatment observations. The pre-treatment period consists of 2006–2011, while the post-treatment period includes 2013–2016.

3.2 Sample Construction

The analysis focuses on a specific population that approximates DACA-eligible individuals. The sample is restricted to individuals who meet the following criteria:

1. **Hispanic-Mexican ethnicity:** HISPAN = 1
2. **Born in Mexico:** BPL = 200
3. **Non-citizen:** CITIZEN = 3
4. **Arrived before age 16:** (YRIMMIG - BIRTHYR) < 16
5. **Continuous U.S. residence since 2007:** YRIMMIG ≤ 2007

The key limitation is that the ACS does not distinguish between documented and undocumented non-citizens. Following the research design specification, I assume that all non-citizens who have not received immigration papers (i.e., those coded as CITIZEN = 3) are undocumented for purposes of DACA eligibility. This assumption means the sample likely includes some individuals who were not actually DACA-eligible (e.g., those with valid work visas), which would attenuate the estimated treatment effect.

3.3 Treatment and Control Groups

The age-based cutoff for DACA eligibility provides the basis for identifying treatment and control groups:

- **Treatment group:** Individuals aged 26–30 as of June 15, 2012. These individuals met the age requirement for DACA eligibility.

- **Control group:** Individuals aged 31–35 as of June 15, 2012. These individuals exceeded the age limit and were therefore ineligible for DACA, despite potentially meeting all other criteria.

To determine age as of June 15, 2012, I use both birth year (BIRTHYR) and birth quarter (BIRTHQTR). For individuals born in quarters 1–2 (January–June), their age in mid-2012 is calculated as 2012 − BIRTHYR. For individuals born in quarters 3–4 (July–December), their age is 2012 − BIRTHYR − 1 since they would not yet have had their birthday by June 15.

3.4 Outcome Variable

The outcome of interest is full-time employment, defined as usually working 35 hours or more per week. This is constructed from the UHRSWORK variable:

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

This definition follows the standard Bureau of Labor Statistics threshold for full-time work.

3.5 Sample Characteristics

Table 1 presents summary statistics for the analysis sample, broken down by treatment status and time period.

Table 1: Summary Statistics by Group and Period

	Treatment (Age 26–30)		Control (Age 31–35)	
	Pre-DACA	Post-DACA	Pre-DACA	Post-DACA
N (unweighted)	16,694	8,776	11,683	6,085
N (weighted)	2,280,009	1,244,124	1,631,151	845,134
Full-time employment rate	0.631	0.660	0.673	0.643
Male share	0.566	0.566	0.586	0.553
High school or more	0.613	0.596	0.529	0.515
Married share	0.329	0.456	0.469	0.519
Mean age	24.8	30.7	29.8	35.8

Notes: Sample consists of Mexican-born, Hispanic-Mexican non-citizens who arrived in the U.S. before age 16 and by 2007. Treatment group was aged 26–30 on June 15, 2012; control group was aged 31–35. Pre-DACA period is 2006–2011; post-DACA period is 2013–2016. Statistics are weighted using ACS person weights (PERWT) except for unweighted N.

The final analysis sample contains 43,238 observations (representing approximately 6 million individuals when weighted). The treatment group is larger than the control group, comprising about 59% of the sample. The treatment group is slightly younger in the pre-period (by construction) and has somewhat higher educational attainment but lower marriage rates, consistent with their younger age profile.

Importantly, the raw means already suggest a positive effect of DACA: the treatment group's full-time employment rate increased from 63.1% to 66.0% after DACA, while the control group's rate decreased from 67.3% to 64.3%. This pattern is consistent with a positive treatment effect, though the formal DiD analysis is needed to account for common time trends.

4 Empirical Strategy

4.1 Difference-in-Differences Design

The identification strategy employs a standard difference-in-differences design that compares changes in full-time employment for the treatment group (DACA-eligible individuals aged 26–30) relative to changes for the control group (ineligible individuals aged 31–35).

The key identifying assumption 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. Under this assumption, the control group's change in employment provides a valid counterfactual for what would have happened to the treatment group without the policy.

4.2 Econometric Specification

The main specification estimates the following regression model:

$$\text{FullTime}_{it} = \alpha + \beta_1 \text{Treated}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Treated}_i \times \text{Post}_t) + \mathbf{X}'_{it}\gamma + \varepsilon_{it} \tag{2}$$

where:

- FullTime_{it} is an indicator equal to 1 if individual i in year t works 35+ hours per week
- Treated_i is an indicator for being in the treatment group (aged 26–30 in June 2012)
- Post_t is an indicator for the post-DACA period (2013–2016)
- $\text{Treated}_i \times \text{Post}_t$ is the interaction term capturing the DiD effect
- $\mathbf{X}_{it}$ is a vector of individual-level covariates
- ε_{it} is the error term

The coefficient of interest is β_3, which represents the average treatment effect on the treated (ATT) under the parallel trends assumption. This coefficient captures the differential change in full-time employment for the treatment group relative to the control group after DACA implementation.

4.3 Weighting and Standard Errors

All regressions use ACS person weights (PERWT) to produce population-representative estimates. Standard errors are estimated using heteroskedasticity-robust (HC1) estimators to account for potential heteroskedasticity in the linear probability model.

4.4 Covariates

The baseline specification includes no covariates, relying solely on the DiD structure for identification. Additional specifications add the following covariates to improve precision and assess robustness:

- Sex (male indicator)
- Marital status (married indicator)
- Educational attainment (high school or more indicator)
- State fixed effects

The inclusion of state fixed effects accounts for time-invariant state-level factors that might affect employment, such as labor market conditions, immigrant populations, and state policies toward unauthorized immigrants.

5 Results

5.1 Main Results

Table 2 presents the main difference-in-differences estimates across multiple specifications.

Table 2: Difference-in-Differences Estimates of DACA Effect on Full-Time Employment

	(1) Unweighted	(2) Weighted	(3) + Covariates	(4) + Robust SE	(5) + State FE
DiD Estimate ($\hat{\beta}_3$)	0.0516	0.0590	0.0475	0.0475	0.0468
	(0.0100)	(0.0098)	(0.0107)	(0.0107)	(0.0090)
Treated	−0.0314	−0.0426	−0.0317	−0.0317	−0.0298
	(0.0058)	(0.0058)	(0.0067)	(0.0067)	(0.0059)
Post	−0.0324	−0.0299	−0.0323	−0.0323	−0.0267
	(0.0076)	(0.0075)	(0.0089)	(0.0089)	(0.0086)
Weighted	No	Yes	Yes	Yes	Yes
Covariates	No	No	Yes	Yes	Yes
Robust SE	No	No	No	Yes	Yes
State FE	No	No	No	No	Yes
Observations	43,238	43,238	43,238	43,238	43,238

Notes: Dependent variable is an indicator for working 35+ hours per week. Treatment group is aged 26–30 on June 15, 2012; control group is aged 31–35. Covariates include indicators for male, married, and high school or more education. Robust standard errors in parentheses for columns 4–5. All specifications exclude 2012.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

The results are consistent across all specifications. The preferred estimate (Column 4, with weights, covariates, and robust standard errors) indicates that DACA eligibility increased the probability of full-time employment by 4.75 percentage points (SE = 0.0107, $p < 0.001$). The 95% confidence interval is [0.0265, 0.0685], indicating that we can rule out effects smaller than 2.6 percentage points at conventional significance levels.

The coefficient on Treated is negative, indicating that the treatment group had lower full-time employment rates than the control group in the pre-period. This is consistent with the treatment group being younger and potentially facing more labor market challenges. The coefficient on Post is also negative, reflecting a general decline in full-time employment during the 2013–2016 period for this population.

The positive DiD coefficient indicates that despite the overall decline in full-time employment, the treatment group experienced a relative improvement compared to the control group after DACA implementation. This is consistent with DACA having a positive effect on labor market outcomes for eligible individuals.

5.2 Simple 2x2 Difference-in-Differences

To provide a transparent view of the identification, Table 3 presents the simple means underlying the DiD calculation.

Table 3: Simple 2x2 Difference-in-Differences Table

	Pre-DACA	Post-DACA	Difference
Treatment (Age 26–30)	0.631	0.660	+0.029
Control (Age 31–35)	0.673	0.643	−0.030
Difference-in-Differences			**0.059**

Notes: Cell entries are weighted mean full-time employment rates. The DiD estimate of 0.059 corresponds to Column 2 of Table 2.

The treatment group's full-time employment rate increased by 2.9 percentage points (from 63.1% to 66.0%), while the control group's rate decreased by 3.0 percentage points (from 67.3% to 64.3%). The difference-in-differences of approximately 5.9 percentage points represents the estimated treatment effect before controlling for covariates.

5.3 Event Study Analysis

To assess the parallel trends assumption and examine the dynamics of the treatment effect, I estimate an event study specification that allows for year-specific treatment effects:

$$\text{FullTime}_{it} = \alpha + \sum_{k \neq 2011} \delta_k(\text{Treated}_i \times \mathbf{1}[t = k]) + \text{Year FE} + \mathbf{X}'_{it}\gamma + \varepsilon_{it} \quad (3)$$

where 2011 (the last pre-treatment year) serves as the reference period.

Table 4: Event Study Coefficients: Treatment × Year Interactions

Year	Coefficient	Robust SE	p-value
Pre-treatment period			
2006	0.006	0.023	0.798
2007	−0.032	0.022	0.158
2008	0.008	0.023	0.734
2009	−0.009	0.024	0.698
2010	−0.014	0.023	0.560
2011		(reference)	
Post-treatment period			
2013	0.035	0.024	0.151
2014	0.037	0.025	0.134
2015	0.020	0.025	0.418
2016	0.067	0.025	0.007***

Notes: Coefficients represent the interaction of treatment group status with year indicators, relative to 2011. Robust standard errors in parentheses. Specification includes year fixed effects and controls for male, married, and high school education.
*** p<0.01, ** p<0.05, * p<0.1

The event study results provide support for the parallel trends assumption. None of the pre-treatment coefficients (2006–2010) are statistically significant, and they fluctuate around zero without showing a clear trend. This suggests that the treatment and control groups were following similar paths in full-time employment prior to DACA implementation.

In the post-treatment period, the coefficients are consistently positive, indicating that the treatment group experienced relative improvements in full-time employment. The effect appears to grow over time, with the largest and only statistically significant year-specific effect occurring in 2016 (6.7 percentage points, p = 0.007). This pattern could reflect the gradual uptake of DACA benefits as more recipients obtained work authorization and transitioned to formal employment.

6 Robustness Checks

To assess the robustness of the main findings, I conduct several additional analyses.

6.1 Placebo Test

If the parallel trends assumption holds, we should not observe a significant "effect" in periods when no treatment occurred. I conduct a placebo test using only the pre-treatment data (2006–2011) and artificially assigning 2009 as the treatment year.

Table 5: Robustness Checks

Specification	Estimate	Robust SE	p-value
Main result (reference)	0.0475	0.0107	<0.001
Placebo and falsification tests			
Placebo (fake treatment at 2009)	−0.002	0.013	0.843
Alternative bandwidth			
Narrow bandwidth (ages 28–30 vs 31–33)	0.038	0.014	0.007
Alternative outcome			
Any employment (vs. not employed)	0.044	0.010	<0.001
Subgroup analyses			
Males only	0.046	0.012	<0.001
Females only	0.047	0.019	0.012

Notes: All specifications use person weights and robust standard errors. Main result is from Column 4 of Table 2.

The placebo test yields a coefficient of -0.002 (SE = 0.013, p = 0.843), which is effectively zero and not statistically significant. This provides further support for the parallel trends assumption and suggests that the main finding is not driven by differential pre-existing trends.

6.2 Alternative Bandwidth

A potential concern with the main specification is that the treatment and control groups differ in age by up to 9 years, which could confound the treatment effect with age-related differences in employment. To address this, I estimate the effect using a narrower bandwidth that includes only individuals aged 28–30 (treatment) versus 31–33 (control), reducing the maximum age difference to 5 years.

The narrow bandwidth estimate is 3.8 percentage points (SE = 0.014, p = 0.007), slightly smaller than the main estimate but still statistically significant. The attenuation may reflect reduced statistical power due to the smaller sample or genuine heterogeneity in treatment effects by distance from the age cutoff.

6.3 Alternative Outcome

I also examine whether DACA affected overall employment (any employment versus not employed), not just full-time employment. The estimated effect on any employment is 4.4 percentage points (SE = 0.010, $p < 0.001$), similar in magnitude to the full-time employment effect. This suggests that DACA increased employment both at the extensive margin (any employment) and intensive margin (hours worked).

6.4 Subgroup Analyses

The main analysis pools men and women, but labor force participation patterns differ substantially by sex. I estimate separate effects for each group:

- **Males:** 4.6 percentage points (SE = 0.012, $p < 0.001$)
- **Females:** 4.7 percentage points (SE = 0.019, p = 0.012)

The point estimates are remarkably similar for men and women, though the female estimate is less precisely estimated due to lower labor force participation rates. The consistency across sex suggests that DACA's effects were not driven by one group.

7 Discussion

7.1 Interpretation of Results

The main finding is that DACA eligibility increased full-time employment by approximately 4.75 percentage points among Hispanic-Mexican, Mexican-born non-citizens who met the program's age and residency requirements. This represents a roughly 7.5% increase relative to the treatment group's pre-DACA full-time employment rate of 63.1%.

This effect is economically meaningful. When extrapolated to the population of DACA-eligible individuals (represented by approximately 2.3 million weighted observations in the treatment group during the pre-period), a 4.75 percentage point increase implies roughly 109,000 additional people working full-time as a result of the program.

The findings are consistent with the theoretical mechanisms discussed earlier. DACA's provision of work authorization likely allowed recipients to transition from informal, part-time employment to formal, full-time positions. The deportation relief may have reduced the risks associated with formal employment, and access to identification documents could have opened doors to jobs that were previously inaccessible.

7.2 Comparison to Related Literature

Several previous studies have examined DACA's effects on labor market outcomes. While this replication is not designed to directly replicate any specific study, the findings are broadly consistent with the existing literature:

- Pope (2016) found significant increases in labor force participation among DACA-eligible individuals.
- Amuedo-Dorantes and Antman (2017) documented improvements in employment outcomes and reductions in working poverty.

- Kuka, Shenhav, and Shih (2020) found effects on teen high school graduation rates, suggesting broader human capital impacts.

The magnitude of the estimated effect (4.75 percentage points) is within the range of estimates from prior studies, though direct comparisons are complicated by differences in sample definitions, time periods, and outcome measures.

7.3 Limitations

Several limitations should be considered when interpreting these results:

Measurement of undocumented status. The ACS does not directly identify undocumented immigrants. The sample includes all non-citizens, some of whom may have valid work authorization through other programs. This measurement error likely attenuates the estimated treatment effect, as some individuals in both the treatment and control groups may not have been affected by DACA.

Age-based identification. The treatment and control groups differ systematically in age, which could confound the treatment effect if age-related factors affect employment independently of DACA. The narrow bandwidth specification helps address this concern but does not fully resolve it.

Exclusion of 2012. Dropping the 2012 data means the analysis cannot capture immediate effects of DACA in the months following implementation. However, given the time required to process applications, any effects in late 2012 would likely be small.

Self-selection into survey response. DACA may have affected individuals' willingness to respond to government surveys like the ACS. If DACA recipients became more likely to respond, this could bias the estimates.

General equilibrium effects. The analysis estimates partial equilibrium effects and does not account for potential general equilibrium responses, such as changes in labor supply by other workers or employer responses to DACA.

8 Conclusion

This replication study finds that eligibility for DACA increased full-time employment by approximately 4.75 percentage points among Hispanic-Mexican, Mexican-born individuals who met the program's requirements. The effect is statistically significant at the 1% level and robust to various specification checks including placebo tests, alternative bandwidths, and subgroup analyses.

The findings contribute to the growing evidence that DACA had meaningful positive effects on labor market outcomes for eligible individuals. By providing work authorization and deportation relief, the program appears to have enabled recipients to transition into more stable, full-time employment arrangements. These results have implications for ongoing policy debates about DACA and broader immigration reform.

From a methodological perspective, the study demonstrates the usefulness of age-based eligibility cutoffs for identifying causal effects of immigration policies. The event study analysis provides support for the parallel trends assumption, while the robustness checks suggest that the findings are not sensitive to particular specification choices.

Future research could extend this analysis by examining heterogeneity in treatment effects by state (given variation in state-level policies toward unauthorized immigrants), educational attainment, or industry of employment. Additionally, as more years of data become available, researchers could examine whether DACA's effects persisted or evolved over time, particularly in light of policy uncertainty surrounding the program in recent years.

Technical Appendix

Variable Definitions

Table 6: Variable Definitions from IPUMS ACS

Variable	Definition
YEAR	Survey year (2006–2016, excluding 2012)
PERWT	Person weight for survey weighting
AGE	Age of respondent
BIRTHYR	Year of birth
BIRTHQTR	Quarter of birth (1=Jan-Mar, 2=Apr-Jun, 3=Jul-Sep, 4=Oct-Dec)
HISPAN	Hispanic origin (1 = Mexican)
BPL	Birthplace (200 = Mexico)
CITIZEN	Citizenship status (3 = Not a citizen)
YRIMMIG	Year of immigration to the United States
UHRSWORK	Usual hours worked per week
SEX	Sex (1 = Male, 2 = Female)
EDUC	Educational attainment (general version)
MARST	Marital status
EMPSTAT	Employment status
STATEFIP	State FIPS code

Sample Restrictions

The analysis sample is constructed by applying the following restrictions sequentially:

1. Keep observations where HISPAN = 1 (Mexican Hispanic)
2. Keep observations where BPL = 200 (Born in Mexico)
3. Keep observations where CITIZEN = 3 (Not a citizen)
4. Keep observations where YEAR $\in$ {2006, 2007, 2008, 2009, 2010, 2011, 2013, 2014, 2015, 2016}
5. Calculate age as of June 15, 2012 using BIRTHYR and BIRTHQTR
6. Keep observations where age in June 2012 $\in$ [26, 35]

7. Keep observations where YRIMMIG > 0 and YRIMMIG ≤ 2007

8. Keep observations where (YRIMMIG $-$ BIRTHYR) < 16

Estimation Details

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

$$Y_i = \beta_0 + \beta_1 \text{Treated}_i + \beta_2 \text{Post}_i + \beta_3 (\text{Treated}_i \times \text{Post}_i) + \varepsilon_i \tag{4}$$

The preferred specification (Model 4) adds individual-level covariates:

$$Y_i = \beta_0 + \beta_1 \text{Treated}_i + \beta_2 \text{Post}_i + \beta_3 (\text{Treated}_i \times \text{Post}_i) + \gamma_1 \text{Male}_i + \gamma_2 \text{Married}_i + \gamma_3 \text{HSplus}_i + \varepsilon_i \tag{5}$$

Standard errors are computed using the HC1 (heteroskedasticity-consistent) estimator.

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