The Effect of DACA Eligibility on Full-Time Employment:

A Difference-in-Differences Analysis

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 Mexican-born Hispanic individuals in the United States. Using American Community Survey data from 2006–2016 and a difference-in-differences identification strategy, I find that DACA eligibility increased the probability of full-time employment by approximately 5.2 percentage points (95% CI: 4.2–6.1 pp). This effect is statistically significant at the 1% level and robust to alternative specifications. The findings suggest that DACA's provision of work authorization had meaningful positive effects 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, represented a significant shift in U.S. immigration policy. The program offered temporary relief from deportation and work authorization to undocumented immigrants who arrived in the United States as children, provided they met certain eligibility criteria. Given that DACA recipients gained legal authorization to work, an important empirical question is whether this policy change affected their labor market outcomes.

This study examines the effect of DACA eligibility on full-time employment among Mexican-born, ethnically Hispanic-Mexican individuals residing in the United States. Full-time employment, defined as usually working 35 or more hours per week, is a key measure of labor market attachment and economic self-sufficiency. Understanding how DACA affected this outcome has implications for both immigration policy debates and our understanding of how legal work status affects labor market behavior.

The identification strategy relies on a difference-in-differences (DiD) approach that compares changes in full-time employment rates between DACA-eligible and non-eligible Mexican-born non-citizens before and after the program's implementation. This design exploits the fact that eligibility for DACA was determined by specific age and arrival timing criteria, creating plausibly exogenous variation in treatment status conditional on being in the target population of Mexican-born non-citizens.

The main finding is that DACA eligibility increased the probability of full-time employment by approximately 5.2 percentage points, representing a meaningful improvement in labor market outcomes. This effect is precisely estimated and robust to various specification choices, including alternative control group definitions and the inclusion of demographic controls and fixed effects.

2 Background

2.1 The DACA Program

DACA was announced by the Obama administration on June 15, 2012, and applications began to be received on August 15, 2012. The program provided eligible individuals with a two-year period of deferred action (protection from deportation) and work authorization, renewable upon expiration. In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved.

To be eligible for DACA, individuals had to meet the following criteria:

1. Arrived in the United States before their 16th birthday

2. Had not yet reached their 31st birthday as of June 15, 2012

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

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

5. Were without lawful immigration status (citizenship or legal permanent residency) on June 15, 2012

2.2 Expected Effects on Employment

There are several channels through which DACA eligibility might affect full-time employment:

Direct effects of work authorization: The most straightforward mechanism is that DACA provided legal work authorization, enabling recipients to seek employment in the formal labor market. Previously, undocumented workers were limited to informal employment or positions where employers did not verify work authorization.

Reduced fear of deportation: By providing temporary protection from deportation, DACA may have allowed recipients to pursue better job opportunities without fear

that increased visibility would lead to removal from the country.

Access to identification: DACA recipients could obtain Social Security numbers and, in many states, driver's licenses. These forms of identification facilitate employment and may expand the geographic range of job opportunities available.

Human capital investments: With reduced uncertainty about their ability to remain in the country, DACA recipients may have invested more in education and job training, potentially improving their employment prospects.

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, and economic information from a nationally representative sample of U.S. households.

I use the one-year ACS files from 2006 through 2016, excluding 2012. The year 2012 is excluded because DACA was announced in June of that year, and the ACS does not record the month of data collection, making it impossible to distinguish pre- and post-DACA observations within that year. This provides six years of pre-period data (2006–2011) and four years of post-period data (2013–2016).

The initial dataset contains 33,851,424 person-year observations across the 11 years of data.

3.2   Sample Selection

The analysis sample is constructed by applying the following restrictions:

1. **Hispanic-Mexican ethnicity:** Individuals must report Mexican Hispanic origin

(HISPAN = 1). This restriction follows from the research question's focus on ethnically Hispanic-Mexican individuals.

2. **Mexican birthplace:** Individuals must have been born in Mexico (BPL = 200). This ensures the sample consists of Mexican immigrants rather than U.S.-born individuals of Mexican descent.

3. **Non-citizen status:** Individuals must not be U.S. citizens (CITIZEN = 3). As instructed, I assume that non-citizens who have not naturalized are undocumented for DACA purposes. This is a necessary assumption given that the ACS cannot directly identify undocumented status.

4. **Working age:** Individuals must be between 18 and 64 years old. This is a standard restriction in labor economics research to focus on the working-age population.

5. **Valid immigration year:** Individuals must have a non-missing year of immigration (YRIMMIG > 0), which is necessary for determining DACA eligibility.

After applying these restrictions, the final analysis sample contains 547,614 person-year observations.

3.3 Variable Construction

3.3.1 Treatment Variable: DACA Eligibility

An individual is classified as DACA-eligible if they meet all of the following criteria:

1. Arrived in the United States before age 16 (calculated as $\text{YRIMMIG} - \text{BIRTHYR} < 16$)

2. Were born in 1982 or later (so that they were under 31 as of June 15, 2012)

3. Arrived in the United States by 2007 ($\text{YRIMMIG} \leq 2007$, to satisfy the continuous presence requirement)

The fourth criterion (presence in the U.S. on June 15, 2012) is assumed to be satisfied by all individuals in the sample, as they are observed in the ACS during the study period.

Using these criteria, 69,244 observations (12.6%) are classified as DACA-eligible, while 478,370 observations (87.4%) form the control group of non-eligible Mexican-born non-citizens.

3.3.2 Outcome Variable: Full-Time Employment

The outcome variable is an indicator for full-time employment, defined as usually working 35 or more hours per week. This is constructed from the UHRSWORK variable (usual hours worked per week):

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

3.3.3 Control Variables

The following control variables are included in various specifications:

- **Age:** Continuous variable (AGE) and its square, to capture nonlinear age-employment profiles

- **Sex:** Indicator for female (SEX = 2)

- **Marital status:** Indicator for currently married (MARST $\leq$ 2)

- **Education:** Indicators for high school completion or higher (EDUC $\geq$ 6) and some college or higher (EDUC $\geq$ 7)

- **State:** State of residence fixed effects (STATEFIP)

- **Year:** Year fixed effects

4 Empirical Strategy

4.1 Difference-in-Differences Design

The identification strategy relies on a difference-in-differences framework that compares changes in full-time employment between DACA-eligible individuals (treatment group) and non-eligible Mexican-born non-citizens (control group) before and after DACA implementation.

The basic DiD regression model is:

$$Y_{ist} = \beta_0 + \beta_1 \text{Eligible}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Eligible}_i \times \text{Post}_t) + \epsilon_{ist} \tag{1}$$

where Y_{ist} is an indicator for full-time employment for individual i in state s at time t, Eligible_i indicates DACA eligibility, Post_t indicates the post-DACA period (2013–2016), and β_3 is the parameter of interest—the DiD estimate of DACA's effect on full-time employment.

The extended model with controls is:

$$Y_{ist} = \beta_0 + \beta_1 \text{Eligible}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Eligible}_i \times \text{Post}_t) + X'_{ist}\gamma + \delta_s + \tau_t + \epsilon_{ist} \tag{2}$$

where X_{ist} is a vector of individual-level controls, δ_s represents state fixed effects, and τ_t represents year fixed effects.

All regressions use person weights (PERWT) to produce population-representative estimates and heteroskedasticity-robust standard errors.

4.2 Identifying Assumptions

The key identifying assumption is the parallel trends assumption: absent DACA, the change in full-time employment rates would have been the same for eligible and non-eligible individuals. While this assumption cannot be directly tested, I examine pre-trends to assess its plausibility.

Several factors support the validity of this design:

1. DACA eligibility criteria were set by federal policy and were not chosen by individuals, reducing concerns about selection bias.

2. The treatment and control groups share important characteristics: both are Mexican-born, ethnically Hispanic-Mexican non-citizens. This similarity makes it more plausible that they would have followed similar employment trends absent the policy.

3. The timing of DACA was determined by political factors exogenous to the labor market conditions facing the study population.

5 Results

5.1 Descriptive Statistics

Table **??** presents summary statistics for the analysis sample, separately by DACA eligibility status.

Table 1: Summary Statistics by DACA Eligibility

Variable	Non-Eligible	DACA-Eligible
Full-time employment rate	0.596	0.524
Employment rate	0.657	0.622
Age (years)	39.6	23.4
Female (%)	46.1	44.8
Married (%)	65.6	29.4
High school or more (%)	40.2	66.5
Some college or more (%)	11.0	18.5
Observations (unweighted)	478,370	69,244
Population (weighted)	65,007,808	9,583,950

Notes: Sample consists of Mexican-born, Hispanic-Mexican, non-citizen individuals aged 18–64 from the 2006–2011 and 2013–2016 ACS. Population counts use person weights (PERWT).

The DACA-eligible group is substantially younger (mean age 23.4 vs. 39.6 years) and less likely to be married (29.4% vs. 65.6%). However, the eligible group has higher educational attainment, with 66.5% having at least a high school education compared to 40.2% of the non-eligible group. This pattern is consistent with the DACA eligibility requirement of having arrived as a child, which likely resulted in more U.S. education.

Baseline full-time employment rates are lower for the eligible group (52.4%) than for the non-eligible group (59.6%). This difference partly reflects the age difference between groups, as younger workers typically have lower full-time employment rates.

5.2 Trends in Full-Time Employment

Table **??** shows full-time employment rates by year and eligibility status.

Table 2: Full-Time Employment Rates by Year and DACA Eligibility

Year	Non-Eligible	DACA-Eligible
Pre-DACA Period		
2006	0.652	0.541
2007	0.652	0.550
2008	0.629	0.534
2009	0.583	0.494
2010	0.561	0.476
2011	0.553	0.464
Post-DACA Period		
2013	0.568	0.497
2014	0.578	0.537
2015	0.585	0.565
2016	0.596	0.583

Several patterns are evident. First, both groups experienced declining full-time employment rates during the Great Recession (2008–2011), which is consistent with the broader economic downturn. Second, both groups show recovery beginning in 2013. Third, and most importantly, the gap between groups narrows substantially in the post-period, particularly in 2014–2016. While the non-eligible group's full-time employment rate increased from 0.553 (2011) to 0.596 (2016), a gain of 4.3 percentage points, the eligible group's rate increased from 0.464 to 0.583, a gain of 11.9 percentage points.

5.3 Main Results

Table **??** presents the main difference-in-differences estimates.

Table 3: Difference-in-Differences Estimates: Effect of DACA Eligibility on Full-Time Employment

	(1)	(2)	(3)
	Basic DiD	+ Controls	+ State & Year FE
DACA Eligible × Post	0.0727***	0.0593***	0.0515***
	(0.0049)	(0.0047)	(0.0046)
DACA Eligible	−0.0996***	0.0194***	0.0277***
	(0.0040)	(0.0044)	(0.0044)
Post	−0.0232***	−0.0139***	—
	(0.0019)	(0.0018)	
Demographic controls	No	Yes	Yes
State fixed effects	No	No	Yes
Year fixed effects	No	No	Yes
Observations	547,614	547,614	547,614
R^2	0.003	0.082	0.090

Notes: Dependent variable is an indicator for full-time employment (working 35+ hours per week). All regressions use person weights and heteroskedasticity-robust standard errors. Demographic controls include age, age squared, female indicator, married indicator, and education indicators. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

The basic DiD estimate in column (1) indicates that DACA eligibility increased full-

time employment by 7.27 percentage points. Adding demographic controls in column (2) reduces the estimate to 5.93 percentage points, suggesting that some of the raw difference is attributable to compositional differences between groups. The preferred specification in column (3), which includes state and year fixed effects, yields an estimate of 5.15 percentage points (95% CI: 4.24–6.06 pp).

The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 5.2 percentage points. Given that the pre-period full-time employment rate for the eligible group was 50.5%, this represents a roughly 10% increase in full-time employment.

All three specifications produce statistically significant estimates at the 1% level, with p-values effectively zero.

5.4 Robustness Checks

5.4.1 Alternative Control Group

One concern with the main specification is that the control group includes individuals who may differ from the treatment group in ways that affect employment trends. To address this, I re-estimate the model restricting the control group to individuals who arrived in the U.S. as adults (age 25 or older at immigration). This group is more clearly ineligible for DACA and may have different labor market trajectories than those who arrived as older children but before age 16.

Using this alternative control group, the DiD estimate is 0.0573 (SE = 0.0051), similar to the main result.

5.4.2 Placebo Test: Pre-Period Trends

The parallel trends assumption can be partially assessed by examining whether the treatment and control groups followed similar trends in the pre-period. I conduct a placebo test by splitting the pre-period into 2006–2008 and 2009–2011 and estimating a "fake" DiD using

only pre-DACA data.

The placebo DiD coefficient is 0.0139 (SE = 0.0063, p = 0.027). While statistically significant, this coefficient is substantially smaller than the main estimate of 0.0515, suggesting that most of the post-DACA convergence is not attributable to pre-existing differential trends. However, the non-zero placebo estimate warrants some caution in interpreting the results, as it suggests the groups may not have been on perfectly parallel trends pre-DACA.

5.4.3 Employment Extensive Margin

I also examine effects on the extensive margin of employment (any employment, regardless of hours). The DiD estimate for overall employment is 0.0684 (SE = 0.0045), larger than the effect on full-time employment. This suggests DACA affected both the decision to work and the intensity of work among those employed.

5.4.4 Heterogeneity by Gender

Table **??** shows results separately by gender.

Table 4: Heterogeneity by Gender

	Male	Female
DACA Eligible $\times$ Post	0.0552***	0.0625***
	(0.0060)	(0.0071)
Observations	290,982	256,632

The effect is somewhat larger for women (6.25 pp) than for men (5.52 pp), though both estimates are statistically significant and the difference is not large in magnitude. This suggests DACA benefited both genders similarly.

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6 Discussion

6.1 Interpretation of Results

The main finding is that DACA eligibility increased full-time employment by approximately 5.2 percentage points among Mexican-born, Hispanic-Mexican non-citizens. This represents a meaningful improvement in labor market outcomes for this population.

Several mechanisms could explain this effect:

1. **Legal work authorization:** DACA recipients gained the legal right to work, allowing them to seek employment in the formal labor market where full-time positions are more common.

2. **Job mobility:** With work authorization and reduced deportation risk, DACA recipients may have been able to change jobs more freely, transitioning to better positions with more hours.

3. **Employer willingness:** Employers who previously could not hire undocumented workers (or were hesitant to do so) could now legally employ DACA recipients, expanding job opportunities.

The finding that effects are larger on the extensive margin (0.068) than on full-time employment (0.052) suggests that DACA affected both the decision to participate in the labor force and the intensity of work conditional on employment.

6.2 Limitations

Several limitations should be noted:

Parallel trends: The placebo test suggests there may have been some differential pre-trends between treatment and control groups. While the pre-period differential trend (0.014) is much smaller than the main effect (0.052), this introduces some uncertainty about the causal interpretation.

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Undocumented status proxy: The data do not directly identify undocumented immigrants. The assumption that all non-citizens who have not naturalized are undocumented may introduce measurement error in the treatment variable. Some individuals classified as non-eligible may have had legal status through other means.

DACA eligibility vs. DACA receipt: The analysis estimates intention-to-treat effects of DACA eligibility rather than treatment-on-the-treated effects of actually receiving DACA. Not all eligible individuals applied for or received DACA status.

General equilibrium effects: The analysis does not account for potential spillover effects on non-eligible workers who may face more competition from newly authorized DACA recipients.

6.3   Comparison with Prior Literature

The findings are broadly consistent with prior research on the labor market effects of immigration status and work authorization. Studies of previous legalization programs, such as the Immigration Reform and Control Act of 1986, have also found positive effects on employment and wages for beneficiaries.

The magnitude of the effect (5.2 percentage points) is economically meaningful and suggests that legal work status is an important determinant of labor market outcomes for immigrant workers.

7   Conclusion

This study provides evidence that DACA eligibility increased full-time employment among Mexican-born Hispanic individuals by approximately 5.2 percentage points. Using a difference-in-differences design that compares DACA-eligible individuals to non-eligible Mexican-born non-citizens before and after the program's implementation, I find robust evidence of positive effects on labor market attachment.

The results suggest that DACA's provision of work authorization and protection from deportation had meaningful benefits for recipients' employment outcomes. These findings contribute to ongoing policy debates about the effects of immigration enforcement and relief programs on immigrant workers and the broader labor market.

The analysis has some limitations, including the inability to directly observe undocumented status and some evidence of differential pre-trends. Nonetheless, the consistent pattern of results across specifications and the magnitude of effects suggest that DACA had a meaningful positive impact on full-time employment among the target population.

Future research could examine longer-term effects of DACA, effects on wages and job quality, and spillover effects on non-recipients. Understanding these broader impacts is important for evaluating the full costs and benefits of DACA and similar policies.

A Technical Details

A.1 Variable Definitions

Table 5: IPUMS Variable Definitions

Variable	Definition
YEAR	Survey year
STATEFIP	State FIPS code
PERWT	Person weight
SEX	Sex (1 = Male, 2 = Female)
AGE	Age in years
BIRTHYR	Year of birth
MARST	Marital status (1–2 = Married)
HISPAN	Hispanic origin (1 = Mexican)
BPL	Birthplace (200 = Mexico)
CITIZEN	Citizenship status (3 = Not a citizen)
YRIMMIG	Year of immigration
EDUC	Educational attainment (general version)
UHRSWORK	Usual hours worked per week
EMPSTAT	Employment status (1 = Employed)

A.2 DACA Eligibility Construction

DACA eligibility is defined as:

```
daca_eligible = (age_at_immigration < 16) AND

               (birth_year >= 1982) AND

               (year_of_immigration <= 2007)
```

where:

- age_at_immigration = YRIMMIG − BIRTHYR

- The birth year cutoff of 1982 ensures individuals were under 31 on June 15, 2012

- The immigration year cutoff of 2007 ensures continuous presence since June 2007

A.3 Sample Selection Steps

Table 6: Sample Selection

Selection Criterion	Observations
Initial ACS 2006–2016 sample	33,851,424
After excluding 2012	30,738,394
After Hispanic-Mexican filter (HISPAN = 1)	2,663,503
After Mexico birthplace filter (BPL = 200)	898,879
After non-citizen filter (CITIZEN = 3)	636,722
After working age filter (18–64)	547,614
After valid immigration year filter	547,614
Final analysis sample	**547,614**

A.4 Model Specifications

Model 1 (Basic DiD):

$$\text{fulltime}_{it} = \beta_0 + \beta_1 \text{eligible}_i + \beta_2 \text{post}_t + \beta_3(\text{eligible}_i \times \text{post}_t) + \epsilon_{it}$$

Model 2 (With Controls):

$$\text{fulltime}_{it} = \beta_0 + \beta_1 \text{eligible}_i + \beta_2 \text{post}_t + \beta_3 (\text{eligible}_i \times \text{post}_t)$$

$$+ \gamma_1 \text{age}_{it} + \gamma_2 \text{age}_{it}^2 + \gamma_3 \text{female}_i + \gamma_4 \text{married}_{it}$$

$$+ \gamma_5 \text{educ\_hs}_{it} + \gamma_6 \text{educ\_college}_{it} + \epsilon_{it}$$

Model 3 (With State and Year FE):

$$\text{fulltime}_{ist} = \beta_0 + \beta_1 \text{eligible}_i + \beta_3 (\text{eligible}_i \times \text{post}_t) + X'_{it}\gamma + \delta_s + \tau_t + \epsilon_{ist}$$

where δ_s are state fixed effects and τ_t are year fixed effects. Note that the main effect of post is absorbed by year fixed effects in Model 3.

B Additional Results

B.1 Pre-Post Comparison

Table 7: Full-Time Employment Rates: Pre vs. Post DACA

Group	Pre-DACA (2006–2011)	Post-DACA (2013–2016)	Difference
Non-Eligible	0.605	0.582	-0.023
DACA-Eligible	0.505	0.546	$+0.041$
Difference-in-Differences			**0.064**

This simple 2×2 comparison shows the raw DiD. The non-eligible group experienced a 2.3 percentage point decline in full-time employment, while the eligible group experienced a 4.1 percentage point increase, yielding a raw DiD of approximately 6.4 percentage points.

B.2 Year-by-Year Effects

To examine the timing of effects, I estimate year-specific treatment effects by interacting DACA eligibility with year indicators:

Table 8: Year-Specific Effects Relative to 2011

Year	Coefficient	Std. Error
2006	-0.003	0.009
2007	0.002	0.009
2008	0.008	0.009
2009	0.016	0.009
2010	0.004	0.009
2011	(reference)	—
2013	0.021	0.010
2014	0.047	0.010
2015	0.069	0.011
2016	0.079	0.011

The year-specific effects show relatively stable pre-trends (coefficients close to zero and not monotonically trending) and growing positive effects in the post-period, consistent with DACA having a causal effect that increased over time as more eligible individuals obtained DACA status and adjusted their labor market behavior.