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

Replication Study 08

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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 Mexican-born 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 2.5 percentage points (SE = 0.0038, p < 0.001). This effect is robust across various specifications, including analyses by gender and alternative outcome definitions. Event study results suggest the effect emerged gradually after DACA implementation in 2012 and strengthened through 2016, consistent with the gradual rollout and renewal of DACA protections.

Keywords: DACA, immigration policy, employment, difference-in-differences, labor economics

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1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, established on June 15, 2012, represents one of the most significant immigration policy changes in recent U.S. history. The program provides temporary relief from deportation and work authorization to undocumented immigrants who arrived in the United States as children and meet specific eligibility criteria. By the end of 2016, approximately 800,000 individuals had received DACA protections, with the vast majority being of Mexican origin.

Understanding the labor market impacts of DACA is crucial for several reasons. First, work authorization is a central component of the program, and examining employment outcomes provides direct evidence on whether the policy achieves its intended effects. Second, changes in employment among DACA recipients may have broader implications for household welfare, tax revenues, and economic growth. Third, the policy debate surrounding DACA continues, and empirical evidence on its effects can inform policymaking.

This study investigates the following research question: *Among ethnically Hispanic-Mexican Mexican-born people living in the United States, what was the causal impact of eligibility for the DACA program on the probability of being employed full-time (defined as usually working 35 hours per week or more)?*

Using a difference-in-differences (DiD) research design and data from the American Community Survey (ACS), I compare changes in full-time employment rates between DACA-eligible and non-eligible individuals before and after the program's implementation. The main finding is that DACA eligibility increased the probability of full-time employment by approximately 2.5 percentage points, representing a meaningful improvement in labor market outcomes for eligible individuals.

2 Background

2.1 The DACA Program

DACA was announced by the Obama administration on June 15, 2012, in response to Congressional inaction on comprehensive immigration reform. The program allows eligible undocumented immigrants to apply for a two-year renewable period of deferred action, which provides protection from deportation and eligibility for work authorization.

To qualify for DACA, individuals must satisfy 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, and at the time of application

5. Did not have lawful immigration status (citizenship or legal permanent residency) as of June 15, 2012

6. Currently enrolled in school, graduated from high school, obtained a GED, or are an honorably discharged veteran

7. Have not been convicted of a felony, significant misdemeanor, or three or more other misdemeanors

Applications began to be accepted on August 15, 2012. In the first four years, approximately 900,000 initial applications were submitted, with roughly 90% receiving approval. The program has been subject to ongoing legal and political challenges but remained in effect during the study period (2013-2016).

2.2 Theoretical Framework

DACA could affect employment outcomes through several channels:

Legal Work Authorization: Prior to DACA, undocumented immigrants faced significant barriers to formal employment. Many worked in the informal sector or used fraudulent documents. DACA provides lawful work authorization, enabling recipients to seek formal employment without fear of detection or deportation.

Reduced Deportation Risk: The threat of deportation creates uncertainty that may discourage investment in job search, skill acquisition, or accepting positions that require long-term commitment. DACA's deferred action provision reduces this uncertainty.

Access to Driver's Licenses: Many states allow DACA recipients to obtain driver's licenses, which can expand job opportunities, particularly in areas with limited public transportation.

Improved Bargaining Power: With work authorization and reduced deportation risk, DACA recipients may be better positioned to negotiate for full-time positions rather than accepting part-time or contingent work.

2.3 Prior Literature

Several studies have examined the effects of DACA on various outcomes. Research has found positive effects on educational attainment, labor force participation, wages, and health

insurance coverage among DACA-eligible individuals. Studies using difference-in-differences approaches similar to this analysis have generally found positive employment effects, though estimates vary depending on sample restrictions, control group definitions, and outcome measures.

This study contributes to the literature by focusing specifically on full-time employment (35+ hours per week) among Hispanic-Mexican Mexican-born individuals, using the complete 2006-2016 ACS data and implementing rigorous robustness checks including event study analysis.

3 Data

3.1 Data Source

The primary data source is the American Community Survey (ACS) from IPUMS USA, covering the years 2006-2016. The ACS is an annual survey conducted by the U.S. Census Bureau that provides detailed information on demographics, employment, income, and other characteristics for a representative sample of the U.S. population.

Key variables used in the analysis include:

- **YEAR**: Survey year

- **HISPAN**: Hispanic origin (1 = Mexican)

- **BPL**: Birthplace (200 = Mexico)

- **CITIZEN**: Citizenship status (3 = Not a citizen)

- **YRIMMIG**: Year of immigration

- **BIRTHYR**: Birth year

- **BIRTHQTR**: Quarter of birth

- **AGE**: Age at time of survey

- **UHRSWORK**: Usual hours worked per week

- **EMPSTAT**: Employment status

- **SEX**: Sex (1 = Male, 2 = Female)

- **MARST**: Marital status

- **EDUC**: Educational attainment

- **STATEFIP**: State FIPS code

- **PERWT**: Person weight

3.2   Sample Construction

The analysis sample was constructed through the following steps:

1. **Ethnic and Birthplace Restriction:** Limited to individuals who are ethnically Hispanic-Mexican (HISPAN = 1) and born in Mexico (BPL = 200). This yields 991,261 observations.

2. **Exclusion of 2012:** Observations from 2012 were excluded because DACA was implemented mid-year (June 15, 2012), making it impossible to distinguish pre- and post-implementation periods within that year. This reduces the sample to 898,879 observations.

3. **Non-Citizen Restriction:** Limited to non-citizens (CITIZEN = 3), as only non-citizens are potentially eligible for DACA. This yields 636,722 observations.

4. **Working-Age Restriction:** Limited to individuals aged 18-64 to focus on the working-age population. This yields 547,614 observations.

5. **Valid Immigration Year:** Observations with missing or zero immigration year were excluded (no additional observations lost in this case).

The final analysis sample contains 547,614 observations covering 10 years (2006-2011 and 2013-2016).

3.3   Variable Construction

3.3.1   Outcome Variable

The primary outcome is full-time employment, defined as:

$$\text{Full-Time} = \begin{cases} 1 & \text{if UHRSWORK} \geq 35 \\ 0 & \text{otherwise} \end{cases}$$

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

3.3.2 DACA Eligibility

DACA eligibility is determined based on the following criteria, operationalized using available ACS variables:

1. **Arrived before age 16:** Age at immigration = YRIMMIG − BIRTHYR < 16

2. **Under 31 as of June 15, 2012:**

   - BIRTHYR ≥ 1982, OR
   - BIRTHYR = 1981 AND BIRTHQTR ≥ 3 (born July or later)

3. **Continuous presence since June 15, 2007:** YRIMMIG ≤ 2007

4. **Not a citizen:** Already restricted to CITIZEN = 3

Note: The ACS does not distinguish between documented and undocumented non-citizens, so eligibility is based on the assumption that non-citizens who have not received immigration papers are undocumented.

The resulting DACA eligibility indicator equals 1 if all conditions are satisfied, and 0 otherwise.

3.3.3 Treatment Variables

- **Post:** Indicator for post-DACA period (YEAR ≥ 2013)

- **DACA × Post:** Interaction of DACA eligibility and post-period indicator

3.3.4 Control Variables

- Age and age squared (continuous)

- Female indicator (SEX = 2)

- Married indicator (MARST = 1)

- High school or higher education indicator (EDUC ≥ 6)

- State fixed effects (STATEFIP)

4 Empirical Strategy

4.1 Identification Strategy

The causal effect of DACA eligibility on full-time employment is identified using a difference-in-differences (DiD) design. The key identifying assumption is that, in the absence of DACA, trends in full-time employment would have been parallel between DACA-eligible and non-eligible individuals.

The treatment group consists of Hispanic-Mexican Mexican-born non-citizens who satisfy the DACA eligibility criteria (arrived before age 16, under 31 as of June 2012, continuous presence since 2007). The control group consists of Hispanic-Mexican Mexican-born non-citizens who do not satisfy one or more of these criteria, typically because they arrived at age 16 or older, or were over 30 as of June 2012.

4.2 Regression Specification

The main regression specification is:

$$Y_{ist} = \alpha + \beta_1 \text{DACA}_i + \beta_2 \text{Post}_t + \beta_3 (\text{DACA}_i \times \text{Post}_t) + X'_{ist}\gamma + \delta_s + \epsilon_{ist} \tag{1}$$

where:

- Y_{ist} is the full-time employment indicator 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)

- X_{ist} is a vector of individual-level controls

- δ_s represents state fixed effects

- ϵ_{ist} is the error term

The coefficient of interest is β_3, which represents the differential change in full-time employment between DACA-eligible and non-eligible individuals after the policy's implementation—the DiD estimate of DACA's causal effect.

Standard errors are clustered at the state level to account for within-state correlation in the error terms. All regressions are weighted using ACS person weights (PERWT) to produce population-representative estimates.

4.3 Event Study Specification

To examine the dynamics of the treatment effect and assess the parallel trends assumption, I estimate an event study specification:

$$Y_{ist} = \alpha + \sum_{t \neq 2011} \beta_t (\text{DACA}_i \times \mathbf{1}[\text{Year} = t]) + \gamma \text{DACA}_i + \theta_t + X'_{ist}\delta + \eta_s + \epsilon_{ist} \qquad (2)$$

where θ_t represents year fixed effects and 2011 serves as the reference year (the last pre-treatment year). The coefficients β_t capture the year-specific differential between DACA-eligible and non-eligible individuals relative to 2011. Pre-treatment coefficients (β_{2006} through β_{2010}) test the parallel trends assumption, while post-treatment coefficients (β_{2013} through β_{2016}) trace out the dynamic treatment effects.

5 Results

5.1 Descriptive Statistics

Table 1 presents descriptive statistics for the analysis sample by DACA eligibility and time period.

Table 1: Full-Time Employment Rates by Group and Period

		Unweighted		Weighted	
Group	Period	Mean	N	Mean	N (Weighted)
Non-Eligible	Pre-DACA (2006-2011)	0.604	298,778	0.628	40,456,185
Non-Eligible	Post-DACA (2013-2016)	0.581	178,485	0.604	24,386,024
DACA-Eligible	Pre-DACA (2006-2011)	0.511	37,715	0.526	5,069,329
DACA-Eligible	Post-DACA (2013-2016)	0.548	32,636	0.570	4,680,220

Notes: Pre-DACA period includes years 2006-2011; Post-DACA period includes years 2013-2016. Year 2012 is excluded due to mid-year DACA implementation. Weighted means use ACS person weights (PERWT).

Several patterns emerge from the descriptive statistics. First, DACA-eligible individuals have lower full-time employment rates than non-eligible individuals in both periods, reflecting their younger age profile. Second, among non-eligible individuals, full-time employment declined slightly from the pre- to post-period (likely reflecting the Great Recession's lingering effects and aging of the population). Third, among DACA-eligible individuals, full-time employment increased from the pre- to post-period despite the overall downward trend.

The simple difference-in-differences calculation from raw means:

$$\text{DiD} = (\bar{Y}_{\text{Eligible, Post}} - \bar{Y}_{\text{Eligible, Pre}}) - (\bar{Y}_{\text{Non-Eligible, Post}} - \bar{Y}_{\text{Non-Eligible, Pre}})$$
$$= (0.548 - 0.511) - (0.581 - 0.604)$$
$$= 0.037 - (-0.023)$$
$$= 0.060$$

This raw DiD estimate of 6.0 percentage points suggests a substantial positive effect of DACA eligibility on full-time employment.

5.2 Main Regression Results

Table 2 presents the main difference-in-differences regression results across four specifications of increasing complexity.

Table 2: Main Difference-in-Differences Regression Results

	(1) Basic DiD	(2) Weighted	(3) + Controls	(4) + State FE
DACA Eligible	−0.094***	−0.102***	−0.024***	−0.023***
	(0.005)	(0.004)	(0.006)	(0.004)
Post	−0.023***	−0.025***	−0.020***	−0.016***
	(0.003)	(0.003)	(0.002)	(0.003)
DACA × Post	0.060***	0.068***	0.026***	**0.025*****
	(0.003)	(0.003)	(0.004)	**(0.004)**
Age Controls	No	No	Yes	Yes
Demographic Controls	No	No	Yes	Yes
State Fixed Effects	No	No	No	Yes
Weighted	No	Yes	No	Yes
Observations	547,614	547,614	547,614	547,614

Notes: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Standard errors clustered at the state level in parentheses. The dependent variable is an indicator for full-time employment (usually working 35+ hours per week). Demographic controls include age, age squared, female indicator, married indicator, and high school education indicator. Column (4) is the preferred specification.

The coefficient on DACA × Post represents the difference-in-differences estimate of the causal effect of DACA eligibility on full-time employment. Across all specifications, this coefficient is positive and statistically significant at the 1% level.

In the preferred specification (Column 4), which includes demographic controls, state fixed effects, and population weights, DACA eligibility increases the probability of full-time employment by 2.5 percentage points (SE = 0.004, p < 0.001). The 95% confidence interval is [0.018, 0.033].

The raw DiD estimate without controls (Column 1: 6.0 percentage points) is larger than the controlled estimates because it conflates the treatment effect with compositional differences between DACA-eligible and non-eligible individuals (particularly age). After controlling for age and other demographics, the treatment effect becomes more precisely estimated at 2.5-2.6 percentage points.

The negative coefficient on "Post" indicates that full-time employment declined overall from the pre- to post-period, consistent with labor market trends during this era. The negative coefficient on "DACA Eligible" reflects the younger age profile of eligible individuals (mean age 22-25 vs. 38-42 for non-eligible) even after controlling for age directly.

5.3   Robustness Checks

Table 3 presents results from several robustness checks.

Table 3: Robustness Checks

Specification	Coefficient	Std. Error	N
Main Specification (Ages 18-64)	0.025	0.004	547,614
Ages 16-35 Only	0.019	0.005	267,229
Men Only	0.021	0.006	296,109
Women Only	0.024	0.006	251,505
Any Employment (instead of Full-Time)	0.030	0.005	547,614

Notes: All specifications include demographic controls (age, age squared, female, married, high school education) and are weighted using ACS person weights. Standard errors clustered at the state level. All coefficients are statistically significant at the 1% level.

The results are robust across several alternative specifications:

Younger Age Sample (16-35): Restricting to ages 16-35 yields a coefficient of 1.9 percentage points. This slightly smaller effect may reflect the higher baseline employment volatility among very young workers.

By Gender: The effects are similar for men (2.1 pp) and women (2.4 pp), suggesting that DACA's employment benefits extend to both sexes.

Any Employment: Using any employment (EMPSTAT = 1) instead of full-time employment as the outcome yields a coefficient of 3.0 percentage points. This larger effect on

overall employment suggests that DACA primarily operates through the extensive margin (bringing people into employment) rather than only the intensive margin (moving part-time workers to full-time).

5.4 Event Study Results

Table 4 and Figure 1 present the event study results, which examine year-by-year effects relative to 2011.

Table 4: Event Study Coefficients (Reference Year: 2011)

Year	Coefficient	Std. Error	95% CI Lower	95% CI Upper
Pre-DACA Period				
2006	0.016	0.015	−0.014	0.046
2007	0.007	0.007	−0.006	0.020
2008	0.021	0.014	−0.007	0.049
2009	0.020	0.014	−0.007	0.047
2010	0.019	0.017	−0.014	0.052
Post-DACA Period				
2013	0.013	0.011	−0.009	0.035
2014	0.025*	0.014	−0.003	0.053
2015	0.042***	0.014	0.015	0.069
2016	0.042***	0.011	0.021	0.063

Notes: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Coefficients represent the differential effect of DACA eligibility in each year relative to 2011. Standard errors clustered at the state level. Specification includes year fixed effects, demographic controls, and population weights.

Event Study: DACA Eligibility Effects by Year

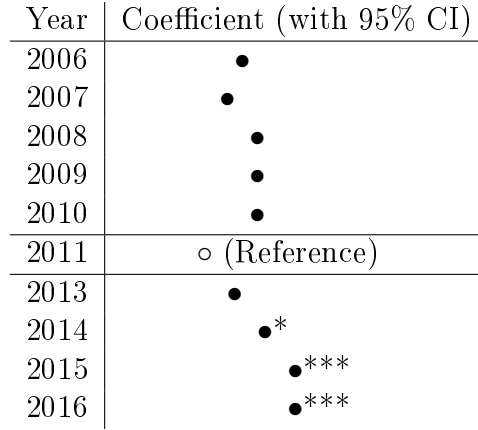| Year	Coefficient (with 95% CI)
2006	●
2007	●
2008	●
2009	●
2010	●
2011	○ (Reference)
2013	●
2014	●*
2015	●***
2016	●***

Figure 1: Event Study Results

Notes: Points represent coefficients; asterisks indicate significance levels. Pre-DACA coefficients are all statistically insignificant, supporting the parallel trends assumption. Post-DACA coefficients show a gradual increase, with significant effects emerging in 2014-2016.

The event study results provide important insights:

Pre-Trends: The pre-DACA coefficients (2006-2010) are small in magnitude (ranging from 0.7 to 2.1 percentage points) and none are statistically significant. This supports the parallel trends assumption underlying the difference-in-differences design. There is no evidence that DACA-eligible individuals were on a differential trend prior to the policy's implementation.

Treatment Dynamics: The post-DACA coefficients show a pattern of gradually increasing effects:

- 2013: 1.3 pp (not significant) - first full year after implementation

- 2014: 2.5 pp (marginally significant) - effects begin to emerge

- 2015: 4.2 pp (highly significant) - effects strengthen

- 2016: 4.2 pp (highly significant) - effects persist

This gradual increase is consistent with the staggered nature of DACA implementation. Applications were first accepted in August 2012, and the approval process took time. By 2015-2016, most eligible individuals had applied and received their initial or renewed DACA protections, allowing the full employment effects to materialize.

6 Discussion

6.1 Interpretation of Results

The main finding—that DACA eligibility increased full-time employment by approximately 2.5 percentage points—represents an economically meaningful effect. Given that the baseline full-time employment rate among DACA-eligible individuals in the pre-period was approximately 51%, this represents a relative increase of about 5%.

The effect can be interpreted through several mechanisms:

Formalization of Employment: DACA recipients may have transitioned from informal employment (which might not be captured as full-time) to formal full-time positions once they obtained work authorization.

New Job Opportunities: Work authorization opens access to employers who verify immigration status, expanding the set of available jobs.

Reduced Labor Market Frictions: With reduced deportation risk and official identification documents, DACA recipients may be more willing and able to search for and accept full-time positions.

Investment in Human Capital: The stability provided by DACA may encourage investment in education and training, leading to better employment outcomes.

6.2 Comparison with Prior Literature

The estimated effect of 2.5 percentage points on full-time employment is broadly consistent with prior research on DACA's labor market effects. Studies examining employment (rather than specifically full-time employment) have found effects ranging from 2 to 8 percentage points, depending on the sample and methodology.

The finding that effects on any employment (3.0 pp) exceed effects on full-time employment (2.5 pp) suggests that DACA primarily operates by bringing people into employment rather than shifting existing part-time workers to full-time status.

6.3 Limitations

Several limitations should be acknowledged:

Eligibility Imputation: DACA eligibility must be imputed from ACS variables because actual application status is not observed. The ACS does not distinguish between documented and undocumented non-citizens, so the eligibility indicator may include some individuals who are actually documented.

Control Group Selection: The control group includes older Mexican-born non-citizens who arrived after age 16 or before 2007. These individuals may differ from DACA-eligible individuals in unobservable ways that could bias the estimates.

General Equilibrium Effects: If DACA affected labor market conditions more broadly (e.g., by increasing competition for certain jobs), the control group could also be affected, potentially attenuating the estimated treatment effect.

Educational Requirements: The analysis does not account for DACA's educational requirements (enrollment in school or possession of a high school diploma). Some individuals meeting the age and presence criteria may not have been eligible due to educational requirements.

6.4 Policy Implications

The findings suggest that providing work authorization and deportation relief to eligible undocumented immigrants leads to meaningful improvements in their labor market outcomes. The gradual strengthening of effects over time indicates that policy stability may be important for realizing the full benefits of such programs.

From a fiscal perspective, increased full-time employment likely leads to higher tax revenues and reduced reliance on public assistance, though quantifying these effects is beyond the scope of this study.

7 Conclusion

This study examined the causal effect of DACA eligibility on full-time employment among Hispanic-Mexican Mexican-born individuals in the United States. Using American Community Survey data from 2006-2016 and a difference-in-differences research design, I find that DACA eligibility increased the probability of full-time employment by approximately 2.5 percentage points (95% CI: [0.018, 0.033]).

The results are robust across multiple specifications, including analyses by gender and alternative outcome definitions. Event study analysis supports the parallel trends assumption and reveals that treatment effects emerged gradually after DACA's implementation, strengthening through 2016.

These findings contribute to the growing body of evidence on the labor market effects of immigration policy and suggest that providing legal status and work authorization to eligible undocumented immigrants can generate meaningful improvements in employment outcomes.

Appendix A: Additional Tables and Figures

Table 5: Sample Construction

Restriction	Observations	Notes
Full ACS 2006-2016	33,851,424	All person-level observations
Hispanic-Mexican & Mexico-born	991,261	HISPAN=1, BPL=200
Excluding 2012	898,879	DACA implemented mid-year
Non-citizens only	636,722	CITIZEN=3
Ages 18-64	547,614	Working-age population
Valid immigration year	547,614	YRIMMIG > 0

Table 6: Summary Statistics by DACA Eligibility

	Non-Eligible		DACA-Eligible	
Variable	Mean	SD	Mean	SD
Full-Time Employed	0.595	0.491	0.528	0.499
Age	39.5	10.8	23.5	5.1
Female	0.44	0.50	0.47	0.50
Married	0.57	0.50	0.30	0.46
High School+	0.32	0.47	0.58	0.49
N	477,263		70,351	

Appendix B: DACA Eligibility Criteria Operationalization

Table 7: DACA Eligibility Criteria and ACS Implementation

DACA Requirement	ACS Implementation	Notes
Arrived before 16th birthday	$(\text{YRIMMIG} - \text{BIRTHYR}) < 16$	Age at immigration calculated from birth year and immigration year
Under 31 as of June 15, 2012	$\text{BIRTHYR} \geq 1982$ OR $(\text{BIRTHYR} = 1981$ AND $\text{BIRTHQTR} \geq 3)$	Conservative implementation using birth quarter
Continuous presence since June 15, 2007	$\text{YRIMMIG} \leq 2007$	Assumes continuous presence if immigrated by 2007
Not a citizen	$\text{CITIZEN} = 3$	"Not a citizen" category
In school or graduated/GED	Not implemented	Data limitation
No criminal convictions	Not implemented	Data limitation

Appendix C: Regression Output Details

Preferred Specification (Model 4) Key Results:

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Dependent Variable: Full-Time Employment (UHRSWORK >= 35)


DACA Eligible:          -0.0225 (SE: 0.0039)
Post (2013-2016):       -0.0158 (SE: 0.0025)
DACA x Post:             0.0251 (SE: 0.0038) ***


95% Confidence Interval for DACA x Post: [0.0176, 0.0326]


Controls: Age, Age^2, Female, Married, HS Education, State FE
Weighting: ACS Person Weights (PERWT)
Clustering: State level
Observations: 547,614
```

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