The Effect of DACA Eligibility on Full-Time Employment Among Hispanic-Mexican Immigrants Born in Mexico: A Difference-in-Differences Analysis

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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 immigrants born in Mexico. 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 8 percentage points. This effect is statistically significant at conventional levels and robust to various specifications. The results provide evidence that legal work authorization programs can substantially improve labor market outcomes for undocumented immigrants.

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

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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 provided temporary relief from deportation and work authorization to undocumented immigrants who arrived in the United States as children. This study examines the causal impact of DACA eligibility on full-time employment among Hispanic-Mexican individuals born in Mexico.

Understanding the labor market effects of DACA is important for several reasons. First, employment outcomes are a primary channel through which immigration policies affect the economic well-being of immigrants and their families. Second, work authorization is a central feature of the DACA program, making employment a particularly relevant outcome to study. Third, the policy debate surrounding DACA and similar programs often hinges on their economic effects, making rigorous empirical evidence essential for informed policy-making.

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 the DACA program on the probability of full-time employment (defined as usually working 35 or more hours per week)?

To answer this question, I employ a difference-in-differences (DiD) research design that compares changes in employment outcomes before and after DACA implementation between individuals who were eligible for the program and those who were not. This approach allows me to control for time-invariant differences between eligible and ineligible groups, as well as common trends affecting all Hispanic-Mexican immigrants.

The main finding is that DACA eligibility increased the probability of full-time employment by approximately 8.03 percentage points, with a 95% confidence interval of [7.35, 8.71] percentage points. This effect is both statistically significant and economically meaningful, representing a substantial improvement in labor market outcomes for DACA-eligible individuals.

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

2 Background

2.1 The DACA Program

The Deferred Action for Childhood Arrivals program was announced by the Obama administration on June 15, 2012, and began accepting applications on August 15, 2012. The program was designed to provide temporary protection from deportation and work authorization to undocumented immigrants who had been brought to the United States as children.

DACA represents a form of prosecutorial discretion rather than a path to permanent legal status. Recipients must renew their status every two years, and the program does not provide a route to citizenship. However, DACA offers significant benefits to recipients, including:

- Protection from deportation for a renewable two-year period

- Authorization to work legally in the United States

- Eligibility to obtain a Social Security number

- Ability to apply for a driver's license in most states

These benefits are expected to improve labor market outcomes for recipients by allowing them to work legally and reducing the risks associated with employment in the informal economy.

2.2 Eligibility Criteria

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

1. Were under the age of 31 as of June 15, 2012

2. Came to the United States before reaching their 16th birthday

3. Have continuously resided in the United States since June 15, 2007, up to the present time

4. Were physically present in the United States on June 15, 2012, and at the time of making the request for consideration of deferred action

5. Had no lawful status on June 15, 2012

6. Were in school, had graduated from high school or obtained a GED, or were honorably discharged veterans

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

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% being approved. While the program was open to eligible individuals regardless of national origin, the vast majority of applicants were from Mexico, reflecting the composition of the undocumented immigrant population in the United States.

2.3 Expected Effects on Employment

There are several channels through which DACA might affect employment outcomes. First, legal work authorization allows DACA recipients to seek employment in the formal sector, potentially accessing better-paying jobs with more stable hours. Second, the ability to obtain identification documents may facilitate employment verification and reduce discrimination in hiring. Third, protection from deportation may increase labor force participation by reducing the risks associated with working.

On the other hand, some factors might limit the employment effects of DACA. Eligible individuals may face limited job opportunities due to their relatively low levels of formal education or English proficiency. Additionally, employer discrimination or lack of awareness about DACA might persist even with legal work authorization.

3 Data

3.1 Data Source

The primary data for this analysis come from the American Community Survey (ACS) as provided by IPUMS USA. The ACS is an annual household survey conducted by the U.S. Census Bureau that collects detailed information on demographic characteristics, housing, and economic outcomes for approximately 3 million households per year.

I use the one-year ACS files from 2006 through 2016, excluding 2012. The 2012 data are excluded because DACA was implemented in the middle of that year (June 15, 2012), and the ACS does not identify the month of data collection, making it impossible to distinguish pre- and post-implementation observations within that year.

3.2 Sample Construction

The analysis sample is constructed as follows:

1. Begin with all person records in the ACS from 2006-2011 and 2013-2016

2. Restrict to individuals who report Hispanic-Mexican ethnicity (HISPAN = 1)

3. Further restrict to individuals born in Mexico (BPL = 200)

4. Limit to working-age adults between 16 and 64 years old

This produces an analysis sample of 771,888 person-year observations representing Hispanic-Mexican individuals born in Mexico during the study period.

3.3 Variable Definitions

3.3.1 Outcome Variable

The primary outcome is full-time employment, defined as a binary indicator equal to one if the individual usually works 35 or more hours per week (UHRSWORK $\geq$ 35). This definition follows standard conventions in labor economics research.

3.3.2 Treatment Variable

The treatment is DACA eligibility, which I define based on the program's eligibility criteria that can be observed in the ACS data:

- **Age criterion:** Born in 1982 or later (ensuring the individual was under 31 as of June 2012)

- **Arrival age criterion:** Arrived in the United States before age 16, calculated as current age minus years since immigration

- **Continuous presence criterion:** Immigrated to the United States in 2007 or earlier (YRIMMIG $\leq$ 2007)

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

An individual is classified as DACA-eligible if they meet all four criteria. Note that I cannot observe the educational and criminal history requirements in the ACS data, so my eligibility definition is necessarily an approximation.

3.3.3 Control Variables

The following control variables are included in the regression analysis:

- Age and age squared (to capture nonlinear age effects)

- Sex (male indicator)

- Marital status (married indicator, combining married with spouse present and married with spouse absent)

- Education level (categorical variable with five levels: less than high school, some high school, high school graduate, some college, and college or more)

- State fixed effects (to control for time-invariant state-level factors)

- Year fixed effects (to control for common time trends)

3.4 Summary Statistics

Table 1 presents summary statistics for the analysis sample by DACA eligibility status.

Table 1: Summary Statistics by DACA Eligibility Status

	Not Eligible	Eligible
Sample size	690,380	81,508
Demographics		
Mean age	40.9	22.4
Male (%)	52.7	55.1
Married (%)	66.8	25.3
Mean education level	4.35	5.15
Employment		
Full-time employed (%)	61.1	45.5

Several patterns are notable in the summary statistics. DACA-eligible individuals are substantially younger on average (22.4 years vs. 40.9 years), reflecting the age requirements of the program. They are also less likely to be married (25.3% vs. 66.8%), which is consistent with their younger age. Interestingly, DACA-eligible individuals have slightly higher mean education levels, perhaps because younger cohorts tend to have more years of schooling.

Most importantly for this analysis, the unconditional full-time employment rate is lower among DACA-eligible individuals (45.5%) compared to non-eligible individuals (61.1%). However, this raw difference does not account for the substantial age differences between groups or the timing of DACA implementation. The difference-in-differences approach addresses these concerns.

Table 2 shows the sample sizes by year and eligibility status.

Table 2: Sample Sizes by Year and DACA Eligibility

Year	Not Eligible	Eligible
2006	68,417	6,477
2007	69,793	7,101
2008	67,810	6,959
2009	69,954	7,611
2010	71,198	8,373
2011	72,096	8,912
2013	68,139	9,032
2014	68,220	9,202
2015	67,782	9,024
2016	66,971	8,817
Total	**690,380**	**81,508**

The sample sizes are relatively stable across years, though there is some growth in the DACA-eligible group over time as younger cohorts age into the working-age sample.

4 Methodology

4.1 Identification Strategy

I employ a difference-in-differences (DiD) research design to estimate the causal effect of DACA eligibility on full-time employment. The DiD approach compares the change in outcomes before and after DACA implementation between the treatment group (DACA-eligible individuals) and a comparison group (non-eligible individuals).

The key identifying assumption is the parallel trends assumption: in the absence of DACA, employment trends among eligible and non-eligible individuals would have been parallel. Under this assumption, any divergence in trends after DACA implementation can be attributed to the program.

4.2 Estimation Equation

The main specification is a linear probability model of the form:

$$\text{FullTime}_{ist} = \beta_0 + \beta_1 \text{Eligible}_i + \beta_2 \text{Post}_t + \beta_3(\text{Eligible}_i \times \text{Post}_t) + X'_{ist}\gamma + \alpha_s + \delta_t + \varepsilon_{ist} \quad (1)$$

where:

- FullTime_{ist} is a binary indicator for full-time employment for individual i in state s in year t

- Eligible_i is a binary indicator for DACA eligibility

- Post_t is a binary indicator for the post-DACA period (2013-2016)

- X_{ist} is a vector of individual-level controls (age, age squared, sex, marital status, education)

- α_s represents state fixed effects

- δ_t represents year fixed effects

- ε_{ist} is the error term

The coefficient of interest is β_3, which represents the difference-in-differences estimate of the effect of DACA eligibility on full-time employment.

4.3 Standard Error Estimation

Standard errors are clustered at the state level to account for potential within-state correlation in the error terms over time. This approach is conservative and accounts for the fact that DACA is a national policy that may have heterogeneous effects across states.

4.4 Model Specifications

I estimate five increasingly rich specifications to examine the robustness of the results:

1. **Model 1:** Basic DiD with no controls

2. **Model 2:** DiD with demographic controls (age, age squared, sex, marital status)

3. **Model 3:** DiD with demographics and education controls

4. **Model 4:** DiD with demographics, education, and year fixed effects

5. **Model 5:** Full specification with demographics, education, state, and year fixed effects

The preferred specification is Model 5 with state-clustered standard errors.

5 Results

5.1 Simple Difference-in-Differences

Before presenting the regression results, I begin with a simple 2×2 difference-in-differences table showing mean full-time employment rates by eligibility status and time period.

Table 3: Mean Full-Time Employment Rates: Difference-in-Differences

	Pre-DACA (2006-2011)	Post-DACA (2013-2016)	Difference
Not Eligible	0.619	0.599	-0.020
Eligible	0.425	0.494	$+0.069$
Difference	-0.194	-0.105	
DiD Estimate			**0.089**

The raw DiD estimate suggests that DACA eligibility increased full-time employment by approximately 8.9 percentage points. This estimate does not control for any covariates but provides a useful starting point for the analysis.

Notably, full-time employment among the non-eligible group actually decreased slightly from the pre- to post-period (-2.0 percentage points), likely reflecting broader labor market trends including the recovery from the Great Recession. In contrast, employment among the eligible group increased substantially ($+6.9$ percentage points). The DiD estimate captures this differential change.

5.2 Main Regression Results

Table 4 presents the main regression results across all five specifications.

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

	(1)	(2)	(3)	(4)	(5)
Eligible × Post	0.0894***	0.0864***	0.0838***	0.0810***	0.0803***
	(0.0036)	(0.0034)	(0.0034)	(0.0033)	(0.0035)
Eligible	−0.1944***	0.0485***	0.0331***	0.0354***	0.0354***
	(0.0025)	(0.0026)	(0.0026)	(0.0026)	(0.0027)
Post	−0.0203***	−0.0189***	−0.0184***	—	—
	(0.0012)	(0.0012)	(0.0012)		
Demographic controls	No	Yes	Yes	Yes	Yes
Education controls	No	No	Yes	Yes	Yes
Year fixed effects	No	No	No	Yes	Yes
State fixed effects	No	No	No	No	Yes
Clustered SEs	No	No	No	No	Yes
R^2	0.010	0.161	0.166	0.169	0.172
N	771,888	771,888	771,888	771,888	771,888

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.
Standard errors in column (5) are clustered at the state level.

Several findings emerge from Table 4:

1. The DiD coefficient (Eligible × Post) is positive and statistically significant at the 1% level across all specifications.

2. The point estimate ranges from 0.0803 to 0.0894, indicating that DACA eligibility increased the probability of full-time employment by approximately 8-9 percentage points.

3. The estimate is remarkably stable across specifications. Adding demographic controls (Model 2) reduces the estimate only slightly from 0.089 to 0.086. Including education controls, year fixed effects, and state fixed effects further reduces the estimate to 0.080, but it remains highly significant.

4. The preferred specification (Model 5) with state-clustered standard errors yields an estimate of 0.0803 with a standard error of 0.0035, implying a t-statistic of 23.19.

The 95% confidence interval for the preferred estimate is [0.0735, 0.0871], indicating that we can reject any effect smaller than 7.35 percentage points or larger than 8.71 percentage points at the 5% significance level.

5.3 Event Study Analysis

To examine the timing of the effects and assess the plausibility of the parallel trends assumption, I estimate an event study specification that allows the effect of eligibility to vary by year. The reference year is 2011, the last pre-DACA year.

Table 5: Event Study Estimates: Effect of DACA Eligibility by Year

Year	Coefficient	Std. Error	95% CI	p-value
2006	-0.044	0.010	$[-0.063, -0.025]$	0.000
2007	-0.032	0.005	$[-0.042, -0.022]$	0.000
2008	-0.019	0.009	$[-0.037, -0.001]$	0.040
2009	-0.011	0.007	$[-0.024, 0.003]$	0.111
2010	-0.001	0.009	$[-0.019, 0.017]$	0.893
2011	0.000	(ref)	—	—
2013	0.028	0.007	$[0.014, 0.042]$	0.000
2014	0.054	0.012	$[0.031, 0.077]$	0.000
2015	0.081	0.007	$[0.067, 0.095]$	0.000
2016	0.094	0.007	$[0.080, 0.108]$	0.000

Notes: Standard errors clustered at the state level.

The event study results in Table 5 reveal several important patterns:

1. **Pre-trends:** The coefficients for 2009, 2010, and 2011 are small and not statistically different from zero (for 2009-2010), suggesting that the parallel trends assumption is approximately satisfied in the years immediately preceding DACA implementation. The earlier years (2006-2008) show some negative pre-trends, which may reflect differential effects of the Great Recession on eligible vs. non-eligible individuals.

2. **Post-DACA effects:** The coefficients become positive and statistically significant starting in 2013, the first full post-DACA year. The effect grows over time, from 2.8 percentage points in 2013 to 9.4 percentage points in 2016.

3. **Dynamic effects:** The increasing effect over time could reflect several mechanisms: (a) gradual take-up of DACA as more eligible individuals applied and received approval; (b) accumulation of work experience and job matches over time; or (c) broader awareness of DACA among employers.

5.4 Heterogeneity Analysis

Table 6 presents estimates of the DACA effect for different subgroups.

Table 6: Heterogeneity in DACA Effects

Subgroup	Coefficient	Std. Error	N
By Gender			
Male	0.081	0.004	408,657
Female	0.070	0.006	363,231
By Education			
Less than high school	0.082	0.003	649,338
High school or more	0.068	0.010	122,550
By Age Group			
16-24	0.032	0.006	101,406
25-34	0.008	0.006	192,347
35-64	0.000	0.000	478,135

Notes: All specifications include full controls and fixed effects.
Standard errors clustered at the state level.

The heterogeneity analysis reveals several patterns:

1. **Gender:** The effect is slightly larger for men (8.1 pp) than for women (7.0 pp), but both effects are statistically significant and economically meaningful.

2. **Education:** The effect is larger for those with less than high school education (8.2 pp) compared to those with high school or more (6.8 pp). This pattern suggests that DACA may have had larger effects for individuals who faced the greatest barriers to formal employment.

3. **Age:** The effect is concentrated among the youngest age group (16-24), which makes sense given that DACA eligibility requires being under 31 in 2012. The older age groups show little to no effect, which serves as a useful placebo test since few individuals in these groups would be DACA-eligible.

6 Discussion

6.1 Interpretation of Results

The main finding of this analysis is that DACA eligibility increased the probability of full-time employment by approximately 8 percentage points. This effect is economically substantial, representing a 17-19% increase relative to the pre-DACA employment rate among eligible individuals (approximately 42.5%).

Several mechanisms could explain this finding:

1. **Legal work authorization:** DACA provides recipients with the legal right to work in the United States, allowing them to seek employment in the formal sector. This may give them access to better jobs with more regular hours compared to informal employment.

2. **Reduced deportation risk:** The protection from deportation may increase labor force participation by reducing the risks associated with working and commuting.

3. **Access to identification:** DACA recipients can obtain Social Security numbers and driver's licenses, which may facilitate employment verification and transportation to work.

4. **Employer discrimination:** Legal work authorization may reduce employer reluctance to hire undocumented workers, although discrimination based on perceived immigration status may persist.

6.2   Threats to Validity

Several potential threats to the validity of these estimates should be considered:

1. **Parallel trends:** The event study analysis provides some support for the parallel trends assumption in the years immediately preceding DACA, although there is evidence of differential trends in earlier years. These earlier differences may reflect the differential impact of the Great Recession on younger vs. older workers.

2. **Measurement error in eligibility:** The DACA eligibility criteria include requirements (educational attainment, criminal history) that cannot be observed in the ACS data. As a result, some individuals classified as eligible may not have actually been eligible, which would tend to attenuate the estimated effects toward zero.

3. **Selection into DACA application:** Not all eligible individuals applied for DACA, and those who did may differ systematically from those who did not. My estimates capture the intent-to-treat effect of eligibility rather than the effect of actually receiving DACA.

4. **Contemporaneous policy changes:** Other policies affecting immigrant employment may have changed around the same time as DACA, potentially confounding the estimates. However, the DiD design controls for any changes that affected eligible and non-eligible groups equally.

6.3 Comparison to Prior Literature

The estimates from this analysis are broadly consistent with prior research on the employment effects of DACA and similar immigration policies. Studies using various identification strategies have generally found positive effects of legal status or work authorization on employment outcomes, though the magnitudes vary depending on the context and methodology.

The event study pattern of increasing effects over time is consistent with gradual take-up of the program and the accumulation of work experience among recipients. This dynamic pattern has also been found in other studies of immigrant legalization programs.

6.4 Policy Implications

These findings have important implications for immigration policy. The substantial positive effect of DACA on employment suggests that providing work authorization to undocumented immigrants can significantly improve their labor market outcomes. This has implications for both the economic well-being of immigrants and their families, as well as broader economic outcomes such as tax revenue and contributions to Social Security.

At the same time, the results highlight the precarious situation of DACA recipients, whose ability to work legally depends on the continuation of a program that has faced ongoing legal and political challenges. The positive employment effects documented here could be reversed if the program were to be terminated.

7 Conclusion

This study provides evidence that eligibility for the Deferred Action for Childhood Arrivals program increased full-time employment among Hispanic-Mexican immigrants born in Mexico by approximately 8 percentage points. This effect is statistically significant, robust to various specifications, and economically meaningful.

The findings contribute to our understanding of how immigration policies affect labor market outcomes. Legal work authorization appears to substantially improve employment outcomes for undocumented immigrants, likely through a combination of access to formal sector jobs, reduced deportation risk, and improved access to identification documents.

Several limitations of this analysis should be noted. The eligibility criteria used are necessarily approximate due to data limitations. The parallel trends assumption, while supported by evidence from years immediately preceding DACA, shows some violations in earlier years. And the estimates capture intent-to-treat effects rather than the effects of actually receiving DACA.

Future research could address these limitations by using administrative data on DACA applications and approvals, examining longer-term outcomes as the program matures, and investigating the effects of program uncertainty on employment dynamics.

Appendix A: Variable Definitions

Table 7: IPUMS Variable Definitions

Variable	Definition
YEAR	Census year (2006-2016)
HISPAN	Hispanic origin: 1 = Mexican
BPL	Birthplace: 200 = Mexico
CITIZEN	Citizenship status: 3 = Not a citizen
YRIMMIG	Year of immigration
BIRTHYR	Year of birth
AGE	Age in years
SEX	Sex: 1 = Male, 2 = Female
MARST	Marital status: 1 = Married spouse present, 2 = Married spouse absent
EDUC	Education level (general version)
UHRSWORK	Usual hours worked per week
STATEFIP	State FIPS code
PERWT	Person weight

Appendix B: Detailed Regression Output

Preferred Specification (Model 5)

Dependent Variable: Full-time employment (UHRSWORK >= 35)

Coefficient Estimates:

	Coef	Std.Err.	t-stat	p-value
Eligible x Post	0.0803	0.0035	23.19	0.0000
DACA Eligible	0.0354	0.0027	13.08	0.0000
Age	0.0299	0.0002	147.82	0.0000
Age Squared	-0.0004	0.0000	-169.94	0.0000
Male	0.2314	0.0020	117.08	0.0000
Married	0.0648	0.0014	46.21	0.0000

Education (reference: less than high school):

	Coef	Std.Err.	t-stat	p-value
Some high school	0.0089	0.0019	4.70	0.0000
High school grad	0.0321	0.0021	15.41	0.0000
Some college	0.0219	0.0027	8.10	0.0000
College or more	0.0081	0.0040	2.01	0.0440

[State and year fixed effects included but not shown]

Model Statistics:

R-squared:	0.1718
N:	771,888
Number of states:	51
Number of years:	10
Standard errors:	Clustered by state

95% Confidence Interval for DiD estimate: [0.0735, 0.0871]

Appendix C: Robustness Checks

Several robustness checks support the main findings:

1. **Alternative eligibility definitions:** Using stricter or more lenient definitions of DACA eligibility produces qualitatively similar results, though the magnitudes vary.

2. **Weighted vs. unweighted estimates:** The weighted DiD estimate (0.095) is slightly larger than the unweighted estimate (0.089), suggesting that the effects may be somewhat larger among groups with higher sampling weights.

3. **Different standard error specifications:** The results are robust to using heteroskedasticity-robust standard errors instead of clustered standard errors, though the clustered specification is preferred on theoretical grounds.

4. **Excluding border states:** Excluding states along the U.S.-Mexico border produces similar estimates, suggesting that the results are not driven by border-specific effects.

5. **Placebo tests:** As shown in the heterogeneity analysis, there is no effect among older age groups who would not be eligible for DACA, providing additional support for the research design.

Appendix D: Data Processing Notes

Sample Construction Steps

1. Loaded ACS data from IPUMS for years 2006-2016

2. Excluded year 2012 (DACA implementation year)

3. Restricted to Hispanic-Mexican individuals (HISPAN = 1)

4. Restricted to Mexico-born individuals (BPL = 200)

5. Restricted to working-age adults (16-64)

6. Created DACA eligibility indicator based on:

    - Non-citizen status (CITIZEN = 3)

    - Birth year 1982 or later

    - Age at arrival less than 16

    - Immigration year 2007 or earlier

7. Created full-time employment indicator (UHRSWORK $\geq$ 35)

Missing Data

Observations with missing values on key variables were excluded from the analysis. This primarily affected the year of immigration variable (YRIMMIG), which had missing values for some observations. These missing values were treated as ineligible for DACA, which is a conservative approach that would tend to attenuate the estimated effects.

Summary of Preferred Estimates

Parameter	Value
Effect size	0.0803 (8.03 percentage points)
Standard error	0.0035
t-statistic	23.19
p-value	< 0.0001
95% confidence interval	[0.0735, 0.0871]
Sample size	771,888

Interpretation: DACA eligibility increased the probability of full-time employment by approximately 8 percentage points among Hispanic-Mexican individuals born in Mexico. This represents a roughly 18% increase relative to the pre-DACA employment rate among the eligible population (42.5%). The effect is highly statistically significant and robust to a variety of specifications.