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

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Abstract

This study examines the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on the probability of full-time employment among ethnically Hispanic-Mexican, Mexican-born individuals in the United States. Using a difference-in-differences (DiD) research design with data from the American Community Survey (2006–2016), I compare employment outcomes between DACA-eligible and ineligible non-citizen immigrants before and after the program's implementation in June 2012. The preferred specification, which includes state and year fixed effects along with demographic controls, yields a statistically significant positive effect of DACA eligibility on full-time employment of approximately 2.3 percentage points (95% CI: [1.6, 3.0], $p < 0.001$). This effect represents a meaningful increase relative to the baseline full-time employment rate of approximately 51% for eligible individuals in the pre-DACA period. Robustness checks across alternative specifications and subsamples consistently support the finding of a positive employment effect, with larger effects observed for women than for men. An event study analysis provides suggestive evidence of parallel pre-trends and a gradual increase in the treatment effect following DACA implementation.

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1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, enacted on June 15, 2012, represented a significant shift in U.S. immigration policy. The program allowed a selected set of undocumented immigrants who arrived in the United States as children to apply for and obtain temporary protection from deportation along with work authorization. Understanding the labor market effects of this program is crucial for evaluating its economic impact and informing policy debates about immigration reform.

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 DACA on the probability of full-time employment?* Full-time employment is defined as usually working 35 hours or more per week, and I examine effects in the years 2013–2016 following the program's implementation.

DACA eligibility could plausibly affect full-time employment through several channels. First, legal work authorization removes a significant barrier to formal employment, potentially allowing DACA recipients to transition from informal or part-time work arrangements to full-time formal employment. Second, the ability to obtain driver's licenses and other identification documents in many states facilitates job search and commuting. Third, reduced fear of deportation may encourage recipients to invest in job-specific human capital and seek more stable employment arrangements.

The empirical strategy employs a difference-in-differences (DiD) design, comparing changes in full-time employment between DACA-eligible and ineligible Mexican-born non-citizens before and after program implementation. This approach relies on the assumption that, absent DACA, trends in full-time employment would have been similar across the two groups. The analysis uses data from the American Community Survey (ACS) from 2006 to 2016, excluding the transition year of 2012.

The main finding is that DACA eligibility increased the probability of full-time employment by approximately 2.3 percentage points, representing a roughly 4.6% increase relative to the pre-DACA baseline. This effect is robust to alternative specifications and is stronger for women than for men.

2 Background

2.1 DACA Program Overview

The Deferred Action for Childhood Arrivals (DACA) program was announced by the Obama administration on June 15, 2012. The program was designed to provide temporary relief

from deportation and work authorization to young undocumented immigrants who had been brought to the United States as children. Applications began to be processed on August 15, 2012, and in the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved.

2.2 Eligibility Criteria

To be eligible for DACA, applicants must 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 (i.e., born after June 15, 1981)
3. Lived continuously in the United States since June 15, 2007
4. Were present in the United States on June 15, 2012
5. Did not have lawful status (citizenship or legal residency) as of June 15, 2012
6. Met certain educational and background requirements

The program grants two-year renewable work permits and protection from deportation. Recipients can also apply for driver's licenses and Social Security numbers, which are essential for formal employment in most sectors.

2.3 Target Population

While DACA was not specific to immigrants from any particular country, the structure of undocumented immigration to the United States meant that the majority of eligible individuals were from Mexico. This study focuses specifically on the Mexican-born population with Hispanic-Mexican ethnicity, as this group constitutes the largest share of DACA-eligible individuals and provides a more homogeneous study population for identifying treatment effects.

2.4 Theoretical Mechanisms

DACA eligibility may affect full-time employment through several mechanisms:

Work Authorization: The primary benefit of DACA is the provision of legal work authorization. Prior to DACA, undocumented immigrants could only work in the informal sector or with fraudulent documents. Legal work authorization allows DACA recipients to

seek formal employment, which is more likely to be full-time and offer better wages and benefits.

Documentation Benefits: DACA recipients can obtain Social Security numbers and, in most states, driver's licenses. These documents are often required for formal employment and facilitate job search and commuting to work.

Reduced Deportation Fear: The temporary protection from deportation may encourage DACA recipients to invest in job-specific skills and seek more stable, long-term employment arrangements, including full-time positions.

Human Capital Investment: The ability to work legally may encourage DACA recipients to pursue education and training, potentially leading to better employment opportunities in the medium term.

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 demographic, social, economic, and housing information from a nationally representative sample of the U.S. population. I use the one-year ACS files from 2006 to 2016, excluding 2012 as the transition year during which DACA was implemented mid-year and treated status cannot be clearly determined.

3.2 Sample Construction

The analytic sample is constructed through the following restrictions:

1. **Hispanic-Mexican Ethnicity:** Only individuals with HISPAN = 1 (Mexican) are included, restricting the sample to those who self-identify as ethnically Hispanic-Mexican.

2. **Mexican-Born:** Only individuals with BPL = 200 (Mexico) are included, limiting the sample to those born in Mexico.

3. **Non-Citizen Status:** Only individuals with CITIZEN = 3 (not a citizen) are included. Per the instructions, non-citizens who have not received immigration papers are assumed to be undocumented for DACA purposes.

4. **Working-Age Population:** The sample is restricted to individuals aged 18–55 to focus on those most relevant for employment analysis while maintaining sufficient overlap between treatment and control groups.

5. **Exclusion of 2012:** The transition year 2012 is excluded from the analysis because DACA was implemented mid-year (June 15, 2012), and the ACS does not record the month of survey administration, making it impossible to distinguish pre- and post-DACA observations within this year.

6. **Non-Missing Immigration Year:** Observations with missing year of immigration (YRIMMIG) are excluded, as this variable is necessary for determining DACA eligibility.

The final analytic sample consists of 507,423 person-year observations, including 71,347 observations for DACA-eligible individuals and 436,076 observations for non-eligible individuals.

3.3 Variable Definitions

3.3.1 Outcome Variable

Full-Time Employment: The primary outcome is a binary indicator equal to 1 if the individual usually works 35 or more hours per week (UHRSWORK ≥ 35), and 0 otherwise. This definition follows the standard Bureau of Labor Statistics definition of full-time work.

3.3.2 Treatment Variable

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

- Arrived in the U.S. before age 16 (YRIMMIG $-$ BIRTHYR < 16)
- Under 31 on June 15, 2012 (BIRTHYR ≥ 1982, or BIRTHYR $= 1981$ with BIRTHQTR ≥ 3)
- Present in U.S. since at least June 15, 2007 (YRIMMIG ≤ 2007)

3.3.3 Time Period Indicator

Post-DACA: A binary indicator equal to 1 for years 2013–2016 (after DACA implementation) and 0 for years 2006–2011 (before DACA).

3.3.4 Control Variables

The analysis includes the following demographic controls:

- **Female:** Binary indicator for female gender (SEX = 2)
- **Married:** Binary indicator for currently married (MARST $\in \{1, 2\}$)
- **Age and Age Squared:** Continuous age variable and its square to capture non-linear age effects
- **Education Categories:** Less than high school (EDUC < 6), high school graduate (EDUC $= 6$, reference), some college (EDUC $\in \{7, 8, 9\}$), and college or more (EDUC ≥ 10)

4 Empirical Strategy

4.1 Identification Strategy

The study employs 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 for the treatment group (DACA-eligible individuals) before and after the policy implementation to the change in outcomes for a control group (non-eligible individuals) over the same period.

The key identifying assumption is the *parallel trends assumption*: in the absence of DACA, the trends in full-time employment would have been similar for eligible and ineligible individuals. This assumption would be violated if, for example, there were differential economic shocks affecting young versus older immigrants, or if secular trends in employment differed systematically across age cohorts.

4.2 Estimation Equation

The main specification is a linear probability model:

$$Y_{ist} = \alpha + \beta_1 \text{Eligible}_i + \beta_2 (\text{Eligible}_i \times \text{Post}_t) + \mathbf{X}'_{it}\gamma + \lambda_s + \mu_t + \varepsilon_{ist} \tag{1}$$

where:

- Y_{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)
- $\mathbf{X}_{it}$ is a vector of demographic controls
- λ_s are state fixed effects
- μ_t are year fixed effects
- ε_{ist} is the error term

The coefficient of interest is β_2, which captures the DiD effect of DACA eligibility on full-time employment. The inclusion of year fixed effects absorbs the main effect of Post, while state fixed effects control for time-invariant differences across states.

4.3 Standard Error Estimation

Standard errors are clustered at the state level to account for potential correlation in outcomes within states over time and across individuals. This approach is conservative and appropriate given that DACA is a federal policy with potential for state-level implementation variation.

4.4 Weighted Estimation

All regressions use person weights (PERWT) provided by IPUMS to ensure that the estimates are nationally representative and account for the complex survey design of the ACS.

4.5 Event Study Specification

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

$$Y_{ist} = \alpha + \sum_{t \neq 2011} \delta_t (\text{Eligible}_i \times \mathbf{1}[\text{Year} = t]) + \mathbf{X}'_{it}\gamma + \lambda_s + \mu_t + \varepsilon_{ist} \tag{2}$$

where δ_t captures the difference in outcomes between eligible and ineligible individuals in year t relative to the reference year 2011 (the year before DACA implementation). Under parallel trends, the pre-treatment coefficients (δ_{2006} through δ_{2010}) should be statistically indistinguishable from zero.

5 Results

5.1 Descriptive Statistics

Table 1 presents summary statistics for the analytic sample by DACA eligibility status. DACA-eligible individuals are substantially younger on average (23.6 years) compared to ineligible individuals (37.8 years), reflecting the age-based eligibility criteria. The eligible group has higher educational attainment, with 47.8% having completed high school compared to 30.4% of ineligible individuals, and only 33.8% having less than high school education compared to 58.3% of ineligible individuals. Marriage rates are much lower among eligible individuals (30.0%) compared to ineligible individuals (65.1%), consistent with the age difference.

Full-time employment rates are lower for DACA-eligible individuals (52.7%) compared to ineligible individuals (60.8%), though this raw difference reflects compositional differences, particularly age, rather than a causal effect of eligibility.

Table 1: Summary Statistics by DACA Eligibility

Variable	DACA-Eligible	Ineligible
Full-time Employment	0.527	0.608
Employed	0.623	0.670
Age (years)	23.6	37.8
Female	0.448	0.458
Married	0.300	0.651
Less than High School	0.338	0.583
High School Graduate	0.478	0.304
Some College	0.159	0.068
College or More	0.025	0.045
N	71,347	436,076

Note: Sample consists of Mexican-born, Hispanic-Mexican, non-citizen individuals aged 18–55 from ACS 2006–2016 (excluding 2012). Full-time employment defined as usually working 35+ hours per week.

5.2 Raw Difference-in-Differences

Table 2 presents the raw (unadjusted) DiD calculation. Before DACA implementation (2006–2011), 51.0% of eligible individuals and 61.6% of ineligible individuals were employed full-time. After DACA implementation (2013–2016), these rates were 54.7% and 59.5%, respectively. The eligible group experienced an increase of 3.7 percentage points while the ineligible

group experienced a decrease of 2.0 percentage points. The raw DiD estimate is thus 5.8 percentage points ($3.7 - (-2.0) = 5.8$).

Table 2: Raw Difference-in-Differences: Full-Time Employment Rates

	Pre-DACA (2006–2011)	Post-DACA (2013–2016)	Difference
DACA-Eligible	0.510	0.547	+0.037
Ineligible	0.616	0.595	−0.020
DiD Estimate			**+0.058**

5.3 Main Regression Results

Table 3 presents the main regression results across four specifications of increasing stringency.

Table 3: Effect of DACA Eligibility on Full-Time Employment

	(1) Basic DiD	(2) + Demographics	(3) + Year FE	(4) + State FE
DACA × Post	0.066***	0.033***	0.024***	0.023***
	(0.003)	(0.004)	(0.004)	(0.004)
DACA Eligible	−0.114***	−0.034***	−0.038***	−0.036***
	(0.003)	(0.005)	(0.005)	(0.005)
Post	−0.022***	−0.018***	–	–
	(0.002)	(0.002)		
Female		−0.441***	−0.441***	−0.441***
		(0.015)	(0.015)	(0.015)
Married		−0.038***	−0.034***	−0.034***
		(0.006)	(0.006)	(0.006)
Age		0.029***	0.029***	0.029***
		(0.002)	(0.002)	(0.002)
Age^2		−0.0004***	−0.0004***	−0.0004***
		(0.00002)	(0.00002)	(0.00002)
Year Fixed Effects	No	No	Yes	Yes
State Fixed Effects	No	No	No	Yes
N	507,423	507,423	507,423	507,423

Note: Standard errors clustered at state level in parentheses. All regressions use PERWT weights. Education controls included in columns (2)–(4). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Column (1) presents the basic DiD specification without controls. The coefficient on DACA × Post is 0.066 (SE = 0.003), suggesting that DACA eligibility increased full-time employment by 6.6 percentage points.

Column (2) adds demographic controls (gender, marital status, age, age squared, and education). The coefficient decreases to 0.033 (SE = 0.004), indicating that part of the raw effect was driven by compositional differences between the eligible and ineligible groups.

Column (3) adds year fixed effects to control for aggregate time trends. The coefficient further decreases to 0.024 (SE = 0.004).

Column (4), the preferred specification, adds state fixed effects. The DiD coefficient is 0.023 (SE = 0.004), implying that DACA eligibility increased the probability of full-time

employment by 2.3 percentage points. This effect is statistically significant at the 1% level, with a 95% confidence interval of [1.6, 3.0] percentage points.

The preferred estimate of 2.3 percentage points represents approximately a 4.5% increase relative to the pre-DACA full-time employment rate of 51.0% for eligible individuals.

5.4 Robustness Checks

Table 4 presents robustness checks across alternative specifications and subsamples. All specifications include the full set of controls (demographics, year fixed effects, and state fixed effects).

Table 4: Robustness Checks

Specification	Coefficient	Std. Error
Main result (full-time employment)	0.023***	(0.004)
Alternative outcomes:		
Employment (any)	0.034***	(0.005)
Alternative samples:		
Age 20–45 only	0.016***	(0.004)
Males only	0.013**	(0.005)
Females only	0.028***	(0.006)

Note: All specifications include demographic controls, year fixed effects, and state fixed effects. Standard errors clustered at state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Employment (Extensive Margin): When using any employment (rather than full-time employment) as the outcome, the DiD coefficient is 0.034 (SE = 0.005). This larger effect suggests that DACA increased both the probability of working at all and the intensity of work among those employed.

Age 20–45 Subsample: Restricting the sample to ages 20–45 yields a smaller but still significant effect of 0.016 (SE = 0.004). This restriction provides a more balanced comparison by excluding very young (18–19) and older (46–55) individuals where treatment and control groups may be less comparable.

Gender Heterogeneity: The effect is larger for women (0.028, SE = 0.006) than for men (0.013, SE = 0.005). This pattern may reflect that women faced greater barriers to formal employment prior to DACA, or that work authorization has differential effects on labor supply by gender.

5.5 Event Study Results

Figure **??** presents the event study coefficients, which show the difference in full-time employment between eligible and ineligible individuals in each year relative to 2011 (the year before DACA implementation).

Table 5: Event Study Coefficients

Year	Coefficient	Std. Error
2006	0.009	(0.015)
2007	0.002	(0.007)
2008	0.015	(0.014)
2009	0.016	(0.012)
2010	0.013	(0.016)
2011	0.000	(reference)
2013	0.013	(0.011)
2014	0.028**	(0.013)
2015	0.043***	(0.013)
2016	0.046***	(0.012)

Note: Coefficients show the interaction between DACA eligibility and year indicators, relative to 2011. All specifications include demographic controls, year fixed effects, and state fixed effects. Standard errors clustered at state level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The pre-DACA coefficients (2006–2010) are small in magnitude, ranging from 0.002 to 0.016, and none are statistically significant. This pattern provides suggestive evidence in support of the parallel trends assumption, though the coefficients are somewhat imprecisely estimated.

The post-DACA coefficients show a pattern of increasing effects over time. The 2013 coefficient (0.013) is not statistically significant, consistent with a gradual rollout of the program and time needed for recipients to translate work authorization into employment gains. By 2014, the effect becomes statistically significant (0.028, SE = 0.013), and it grows further in 2015 (0.043, SE = 0.013) and 2016 (0.046, SE = 0.012). This increasing pattern is consistent with the cumulative nature of DACA benefits as more eligible individuals apply, receive approval, and secure formal employment.

6 Interpretation and Discussion

6.1 Magnitude of the Effect

The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by 2.3 percentage points. To put this in context:

- The pre-DACA full-time employment rate for eligible individuals was 51.0%, so a 2.3 percentage point increase represents a 4.5% relative increase.
- Given that approximately 700,000–800,000 individuals received DACA during the 2013–2016 period, a 2.3 percentage point increase in full-time employment would translate to approximately 16,000–18,000 additional full-time workers.
- The effect on any employment (3.4 percentage points) is larger than the effect on full-time employment (2.3 percentage points), suggesting that DACA operates through both the extensive margin (entering employment) and the intensive margin (increasing hours among those employed).

6.2 Mechanisms

Several mechanisms may explain the positive effect of DACA on full-time employment:

Legal Work Authorization: The most direct mechanism is that DACA provides legal authorization to work. This allows recipients to seek formal employment that is more likely to offer full-time hours, benefits, and job security.

Reduced Uncertainty: Protection from deportation reduces uncertainty about future residence status, potentially encouraging recipients to invest in job-specific skills and pursue more stable employment arrangements.

Employer Preferences: Employers may prefer to hire workers with legal status for full-time positions, both to avoid legal liability and because such positions often involve greater training investments.

Access to Documentation: DACA recipients can obtain Social Security numbers and driver's licenses, which are often required for formal employment and facilitate job search.

6.3 Heterogeneity

The finding that effects are larger for women than for men is noteworthy. Several explanations are possible:

- Women may have faced greater barriers to formal employment prior to DACA, leaving more room for improvement.
- Cultural or family factors may have constrained women's labor force participation in informal employment settings, constraints that may be reduced with formal work authorization.
- The types of jobs available to women may be more likely to require formal documentation than those available to men.

6.4 Limitations

Several limitations should be acknowledged:

Identification of Undocumented Status: The ACS does not directly identify undocumented immigration status. The analysis assumes that non-citizens who have not received immigration papers are undocumented, but this may include some individuals with legal status (e.g., those on temporary visas).

Eligibility Approximation: Not all DACA eligibility criteria can be verified in the data. The analysis focuses on age at arrival, birth year, and year of immigration, but cannot verify continuous residence, presence on June 15, 2012, or educational requirements.

Selection into DACA Application: Not all eligible individuals apply for DACA, and those who do may differ systematically from non-applicants. The analysis estimates the intent-to-treat effect (effect of eligibility) rather than the treatment-on-the-treated effect (effect of receiving DACA).

Parallel Trends: While the event study provides suggestive evidence of parallel pre-trends, the pre-period coefficients are somewhat imprecisely estimated. The assumption that trends would have remained parallel in the absence of DACA cannot be directly tested.

7 Conclusion

This study provides evidence that eligibility for DACA increased full-time employment among Mexican-born, Hispanic-Mexican non-citizens in the United States. Using a difference-in-differences design with ACS data from 2006–2016, I estimate that DACA eligibility increased the probability of full-time employment by approximately 2.3 percentage points (95% CI: 1.6–3.0 percentage points). This effect is robust across alternative specifications and subsamples, with larger effects observed for women than for men.

The findings suggest that providing work authorization to young undocumented immigrants has tangible labor market benefits. These results contribute to the policy debate on immigration reform by providing evidence on the employment effects of legalization programs. However, several caveats apply, including the inability to perfectly identify undocumented status and DACA eligibility in the ACS, and the reliance on the parallel trends assumption for causal identification.

Future research could extend this analysis by examining effects on other outcomes such as wages, occupational upgrading, and educational attainment. Additionally, examining heterogeneity across industries, states, and demographic groups could provide further insights into the mechanisms through which DACA affects labor market outcomes.

8 Summary of Preferred Estimate

The preferred estimate from this analysis is as follows:

Preferred Estimate	
Effect Size (DiD Coefficient)	0.023 (2.3 percentage points)
Standard Error	0.004
95% Confidence Interval	[0.016, 0.030]
p-value	< 0.001
Sample Size	507,423
DACA-Eligible	71,347
Ineligible	436,076

The interpretation is that DACA eligibility increased the probability of full-time employment (defined as usually working 35 or more hours per week) by approximately 2.3 percentage points, representing roughly a 4.5% increase relative to the pre-DACA baseline full-time employment rate of 51% for eligible individuals.

A Appendix: Variable Definitions

Table 6: IPUMS Variable Names and Definitions

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

B Appendix: Sample Construction Details

Table 7: Sample Construction

Restriction	N
Full ACS 2006–2016 data	33,851,424
Hispanic-Mexican ethnicity (HISPAN = 1)	–
Mexican-born (BPL = 200)	991,261
Non-citizen (CITIZEN = 3)	701,347
Age 18–55	558,771
Excluding 2012	507,423
Non-missing YRIMMIG	507,423
Final Analytic Sample	**507,423**

C Appendix: Sample by Year and Eligibility

Table 8: Sample Size by Year and DACA Eligibility

Year	Ineligible	Eligible	Total
2006	46,942	5,151	52,093
2007	47,322	5,792	53,114
2008	45,349	5,838	51,187
2009	45,815	6,420	52,235
2010	46,143	7,199	53,342
2011	45,690	7,848	53,538
2013	41,402	8,173	49,575
2014	40,584	8,351	48,935
2015	39,111	8,338	47,449
2016	37,718	8,237	45,955
Total	436,076	71,347	507,423