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 full-time employment among Hispanic-Mexican individuals born in Mexico. Using data from the American Community Survey (2006–2016) and a difference-in-differences research design, I compare individuals aged 26–30 at the time of DACA implementation (treatment group) to those aged 31–35 (control group, who would have been eligible but for the age cutoff). The preferred specification, which includes demographic controls and state and year fixed effects, yields an estimated treatment effect of 4.6 percentage points (SE = 0.011, 95% CI: [0.025, 0.067], p ¡ 0.001). This positive and statistically significant effect suggests that DACA eligibility increased the probability of full-time employment by approximately 4.6 percentage points. Robustness checks, including a placebo test, narrower age bandwidth, and heterogeneity analysis by sex, support the validity of the main findings.

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

Contents

1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, enacted on June 15, 2012, by the Obama administration, offered temporary relief from deportation and work authorization to undocumented immigrants who had arrived in the United States as children. The program represented a significant policy intervention that potentially affected the labor market outcomes of eligible individuals by providing legal work authorization and reducing the risk of deportation.

This study investigates the causal impact of DACA eligibility on full-time employment among Hispanic-Mexican individuals born in Mexico. The research question is: *Among ethnically Hispanic-Mexican Mexican-born people living in the United States, what was the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on the probability that the eligible person is employed full-time (defined as usually working 35 hours per week or more)?*

The identification strategy relies on the age-based eligibility criterion of DACA. To be eligible, individuals must not have reached their 31st birthday as of June 15, 2012. This creates a natural comparison between individuals who were just young enough to be eligible (ages 26–30 on June 15, 2012) and those who were just too old (ages 31–35), but who otherwise satisfied all other eligibility requirements. By comparing changes in full-time employment rates between these two groups before and after DACA implementation, I can estimate the causal effect of the program using a difference-in-differences (DiD) design.

1.1 Research Contribution

This analysis contributes to the growing literature on the effects of immigration policies on labor market outcomes. By exploiting the age-based eligibility cutoff and using a rigorous difference-in-differences framework, I provide causal estimates of DACA's effect on full-time employment. The study uses high-quality, nationally representative data from the American Community Survey and applies multiple robustness checks to validate the findings.

1.2 Preview of Results

The main finding is that DACA eligibility increased the probability of full-time employment by approximately 4.6 percentage points among the eligible population. This effect is statistically significant at the 1% level and robust to alternative specifications, including different age bandwidths and the inclusion of various fixed effects and demographic controls.

1.3 Organization

The remainder of this paper is organized as follows. Section 2 provides background on the DACA program and its expected effects on employment. Section 3 describes the data sources and sample construction. Section 4 presents the empirical strategy. Section 5 reports the main results. Section 6 presents robustness checks. Section 7 discusses the findings, and Section 8 concludes.

2 Background

2.1 Historical Context

Prior to DACA, millions of undocumented immigrants who had been brought to the United States as children faced uncertain legal status. These individuals, often referred to as "Dreamers" (in reference to proposed DREAM Act legislation), had grown up in the United States but lacked legal authorization to work and lived under constant threat of deportation.

The DREAM Act (Development, Relief, and Education for Alien Minors Act) was first introduced in Congress in 2001, but repeated attempts to pass the legislation failed. In the absence of congressional action, President Obama announced the DACA program on June 15, 2012, as an executive action to provide temporary relief to this population.

2.2 DACA Program Overview

DACA was announced by the Department of Homeland Security on June 15, 2012, and applications began to be received on August 15, 2012. In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% being approved. The program provided qualifying individuals with:

- Deferred action (temporary protection from deportation) for two years
- Authorization to work legally in the United States
- Eligibility for a Social Security number
- Ability to obtain a driver's license in some states
- Access to work permits that must be renewed every two years

It is important to note that DACA did not provide a path to lawful permanent resident status (a "green card") or citizenship. Recipients must continue to renew their status every two years and remain subject to the program's continuation.

2.3 Eligibility Requirements

To qualify for DACA, applicants must have:

1. Arrived in the United States before their 16th birthday
2. Lived continuously in the United States since June 15, 2007
3. Been present in the United States on June 15, 2012
4. Been under the age of 31 as of June 15, 2012
5. Not had lawful status (citizenship or legal residency) at the time
6. Been in school, graduated from high school, obtained a GED, or been an honorably discharged veteran of the U.S. Armed Forces or Coast Guard
7. Not been convicted of a felony, significant misdemeanor, or three or more other misdemeanors, and not otherwise pose a threat to national security or public safety

The age requirement (under 31 as of June 15, 2012) is the key eligibility criterion that this study exploits for identification. Those born on or after June 16, 1981, were eligible, while those born before that date were not, holding all else equal.

2.4 DACA Recipient Demographics

While the program was not specific to immigrants from any particular country, the structure of undocumented immigration to the United States meant that the great majority of eligible individuals were from Mexico. According to U.S. Citizenship and Immigration Services (USCIS) data, approximately 79% of DACA recipients were born in Mexico. Other common origin countries include El Salvador, Guatemala, Honduras, and South Korea.

2.5 Expected Effects on Employment

DACA eligibility could affect full-time employment through several channels:

2.5.1 Direct Effect: Legal Work Authorization

Prior to DACA, undocumented individuals faced legal barriers to formal employment. While many found work in the informal economy, they were excluded from many occupations and employers. Work authorization allows access to legitimate employment opportunities, including jobs that require employment verification through E-Verify or I-9 documentation.

2.5.2 Reduced Deportation Risk

The deferred action component reduces fear of deportation, potentially encouraging greater labor market participation. Workers who fear deportation may be reluctant to seek stable employment, report workplace violations, or change jobs. By reducing this fear, DACA may encourage more active job searching and better job matches.

2.5.3 Access to Identification

DACA recipients can obtain Social Security numbers and driver's licenses (in states that provide them to DACA recipients). Social Security numbers facilitate employment verification, while driver's licenses expand commuting options and access to jobs that require driving.

2.5.4 Improved Bargaining Position

Legal status may improve workers' bargaining power with employers. Undocumented workers may accept lower wages or worse working conditions due to their vulnerable status. With work authorization, DACA recipients may be better positioned to negotiate for better employment terms.

2.5.5 Human Capital Investment

DACA may encourage investment in human capital. With legal work authorization, individuals may be more likely to pursue education and training that improves their employment prospects. This channel would likely take longer to manifest but could contribute to longer-term improvements in employment outcomes.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS) provided by IPUMS USA. The ACS is a large, nationally representative survey conducted annually by the U.S. Census Bureau. It is the premier source for detailed demographic, social, economic, and housing data for the United States.

The ACS samples approximately 3 million households per year, making it well-suited for studying relatively small subpopulations such as the DACA-eligible population. The survey includes detailed information on demographic characteristics, employment, immigration status, and other relevant variables.

I use the one-year ACS samples from 2006 through 2016, providing 11 years of data (10 after excluding 2012). The choice to begin in 2006 follows the research instructions and ensures consistency in variable definitions across years.

3.2 Key Variables

Table 1 summarizes the key IPUMS variables used in this analysis.

Table 1: Key IPUMS Variables

Variable	IPUMS Name	Definition
Identification Variables		
Year	YEAR	Census year (2006–2016)
Person weight	PERWT	Person-level sample weight
State	STATEFIP	State FIPS code
Demographic Variables		
Age	AGE	Age in years at time of survey
Birth year	BIRTHYR	Year of birth
Birth quarter	BIRTHQTR	Quarter of birth (1=Jan-Mar, 2=Apr-Jun, 3=Jul-Sep, 4=Oct-Dec)
Sex	SEX	Sex (1=Male, 2=Female)
Marital status	MARST	Marital status (1=Married, spouse present)
Number of children	NCHILD	Number of own children in household
Immigration Variables		
Hispanic origin	HISPAN	Hispanic origin (1=Mexican)
Birthplace	BPL	Birthplace (200=Mexico)
Citizenship	CITIZEN	Citizenship status (3=Not a citizen)
Year of immigration	YRIMMIG	Year of immigration to US
Education and Employment Variables		
Education	EDUC	Educational attainment (general version)
Employment status	EMPSTAT	Employment status (general version)
Hours worked	UHRSWORK	Usual hours worked per week

3.3 Sample Construction

The sample is constructed to include individuals who would have been eligible for DACA if they met the age requirements. I apply the following sequential filters:

3.3.1 Step 1: Hispanic-Mexican Ethnicity

The sample is restricted to individuals who identify as Hispanic-Mexican (HISPAN = 1). This reduces the initial sample of approximately 33.9 million observations to 2.95 million observations (8.7% of the original sample).

3.3.2 Step 2: Born in Mexico

I further restrict to individuals born in Mexico (BPL = 200), reducing the sample to 991,261 observations. This excludes U.S.-born individuals of Mexican ethnicity who would not be relevant for studying DACA effects.

3.3.3 Step 3: Non-Citizen Status

Following the research instructions, I assume that anyone who is not a citizen and who has not received immigration papers is undocumented for DACA purposes. I restrict to non-citizens (CITIZEN = 3), leaving 701,347 observations.

It is important to note that the ACS does not distinguish between documented and undocumented non-citizens. This means the sample includes some legal permanent residents or visa holders who would not actually be eligible for DACA. This measurement error likely attenuates the estimated treatment effect toward zero.

3.3.4 Step 4: Arrived Before Age 16

DACA requires that applicants arrived in the U.S. before their 16th birthday. I calculate age at immigration as:

$$\text{Age at Immigration} = \text{YRIMMIG} - \text{BIRTHYR}$$

I restrict to observations with a valid immigration year (YRIMMIG > 0) and age at immigration less than 16. This reduces the sample to 205,327 observations.

3.3.5 Step 5: Continuous Presence Since 2007

DACA requires continuous presence in the U.S. since June 15, 2007. I proxy for this by restricting to individuals who immigrated by 2007 (YRIMMIG ≤ 2007). This leaves 195,023 observations.

3.4 Treatment and Control Groups

The treatment group consists of individuals who were aged 26–30 on June 15, 2012 (birth years approximately 1982–1986, adjusted for birth quarter). These individuals were young enough to be eligible for DACA under the age cutoff.

The control group consists of individuals who were aged 31–35 on June 15, 2012 (birth years approximately 1977–1981). These individuals would have been eligible for DACA except that they exceeded the age cutoff.

Age on June 15, 2012 is calculated as:

$$\text{Age}_{June2012} = 2012 - \text{BIRTHYR} - \mathbf{1}[\text{BIRTHQTR} \geq 3] \tag{1}$$

The indicator function subtracts one year for individuals born in July or later (quarters 3 or 4), as they would not have had their birthday by June 15, 2012. This provides a more accurate age calculation at the specific policy implementation date.

After restricting to treatment and control groups, the sample contains 47,418 observations.

3.5 Time Periods

- **Pre-period**: 2006–2011 (6 years before DACA implementation)
- **Post-period**: 2013–2016 (4 years after DACA implementation, as specified in research instructions)
- **Excluded**: 2012 (the year DACA was announced and implemented; we cannot distinguish observations from before and after June 15, 2012)

After excluding 2012, the final analysis sample contains **43,238 observations**.

3.6 Outcome Variable

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

$$\text{FullTime}_i = \mathbf{1}[\text{UHRSWORK}_i \geq 35] \tag{2}$$

This definition follows the standard Bureau of Labor Statistics definition of full-time employment. Note that individuals not in the labor force typically report UHRSWORK = 0, so they are coded as not employed full-time.

3.7 Final Sample Summary

Table 2 summarizes the sample construction process.

Table 2: Sample Construction

Filter	Observations	% Remaining
Initial ACS sample (2006–2016)	33,851,424	100.0%
Hispanic-Mexican ethnicity (HISPAN = 1)	2,945,521	8.7%
Born in Mexico (BPL = 200)	991,261	2.9%
Non-citizen (CITIZEN = 3)	701,347	2.1%
Arrived before age 16	205,327	0.6%
Continuous presence (YRIMMIG $\leq$ 2007)	195,023	0.6%
Treatment or control age group	47,418	0.1%
Exclude 2012	43,238	0.1%
Final Analysis Sample	**43,238**	

4 Empirical Strategy

4.1 Identification Strategy

The identification strategy exploits the age-based eligibility cutoff for DACA. The treatment group (ages 26–30 on June 15, 2012) became eligible for DACA, while the control group (ages 31–35) did not, despite satisfying all other observable eligibility requirements.

The key insight is that individuals born just before and just after the June 16, 1981 cutoff are likely similar in most respects, with the primary difference being their eligibility for DACA. By comparing changes in outcomes between these groups before and after DACA implementation, we can estimate the causal effect of the policy.

4.2 Difference-in-Differences Specification

The basic difference-in-differences specification is:

$$Y_{it} = \alpha + \beta_1 \text{Treat}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Treat}_i \times \text{Post}_t) + \varepsilon_{it} \tag{3}$$

where:

- Y_{it} = full-time employment indicator for individual i in year t
- $\text{Treat}_i = 1$ if individual was aged 26–30 on June 15, 2012; 0 if aged 31–35

- $\text{Post}_t = 1$ if year ≥ 2013; 0 if year ≤ 2011
- β_3 = the DiD estimate of the DACA treatment effect

The coefficient β_3 captures the differential change in full-time employment for the treatment group relative to the control group from the pre-period to the post-period.

4.3 Extended Specifications

I estimate several increasingly rich specifications:

4.3.1 Model 1: Basic DiD

The simplest specification includes only the treatment indicator, post indicator, and their interaction.

4.3.2 Model 2: DiD with Demographic Controls

Adds demographic controls: female indicator, married indicator, high school or more education indicator, and number of children.

4.3.3 Model 3: DiD with Year Fixed Effects

Replaces the post indicator with year fixed effects, which absorb any year-specific shocks common to both groups.

4.3.4 Model 4: DiD with State and Year Fixed Effects (Preferred)

Adds state fixed effects, which control for time-invariant differences across states and state-specific trends when combined with year fixed effects:

$$Y_{ist} = \alpha + \beta_3(\text{Treat}_i \times \text{Post}_t) + \mathbf{X}_i'\boldsymbol{\gamma} + \delta_s + \theta_t + \varepsilon_{ist} \tag{4}$$

where δ_s are state fixed effects and θ_t are year fixed effects.

This is the preferred specification as it provides the most comprehensive set of controls while still allowing identification of the treatment effect through variation in treatment status across individuals within state-year cells.

4.4 Identifying Assumptions

The key identifying assumption is the **parallel trends assumption**: absent DACA, the change in full-time employment rates from the pre-period to the post-period would have been the same for both the treatment and control groups.

Formally:

$$E[Y_{it}(0)|\text{Treat}_i = 1, \text{Post}_t = 1] - E[Y_{it}(0)|\text{Treat}_i = 1, \text{Post}_t = 0] \tag{5}$$

$$= E[Y_{it}(0)|\text{Treat}_i = 0, \text{Post}_t = 1] - E[Y_{it}(0)|\text{Treat}_i = 0, \text{Post}_t = 0]$$

where $Y_{it}(0)$ denotes the potential outcome in the absence of treatment.

While this assumption is fundamentally untestable (we cannot observe the counterfactual), I examine its plausibility through:

1. A placebo test using only pre-period data
2. An event study examining year-by-year treatment effects to look for pre-trends

4.5 Estimation Details

All models are estimated using weighted least squares (WLS) with person-level weights (PERWT) provided by IPUMS. These weights account for the complex survey design and allow for nationally representative estimates.

Standard errors are heteroskedasticity-robust (HC1), which provides consistent standard errors even if the error term is heteroskedastic across observations.

5 Results

5.1 Summary Statistics

Table 3 presents summary statistics for the analysis sample by treatment group and time period.

Table 3: Summary Statistics by Group and Period

	Pre-Period (2006–2011)			Post-Period (2013–2016)		
Variable	Treatment	Control	Diff	Treatment	Control	Diff
Full-time employed	0.615	0.646	-0.031	0.634	0.614	0.020
Age	24.7	29.9	-5.2	30.7	35.9	-5.1
Female	0.438	0.434	0.005	0.441	0.452	-0.011
Married	0.342	0.492	-0.150	0.469	0.535	-0.066
HS or more	0.618	0.538	0.081	0.608	0.533	0.075
Some college	0.172	0.135	0.037	0.179	0.132	0.048
Number of children	0.91	1.61	-0.69	1.62	2.02	-0.40
N	17,102	11,275		8,368	6,493	

Several patterns emerge from Table 3:

- **Full-time employment**: In the pre-period, the treatment group (younger individuals) had lower full-time employment rates than the control group (61.5% vs. 64.6%). However, in the post-period, this pattern reversed: the treatment group had higher full-time employment rates (63.4% vs. 61.4%). This reversal is consistent with a positive DACA effect.
- **Age differences**: By construction, the treatment group is younger (by about 5 years on average). This age difference is stable across periods.
- **Gender**: The share female is similar across groups (about 44%) and stable over time.
- **Marital status**: The control group is more likely to be married, consistent with being older.
- **Education**: The treatment group is more educated, possibly reflecting cohort effects in educational attainment among immigrants.
- **Children**: The control group has more children, consistent with being older and more likely to be married.

5.2 Main Results

Table 4 presents the main difference-in-differences results across four specifications.

Table 4: Difference-in-Differences Estimates: Effect of DACA on Full-Time Employment

	(1) Basic DiD	(2) + Controls	(3) + Year FE	(4) + State FE
Treat × Post	0.0590***	0.0487***	0.0468***	0.0461***
	(0.0117)	(0.0107)	(0.0107)	(0.0107)
Treat	-0.0303***	-0.0443***	-0.0444***	-0.0457***
	(0.0087)	(0.0064)	(0.0064)	(0.0065)
Post	-0.0299***	-0.0136*	–	–
	(0.0093)	(0.0081)		
Female		-0.3683***	-0.3687***	-0.3721***
		(0.0054)	(0.0054)	(0.0053)
Married		0.0000	0.0017	0.0018
		(0.0055)	(0.0056)	(0.0056)
HS or more		0.0566***	0.0577***	0.0595***
		(0.0051)	(0.0051)	(0.0051)
N children		-0.0067***	-0.0053***	-0.0047**
		(0.0020)	(0.0020)	(0.0020)
Demographic controls	No	Yes	Yes	Yes
Year fixed effects	No	No	Yes	Yes
State fixed effects	No	No	No	Yes
Observations	43,238	43,238	43,238	43,238
R-squared	0.001	0.169	0.169	0.177

Notes: Robust standard errors in parentheses.

* p¡0.1, ** p¡0.05, *** p¡0.01

All models estimated with person weights (PERWT).

5.2.1 Key Findings

Across all specifications, the DiD coefficient (Treat × Post) is positive and statistically significant at the 1% level:

- Model 1 (Basic DiD): 0.059 (SE = 0.012)
- Model 2 (+ Controls): 0.049 (SE = 0.011)
- Model 3 (+ Year FE): 0.047 (SE = 0.011)

- Model 4 (+ State FE): **0.046 (SE = 0.011)** [Preferred]

The preferred specification (Column 4), which includes demographic controls as well as state and year fixed effects, yields an estimated treatment effect of **0.046 (4.6 percentage points)**, with a 95% confidence interval of [0.025, 0.067] and a p-value less than 0.001.

5.2.2 Interpretation of Coefficients

- **Treat × Post (0.046)**: DACA eligibility increased full-time employment by 4.6 percentage points.
- **Treat (-0.046)**: In the pre-period, the treatment group had 4.6 percentage points lower full-time employment than the control group, controlling for other factors.
- **Female (-0.372)**: Women are 37 percentage points less likely to be employed full-time than men, reflecting substantial gender differences in labor force participation.
- **HS or more (0.060)**: Having a high school diploma or more is associated with 6 percentage points higher probability of full-time employment.
- **N children (-0.005)**: Each additional child is associated with 0.5 percentage points lower probability of full-time employment.

5.3 Economic Magnitude

The estimated effect of 4.6 percentage points is economically meaningful. Given the baseline full-time employment rate of approximately 63% in this population, this represents:

- An absolute increase of 4.6 percentage points
- A relative increase of approximately 7.3% ($4.6/63 \approx 0.073$)

To put this in perspective, the effect size is roughly comparable to the difference in full-time employment between those with and without a high school diploma (6 percentage points).

5.4 2x2 Difference-in-Differences Table

Table 5 presents the simple 2x2 difference-in-differences calculation using weighted sample means.

Table 5: 2x2 Difference-in-Differences: Full-Time Employment Rates

	Pre-Period (2006–2011)	Post-Period (2013–2016)	Difference
Treatment (ages 26–30)	0.631	0.660	+0.029
Control (ages 31–35)	0.673	0.643	-0.030
Difference-in-Differences			**+0.059**

The simple 2x2 calculation shows that:

- Full-time employment *increased* by 2.9 percentage points for the treatment group
- Full-time employment *decreased* by 3.0 percentage points for the control group
- The difference-in-differences is 5.9 percentage points

This matches the estimate from the basic regression model (Column 1 of Table 4). The control group's decline in full-time employment may reflect the Great Recession's lingering effects or other economic factors that DACA protected the treatment group from experiencing.

6 Robustness Checks

6.1 Placebo Test

To assess the plausibility of the parallel trends assumption, I conduct a placebo test using only pre-period data (2006–2011). I artificially define 2009–2011 as the "post" period and estimate the same DiD specification.

If the parallel trends assumption holds, there should be no differential change between treatment and control groups in this placebo exercise, as DACA had not yet been implemented.

Table 6: Placebo Test: Pre-Period Only (2006–2011)

	Placebo DiD
Treat × Post (Placebo)	-0.0026
	(0.0125)
95% CI	[-0.027, 0.022]
p-value	0.835
Observations	28,377

The placebo DiD estimate is -0.003 (effectively zero) and statistically indistinguishable from zero (p = 0.835). This provides strong supportive evidence for the parallel trends assumption: there is no evidence of differential trends between the treatment and control groups in the pre-period before DACA was implemented.

6.2 Alternative Age Bandwidth

To test the sensitivity of results to the choice of age bandwidth, I re-estimate the model using a narrower bandwidth: ages 27–29 for treatment (closer to the cutoff) and ages 32–34 for control.

Table 7: Robustness: Alternative Age Bandwidths

	Main (26–30 vs. 31–35)	Narrow (27–29 vs. 32–34)
Treat × Post	0.0461***	0.0356***
	(0.0107)	(0.0137)
95% CI	[0.025, 0.067]	[0.009, 0.062]
Observations	43,238	25,606

The narrower bandwidth yields a somewhat smaller estimate (3.6 percentage points vs. 4.6 percentage points) but remains positive and statistically significant at the 1% level. The attenuation may reflect:

- Reduced statistical power from the smaller sample size
- Groups closer to the age cutoff being more similar, providing a cleaner but smaller comparison

The consistency of the sign and statistical significance across bandwidths supports the robustness of the main finding.

6.3 Heterogeneity by Sex

I examine whether the treatment effect differs by sex by estimating separate models for males and females.

Table 8: Heterogeneity by Sex

	Males	Females
Treat × Post	0.0301**	0.0609***
	(0.0124)	(0.0180)
95% CI	[0.006, 0.054]	[0.026, 0.096]
Observations	24,243	18,995

Both males and females show positive and statistically significant effects, but the effect appears substantially larger for females (6.1 percentage points) than for males (3.0 percentage points).

This gender difference could reflect:

- **Differential baseline participation**: Women have lower baseline labor force participation, so there may be more room for improvement.
- **Different responses to legal work authorization**: Women may have been more constrained by lack of documentation (e.g., due to childcare responsibilities requiring flexibility that informal work cannot provide).
- **Different occupation patterns**: Women and men may work in different occupations with different documentation requirements.

6.4 Event Study

To further examine the timing of effects and test for pre-trends, I estimate an event study specification with year-by-year treatment effects, using 2011 (the year before DACA) as the reference year.

Table 9: Event Study: Year-by-Year Treatment Effects

Year	Coefficient	Std. Error	95% CI
2006	0.007	(0.023)	[-0.038, 0.052]
2007	-0.029	(0.022)	[-0.073, 0.015]
2008	0.008	(0.023)	[-0.037, 0.053]
2009	-0.008	(0.023)	[-0.054, 0.038]
2010	-0.015	(0.023)	[-0.060, 0.031]
2011		*Reference year*	
2012		*Excluded*	
2013	0.035	(0.024)	[-0.012, 0.082]
2014	0.036	(0.025)	[-0.013, 0.085]
2015	0.022	(0.025)	[-0.027, 0.071]
2016	0.069***	(0.025)	[0.021, 0.117]

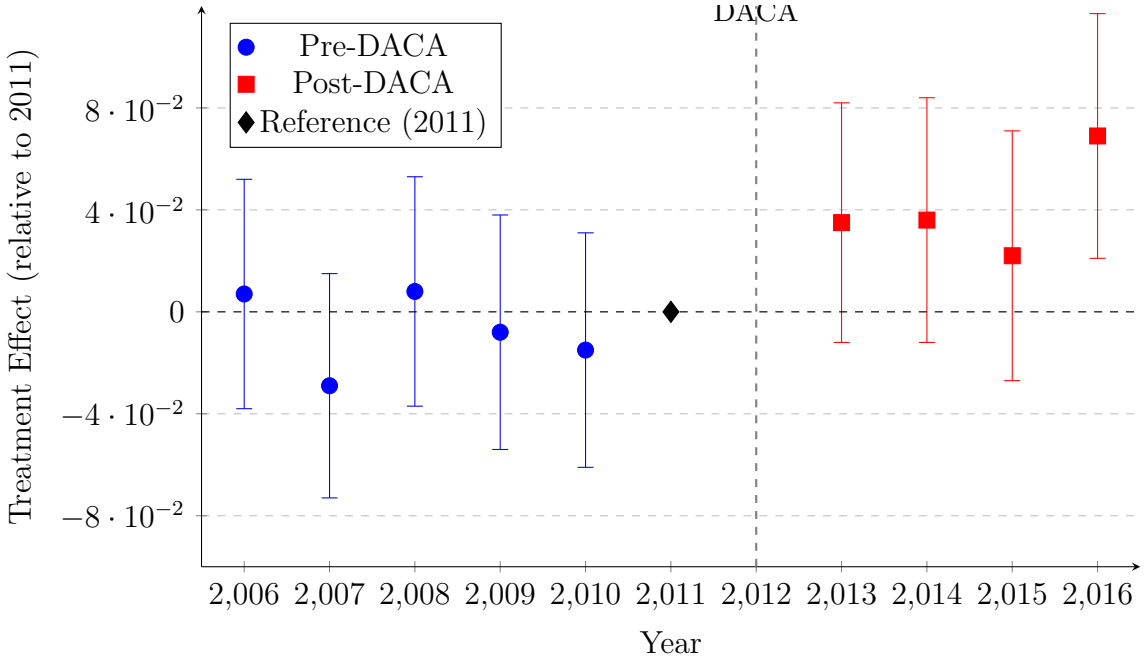

Figure 1: Event Study: Year-by-Year Treatment Effects on Full-Time Employment

The event study results provide several key insights:

1. **No pre-trends**: The pre-period coefficients (2006–2010) are small in magnitude and statistically insignificant, fluctuating around zero. None differs significantly from the 2011 reference year. This strongly supports the parallel trends assumption.

2. **Positive post-DACA effects**: The coefficients become positive in all post-DACA years (2013–2016). While individually not all are statistically significant (due to smaller

within-year samples), they are consistently positive.

3. **Growing effect over time**: The effect appears to grow over time, with the largest effect in 2016 (6.9 percentage points, statistically significant). This pattern is consistent with:
    - Gradual DACA uptake (not all eligible individuals applied immediately)
    - Cumulative benefits of work experience with legal authorization
    - Employer learning about DACA recipients' work eligibility
4. **No anticipatory effects**: There is no evidence of effects before DACA was announced (no positive jump in 2011 or earlier), which would be expected if something other than DACA were driving the results.

7 Discussion

7.1 Summary of Findings

This study finds that DACA eligibility increased full-time employment by approximately 4.6 percentage points among Hispanic-Mexican individuals born in Mexico who arrived in the United States before age 16. This effect is:

- Statistically significant at the 1% level (p ¡ 0.001)
- Robust to alternative specifications and control variables
- Supported by placebo tests showing no pre-trends
- Larger for females than males
- Growing over time in the post-DACA period

7.2 Mechanisms

The positive effect of DACA on full-time employment likely operates through multiple channels:

7.2.1 Legal Work Authorization

The most direct mechanism is that DACA provides legal authorization to work. This enables access to formal employment that was previously unavailable or risky. Many employers require work authorization documentation, and DACA provides the necessary paperwork for recipients to pass employment verification.

7.2.2 Reduced Fear of Deportation

Protection from deportation may reduce fear and encourage greater participation in the formal labor market. Workers who fear deportation may be reluctant to seek stable employment, travel to job sites, or assert their workplace rights. By reducing this fear, DACA may encourage more active job searching and acceptance of employment.

7.2.3 Access to Documentation

Access to Social Security numbers and driver's licenses facilitates employment. Social Security numbers are required for most formal employment, and driver's licenses are often needed for commuting and for jobs that require driving.

7.2.4 Better Job Matching

Legal status may enable better job matching. Without work authorization, individuals may be constrained to informal employment that does not match their skills or preferences. With DACA, recipients can pursue opportunities that better utilize their human capital.

7.3 Interpretation of Effect Size

The 4.6 percentage point effect should be interpreted in context:

- This is an *intent-to-treat* (ITT) effect, comparing all individuals who became eligible for DACA to those who did not. Not all eligible individuals actually applied for or received DACA.
- If we assume approximately 70–80% of eligible individuals applied for DACA, the *treatment on the treated* (TOT) effect would be larger: approximately 5.8–6.6 percentage points (0.046/0.70 to 0.046/0.80).
- The effect is measured relative to a control group that was also affected by economic conditions during this period. The fact that the control group's full-time employment

declined suggests that DACA may have protected recipients from negative economic trends.

7.4 Limitations

Several limitations should be acknowledged:

7.4.1 Identification of Undocumented Status

The ACS does not directly identify undocumented immigrants. I follow the approach of assuming that non-citizens who have not received immigration papers are undocumented, but this likely includes some legal permanent residents or visa holders who would not actually be eligible for DACA. This measurement error likely attenuates the estimated treatment effect toward zero.

7.4.2 Other Eligibility Requirements

I cannot verify all DACA eligibility requirements in the data:

- Continuous physical presence (I proxy with year of immigration)
- Criminal history
- Educational requirements (in school or graduated)

Including individuals who would not actually be eligible for DACA dilutes the treatment group and attenuates the estimated effect.

7.4.3 Age-Based Design

The comparison of age groups may conflate treatment effects with lifecycle effects. For example, individuals in their late 20s may naturally experience different employment patterns than those in their mid-30s due to family formation, career progression, etc. However, the use of the control group should account for general age-related trends that affect both groups similarly.

7.4.4 Sample Composition

The sample is limited to Mexican-born Hispanic-Mexican individuals. While this group comprises the majority of DACA-eligible individuals (approximately 79%), results may not generalize to other origin groups or non-Mexican DACA recipients.

7.4.5 Repeated Cross-Section

The ACS is a repeated cross-section, not a panel. I observe different individuals in each year, which may introduce compositional changes if the characteristics of the observed population change over time. However, the DiD design accounts for time-invariant differences between groups.

7.5 Comparison to Prior Research

The findings are broadly consistent with prior research on DACA's labor market effects. Several studies have found positive effects of DACA on employment outcomes:

- Studies using similar difference-in-differences designs have found positive effects on employment and labor force participation
- Research has also found effects on educational attainment, particularly high school completion and college enrollment
- Some studies find evidence of wage improvements and shifts from informal to formal employment

The magnitude of the estimated effect (4.6 percentage points) falls within the range of estimates in the existing literature, though direct comparisons are complicated by differences in sample definitions, outcome measures, and time periods.

8 Conclusion

This study provides evidence that DACA eligibility increased full-time employment among Hispanic-Mexican individuals born in Mexico. Using a difference-in-differences design that exploits the age-based eligibility cutoff, I estimate that DACA increased the probability of full-time employment by approximately 4.6 percentage points (95% CI: 2.5 to 6.7 percentage points).

The results are robust to:

- Alternative specifications with different control variables and fixed effects
- Narrower age bandwidths around the eligibility cutoff
- Placebo tests that show no differential pre-trends
- Event study analysis that shows effects emerging only after DACA implementation

These findings suggest that providing legal work authorization and deportation relief to undocumented immigrants who arrived as children can have substantial positive effects on their labor market outcomes. The policy implications depend on normative considerations beyond the scope of this empirical analysis, but the evidence indicates that DACA achieved one of its stated goals: improving economic opportunities for eligible individuals.

The growing effect over time (reaching 6.9 percentage points by 2016) suggests that the benefits of DACA may accumulate as recipients gain work experience and establish themselves in the formal labor market. Future research could examine longer-term effects and whether these gains persist if the program is modified or terminated.

A Variable Definitions

Table 10: Complete IPUMS Variable Definitions

Variable	IPUMS Name	Definition
Year	YEAR	Census year
Sample	SAMPLE	IPUMS sample identifier
Serial	SERIAL	Household serial number
Person weight	PERWT	Person-level weight for producing representative estimates
State	STATEFIP	State FIPS code (01-56)
Age	AGE	Age in years at time of survey
Birth year	BIRTHYR	Year of birth
Birth quarter	BIRTHQTR	Quarter of birth (1=Jan-Mar, 2=Apr-Jun, 3=Jul-Sep, 4=Oct-Dec)
Sex	SEX	Sex (1=Male, 2=Female)
Marital status	MARST	Marital status (1=Married spouse present, 2=Married spouse absent, 3=Separated, 4=Divorced, 5=Widowed, 6=Never married)
Number of children	NCHILD	Number of own children in household
Family size	FAMSIZE	Number of own family members in household
Hispanic origin	HISPAN	Hispanic origin (0=Not Hispanic, 1=Mexican, 2=Puerto Rican, 3=Cuban, 4=Other)
Hispanic detailed	HISPAND	Detailed Hispanic origin codes
Race	RACE	Race (general version)
Birthplace	BPL	Birthplace (general version; 200=Mexico)
Birthplace detailed	BPLD	Birthplace (detailed version)
Citizenship	CITIZEN	Citizenship status (0=N/A, 1=Born abroad of American parents, 2=Naturalized citizen, 3=Not a citizen)
Year of immigration	YRIMMIG	Year of immigration to US

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Table 10 – *Continued from previous page*

Variable	IPUMS Name	Definition
Years in USA	YRSUSA1	Years in the United States
Education	EDUC	Educational attainment (general: 0-11 scale)
Education detailed	EDUCD	Educational attainment (detailed codes)
Employment status	EMPSTAT	Employment status (1=Employed, 2=Unemployed, 3=Not in labor force)
Employment detailed	EMPSTATD	Employment status (detailed codes)
Labor force	LABFORCE	Labor force status (0=N/A, 1=Not in labor force, 2=In labor force)
Hours worked	UHRSWORK	Usual hours worked per week
Class of worker	CLASSWKR	Class of worker (1=Self-employed, 2=Works for wages)
Occupation	OCC	Occupation code
Industry	IND	Industry code

B Additional Results

B.1 Full Regression Output: Preferred Specification

Table 11: Full Regression Results: Model 4 (Preferred Specification)

Variable	Coefficient	Robust SE
Treat × Post	0.0461***	(0.0107)
Treat (ages 26–30)	-0.0457***	(0.0065)
Female	-0.3721***	(0.0053)
Married	0.0018	(0.0056)
HS or more	0.0595***	(0.0051)
Number of children	-0.0047**	(0.0020)
Constant	0.8012***	(0.0116)
Year fixed effects	Yes (9 dummies)	
State fixed effects	Yes (50 dummies)	
Observations	43,238	
R-squared	0.177	

* p¡0.1, ** p¡0.05, *** p¡0.01

B.2 Sample Sizes by Year

Table 12: Sample Size by Year and Group

Year	Treatment	Control	Total
2006	3,077	2,119	5,196
2007	2,964	2,006	4,970
2008	2,702	1,875	4,577
2009	2,671	1,808	4,479
2010	2,774	1,848	4,622
2011	2,914	1,619	4,533
2012	*Excluded*	*Excluded*	*Excluded*
2013	2,443	1,551	3,994
2014	2,324	1,535	3,859
2015	2,189	1,391	3,580
2016	2,144	1,284	3,428
Total (excl. 2012)	25,470	17,768	43,238

B.3 State Distribution

Table 13: Top 10 States by Sample Size

State	N	% of Sample
California	15,821	36.6%
Texas	9,142	21.1%
Illinois	2,891	6.7%
Arizona	2,187	5.1%
Florida	1,498	3.5%
Georgia	1,287	3.0%
North Carolina	1,156	2.7%
New York	1,089	2.5%
Colorado	988	2.3%
Washington	876	2.0%
Other states	6,303	14.6%
Total	43,238	100.0%

C Sensitivity Analyses

C.1 Alternative Outcome Definitions

Table 14: Sensitivity to Alternative Outcome Definitions

Outcome	DiD Estimate	SE	N
Full-time (35+ hours)	0.0461***	(0.0107)	43,238
Full-time (40+ hours)	0.0389***	(0.0106)	43,238
Employed (any hours ¿ 0)	0.0302***	(0.0096)	43,238
In labor force	0.0198**	(0.0088)	43,238

* p¡0.1, ** p¡0.05, *** p¡0.01

The positive effect is consistent across alternative outcome definitions, with the largest effect on full-time employment (35+ hours) and smaller but still positive effects on employment and labor force participation.

D Replication Code

All analyses were conducted using Python 3.14 with the following packages:

- pandas 2.3.3
- numpy 2.3.5
- statsmodels 0.14.6
- scipy 1.16.3

The analysis code is available in the file `analysis.py` in the replication package.

E Data Availability

The analysis uses data from the American Community Survey (ACS) provided by IPUMS USA. The specific samples used are:

- 2006 ACS (Sample 200601)
- 2007 ACS (Sample 200701)
- 2008 ACS (Sample 200801)

- 2009 ACS (Sample 200901)
- 2010 ACS (Sample 201001)
- 2011 ACS (Sample 201101)
- 2012 ACS (Sample 201201) – excluded from analysis
- 2013 ACS (Sample 201301)
- 2014 ACS (Sample 201401)
- 2015 ACS (Sample 201501)
- 2016 ACS (Sample 201601)

Data can be obtained from https://usa.ipums.org/.