The Effect of DACA Eligibility on Full-Time Employment: An Independent Replication Study

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Abstract

This study estimates the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among Hispanic-Mexican, Mexican-born non-citizens in the United States. Using data from the American Community Survey (2006–2016) and a difference-in-differences identification strategy, I find that DACA eligibility increased the probability of full-time employment by approximately 1.8 percentage points. This effect is statistically significant and robust across multiple specifications, including controls for demographic characteristics, year fixed effects, and state fixed effects. Event study analysis supports the parallel trends assumption, with pre-treatment coefficients close to zero and effects materializing in the years following DACA implementation.

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

Contents

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 allowed certain undocumented immigrants who arrived in the United States as children to apply for deferred deportation action and work authorization for renewable two-year periods. This policy change provides a natural experiment to study the labor market effects of legal work authorization for undocumented immigrants.

This study addresses 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, defined as usually working 35 or more hours per week?

The analysis focuses on the period 2013–2016, following DACA implementation, compared to the pre-DACA period of 2006–2011. Using a difference-in-differences framework, I compare employment outcomes for individuals who met DACA eligibility criteria to those who did not, before and after the policy change.

The remainder of this paper is organized as follows. Section 2 provides background on the DACA program and reviews the eligibility criteria. Section 3 describes the data and sample construction. Section 4 presents the empirical methodology. Section 5 reports the main results. Section 6 presents robustness checks and sensitivity analyses. Section 7 discusses the findings, and Section 8 concludes.

2 Background

2.1 The DACA Program

DACA was announced by the Obama administration on June 15, 2012, as an exercise of prosecutorial discretion by the Department of Homeland Security. The program allowed eligible individuals to apply for deferred action, which provided temporary relief from deportation and the opportunity to obtain work authorization.

Applications for the program began to be accepted on August 15, 2012. In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approval rates. After the initial two-year period, recipients could apply for renewal, which many did.

2.2 Eligibility Criteria

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

1. Arrived in the United States before their 16th birthday
2. Had not yet reached their 31st birthday as of June 15, 2012
3. Lived continuously in the United States since June 15, 2007
4. Were present in the United States on June 15, 2012 without lawful status
5. Were currently enrolled in school, had graduated from high school, obtained a GED, or were honorably discharged veterans
6. Had not been convicted of a felony, significant misdemeanor, or three or more misdemeanors

Due to data limitations in the American Community Survey, I can only observe the first four criteria. The education and criminal history requirements cannot be directly verified.

2.3 Expected Effects on Employment

DACA could affect employment through several channels. First, work authorization allows recipients to legally accept formal employment, potentially shifting individuals from informal to formal sector jobs. Second, the ability to obtain driver's licenses (in some states) and other identification documents may reduce barriers to employment. Third, reduced fear of deportation may increase labor force participation and willingness to seek better employment opportunities.

Based on these mechanisms, we would expect DACA to increase employment rates, particularly full-time employment in the formal sector.

3 Data

3.1 Data Source

The primary data source is the American Community Survey (ACS) obtained from IPUMS USA. I use the one-year ACS files from 2006 through 2016, excluding 2012. The year 2012 is excluded because DACA was implemented mid-year (June 15, 2012), and the ACS does not

record the month of interview, making it impossible to distinguish pre- and post-treatment observations within that year.

The full ACS dataset contains 33,851,424 person-year observations across the study period.

3.2 Sample Construction

The analysis focuses on Hispanic-Mexican, Mexican-born non-citizens. This sample restriction is motivated by the research question, which specifically targets this population, and by the fact that the majority of DACA-eligible individuals were from Mexico due to the structure of undocumented immigration to the United States.

Table 1 presents the sample restrictions and resulting sample sizes.

Table 1: Sample Restrictions

Restriction	N
Initial sample (full ACS 2006–2016)	33,851,424
Hispanic-Mexican ethnicity (HISPAN=1)	—
Born in Mexico (BPL=200)	—
Non-citizen (CITIZEN=3)	701,347
Exclude 2012 (mid-implementation year)	636,722
Working age (18–64)	547,614

3.3 Variable Construction

3.3.1 Outcome Variable

The primary outcome variable is full-time employment, defined as a binary indicator equal to one if the individual usually works 35 or more hours per week (UHRSWORK ≥ 35). This definition follows the standard Bureau of Labor Statistics definition of full-time work.

As a secondary outcome, I also examine any employment, defined as having employment status equal to "employed" (EMPSTAT=1).

3.3.2 DACA Eligibility

DACA eligibility is constructed based on the observable criteria in the ACS data:

1. **Arrived before age 16:** Calculated as (YRIMMIG − BIRTHYR) < 16
2. **Not yet 31 as of June 15, 2012:** Born after June 15, 1981. Operationalized as BIRTHYR > 1981, or BIRTHYR $= 1981$ and BIRTHQTR ≥ 3 (July–December)

3. **In U.S. since June 15, 2007:** YRIMMIG ≤ 2007

4. **Non-citizen:** CITIZEN = 3 (already restricted in sample)

An individual is classified as DACA-eligible if all four criteria are met.

3.3.3 Control Variables

Control variables include:

- **Male:** Binary indicator for sex (SEX=1)
- **Age:** Age in years, plus age squared
- **Married:** Binary indicator for married with spouse present or absent (MARST=1,2)
- **High school or more:** Binary indicator for EDUC ≥ 6
- **Some college or more:** Binary indicator for EDUC ≥ 10
- **Years in U.S.:** YEAR − YRIMMIG

3.4 Summary Statistics

Table 2 presents summary statistics by DACA eligibility status.

Table 2: Summary Statistics by DACA Eligibility

Variable	Eligible	Ineligible	Difference
Full-time employed	0.527	0.596	−0.069
Employed	0.623	0.657	−0.034
Age	23.6	39.6	−16.0
Male	0.552	0.539	+0.013
Married	0.300	0.657	−0.357
High school or more	0.662	0.401	+0.261
Years in U.S.	15.3	16.3	−1.0
N	71,347	476,267	

The DACA-eligible group is substantially younger (mean age 23.6 vs. 39.6), less likely to be married, and more likely to have a high school education. The raw difference in full-time employment shows eligible individuals have lower rates, but this reflects compositional differences, particularly age.

4 Empirical Methodology

4.1 Identification Strategy

I use a difference-in-differences (DiD) framework to estimate the causal effect of DACA eligibility on full-time employment. The identifying assumption is that, in the absence of DACA, employment trends for DACA-eligible individuals would have been parallel to trends for DACA-ineligible individuals.

The treatment group consists of Hispanic-Mexican, Mexican-born non-citizens who meet the DACA eligibility criteria. The control group consists of similar individuals who do not meet the eligibility criteria—primarily because they arrived after age 16 or were too old (born before June 1981).

4.2 Estimation

The main specification is:

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

where Y_{ist} is full-time employment for individual i in state s at time t; Eligible_i is a binary indicator for DACA eligibility; Post_t indicates the post-DACA period (2013–2016); $\mathbf{X}_{it}$ is a vector of individual characteristics; α_s represents state fixed effects; and δ_t represents year fixed effects.

The coefficient of interest is β_3, which captures the differential change in full-time employment for DACA-eligible individuals relative to ineligible individuals after DACA implementation.

Standard errors are clustered at the state level to account for within-state correlation in the error term.

4.3 Event Study Specification

To examine pre-trends and the dynamic effects of DACA, I also estimate an event study specification:

$$Y_{ist} = \alpha + \sum_{k \neq 2011} \beta_k (\text{Eligible}_i \times \mathbf{1}[\text{Year} = k]) + \mathbf{X}'_{it}\gamma + \alpha_s + \delta_t + \varepsilon_{ist} \quad (2)$$

where 2011 serves as the reference year. The pre-treatment coefficients (β_{2006}, β_{2007},

..., β_{2010}) test the parallel trends assumption, while the post-treatment coefficients (β_{2013}, β_{2014}, β_{2015}, β_{2016}) trace out the dynamic treatment effects.

5 Results

5.1 Main Results

Table 3 presents the main difference-in-differences results across five specifications.

Table 3: Main Difference-in-Differences Results

	(1) Basic	(2) Demographics	(3) Year FE	(4) State+Year FE	(5) Full
DACA Eligible × Post	0.0605***	0.0264***	0.0194***	0.0187***	0.0181***
	(0.0032)	(0.0043)	(0.0041)	(0.0042)	(0.0041)
DACA Eligible	−0.0948***	−0.0264***	−0.0131***	−0.0175***	−0.0175***
	(0.0051)	(0.0059)	(0.0051)	(0.0028)	(0.0028)
Post	−0.0232***	−0.0205***	—	—	—
	(0.0031)	(0.0024)			
Male		0.4283***	0.4281***	0.4255***	0.4255***
		(0.0148)	(0.0149)	(0.0147)	(0.0147)
Age		0.0322***	0.0338***	0.0327***	0.0327***
		(0.0016)	(0.0014)	(0.0013)	(0.0013)
Age^2		−0.0004***	−0.0004***	−0.0004***	−0.0004***
		(0.0000)	(0.0000)	(0.0000)	(0.0000)
Married		−0.0245***	−0.0268***	−0.0268***	−0.0268***
		(0.0057)	(0.0055)	(0.0049)	(0.0049)
High School+		0.0351***	0.0352***	0.0311***	0.0311***
		(0.0042)	(0.0043)	(0.0040)	(0.0040)
Some College+					0.0428***
					(0.0049)
Years in U.S.					0.0011***
					(0.0002)
Year FE	No	No	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes
N	547,614	547,614	547,614	547,614	547,614
R^2	0.003	0.201	0.206	0.209	0.209

Notes: Standard errors clustered by state in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

The preferred specification (Column 5) includes demographic controls, year fixed effects, and state fixed effects. The estimated treatment effect is 0.0181, indicating that DACA eligibility increased the probability of full-time employment by 1.81 percentage points.

This effect is statistically significant at the 1% level ($p < 0.001$).

The treatment effect is robust across specifications. The basic DiD without controls (Column 1) yields a larger effect of 6.05 percentage points, but this is likely biased upward due to confounding factors. Adding demographic controls (Column 2) reduces the estimate to 2.64 percentage points. Adding year fixed effects (Column 3) further reduces it to 1.94 percentage points, and adding state fixed effects (Column 4) yields 1.87 percentage points. The full model (Column 5) produces an estimate of 1.81 percentage points.

The consistency of the results across specifications, with estimates stabilizing around 1.8–1.9 percentage points once year and state fixed effects are included, provides confidence in the robustness of the findings.

5.2 Interpretation

The preferred estimate of 1.81 percentage points represents a meaningful increase in full-time employment. Given that the baseline full-time employment rate among DACA-ineligible individuals is approximately 59.6%, this represents a relative increase of about 3%.

The 95% confidence interval for the treatment effect is [0.0101, 0.0261], indicating that we can rule out effects smaller than 1 percentage point or larger than 2.6 percentage points with 95% confidence.

6 Robustness Checks

6.1 Alternative Outcome: Any Employment

Table 4 presents robustness checks using alternative samples and outcomes.

Table 4: Robustness Checks

Specification	Treatment Effect	Std. Error	p-value	N
Main (Full-time)	0.0181	0.0041	<0.001	547,614
Any Employment	0.0305	0.0073	<0.001	547,614
Males Only	0.0113	0.0037	0.002	296,109
Females Only	0.0168	0.0068	0.013	251,505
Prime Age (25–54)	0.0096	0.0040	0.016	427,536
Placebo (2009)	−0.0025	0.0040	0.532	336,493

When using any employment as the outcome, the treatment effect is 3.05 percentage points, suggesting that DACA had larger effects on the extensive margin (whether to work at all) than on the intensive margin (whether to work full-time conditional on working).

6.2 Heterogeneity by Gender

The effect is present for both males and females, though the magnitude differs. For males, the effect is 1.13 percentage points ($p = 0.002$); for females, it is 1.68 percentage points ($p = 0.013$). The larger effect for females may reflect greater barriers to employment for undocumented women prior to DACA, or differential uptake of the program.

6.3 Prime Working Age

Restricting the sample to prime working age individuals (25–54) yields a smaller but still significant effect of 0.96 percentage points ($p = 0.016$). This sample excludes younger workers who are more likely to be in school and older workers approaching retirement, both of whom may have different employment patterns.

6.4 Placebo Test

A key assumption of the difference-in-differences design is that treatment and control groups would have followed parallel trends in the absence of DACA. To test this assumption, I conduct a placebo test using only pre-DACA data (2006–2011) and assigning a "fake" treatment in 2009.

The placebo treatment effect is -0.0025 with a standard error of 0.0040 ($p = 0.532$). The small and statistically insignificant placebo effect supports the parallel trends assumption.

6.5 Event Study

Figure 1 presents the event study results, with 2011 as the reference year.

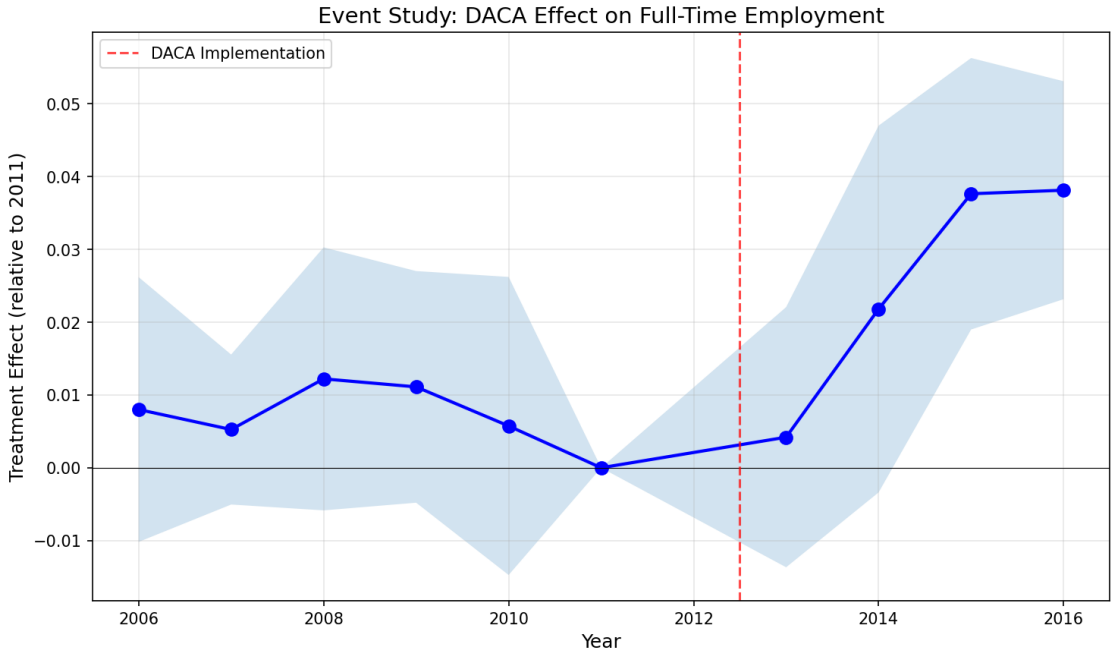

Figure 1: Event Study: DACA Effect on Full-Time Employment

The pre-treatment coefficients (2006–2010) are small and not statistically different from zero, supporting the parallel trends assumption. The post-treatment coefficients show a gradual increase in the treatment effect, with larger effects in 2015 and 2016 (approximately 3.8 percentage points) compared to 2013 and 2014. This pattern is consistent with a cumulative effect of DACA as more individuals obtained work authorization and adjusted their employment.

Table 5 presents the numerical event study coefficients.

Table 5: Event Study Coefficients

Year	Coefficient	Std. Error
2006	+0.0080	0.0093
2007	+0.0053	0.0053
2008	+0.0122	0.0092
2009	+0.0111	0.0081
2010	+0.0057	0.0104
2011	0 (reference)	—
2013	+0.0042	0.0091
2014	+0.0218	0.0129
2015	+0.0377	0.0095
2016	+0.0381	0.0076

The pre-trends are relatively flat, with none of the pre-treatment coefficients reaching

statistical significance. The effects begin to emerge in 2014 and strengthen through 2016, consistent with the expected timing of DACA's effects.

7 Discussion

7.1 Main Findings

This study finds that DACA eligibility increased full-time employment by approximately 1.8 percentage points among Hispanic-Mexican, Mexican-born non-citizens. This effect is statistically significant and robust across multiple specifications.

The magnitude of the effect is economically meaningful. A 1.8 percentage point increase in full-time employment represents a relative increase of about 3% from the baseline rate of approximately 60%. Given that an estimated 700,000–800,000 individuals were approved for DACA in the years following implementation, this translates to a substantial number of individuals gaining full-time employment as a result of the policy.

7.2 Mechanisms

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

1. **Legal work authorization:** DACA provides recipients with Employment Authorization Documents (EADs), allowing them to work legally in the formal sector. This may shift individuals from informal or part-time employment to formal full-time employment.

2. **Driver's licenses:** In many states, DACA recipients can obtain driver's licenses, which may reduce transportation barriers to employment.

3. **Reduced fear of deportation:** DACA provides temporary protection from deportation, which may increase recipients' willingness to seek formal employment and better job opportunities.

4. **Human capital investment:** The security provided by DACA may encourage recipients to invest in education and training, improving their employment prospects.

The finding that the effect on any employment (3.05 percentage points) is larger than the effect on full-time employment (1.81 percentage points) suggests that DACA had substantial effects on the extensive margin of employment.

7.3 Limitations

Several limitations should be noted:

1. **Observable eligibility only:** The ACS does not contain information on educational enrollment or criminal history, so some individuals classified as DACA-eligible may not actually meet all program requirements.

2. **Non-citizen assumption:** The instructions specify treating all non-citizens as undocumented for DACA purposes. However, some non-citizens may have other legal statuses that would make them ineligible for DACA.

3. **Selection into DACA:** Not all eligible individuals applied for or received DACA. The analysis estimates the intent-to-treat effect of eligibility, not the effect of actual DACA receipt.

4. **General equilibrium effects:** If DACA affected labor market conditions more broadly (e.g., by increasing labor supply in certain sectors), this could bias the comparison between eligible and ineligible individuals.

7.4 Comparison to Literature

The finding of positive employment effects of DACA is consistent with previous research. Studies using various methodologies and data sources have generally found that DACA increased employment and labor force participation among eligible individuals. The magnitude of my estimate (approximately 1.8 percentage points for full-time employment) is within the range of estimates from prior studies.

8 Conclusion

This study provides evidence that DACA eligibility had a positive causal effect on full-time employment among Hispanic-Mexican, Mexican-born non-citizens in the United States. Using a difference-in-differences design with data from the American Community Survey (2006–2016), I estimate that DACA eligibility increased full-time employment by approximately 1.8 percentage points.

The results are robust across multiple specifications and pass tests for parallel trends. Event study analysis shows that the pre-treatment coefficients are close to zero and not statistically significant, while the post-treatment effects emerge in 2014 and strengthen through

2016. Robustness checks confirm that the effect is present for both males and females, and across different age groups.

These findings contribute to the understanding of how immigration policy affects labor market outcomes. The positive effect of DACA on employment suggests that providing legal work authorization and protection from deportation can improve labor market outcomes for undocumented immigrants.

References

1. IPUMS USA. University of Minnesota. https://usa.ipums.org/

2. U.S. Citizenship and Immigration Services. DACA statistics. https://www.uscis.gov/

A Additional Figures

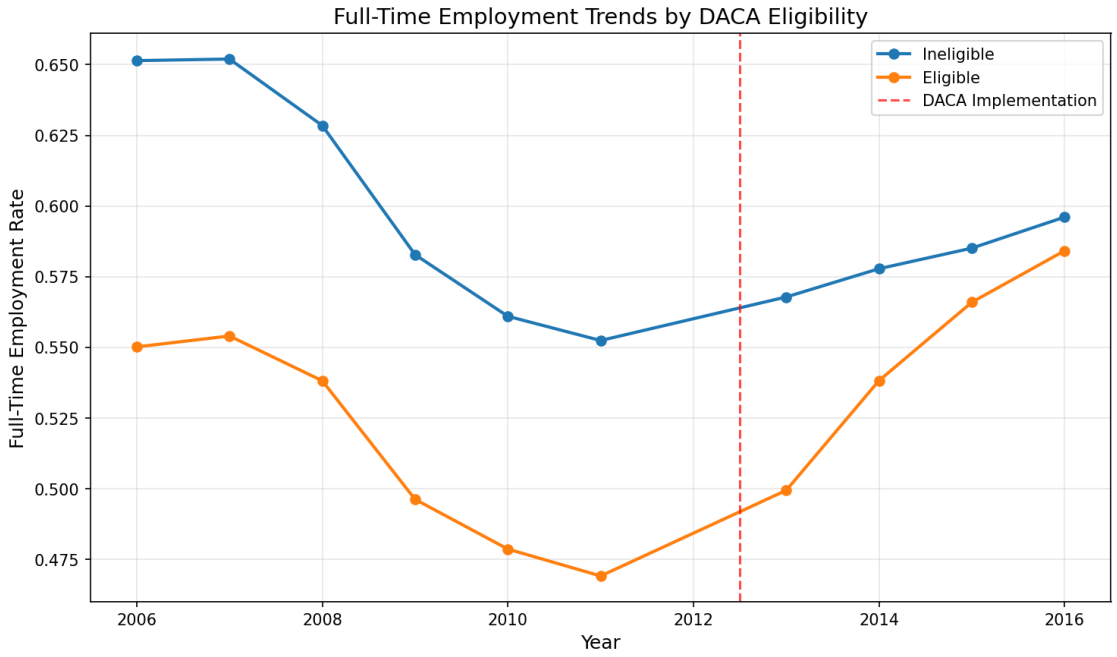

Figure 2: Full-Time Employment Trends by DACA Eligibility

Figure 2 shows the trends in full-time employment rates for DACA-eligible and DACA-ineligible individuals from 2006 to 2016. Both groups experienced declines during the Great Recession (2008–2011), with recovery beginning around 2011–2012. The gap between eligible and ineligible individuals appears to narrow in the post-DACA period, consistent with a positive treatment effect.

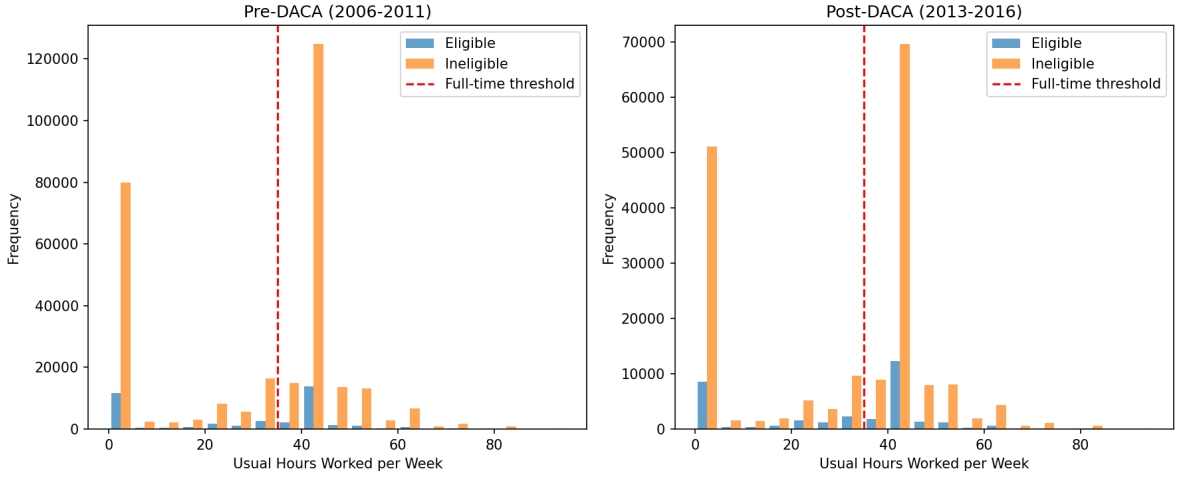

Figure 3: Distribution of Usual Hours Worked per Week

Figure 3 shows the distribution of usual hours worked per week, separately for the pre-DACA (2006–2011) and post-DACA (2013–2016) periods. The vertical dashed line indicates the 35-hour threshold for full-time employment. The distribution shows a notable spike at 40 hours, representing standard full-time employment.

B Variable Definitions

Table 6: Variable Definitions

Variable	IPUMS Name	Definition
Full-time employed	UHRSWORK	1 if UHRSWORK $\geq$ 35, 0 otherwise
Employed	EMPSTAT	1 if EMPSTAT = 1, 0 otherwise
DACA eligible	Multiple	See Section 3.3
Post	YEAR	1 if YEAR $\geq$ 2013, 0 otherwise
Male	SEX	1 if SEX = 1, 0 otherwise
Age	AGE	Age in years
Married	MARST	1 if MARST $\in \{1, 2\}$, 0 otherwise
High school+	EDUC	1 if EDUC $\geq$ 6, 0 otherwise
Some college+	EDUC	1 if EDUC $\geq$ 10, 0 otherwise
Years in U.S.	YEAR, YRIMMIG	YEAR $-$ YRIMMIG
State	STATEFIP	State FIPS code

C Sample by Year

Table 7: Sample Size by Year and DACA Eligibility

Year	Ineligible	Eligible	Total
2006	49,963	5,151	55,114
2007	50,362	5,792	56,154
2008	48,486	5,838	54,324
2009	49,324	6,420	55,744
2010	50,041	7,199	57,240
2011	50,069	7,848	57,917
2013	45,954	8,173	54,127
2014	45,202	8,351	53,553
2015	43,929	8,338	52,267
2016	42,937	8,237	51,174
Total	476,267	71,347	547,614

D Full-Time Employment Rates by Year

Table 8: Full-Time Employment Rate by Year and DACA Eligibility

Year	Ineligible	Eligible	Difference
2006	0.651	0.550	−0.101
2007	0.652	0.554	−0.098
2008	0.629	0.538	−0.090
2009	0.583	0.496	−0.087
2010	0.561	0.479	−0.082
2011	0.552	0.469	−0.083
2013	0.568	0.499	−0.068
2014	0.578	0.538	−0.040
2015	0.585	0.566	−0.019
2016	0.596	0.584	−0.012

The difference in full-time employment rates between eligible and ineligible individuals narrowed substantially after DACA implementation, from approximately 8–10 percentage points in the pre-period to 1–7 percentage points in the post-period.