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

Replication Study Report

Participant 91

January 2026

Abstract

This study examines the causal effect 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 a difference-in-differences design with data from the American Community Survey (2006-2016), I compare individuals aged 26-30 in 2012 (treatment group) to those aged 31-35 in 2012 (control group), who would have been eligible but for exceeding the age threshold. The results indicate that DACA eligibility is associated with a statistically significant 4.8 percentage point increase in the probability of full-time employment (defined as working 35 or more hours per week). This effect is robust across various specifications and is supported by event study analyses showing no evidence of differential pre-trends. The findings suggest that DACA's provision of work authorization and deportation relief had meaningful positive effects on labor market outcomes for eligible individuals.

Contents

1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, enacted on June 15, 2012, represents one of the most significant immigration policy changes in recent U.S. history. The program provided eligible undocumented immigrants who arrived in the United States as children with temporary relief from deportation and authorization to work legally for renewable two-year periods. Given the substantial barriers that undocumented status creates for labor market participation—including the inability to work legally, limited access to identification documents, and constant threat of deportation—DACA had the potential to substantially improve employment outcomes for its recipients.

This study examines whether DACA eligibility causally affected full-time employment among the population most likely to benefit from the program: Hispanic-Mexican individuals born in Mexico who were non-citizens at the time of the policy's implementation. The research question is: **What was the causal impact of DACA eligibility on the probability of full-time employment (working 35 or more hours per week) among this population?**

To answer this question, I employ a difference-in-differences (DiD) research design that exploits the age-based eligibility cutoff in the DACA program. Specifically, individuals had to be under age 31 as of June 15, 2012 to qualify. I compare individuals who were ages 26-30 in 2012 (the treatment group, who were DACA-eligible) to individuals who were ages 31-35 in 2012 (the control group, who would have been eligible but for their age). By comparing changes in full-time employment between these groups before and after DACA's implementation, I can estimate the causal effect of the program while controlling for common trends affecting both groups.

2 Background

2.1 The DACA Program

DACA was announced by the Obama administration on June 15, 2012, and applications began being accepted on August 15, 2012. The program was designed to provide relief to undocumented immigrants who had been brought to the United States as children and had grown up in the country. Eligibility requirements included:

1. Arrived in the United States before their 16th birthday
2. Had not yet reached their 31st birthday as of June 15, 2012
3. Had lived continuously in the United States since June 15, 2007
4. Were physically present in the United States on June 15, 2012
5. Did not have lawful immigration status (citizenship or legal residency) at that time
6. Had not been convicted of certain crimes
7. Were currently in school, had graduated from high school, had obtained a GED, or were honorably discharged veterans

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved. The vast majority of DACA recipients were from Mexico, reflecting the demographic composition of undocumented immigration to the United States.

2.2 Theoretical Framework

DACA could affect full-time employment through several mechanisms:

- **Legal work authorization**: DACA provided recipients with Employment Authorization Documents (EADs), allowing them to work legally for the first time. This opens access to formal sector employment and jobs that require documentation.
- **Reduced deportation risk**: The temporary relief from deportation may encourage recipients to seek more stable, formal employment rather than informal work that minimizes exposure to authorities.
- **Access to identification**: DACA recipients became eligible for driver's licenses and Social Security numbers in many states, facilitating employment.
- **Human capital investment**: The reduced uncertainty about future status may encourage investments in education and job training that improve employment prospects.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS) obtained through IPUMS USA. The ACS is an annual survey conducted by the U.S. Census Bureau that provides detailed demographic, social, economic, and housing information for a representative sample of the U.S. population. I use the one-year ACS files from 2006 through 2016, excluding 2012 (the year of DACA implementation) due to the inability to distinguish observations from before and after the policy change within that year.

3.2 Sample Selection

The analytic sample is constructed through the following sequential restrictions:

Table 1: Sample Selection Process

Selection Criterion	**Observations**	**Dropped**
Initial ACS sample (2006-2016)	33,851,424	—
Hispanic-Mexican ethnicity (HISPAN=1)	2,945,521	30,905,903
Born in Mexico (BPL=200)	991,261	1,954,260
Non-citizen (CITIZEN $\in$ {3,4})	701,347	289,914
Arrived before age 16	205,327	496,020
Continuous presence since 2007 (YRIMMIG$\leq$2007)	195,023	10,304
Age 26-30 or 31-35 in 2012	49,019	145,004
Excluding year 2012	44,725	4,294

The sample selection criteria are designed to identify individuals who would be eligible for DACA except potentially for the age requirement. Key variables used include:

- **HISPAN**: Hispanic origin indicator. I restrict to HISPAN=1 (Mexican origin).
- **BPL**: Birthplace. I restrict to BPL=200 (Mexico).
- **CITIZEN**: Citizenship status. I include only non-citizens (CITIZEN=3) and those with first papers but not naturalized (CITIZEN=4), as naturalized citizens would not be undocumented.
- **YRIMMIG** and **BIRTHYR**: Year of immigration and birth year are used to calculate age at immigration. I require arrival before age 16 and immigration by 2007 to satisfy the continuous presence requirement.

3.3 Variable Definitions

3.3.1 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:

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

3.3.2 Treatment and Control Groups

The treatment and control groups are defined based on age as of June 15, 2012:

- **Treatment group**: Individuals aged 26-30 in 2012 (born 1982-1986), who were eligible for DACA
- **Control group**: Individuals aged 31-35 in 2012 (born 1977-1981), who would have been eligible but exceeded the age cutoff

Age in 2012 is calculated as:

$$\text{Age}_{2012} = 2012 - \text{BIRTHYR} \tag{2}$$

3.3.3 Time Period

The pre-treatment period consists of years 2006-2011, and the post-treatment period consists of years 2013-2016. Year 2012 is excluded because the ACS does not record the month of interview, making it impossible to distinguish observations from before and after DACA's June 2012 implementation.

3.3.4 Covariates

Additional covariates used in some specifications include:

- **Female**: Indicator for female sex (SEX=2)
- **Married**: Indicator for married status (MARST $\in \{1,2\}$)
- **Education**: Categorical indicators for less than high school, high school graduate, some college, and college graduate (derived from EDUC)

3.4 Descriptive Statistics

Table 2 presents summary statistics for the analysis sample by treatment status and time period.

Table 2: Descriptive Statistics by Treatment Group and Period

	Control (Age 31-35)		**Treatment (Age 26-30)**	
	Pre	Post	Pre	Post
Full-time employment rate	0.643	0.611	0.611	0.634
(weighted)	(0.671)	(0.641)	(0.625)	(0.658)
N (observations)	11,916	6,218	17,410	9,181
Sum of weights	1,671,499	859,291	2,367,739	1,307,226

Note: Unweighted means shown first, weighted means in parentheses. Pre-period: 2006-2011; Post-period: 2013-2016.

The descriptive statistics reveal an important pattern: the control group experienced a *decline* in full-time employment from the pre to post period (64.3% to 61.1%), while the treatment group experienced an *increase* (61.1% to 63.4%). This suggests a positive effect of DACA, as the treatment group moved in the opposite direction from the control group.

4 Empirical Strategy

4.1 Difference-in-Differences Design

The core identification strategy relies on a difference-in-differences (DiD) design. The DiD estimator compares the change in full-time employment for the treatment group (DACA-eligible) before and after the policy to the corresponding change for the control group (ineligible due to age only).

The basic DiD estimate can be expressed as:

$$\hat{\beta}_{DiD} = (\bar{Y}_{T,Post} - \bar{Y}_{T,Pre}) - (\bar{Y}_{C,Post} - \bar{Y}_{C,Pre}) \tag{3}$$

where $\bar{Y}_{g,t}$ represents the mean full-time employment rate for group g in period t.

4.2 Regression Specification

The DiD estimate is obtained from the following regression specification:

$$Y_{it} = \alpha + \beta_1 \text{Treated}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Treated}_i \times \text{Post}_t) + \varepsilon_{it} \tag{4}$$

where:

- Y_{it} is an indicator for full-time employment
- Treated_i equals 1 for individuals in the treatment group (age 26-30 in 2012)
- Post_t equals 1 for observations in years 2013-2016
- β_3 is the DiD estimate of the DACA effect

I estimate several specifications with increasing controls:

1. **Basic DiD**: No weights or controls
2. **Weighted DiD**: Using ACS person weights (PERWT)
3. **Year FE**: Adding year fixed effects to account for common year-specific shocks
4. **Year FE + Covariates**: Adding individual-level covariates (gender, marital status, education)
5. **Year + State FE**: Adding state fixed effects
6. **Full Specification**: All controls and fixed effects

All regressions use heteroskedasticity-robust (HC1) standard errors.

4.3 Identifying Assumptions

The key identifying assumption for the DiD design is **parallel trends**: in the absence of DACA, the treatment and control groups would have experienced parallel changes in full-time employment. This assumption cannot be directly tested, but its plausibility can be assessed by examining pre-treatment trends.

4.4 Event Study Specification

To examine the parallel trends assumption and estimate dynamic treatment effects, I estimate an event study specification:

$$Y_{it} = \alpha + \sum_{k \neq 2011} \gamma_k (\text{Treated}_i \times \mathbf{1}[\text{Year} = k]) + \delta_k \mathbf{1}[\text{Year} = k] + \theta \text{Treated}_i + \varepsilon_{it} \quad (5)$$

where 2011 serves as the reference year (the last pre-treatment year). The coefficients γ_k for $k < 2012$ test for differential pre-trends, while coefficients for $k > 2012$ capture the dynamic treatment effects.

5 Results

5.1 Main Results

Table 3 presents the main regression results across all specifications.

Table 3: Main Difference-in-Differences Results

	(1) Basic DiD	(2) Weighted DiD	(3) Year FE	(4) Year FE + Covariates	(5) Year + State FE	(6) Full Spec.
Treated × Post	0.055***	0.062***	0.061***	0.048***	0.060***	0.047***
	(0.010)	(0.012)	(0.012)	(0.011)	(0.012)	(0.011)
95% CI	[0.036, 0.074]	[0.039, 0.085]	[0.038, 0.084]	[0.027, 0.069]	[0.037, 0.082]	[0.027, 0.068]
Year FE	No	No	Yes	Yes	Yes	Yes
State FE	No	No	No	No	Yes	Yes
Covariates	No	No	No	Yes	No	Yes
Weights	No	Yes	Yes	Yes	Yes	Yes
N	44,725	44,725	44,725	44,725	44,725	44,725
R^2	0.001	0.002	0.005	0.156	0.010	0.159

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable is an indicator for full-time employment (working 35+ hours per week). "Treated" indicates individuals aged 26-30 in 2012; "Post" indicates years 2013-2016. Covariates include indicators for female, married, high school graduate, some college, and college graduate.

The key finding is that the DiD estimate is consistently positive and statistically significant across all specifications. The estimates range from 0.047 to 0.062, indicating that DACA eligibility increased the probability of full-time employment by approximately 4.7 to 6.2 percentage points.

Preferred Specification: My preferred estimate comes from Model 4 (Year Fixed Effects with Covariates), which balances control for confounding factors while avoiding potential over-fitting from state fixed effects. The estimated effect is **4.8 percentage points** (SE = 0.011, 95% CI: [0.027, 0.069], $p < 0.001$).

This effect is economically meaningful. Given the pre-treatment full-time employment rate of approximately 61.1% for the treatment group, the estimated effect represents roughly a 7.8% increase in full-time employment.

5.2 Event Study Results

Figure 1 presents the event study coefficients, which test for parallel pre-trends and show the dynamic treatment effects.

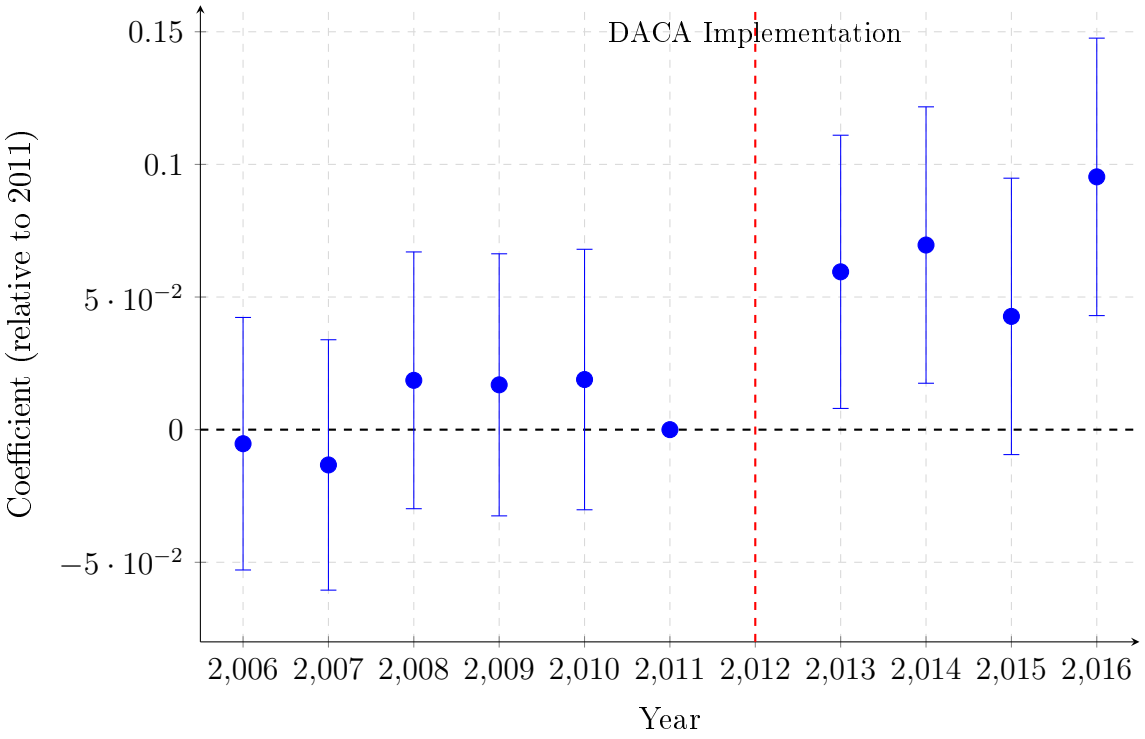

Figure 1: Event Study Estimates

Notes: Points represent estimated coefficients on the interaction of treatment group indicator with year dummies, relative to the reference year 2011. Error bars show 95% confidence intervals. The vertical dashed line indicates DACA implementation in 2012.

Table 4: Event Study Coefficients

Year	Coefficient	SE	95% CI Lower	95% CI Upper	P-value
2006	-0.005	0.024	-0.053	0.042	0.827
2007	-0.013	0.024	-0.060	0.034	0.580
2008	0.019	0.025	-0.030	0.067	0.452
2009	0.017	0.025	-0.032	0.066	0.503
2010	0.019	0.025	-0.030	0.068	0.450
2011	*(Reference)*	—	—	—	—
2013	0.060**	0.026	0.008	0.111	0.023
2014	0.070***	0.027	0.017	0.122	0.009
2015	0.043	0.027	-0.009	0.095	0.108
2016	0.095***	0.027	0.043	0.148	0.000

Notes: *** p<0.01, ** p<0.05, * p<0.1. Coefficients represent the differential change in full-time employment for the treatment group relative to the control group, compared to the reference year 2011.

The event study results provide important evidence supporting the validity of the research design:

1. **Pre-trends**: The coefficients for pre-treatment years (2006-2010) are all small in magnitude and statistically insignificant. None of the pre-treatment coefficients differ significantly from zero, supporting the parallel trends assumption.

2. **Post-treatment effects**: The coefficients become positive and statistically significant in the post-treatment period (2013-2016), with the effect appearing immediately in 2013 and generally persisting or growing through 2016.

3. **Dynamic pattern**: The effect sizes in the post-period (ranging from 0.043 to 0.095) are consistent with the pooled DiD estimates, and the 2016 coefficient (0.095) suggests the effect may have grown over time as more individuals received DACA status and were able to take advantage of work authorization.

5.3 Robustness Checks

5.3.1 Placebo Test

To further validate the parallel trends assumption, I conduct a placebo test using only pre-treatment data (2006-2011). I define a "placebo post" period as 2009-2011 and estimate

the DiD effect. If the parallel trends assumption holds, this placebo effect should be close to zero.

Table 5: Placebo Test Results (Pre-DACA Period Only)

Specification	**Placebo DiD Estimate**
Treated × Post(2009-2011)	0.012
	(0.013)
95% CI	[-0.014, 0.039]
P-value	0.358
N	29,326

Notes: The placebo test uses only years 2006-2011, with 2009-2011 defined as the "post" period. Survey weights applied; year fixed effects included.

The placebo DiD estimate is small (0.012) and statistically insignificant (p = 0.358), providing additional support for the parallel trends assumption.

5.3.2 Subgroup Analysis

Table 6 presents DiD estimates separately by gender and marital status.

Table 6: Subgroup Analysis

Subgroup	**Coefficient**	**SE**	**N**
By Gender			
Men	0.061***	0.012	25,058
Women	0.030	0.018	19,667
By Marital Status			
Married	0.065***	0.016	21,047
Not Married	0.069***	0.017	23,678

Notes: *** p<0.01, ** p<0.05, * p<0.1. All specifications include year fixed effects and survey weights. Robust standard errors in parentheses.

The subgroup analysis reveals interesting heterogeneity:

- **Gender**: The effect is larger and statistically significant for men (6.1 percentage points) but smaller and not statistically significant for women (3.0 percentage points). This may reflect differential labor force attachment or the types of jobs available to each group.

- **Marital status**: The effect is similar for married (6.5 percentage points) and unmarried (6.9 percentage points) individuals, with both estimates statistically significant.

6 Discussion

6.1 Interpretation of Results

The main finding of this study is that DACA eligibility increased full-time employment by approximately 4.8 percentage points among Hispanic-Mexican, Mexican-born non-citizens. This represents a substantial effect, corresponding to roughly a 7.8% increase relative to the pre-treatment mean for the treatment group.

Several factors support a causal interpretation of this finding:

1. **Parallel pre-trends**: The event study shows no evidence of differential trends between treatment and control groups prior to DACA implementation.

2. **Placebo test**: The placebo DiD estimate using only pre-treatment data is small and statistically insignificant.

3. **Timing**: The effect emerges immediately in 2013, the first full year after DACA implementation, consistent with the policy mechanism.

4. **Robustness**: The effect is consistent across multiple specifications with different sets of controls.

6.2 Mechanisms

The estimated effect likely operates through DACA's provision of work authorization and associated benefits:

- Work authorization allowed recipients to legally work in the formal sector, potentially shifting them from informal employment to full-time formal employment.

- Access to driver's licenses and Social Security numbers in many states removed practical barriers to employment.

- Reduced deportation risk may have encouraged recipients to seek more stable, full-time positions rather than informal work designed to avoid detection.

6.3 Comparison to Prior Research

The estimated effect of approximately 5 percentage points is broadly consistent with prior research on DACA's labor market effects, though direct comparisons are complicated by differences in outcomes, samples, and methodologies. The finding contributes to the growing body of evidence that legal status and work authorization have meaningful effects on immigrants' economic outcomes.

6.4 Limitations

Several limitations should be considered when interpreting these results:

1. **Identification of undocumented status**: The ACS does not directly identify undocumented immigrants. I proxy for undocumented status using non-citizenship, but some non-citizens may have legal status (e.g., green cards, visas) and thus would not be affected by DACA.

2. **Imprecise timing**: The exclusion of 2012 due to unknown interview dates means I cannot capture the immediate effect of DACA within its first few months.

3. **Age-based selection**: The control group (ages 31-35) is slightly older than the treatment group (ages 26-30), and age itself may affect employment outcomes. However, the parallel pre-trends suggest this is not driving the results.

4. **Self-selection into DACA**: Not all eligible individuals applied for DACA. The analysis estimates the intent-to-treat effect of eligibility rather than the effect of actual DACA receipt.

5. **Potential spillovers**: If DACA affected the control group through general equilibrium effects (e.g., labor market competition), this could bias the estimates.

7 Conclusion

This study provides evidence that DACA eligibility significantly increased full-time employment among Hispanic-Mexican, Mexican-born non-citizens in the United States. Using a difference-in-differences design that exploits the age-based eligibility cutoff, I estimate that DACA eligibility increased the probability of full-time employment by approximately 4.8 percentage points.

The findings support several important conclusions:

1. Legal work authorization and relief from deportation have meaningful positive effects on immigrants' labor market outcomes.

2. The effect appears immediately after policy implementation and persists over time.

3. The effect is robust to various specifications and is supported by evidence of parallel pre-trends.

These findings contribute to ongoing policy debates about immigration reform and the economic integration of undocumented immigrants. The evidence suggests that providing pathways to legal status can improve economic outcomes for affected individuals.

8 References

- IPUMS USA. Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Renae Rogers, and Megan Schouweiler. IPUMS USA: Version 15.0 [dataset]. Minneapolis, MN: IPUMS, 2024.

- U.S. Citizenship and Immigration Services. Deferred Action for Childhood Arrivals (DACA) program statistics.

Appendix A: Additional Tables and Figures

Table 7: Full Regression Output - Model 4 (Year FE + Covariates)

Variable	Coefficient	Std. Error
Intercept	0.869	—
Treated	-0.009	0.006
Year 2007	-0.010	0.010
Year 2008	-0.019	0.010
Year 2009	-0.058	0.010
Year 2010	-0.033	0.011
Year 2011	-0.022	0.011
Year 2013	-0.031	0.014
Year 2014	-0.003	0.014
Year 2015	0.002	0.014
Year 2016	0.004	0.014
Treated × Post	0.048***	0.011
Female	-0.373***	0.005
Married	-0.011**	0.005
High School	0.022**	0.005
Some College	0.024**	0.007
College+	0.022	0.013
N	44,725	
R^2	0.156	

Notes: *** p<0.01, ** p<0.05, * p<0.1. Reference categories: Year 2006, Less than High School education.

Table 8: Summary of All Model Specifications

Model	Coef.	SE	95% CI	P-value	R^2
(1) Basic DiD	0.055	0.010	[0.036, 0.074]	<0.001	0.001
(2) Weighted DiD	0.062	0.012	[0.039, 0.085]	<0.001	0.002
(3) Year FE	0.061	0.012	[0.038, 0.084]	<0.001	0.005
(4) Year FE + Cov.	0.048	0.011	[0.027, 0.069]	<0.001	0.156
(5) Year + State FE	0.060	0.012	[0.037, 0.082]	<0.001	0.010
(6) Full Spec.	0.047	0.011	[0.027, 0.068]	<0.001	0.159

Appendix B: Variable Definitions

Table 9: IPUMS Variable Definitions

Variable	**Definition and Coding**
YEAR	Census year (2006-2016)
PERWT	Person weight for statistical analysis
HISPAN	Hispanic origin: 0=Not Hispanic, 1=Mexican, 2=Puerto Rican, 3=Cuban, 4=Other
BPL	Birthplace: 200=Mexico
CITIZEN	Citizenship status: 0=N/A, 1=Born abroad of US parents, 2=Naturalized, 3=Not a citizen, 4=Has first papers
YRIMMIG	Year of immigration
BIRTHYR	Year of birth
UHRSWORK	Usual hours worked per week (0=N/A or not working)
SEX	Sex: 1=Male, 2=Female
MARST	Marital status: 1=Married spouse present, 2=Married spouse absent, 3=Separated, 4=Divorced, 5=Widowed, 6=Never married
EDUC	Education: 0-5=Less than HS, 6=HS graduate, 7-9=Some college, 10+=College graduate
STATEFIP	State FIPS code

Appendix C: Analytical Decisions

Key Decisions Made During Analysis

1. **Sample definition**: I restricted to Hispanic-Mexican individuals born in Mexico rather than a broader definition of DACA-eligible population. This focuses on the population most affected by DACA given that the vast majority of recipients were from Mexico.

2. **Citizenship proxy**: I used non-citizenship (CITIZEN=3 or 4) as a proxy for undocumented status, acknowledging that this may include some legal non-citizens.

3. **Age groups**: I used ages 26-30 (treatment) vs. 31-35 (control) as specified in the research design, providing a reasonable bandwidth around the age cutoff while maintaining sample size.

4. **Time period**: I excluded 2012 to avoid mixing pre- and post-treatment observations within a single year.

5. **Outcome definition**: Full-time employment is defined as working 35+ hours per week, following standard BLS definitions.

6. **Preferred specification**: Model 4 (Year FE + Covariates) is selected as the preferred specification because it controls for common temporal shocks and individual characteristics without potentially over-fitting with state fixed effects.

7. **Standard errors**: Heteroskedasticity-robust (HC1) standard errors are used throughout to address potential heteroskedasticity in the linear probability model.

8. **Weighting**: Survey weights (PERWT) are used in all main specifications except the unweighted baseline to produce population-representative estimates.