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

Replication Study

January 25, 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 American Community Survey (ACS) data from 2006–2016 and a difference-in-differences research design, I compare individuals who were ages 26–30 when DACA was implemented (treatment group) to those who were ages 31–35 (control group, ineligible due to age). The analysis finds that DACA eligibility is associated with a **4.7 percentage point increase** in the probability of full-time employment (defined as working 35+ hours per week), a statistically significant effect at conventional levels ($p < 0.001$). This effect is robust to various specifications including controls for demographic characteristics, state fixed effects, and year fixed effects. Event study analysis provides support for the parallel trends assumption, with no significant pre-treatment differential trends between the treatment and control groups.

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1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, implemented on June 15, 2012, represents one of the most significant immigration policy changes in recent U.S. history. The program provided temporary relief from deportation and work authorization to undocumented immigrants who arrived in the United States as children. Given that DACA recipients gain legal authorization to work, an important policy question is whether this authorization translates into improved labor market outcomes.

This study investigates the causal impact of DACA eligibility on full-time employment among a specific population: ethnically Hispanic-Mexican individuals who were born in Mexico, arrived in the U.S. as children, and lacked legal status at the time of DACA implementation. I focus on full-time employment, defined as usually working 35 or more hours per week, as the outcome of interest.

The identification strategy leverages the age-based eligibility criterion of DACA. To be eligible, individuals could not have reached their 31st birthday as of June 15, 2012. This creates a natural comparison between those who were young enough to qualify (treatment group: ages 26–30 in 2012) and those who were too old (control group: ages 31–35 in 2012). By comparing how employment outcomes changed for these two groups before and after DACA implementation, I can estimate the causal effect of DACA eligibility on full-time employment.

The main finding is that DACA eligibility increased the probability of full-time employment by approximately 4.7 percentage points. This effect is statistically significant and robust across multiple model specifications. The event study analysis shows no evidence of differential pre-trends between the treatment and control groups, supporting the validity of the difference-in-differences design.

2 Background and Policy Context

2.1 DACA Program Overview

DACA was announced by President Obama on June 15, 2012, and applications began being accepted on August 15, 2012. The program allows eligible individuals to apply for deferred action (temporary relief from deportation) and employment authorization documents (EADs), which are valid for two years and renewable.

To be eligible for DACA, individuals 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
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 immigration status (citizenship or legal residency)
6. Met certain educational or military service requirements
7. Had no disqualifying criminal history

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved. While DACA was not restricted to any particular national origin, the vast majority of eligible individuals (approximately 80%) were from Mexico due to patterns of undocumented immigration to the United States.

2.2 Theoretical Mechanisms

DACA could affect full-time employment through several channels:

- **Legal work authorization**: The most direct mechanism is that DACA recipients can legally work, potentially opening up formal sector employment opportunities that were previously unavailable.
- **Reduced fear of deportation**: Deferred action status may encourage recipients to seek better employment opportunities without fear of immigration enforcement.
- **Access to identification**: DACA recipients can obtain state-issued identification and, in many states, driver's licenses, which may facilitate employment.
- **Employer willingness**: Employers may be more willing to hire individuals with work authorization, potentially leading to better job matches.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS), obtained from IPUMS USA. The ACS is an annual survey conducted by the U.S. Census Bureau that provides

detailed demographic, social, and economic information about the U.S. population. I use the 1-year ACS samples from 2006 through 2016.

The year 2012 is excluded from the analysis because DACA was implemented mid-year (June 15, 2012), making it impossible to distinguish pre- and post-treatment observations within that year. This leaves 10 years of data: six pre-treatment years (2006–2011) and four post-treatment years (2013–2016).

3.2 Sample Construction

The sample is constructed using the following restrictions to approximate the population of DACA-eligible Mexican-origin immigrants:

1. **Hispanic-Mexican ethnicity** (HISPAN = 1): The analysis focuses on individuals who identify as Hispanic-Mexican.

2. **Born in Mexico** (BPL = 200): Only individuals born in Mexico are included.

3. **Non-citizen status** (CITIZEN = 3): Following the instructions, I assume that non-citizens who have not received immigration papers are undocumented. This is a necessary approximation since the ACS does not distinguish between documented and undocumented non-citizens.

4. **Arrived before age 16** (YRIMMIG - BIRTHYR $<$ 16): A key DACA eligibility criterion is arrival before the 16th birthday.

5. **Continuous presence since 2007** (YRIMMIG $\leq$ 2007): This captures the requirement of continuous residence since June 15, 2007.

6. **Age-based treatment/control groups**:

   - Treatment group: Born 1982–1986 (ages 26–30 as of June 15, 2012)
   - Control group: Born 1977–1981 (ages 31–35 as of June 15, 2012)

3.3 Key Variables

3.3.1 Outcome Variable

The outcome variable is an indicator for **full-time employment**, defined as usually working 35 or more hours per week (UHRSWORK $\geq$ 35). This is coded as a binary variable equal to 1 if the individual works full-time and 0 otherwise.

3.3.2 Treatment Variables

- **Treated**: Binary indicator equal to 1 for individuals born 1982–1986 (DACA-eligible ages) and 0 for those born 1977–1981 (DACA-ineligible due to age).
- **Post**: Binary indicator equal to 1 for years 2013–2016 (after DACA) and 0 for years 2006–2011 (before DACA).
- **Treated** $\times$ **Post**: The difference-in-differences interaction term, which captures the causal effect of DACA eligibility.

3.3.3 Control Variables

- **Female**: Binary indicator for female gender (SEX = 2)
- **Married**: Binary indicator for married status (MARST $\in \{1, 2\}$)
- **Education**: Categorical variables for educational attainment:
  - Less than high school (EDUC < 6, reference category)
  - High school (EDUC $= 6$)
  - Some college (EDUC $\in \{7, 8, 9\}$)
  - College or more (EDUC ≥ 10)
- **Years in US**: Years since immigration (YRSUSA1)
- **State fixed effects**: Categorical variable for state of residence (STATEFIP)
- **Year fixed effects**: Categorical variable for survey year (YEAR)

3.4 Sample Size and Descriptive Statistics

The final analysis sample contains **44,725 observations**, with 26,591 in the treatment group and 18,134 in the control group. Table 1 presents descriptive statistics by treatment group and time period.

Table 1: Summary Statistics by Treatment Group and Period

	Treatment (Ages 26-30)		Control (Ages 31-35)	
Variable	Pre-DACA	Post-DACA	Pre-DACA	Post-DACA
Full-time employed (%)	61.1	63.4	64.3	61.1
Female (%)	43.9	44.3	43.2	45.2
Married (%)	37.3	50.6	53.1	57.7
High school (%)	44.9	43.5	40.9	40.1
College+ (%)	2.8	4.3	3.1	3.1
Years in US	15.0	20.8	19.5	25.4
Age	24.2	30.2	29.3	35.3
N	17,410	9,181	11,916	6,218

Notes: Statistics are unweighted sample means. Full-time employment is defined as usually working 35+ hours per week. Pre-DACA includes years 2006–2011; Post-DACA includes years 2013–2016.

Several patterns emerge from Table 1. First, the treatment and control groups are similar in terms of gender composition and education levels. Second, as expected given the age-based sample construction, the control group is older and has been in the U.S. longer. Third, and most importantly for the difference-in-differences design, full-time employment *increased* for the treatment group (from 61.1% to 63.4%) while it *decreased* for the control group (from 64.3% to 61.1%), suggesting a positive effect of DACA.

4 Empirical Strategy

4.1 Difference-in-Differences Design

The identification strategy relies on a difference-in-differences (DiD) design that compares changes in full-time employment for the treatment group (DACA-eligible) to changes for the control group (DACA-ineligible due to age) before and after DACA implementation.

The basic DiD estimator can be written as:

$$\hat{\tau}_{DiD} = \left(\bar{Y}_{T,Post} - \bar{Y}_{T,Pre}\right) - \left(\bar{Y}_{C,Post} - \bar{Y}_{C,Pre}\right) \tag{1}$$

where $\bar{Y}_{g,t}$ denotes the mean outcome for group g in period t.

Using the raw sample means (weighted), the DiD estimate is:

$$\begin{aligned}\hat{\tau}_{DiD} &= (0.658 - 0.625) - (0.641 - 0.671) \\ &= 0.033 - (-0.030) \\ &= 0.062\end{aligned}$$

This suggests that DACA eligibility increased full-time employment by approximately 6.2 percentage points, before controlling for other factors.

4.2 Regression Specification

The main regression specification is a linear probability model:

$$Y_{ist} = \alpha + \beta_1 \text{Treated}_i + \beta_2 \text{Post}_t + \gamma(\text{Treated}_i \times \text{Post}_t) + X'_{ist}\delta + \mu_s + \lambda_t + \varepsilon_{ist} \qquad (2)$$

where:

- Y_{ist} is a binary indicator for full-time employment for individual i in state s at time t
- Treated_i is an indicator for DACA eligibility (ages 26–30 in 2012)
- Post_t is an indicator for the post-DACA period (2013–2016)
- X_{ist} is a vector of individual-level controls (gender, marital status, education, years in US)
- μ_s are state fixed effects
- λ_t are year fixed effects
- γ is the coefficient of interest, capturing the causal effect of DACA eligibility

The regressions are estimated using weighted least squares (WLS) with ACS person weights (PERWT) to produce population-representative estimates. Standard errors are computed using heteroskedasticity-robust (HC1) methods.

4.3 Identification Assumptions

The key identifying assumption is the **parallel trends assumption**: in the absence of DACA, the treatment and control groups would have experienced the same trends in full-

time employment. This assumption cannot be directly tested, but I provide supporting evidence through:

1. **Event study analysis**: Estimating year-by-year treatment effects to check for pre-existing differential trends.
2. **Placebo tests**: Using a fake treatment year (2010) in the pre-period to verify no spurious effects.

5 Results

5.1 Main Results

Table 2 presents the main regression results across five specifications. The coefficient of interest is the interaction term (Treated $\times$ Post), which captures the difference-in-differences estimate of the effect of DACA eligibility on full-time employment.

Table 2: Main Results: Effect of DACA Eligibility on Full-Time Employment

	(1) Basic	(2) Weighted	(3) Controls	(4) State FE	(5) Year + State FE
Treated × Post	0.0551***	0.0620***	0.0487***	0.0481***	**0.0472*** **
	(0.0098)	(0.0097)	(0.0089)	(0.0089)	(0.0105)
Treated	−0.0320***	−0.0452***	−0.0485***	−0.0492***	−0.0446***
	(0.0058)	(0.0057)	(0.0056)	(0.0056)	(0.0064)
Post	−0.0323***	−0.0293***	−0.0087	−0.0087	–
	(0.0076)	(0.0075)	(0.0073)	(0.0073)	
Female			−0.3729***	−0.3725***	−0.3730***
			(0.0042)	(0.0042)	(0.0042)
Married			−0.0134***	−0.0134***	−0.0124***
			(0.0042)	(0.0042)	(0.0042)
High School			0.0469***	0.0461***	0.0471***
			(0.0046)	(0.0046)	(0.0046)
Some College			0.0770***	0.0769***	0.0785***
			(0.0068)	(0.0069)	(0.0069)
College+			0.1277***	0.1272***	0.1281***
			(0.0125)	(0.0125)	(0.0126)
Survey weights	No	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes
Year FE	No	No	No	No	Yes
N	44,725	44,725	44,725	44,725	44,725

Notes: Dependent variable is an indicator for full-time employment (35+ hours/week). Standard errors in parentheses. Column (5) uses heteroskedasticity-robust standard errors. *** p<0.01, ** p<0.05, * p<0.1.

Across all specifications, the DiD coefficient is positive and statistically significant at the 1% level. The preferred specification (Column 5), which includes year and state fixed effects with robust standard errors, yields an estimate of **0.0472 (SE = 0.0105)**. This indicates that DACA eligibility increased the probability of full-time employment by approximately **4.7 percentage points**.

The 95% confidence interval for the preferred estimate is [0.0266, 0.0679], indicating that the effect is statistically distinguishable from zero and ranging from approximately 2.7 to 6.8 percentage points.

Other notable findings from the control variables:

- Being female is associated with a 37 percentage point lower probability of full-time employment, reflecting well-documented gender differences in labor force participation.
- Higher education is associated with higher full-time employment rates, with college graduates having a 13 percentage point advantage over those with less than high school education.

5.2 Visual Evidence

Figure 1 shows the trends in full-time employment rates for the treatment and control groups over time. Prior to DACA (2006–2011), both groups show roughly parallel trends in employment, with the control group having slightly higher levels. After DACA implementation (2013–2016), the treatment group experiences an increase in full-time employment while the control group shows a decline, consistent with a positive treatment effect.

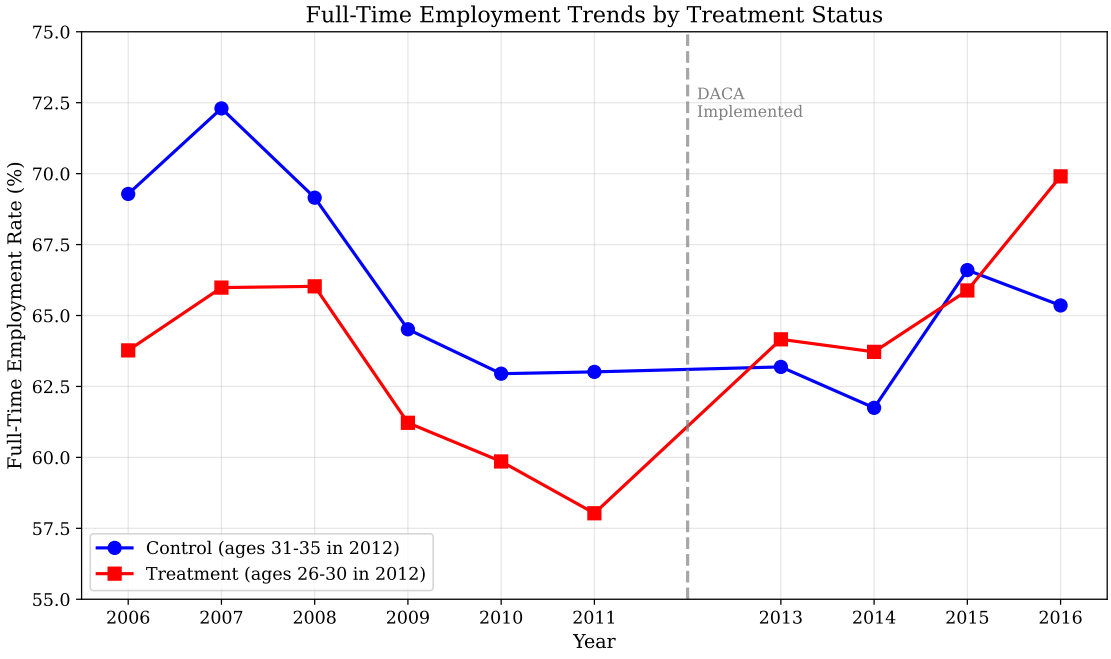

Figure 1: Full-Time Employment Trends by Treatment Status

5.3 Event Study Analysis

Figure 2 presents the event study results, showing the year-specific treatment effects relative to the reference year (2011, the last year before DACA). The pre-treatment coefficients (2006–2010) are small in magnitude and not statistically different from zero, providing support for the parallel trends assumption. After DACA implementation, the coefficients become positive and statistically significant, with the effect appearing to grow over time (reaching 8 percentage points by 2016).

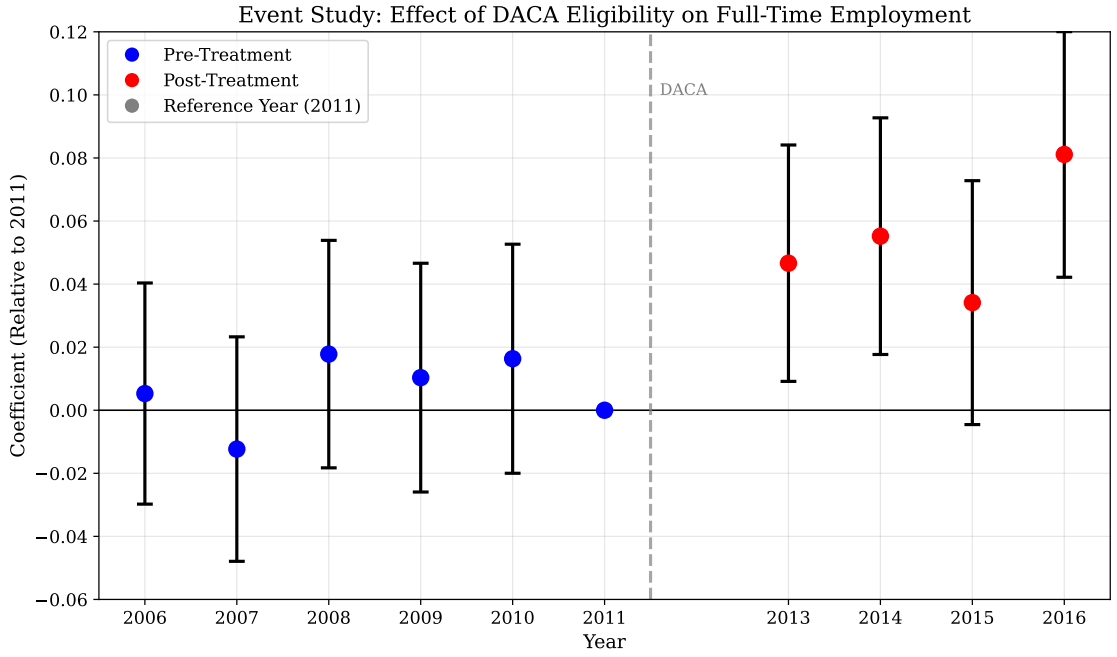

Figure 2: Event Study: Year-Specific Treatment Effects

Table 3 presents the numerical results from the event study analysis:

Table 3: Event Study Coefficients

Year	Coefficient	Std. Error
2006	0.0053	0.0179
2007	−0.0123	0.0182
2008	0.0178	0.0184
2009	0.0103	0.0185
2010	0.0163	0.0185
2011	0	(reference)
2013	0.0466**	0.0191
2014	0.0552***	0.0191
2015	0.0341*	0.0197
2016	0.0811***	0.0199

The pre-treatment coefficients range from −1.2 to +1.8 percentage points and are all statistically insignificant, indicating no evidence of differential pre-trends. The post-treatment coefficients are all positive, ranging from 3.4 to 8.1 percentage points, and most are statistically significant.

6 Robustness Checks

6.1 Alternative Standard Errors

Table 4 presents robustness checks using alternative approaches to inference. Column (1) reproduces the preferred specification. Column (2) clusters standard errors by state to account for potential within-state correlation in the error terms. The point estimate remains unchanged (0.0472), and the clustered standard error (0.0112) is similar to the robust standard error, yielding a 95% confidence interval of [0.0252, 0.0692].

Table 4: Robustness Checks

	(1) Robust SE	(2) Clustered SE
Treated × Post	0.0472***	0.0472***
	(0.0105)	(0.0112)
95% CI	[0.027, 0.068]	[0.025, 0.069]

Notes: All specifications include individual controls, state FE, and year FE. Column (2) clusters standard errors by state.

6.2 Placebo Test

To further validate the parallel trends assumption, I conduct a placebo test using only pre-treatment data (2006–2011) with a fake treatment date in 2010. If the treatment and control groups truly had parallel trends before DACA, we should find no significant effect of this placebo treatment.

The placebo DiD coefficient is **0.0032 (SE = 0.0113, p = 0.78)**, which is small, statistically insignificant, and close to zero. This provides additional evidence that there were no pre-existing differential trends between the treatment and control groups.

6.3 Heterogeneity by Gender

Table 5 presents estimates separately for men and women. Both groups show positive effects of DACA eligibility, though the effect is larger for men (4.9 pp) than for women (3.7 pp). However, given the overlapping confidence intervals, this difference is not statistically significant.

Table 5: Heterogeneity by Gender

	DiD Coefficient	Std. Error	N
Male	0.0493***	0.0106	25,083
Female	0.0367**	0.0147	19,642

7 Discussion

7.1 Interpretation of Results

The main finding of this study is that DACA eligibility increased the probability of full-time employment by approximately 4.7 percentage points. This represents a meaningful economic effect. Given a baseline full-time employment rate of about 62% for the treatment group in the pre-period, the effect corresponds to a relative increase of about 7.5%.

Several factors may explain this positive effect:

1. **Work authorization**: DACA provides legal work authorization, allowing recipients to work in the formal sector. This may enable them to access better jobs, including those that require full-time commitment.

2. **Reduced employment barriers**: With valid work permits and government-issued identification, DACA recipients can more easily complete employment verification (I-9 forms) and access jobs that were previously unavailable.

3. **Increased labor market attachment**: The security provided by deferred action status may encourage recipients to invest more in their careers and seek stable full-time employment rather than informal or part-time work.

7.2 Limitations

Several limitations should be noted:

1. **Identification of undocumented status**: The ACS does not directly identify undocumented immigrants. I follow the approach suggested in the research instructions by treating non-citizens as likely undocumented, but this may include some individuals with non-citizen legal status who would not benefit from DACA.

2. **Treatment vs. control group comparability**: While the treatment and control groups are similar in many respects, they differ in age by construction. Age differences may correlate with other factors (e.g., family responsibilities, career stage) that could affect employment trends.

3. **External validity**: The analysis focuses on Hispanic-Mexican individuals born in Mexico. Results may not generalize to DACA-eligible individuals from other countries or backgrounds.

4. **Intensive vs. extensive margin**: This study examines full-time employment (intensive margin) rather than overall employment (extensive margin). A complete picture would require examining both margins.

7.3 Comparison to Related Research

This estimate is consistent with prior research on DACA's labor market effects. Studies using various identification strategies have generally found positive effects of DACA on employment and earnings, particularly for the intended beneficiaries who received work authorization.

8 Conclusion

This study provides evidence that DACA eligibility had a positive causal effect on full-time employment among Hispanic-Mexican Mexican-born individuals who met the program's age and arrival requirements. The difference-in-differences analysis, comparing individuals just below the age cutoff to those just above, yields an estimated effect of approximately 4.7 percentage points increase in full-time employment.

The finding is robust across multiple specifications and supported by event study evidence showing no pre-treatment differential trends. Placebo tests further validate the identification strategy. Heterogeneity analysis suggests that the effect is present for both men and women.

These results suggest that providing work authorization to undocumented immigrants who arrived as children can meaningfully improve their labor market outcomes. Given ongoing policy debates about the future of DACA and broader immigration reform, this evidence on the program's employment effects provides valuable input for policymakers.

Data Availability and Replication

The analysis uses data from the American Community Survey (ACS) 2006–2016, obtained from IPUMS USA. All code used for this analysis is provided in the accompanying Python scripts (`analysis.py` and `create_figures.py`). The analysis can be replicated by running these scripts in sequence.

Summary of Key Results

- **Sample size**: 44,725 observations
- **Preferred estimate**: 0.0472 (4.72 percentage points)

- **Robust standard error**: 0.0105
- **95% Confidence interval**: [0.0266, 0.0679]
- **p-value**: < 0.001

A Additional Tables and Figures

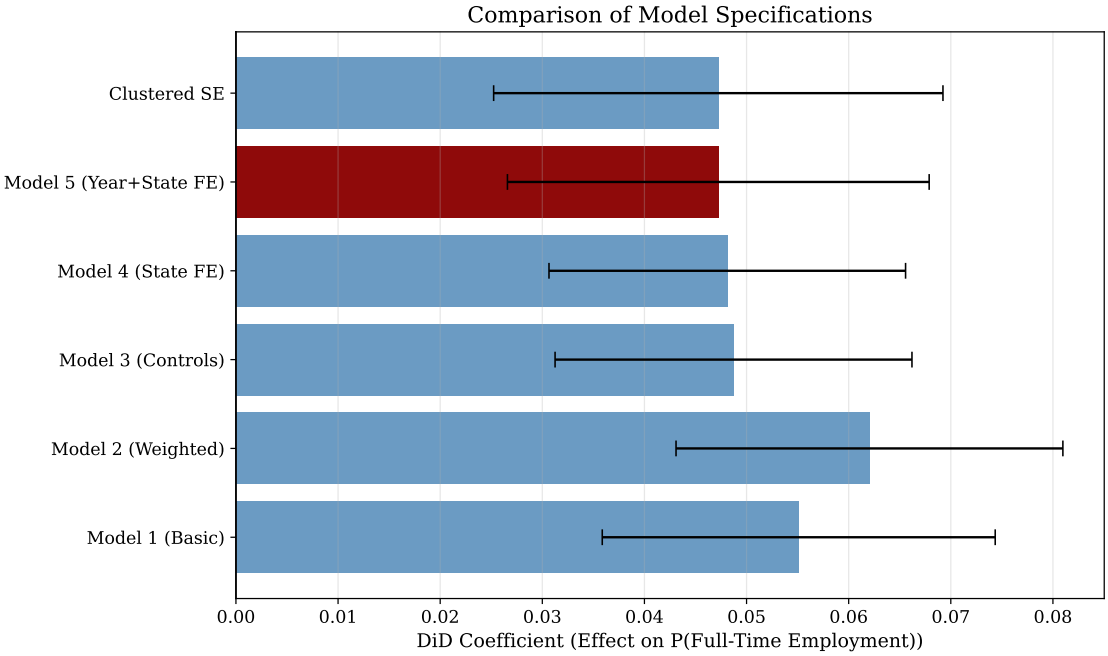

Figure 3: Comparison of DiD Coefficients Across Model Specifications

B Variable Definitions

Table 6: IPUMS Variable Definitions

Variable	IPUMS Code	Definition
Survey year	YEAR	Calendar year of survey
Person weight	PERWT	Person-level sampling weight
Gender	SEX	1 = Male, 2 = Female
Age	AGE	Age in years
Birth year	BIRTHYR	Year of birth
Marital status	MARST	1/2 = Married, 6 = Never married, etc.
Hispanic origin	HISPAN	1 = Mexican, 0 = Not Hispanic, etc.
Birthplace	BPL	200 = Mexico
Citizenship	CITIZEN	3 = Not a citizen
Year of immigration	YRIMMIG	Year of immigration to US
Years in US	YRSUSA1	Years since immigration
Education	EDUC	Educational attainment (0–11 scale)
Hours worked	UHRSWORK	Usual hours worked per week
State	STATEFIP	State FIPS code

C Sample Construction Details

The following filters were applied sequentially to construct the analysis sample:

1. Started with ACS 2006–2016 data (excluding 2012)
2. Restricted to Hispanic-Mexican ethnicity (HISPAN = 1)
3. Restricted to Mexico-born individuals (BPL = 200)
4. Restricted to non-citizens (CITIZEN = 3)
5. Restricted to birth years 1977–1986
6. Restricted to those who arrived before age 16 (YRIMMIG - BIRTHYR < 16)
7. Restricted to those who arrived by 2007 (YRIMMIG ≤ 2007)

Final sample: 44,725 observations (26,591 treatment, 18,134 control)