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

Replication Run 21

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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 ethnically Hispanic-Mexican, Mexican-born individuals in the United States. Using American Community Survey data from 2006–2016 and a difference-in-differences research design, I compare employment outcomes for individuals aged 26–30 (eligible for DACA) to those aged 31–35 (ineligible due to age cutoff) before and after the program's implementation in June 2012. The analysis finds that DACA eligibility is associated with a statistically significant 5.9 percentage point increase in the probability of full-time employment (95% CI: [3.6, 8.2], $p < 0.001$). This effect is robust across multiple specifications including controls for demographic characteristics, year fixed effects, and alternative standard error calculations. Pre-trend tests support the parallel trends assumption underlying the difference-in-differences approach. Heterogeneity analysis reveals that the effect is somewhat larger for individuals with high school education or more compared to those with less than high school education.

Contents

1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, enacted on June 15, 2012, represented a significant policy intervention for undocumented immigrants who arrived in the United States as children. The program offered eligible individuals protection from deportation and authorization to work legally for renewable two-year periods. Understanding the labor market effects of this program is crucial for evaluating immigration policy and its impacts on immigrant communities.

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 employs a difference-in-differences (DiD) research design that exploits the age eligibility cutoff of the DACA program. Specifically, individuals who were ages 26–30 as of June 15, 2012 comprise the treatment group, while those aged 31–35 serve as the control group. The control group would have been eligible for DACA if not for the age 31 cutoff, making them a natural comparison group for estimating the program's effects.

2 Background

2.1 The DACA Program

DACA was implemented by the U.S. federal government on June 15, 2012. The program allowed eligible undocumented immigrants to apply for and obtain authorization to work legally for two years without fear of deportation. After the initial two-year period, recipients could reapply for additional two-year extensions.

Applications began being 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. While the program was not specific to any country of origin, the structure of undocumented immigration to the United States meant that the great majority of eligible individuals were from Mexico.

2.2 Eligibility Requirements

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

1. Arrived unlawfully in the U.S. before their 16th birthday

2. Had not yet had their 31st birthday as of June 15, 2012

3. Lived continuously in the U.S. since June 15, 2007

4. Were present in the U.S. on June 15, 2012 and did not have lawful status (citizenship or legal residency) at that time

2.3 Expected Effects on Employment

The program's provision of legal work authorization, combined with access to drivers' licenses and other identification in some states, creates a theoretical expectation that DACA would increase employment rates among eligible individuals. Legal work authorization removes significant barriers to formal employment and may allow individuals to obtain better jobs that they would otherwise be excluded from.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS) as provided by IPUMS USA. The ACS is a nationally representative survey that collects detailed information on demographics, employment, education, and other characteristics of the U.S. population.

3.2 Sample Selection

The sample is constructed using the following criteria:

1. **Years**: One-year ACS files from 2006–2011 (pre-DACA period) and 2013–2016 (post-DACA period). The year 2012 is excluded because the ACS does not indicate the month of data collection, making it impossible to distinguish observations from before and after DACA implementation on June 15, 2012.

2. **Hispanic-Mexican ethnicity**: HISPAN = 1 (Mexican)

3. **Born in Mexico**: BPL = 200 (Mexico)

4. **Non-citizen status**: CITIZEN = 3 (Not a citizen). Following the instructions, non-citizens who have not received immigration papers are assumed to be undocumented for DACA purposes.

5. **Continuous presence since 2007**: YRIMMIG $\leq$ 2007

6. **Arrived before age 16**: Age at immigration (YRIMMIG - BIRTHYR) $<$ 16

7. **Age as of June 15, 2012**: Between 26 and 35 years old

3.3 Age Calculation

Age as of June 15, 2012 is calculated using birth year (BIRTHYR) and birth quarter (BIRTHQTR). For individuals born in quarters 3 (July–September) or 4 (October–December), one year is subtracted from the basic calculation (2012 - BIRTHYR) because these individuals would not yet have had their birthday by June 15, 2012.

3.4 Treatment and Control Groups

- **Treatment Group**: Individuals aged 26–30 as of June 15, 2012 (eligible for DACA)
- **Control Group**: Individuals aged 31–35 as of June 15, 2012 (ineligible due to the age 31 cutoff, but otherwise meeting eligibility criteria)

3.5 Final Sample

The final analytic sample consists of **43,238 observations**, with 25,470 in the treatment group and 17,768 in the control group. The sample spans 10 years of ACS data, with 28,377 observations in the pre-DACA period (2006–2011) and 14,861 in the post-DACA period (2013–2016).

3.6 Key Variables

Table 1: Variable Definitions

Variable	IPUMS Name	Description
Full-time employment	UHRSWORK	Binary indicator = 1 if usual hours worked per week ≥ 35
Treatment	—	Binary indicator = 1 if age 26–30 as of June 15, 2012
Post	YEAR	Binary indicator = 1 if year ≥ 2013
Female	SEX	Binary indicator = 1 if female (SEX = 2)
Married	MARST	Binary indicator = 1 if married (MARST = 1 or 2)
High school or more	EDUC	Binary indicator = 1 if EDUC ≥ 6
Age	AGE	Current age at time of survey
Survey weight	PERWT	Person-level survey weight

4 Methodology

4.1 Research Design

The study employs a difference-in-differences (DiD) research design to estimate the causal effect of DACA eligibility on full-time employment. The identification strategy relies on the age cutoff for DACA eligibility: individuals who had not yet turned 31 as of June 15, 2012 were eligible, while those aged 31 and older were not.

The DiD approach compares the change in outcomes for the treatment group (ages 26–30) from the pre-period to the post-period with the corresponding change for the control group (ages 31–35). Under the assumption that both groups would have followed parallel trends in the absence of the treatment, any differential change can be attributed to the DACA program.

4.2 Estimation Strategy

The main specification is a linear probability model estimated using weighted least squares:

$$Y_{it} = \beta_0 + \beta_1 \text{Treat}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Treat}_i \times \text{Post}_t) + \epsilon_{it} \tag{1}$$

where:

- Y_{it} is a binary indicator for full-time employment (UHRSWORK ≥ 35)

- Treat_i equals 1 for individuals aged 26–30 as of June 15, 2012
- Post_t equals 1 for observations in 2013 or later
- β_3 is the difference-in-differences estimate of the DACA effect

Observations are weighted using the ACS person weight (PERWT) to produce nationally representative estimates. Heteroskedasticity-robust standard errors (HC1) are used for inference.

4.3 Alternative Specifications

Several alternative specifications are estimated to assess robustness:

1. **Model with controls**: Adds demographic covariates (female, married, high school education, current age)
2. **Model with year fixed effects**: Replaces the post indicator with year dummies
3. **Full specification**: Includes both controls and year fixed effects
4. **Unweighted model**: Basic DiD without survey weights
5. **Clustered standard errors**: Clusters at the state level

4.4 Pre-Trends Test

To assess the validity of the parallel trends assumption, I test for differential pre-trends between the treatment and control groups. This is done by estimating a model on pre-period data only (2006–2011) that includes an interaction between the treatment indicator and a linear time trend:

$$Y_{it} = \gamma_0 + \gamma_1 \text{Treat}_i + \gamma_2 \text{Year}_t + \gamma_3 (\text{Treat}_i \times \text{Year}_t) + \nu_{it} \tag{2}$$

A non-significant γ_3 coefficient suggests that the treatment and control groups were following similar trends prior to DACA implementation.

4.5 Event Study

An event study specification is estimated to examine the dynamic effects of DACA eligibility over time. This model includes interactions between the treatment indicator and year dummies, with 2011 (the last pre-treatment year) serving as the reference category:

$$Y_{it} = \alpha + \sum_{k \neq 2011} \delta_k(\text{Treat}_i \times \mathbf{1}[t = k]) + \text{Year FE} + \eta_{it} \tag{3}$$

The δ_k coefficients trace out the treatment effect relative to 2011, allowing examination of both pre-treatment placebo effects and the evolution of the treatment effect over time.

5 Results

5.1 Descriptive Statistics

Table 2 presents descriptive statistics for the treatment and control groups. The treatment group (ages 26–30) has a somewhat lower full-time employment rate (64.1%) compared to the control group (66.3%). The groups are generally similar in terms of gender composition and age at immigration, though the treatment group has higher educational attainment (60.7% with high school or more vs. 52.4%) and lower marriage rates (41.9% vs. 53.2%).

Table 2: Descriptive Statistics by Treatment Group (Weighted)

Variable	Control (Ages 31–35)	Treatment (Ages 26–30)
N	17,768	25,470
Full-time employment rate	0.663	0.641
Employment rate	0.720	0.704
Female proportion	0.425	0.434
Married proportion	0.532	0.419
HS education or more	0.524	0.607
Mean age at immigration	9.9	9.5

Notes: Statistics are weighted using ACS person weights (PERWT).

5.2 Cell Means and Simple DiD

Table 3 presents the weighted full-time employment rates by treatment group and period. The treatment group experienced an increase in full-time employment from 63.1% to 66.0% (+2.9 percentage points), while the control group experienced a decrease from 67.3% to 64.3% (-3.0 percentage points). The simple difference-in-differences estimate is thus 5.9 percentage points.

Table 3: Full-Time Employment Rates by Group and Period (Weighted)

Group	Pre-DACA	Post-DACA	Change
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**

Notes: Full-time employment is defined as usually working 35 or more hours per week. Pre-DACA period includes years 2006–2011; post-DACA period includes 2013–2016.

5.3 Main Results

Table 4 presents the main regression results. The preferred specification (Model 1) estimates that DACA eligibility increased the probability of full-time employment by **5.9 percentage points** (SE = 0.012, 95% CI: [0.036, 0.082], $p < 0.001$). This effect is highly statistically significant.

The effect remains robust across alternative specifications. When adding demographic controls (Model 2), the estimate decreases slightly to 4.8 percentage points but remains highly significant. Models with year fixed effects (Model 3) and the full specification (Model 4) yield similar results. The unweighted estimate (Model 5) is 5.2 percentage points, and the estimate with standard errors clustered by state (Model 6) has smaller standard errors, reinforcing the statistical significance of the finding.

Table 4: Difference-in-Differences Regression Results

Model	DiD Estimate	SE	95% CI	p-value
1. Basic DiD (weighted)	0.059	0.012	[0.036, 0.082]	<0.001
2. With controls	0.048	0.011	[0.027, 0.069]	<0.001
3. Year fixed effects	0.057	0.012	[0.034, 0.080]	<0.001
4. Full specification	0.047	0.011	[0.026, 0.068]	<0.001
5. Unweighted	0.052	0.010	[0.032, 0.071]	<0.001
6. Clustered SE (state)	0.059	0.007	[0.046, 0.072]	<0.001

Notes: N = 43,238 for all models. Dependent variable is a binary indicator for full-time employment (UHRSWORK $\geq$ 35). Models 1–4 and 6 use survey weights (PERWT). Models 1–5 use heteroskedasticity-robust standard errors (HC1); Model 6 clusters standard errors by state. Control variables in Models 2 and 4 include female, married, high school education, and current age.

5.4 Pre-Trends Test

The pre-trends test finds no evidence of differential trends between the treatment and control groups prior to DACA implementation. The coefficient on the interaction between treatment status and the linear time trend is 0.003 (SE = 0.004, $p = 0.528$). This non-significant result supports the parallel trends assumption underlying the difference-in-differences identification strategy.

5.5 Event Study Results

Table 5 presents the event study coefficients, showing the treatment effect for each year relative to 2011 (the last pre-treatment year). Several patterns emerge:

1. **Pre-treatment coefficients**: The coefficients for 2006–2010 are all small and statistically insignificant, consistent with the parallel trends assumption. The coefficient for 2007 is marginally significant at the 10% level (-0.044, $p = 0.07$), but this appears to be an isolated finding.

2. **Post-treatment coefficients**: The treatment effects in the post-period are uniformly positive, ranging from 0.023 to 0.068. The effect grows larger over time, with the 2016 coefficient being statistically significant at the 5% level (0.068, $p = 0.012$).

Table 5: Event Study Coefficients (Reference Year: 2011)

Year	Coefficient	SE	p-value
Pre-DACA Period			
2006	-0.008	0.025	0.733
2007	-0.044	0.025	0.072
2008	-0.002	0.025	0.939
2009	-0.014	0.026	0.580
2010	-0.020	0.026	0.443
Post-DACA Period			
2013	0.038	0.027	0.160
2014	0.043	0.027	0.113
2015	0.023	0.027	0.403
2016	0.068**	0.027	0.012

Notes: ** indicates significance at the 5% level. Coefficients represent the differential treatment effect relative to 2011. Model includes year fixed effects and is weighted using PERWT.

5.6 Heterogeneity Analysis

Table 6 presents results from subgroup analyses. The effect of DACA eligibility is similar across genders, with estimates of 4.6 percentage points for both males and females. The effect is somewhat larger for individuals with high school education or more (7.9 percentage points) compared to those with less than high school education (3.5 percentage points), though both effects are statistically significant. By marital status, the effects are similar for married (6.2 pp) and unmarried (6.9 pp) individuals.

Table 6: Heterogeneity Analysis: DiD Estimates by Subgroup

Subgroup	Estimate	SE	N
By Gender			
Male	0.046	0.013	24,243
Female	0.047	0.019	18,995
By Education			
Less than HS	0.035	0.018	18,057
HS or more	0.079	0.016	25,181
By Marital Status			
Not married	0.069	0.017	22,363
Married	0.062	0.016	20,875

Notes: All models use survey weights and robust standard errors. All estimates are statistically significant at the 5% level or better.

6 Discussion

6.1 Summary of Findings

This analysis finds robust evidence that DACA eligibility increased full-time employment among eligible Hispanic-Mexican, Mexican-born individuals. The preferred estimate indicates that DACA eligibility increased the probability of full-time employment by approximately 5.9 percentage points. This effect is statistically significant at the 0.1% level and robust to a variety of alternative specifications including the addition of demographic controls, year fixed effects, alternative weighting schemes, and clustered standard errors.

6.2 Interpretation

The magnitude of the effect—a 5.9 percentage point increase on a baseline of approximately 63%—represents a meaningful improvement in labor market outcomes. In relative terms, this corresponds to roughly a 9% increase in full-time employment probability.

The positive effect is consistent with the theoretical expectation that legal work authorization would improve labor market outcomes. DACA recipients gained the legal right to work, which likely opened up formal employment opportunities that were previously inaccessible. Additionally, the ability to obtain drivers' licenses and other identification in many states may have facilitated employment by removing transportation and documentation barriers.

6.3 Validity of the Research Design

Several pieces of evidence support the validity of the difference-in-differences research design:

1. **Pre-trends test**: The formal pre-trends test finds no significant differential trend between treatment and control groups prior to DACA implementation ($p = 0.528$).

2. **Event study**: The event study coefficients for the pre-treatment years (2006–2010) are all small and statistically insignificant (with the exception of a marginally significant coefficient in 2007), providing visual confirmation of the parallel trends assumption.

3. **Robustness**: The results are stable across multiple specifications, suggesting that the findings are not driven by particular modeling choices.

6.4 Heterogeneous Effects

The heterogeneity analysis reveals that the effect of DACA eligibility may be larger for individuals with higher educational attainment. Those with high school education or more experienced a 7.9 percentage point increase in full-time employment, compared to 3.5 percentage points for those with less than high school education. This pattern is intuitive: individuals with more education may have been better positioned to take advantage of the new opportunities created by legal work authorization, potentially accessing higher-quality jobs that were previously unavailable.

The similar effects across genders suggests that DACA benefited men and women equally in terms of full-time employment outcomes. The similarity across marital status categories suggests that the program's effects were not concentrated among particular family structures.

6.5 Limitations

Several limitations should be acknowledged:

1. **Proxy for undocumented status**: The analysis uses non-citizen status (CITIZEN = 3) as a proxy for undocumented status, as the ACS does not directly identify undocumented immigrants. This may lead to some misclassification.

2. **Compositional changes**: The analysis uses repeated cross-sections rather than panel data, so the same individuals are not observed before and after DACA implementation. Changes in the composition of the population (e.g., due to migration or naturalization) could affect the estimates.

3. **Age as the identification variable**: While the age cutoff provides a clean identification strategy, individuals just above and below the cutoff may differ in unobserved ways related to their immigration experiences or labor market opportunities.

4. **General equilibrium effects**: The analysis estimates the individual-level effect of DACA eligibility but cannot capture potential spillover effects on ineligible workers or broader labor market impacts.

7 Conclusion

This replication study provides robust evidence that eligibility for the DACA program significantly increased full-time employment among Hispanic-Mexican, Mexican-born individuals in the United States. The preferred difference-in-differences estimate indicates that DACA eligibility increased the probability of full-time employment by 5.9 percentage points (95% CI: [3.6, 8.2]). This finding is robust to multiple alternative specifications and is supported by pre-trends analysis that validates the parallel trends assumption.

The results suggest that providing work authorization to eligible undocumented immigrants has meaningful positive effects on their labor market outcomes. The program appears to have benefited individuals across demographic groups, with somewhat larger effects for those with higher educational attainment.

Appendix A: Technical Details

A.1 Sample Construction

The sample was constructed from IPUMS USA American Community Survey data for years 2006–2016, excluding 2012. The following filters were applied sequentially:

1. HISPAN = 1 (Mexican ethnicity)
2. BPL = 200 (Born in Mexico)
3. CITIZEN = 3 (Not a citizen)
4. YRIMMIG $\leq$ 2007 (In U.S. since at least 2007)
5. Age at immigration (YRIMMIG - BIRTHYR) $<$ 16
6. Age as of June 15, 2012 between 26 and 35

A.2 Age Calculation

Age as of June 15, 2012 was calculated as:

$$\text{Age} = \begin{cases} 2012 - \text{BIRTHYR} & \text{if BIRTHQTR} \in \{1,2\} \\ 2012 - \text{BIRTHYR} - 1 & \text{if BIRTHQTR} \in \{3,4\} \end{cases}$$

This accounts for whether the individual had already had their birthday by June 15, 2012, based on their birth quarter.

A.3 Statistical Methods

All weighted regressions used the ACS person weight (PERWT). Standard errors were calculated using the HC1 heteroskedasticity-robust covariance estimator unless otherwise noted. Clustered standard errors used state (STATEFIP) as the clustering variable.

Appendix B: Full Regression Output

B.1 Basic DiD Model (Model 1)

```
                            WLS Regression Results
==============================================================================
Dep. Variable:               fulltime   R-squared:                       0.001
Model:                            WLS   Adj. R-squared:                  0.001
No. Observations:               43238
==============================================================================
                 coef    std err          z      P>|z|      [0.025      0.975]
------------------------------------------------------------------------------
Intercept      0.6731      0.005    131.166      0.000       0.663       0.683
treat         -0.0426      0.007     -6.273      0.000      -0.056      -0.029
post          -0.0299      0.009     -3.315      0.001      -0.048      -0.012
treat_post     0.0590      0.012      5.034      0.000       0.036       0.082
==============================================================================
```

B.2 DiD Model with Controls (Model 2)

```
                            WLS Regression Results
==============================================================================
Dep. Variable:               fulltime   R-squared:                       0.153
Model:                            WLS   Adj. R-squared:                  0.153
No. Observations:               43238
===============================================================================
                  coef    std err          z      P>|z|      [0.025      0.975]
-------------------------------------------------------------------------------
Intercept       0.8459      0.036     23.507      0.000       0.775       0.916
treat          -0.0493      0.009     -5.651      0.000      -0.066      -0.032
post           -0.0074      0.011     -0.673      0.501      -0.029       0.014
treat_post      0.0479      0.011      4.471      0.000       0.027       0.069
female         -0.3726      0.005    -71.355      0.000      -0.383      -0.362
married        -0.0150      0.005     -2.961      0.003      -0.025      -0.005
educ_hs         0.0587      0.005     11.626      0.000       0.049       0.069
current_age    -0.0014      0.001     -1.173      0.241      -0.004       0.001
==============================================================================
```

Note: The large negative coefficient on female reflects the gender gap in full-time employment in this population.

Appendix C: Data Dictionary

Table 7: IPUMS Variables Used in Analysis

Variable	Type	Description
YEAR	Household	Census/survey year
PERWT	Person	Person weight
STATEFIP	Household	State FIPS code
AGE	Person	Age at time of survey
BIRTHYR	Person	Year of birth
BIRTHQTR	Person	Quarter of birth (1=Jan-Mar, 2=Apr-Jun, 3=Jul-Sep, 4=Oct-Dec)
SEX	Person	Sex (1=Male, 2=Female)
MARST	Person	Marital status
HISPAN	Person	Hispanic origin (1=Mexican)
BPL	Person	Birthplace (200=Mexico)
CITIZEN	Person	Citizenship status (3=Not a citizen)
YRIMMIG	Person	Year of immigration
EDUC	Person	Educational attainment
EMPSTAT	Person	Employment status
UHRSWORK	Person	Usual hours worked per week

Appendix D: Replication Code Summary

The analysis was conducted using Python 3.14 with the following key packages:

- **pandas**: Data manipulation and analysis
- **numpy**: Numerical computations
- **statsmodels**: Statistical modeling and econometric analysis
- **scipy**: Statistical functions

D.1 Data Processing Steps

The data processing pipeline consisted of the following steps:

1. **Chunked data loading**: Due to the large size of the ACS data file (approximately 34 million observations), data was loaded in chunks of 500,000 observations at a time to manage memory usage.
2. **Filtering**: Each chunk was immediately filtered to keep only observations meeting the DACA-eligibility criteria (Hispanic-Mexican, born in Mexico, non-citizen, arrived by 2007, arrived before age 16).
3. **Age calculation**: Age as of June 15, 2012 was computed using birth year and birth quarter, with appropriate adjustments for individuals born in the latter half of the year.
4. **Variable construction**: Binary indicators were created for treatment status, post-period, full-time employment, and demographic characteristics.

D.2 Estimation Procedure

All regression models were estimated using weighted least squares (WLS) with the ACS person weight (PERWT). Standard errors were computed using the HC1 heteroskedasticity-consistent covariance matrix estimator. The main specifications followed the standard difference-in-differences framework:

```
Model 1: Y = b0 + b1*treat + b2*post + b3*(treat*post) + e
Model 2: Y = b0 + b1*treat + b2*post + b3*(treat*post) + X'g + e
```

where X includes demographic controls (female, married, education, age).

D.3 Replication Files

The following files are provided for replication:

File	Description
analysis_21.py	Main Python analysis script
results_21.csv	Summary of regression coefficients
cell_means_21.csv	2x2 table of group means
event_study_21.csv	Event study coefficients by year
run_log_21.md	Detailed log of all analytical decisions
replication_report_21.tex	This report (LaTeX source)
replication_report_21.pdf	This report (compiled PDF)

All code is designed to run from a clean session with the data files in a "data" subdirectory.

Appendix E: Additional Sensitivity Analyses

E.1 Alternative Age Windows

The main analysis defines the treatment group as individuals aged 26–30 and the control group as those aged 31–35 as of June 15, 2012. This choice balances the need for sufficient sample size against concerns about comparability between age groups. Alternative age windows could be considered:

- **Narrower window (ages 28–30 vs. 31–33)**: Would improve comparability but reduce sample size
- **Wider window (ages 24–30 vs. 31–37)**: Would increase sample size but raise concerns about differential trends between age groups

The chosen window (26–30 vs. 31–35) follows the specification provided in the research instructions and provides a reasonable balance between these considerations.

E.2 Alternative Outcome Definitions

The primary outcome is defined as full-time employment (working 35 or more hours per week). Alternative definitions could include:

- **Any employment**: Would capture both full-time and part-time employment
- **Hours worked**: Continuous measure of usual weekly hours
- **Employed and in labor force**: Would account for labor force participation

The 35-hour threshold for full-time employment follows the standard definition used by the Bureau of Labor Statistics and is consistent with the research question specification.

E.3 Sensitivity to Sample Restrictions

The analysis applies several restrictions to identify DACA-eligible individuals. Sensitivity to these restrictions includes:

- **Immigration timing**: The requirement that individuals arrived by 2007 (YRIMMIG $\leq$ 2007) operationalizes the DACA requirement of continuous presence since June 15, 2007. The ACS reports only the year of immigration, not the specific date, introducing some measurement error for individuals who arrived in 2007.

- **Undocumented status**: The use of non-citizen status (CITIZEN = 3) as a proxy for undocumented status may misclassify some legal non-immigrants (e.g., visa holders) as undocumented. However, given the sample restrictions (arrived before age 16, has been in US since 2007), this misclassification is likely minimal.

- **Age at arrival**: The requirement that individuals arrived before age 16 follows DACA eligibility criteria. The calculation uses the difference between immigration year and birth year, which is an approximation.

E.4 Potential Confounders

The difference-in-differences design controls for time-invariant differences between treatment and control groups and common trends affecting both groups. However, several potential confounders should be acknowledged:

- **Macroeconomic conditions**: The analysis period (2006–2016) includes the Great Recession (2007–2009) and subsequent recovery. Year fixed effects partially address this concern.

- **State-level policies**: Some states implemented policies affecting undocumented immigrants (e.g., driver's license access) during the study period. These policies could differentially affect the treatment group if they were correlated with DACA implementation.

- **Compositional changes**: The analysis uses repeated cross-sections rather than panel data. Changes in the composition of the immigrant population over time could affect the estimates.

The pre-trends test and event study analysis provide some reassurance that these confounders are not driving the main results, as the treatment and control groups appear to follow parallel trends prior to DACA implementation.