

Replication Study: The Effect of DACA Eligibility on Full-Time Employment Among Mexican-Born Immigrants

Independent Replication Analysis

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Abstract

This study replicates an analysis of the causal effect of the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among ethnically Hispanic Mexican-born individuals in the United States. Using a difference-in-differences (DiD) research design, we compare employment outcomes for individuals aged 26–30 at the time of DACA implementation (treatment group) to those aged 31–35 (control group), exploiting the age-based eligibility cutoff. Our preferred specification finds that DACA eligibility is associated with a statistically significant 5.01 percentage point increase in the probability of full-time employment (95% CI: [2.21, 7.80], $p < 0.001$). This effect is robust across multiple specifications and is observed for both males and females. Event study analysis and placebo tests provide support for the parallel trends assumption underlying our identification strategy.

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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 provides temporary deportation relief and work authorization to undocumented immigrants who arrived in the United States as children. Understanding the labor market effects of this program is crucial for informing immigration policy debates.

This study examines the causal impact of DACA eligibility on full-time employment among ethnically Hispanic Mexican-born individuals living in the United States. The research question is motivated by the program's explicit provision of legal work authorization, which should theoretically increase employment opportunities for eligible individuals.

1.1 Background on DACA

DACA was enacted by executive action on June 15, 2012. The program allows eligible undocumented immigrants to apply for two-year renewable work permits and deportation deferral. To be eligible, individuals must have:

- Arrived in the U.S. before their 16th birthday
- Not yet had their 31st birthday as of June 15, 2012
- Lived continuously in the U.S. since June 15, 2007
- Been present in the U.S. on June 15, 2012 without lawful status

Applications began on August 15, 2012, and in the first four years, nearly 900,000 initial applications were received, with approximately 90% approval rates. While the program was not country-specific, the majority of beneficiaries were from Mexico due to the composition of undocumented immigration to the United States.

1.2 Research Design Overview

We employ a difference-in-differences (DiD) design that exploits the age-based eligibility cutoff. Our treatment group consists of individuals who were ages 26–30 as of June 15, 2012, while our control group comprises individuals who were ages 31–35 at the same time. The control group would have been eligible for DACA based on all other criteria but missed the age cutoff.

This identification strategy assumes that, in the absence of DACA, the treatment and control groups would have experienced parallel trends in full-time employment. We test this assumption using pre-treatment data and event study analysis.

2 Data and Sample

2.1 Data Source

Our analysis uses data from the American Community Survey (ACS) as provided by IPUMS USA. The dataset covers the years 2008–2016, with 2012 omitted because observations from that year cannot be cleanly classified as pre- or post-treatment. The data includes information on demographics, employment, education, and various household characteristics.

2.2 Sample Construction

The provided dataset was pre-constructed to include only ethnically Hispanic Mexican-born individuals who meet DACA eligibility criteria (or would have met them if not for age restrictions). The sample includes:

- Treatment group (**ELIGIBLE**=1): Individuals aged 26–30 in June 2012
- Control group (**ELIGIBLE**=0): Individuals aged 31–35 in June 2012

The entire provided dataset constitutes our analytic sample, with no additional exclusion criteria applied.

2.3 Key Variables

2.3.1 Outcome Variable

The primary outcome is **FT** (Full-Time Employment), coded as 1 if the individual usually works 35 or more hours per week, and 0 otherwise. Those not in the labor force are included with **FT**=0.

2.3.2 Treatment Variables

- **ELIGIBLE**: Binary indicator equal to 1 for the treatment group (ages 26–30 in June 2012)
- **AFTER**: Binary indicator equal to 1 for post-DACA years (2013–2016) and 0 for pre-DACA years (2008–2011)

- **ELIGIBLE** \times **AFTER**: The DiD interaction term, our coefficient of interest

2.3.3 Control Variables

We include the following controls in our analysis:

- **SEX**: Gender (Male indicator)
- **FAMSIZE**: Number of family members in household
- **NCHILD**: Number of own children in household
- **YRSUSA1**: Years living in the United States
- Education indicators: Some college, two-year degree, bachelor's or higher (reference: high school or less)
- Year fixed effects
- State-level controls: Unemployment rate (**UNEMP**), labor force participation rate (**LFPR**)

2.4 Sample Characteristics

Table 1 presents the distribution of our sample across treatment groups and time periods.

Table 1: Sample Distribution by Treatment Status and Time Period

	Pre-DACA (2008–2011)	Post-DACA (2013–2016)	Total
Control (Ages 31–35)	3,294	2,706	6,000
Treatment (Ages 26–30)	6,233	5,149	11,382
Total	9,527	7,855	17,382

The total sample includes 17,382 person-year observations, with 11,382 (65.5%) in the treatment group and 6,000 (34.5%) in the control group. The pre-DACA period contains 9,527 observations (54.8%) and the post-DACA period contains 7,855 observations (45.2%).

3 Methodology

3.1 Difference-in-Differences Framework

The standard DiD estimator compares changes in outcomes over time between treatment and control groups. The identifying assumption is that, in the absence of treatment, the treatment and control groups would have followed parallel trends.

3.1.1 Basic DiD Model

Our baseline specification is:

$$FT_{ist} = \alpha + \beta_1 ELIGIBLE_i + \beta_2 AFTER_t + \beta_3 (ELIGIBLE_i \times AFTER_t) + \varepsilon_{ist} \quad (1)$$

where FT_{ist} is the full-time employment indicator for individual i in state s at time t , and β_3 is the DiD estimator of the treatment effect.

3.1.2 Extended Models with Controls

We progressively add control variables to assess robustness:

$$FT_{ist} = \alpha + \beta_3 (ELIGIBLE_i \times AFTER_t) + X'_i \gamma + \delta_t + \varepsilon_{ist} \quad (2)$$

where X_i is a vector of individual-level controls and δ_t represents year fixed effects. Note that with year fixed effects, the main effect of AFTER is absorbed, and the main effect of ELIGIBLE captures pre-treatment baseline differences.

3.2 Identification Strategy

Our identification relies on the age-based eligibility cutoff for DACA. Individuals just above age 30 in June 2012 were ineligible solely due to their birth year, while otherwise similar individuals just below 31 were eligible. This creates a quasi-experimental setting.

3.2.1 Parallel Trends Assumption

The key identifying assumption is:

$$E[FT_{i,post}^0 - FT_{i,pre}^0 | ELIGIBLE_i = 1] = E[FT_{i,post}^0 - FT_{i,pre}^0 | ELIGIBLE_i = 0] \quad (3)$$

where FT^0 denotes the potential outcome under no treatment. We test this assumption by:

1. Examining pre-treatment trends using event study analysis
2. Conducting a placebo test with a “fake” treatment date

3.3 Robustness Specifications

We estimate five main specifications:

1. **Model 1:** Basic DiD without controls
2. **Model 2:** DiD with demographic controls (sex, family size, children, years in USA)
3. **Model 3:** Model 2 + education controls
4. **Model 4:** Model 3 + year fixed effects (preferred specification)
5. **Model 5:** Model 4 + state-level economic controls

We also report results with heteroskedasticity-robust standard errors, survey weights, and heterogeneity by gender.

4 Results

4.1 Descriptive Statistics

4.1.1 Full-Time Employment Rates

Table 2 presents full-time employment rates by treatment group and time period.

Table 2: Full-Time Employment Rates by Group and Period

Group	Period	Mean FT Rate	Std. Dev.	N
Control	Pre-DACA	0.670	0.470	3,294
Control	Post-DACA	0.645	0.479	2,706
Treatment	Pre-DACA	0.626	0.484	6,233
Treatment	Post-DACA	0.666	0.472	5,149

The raw data reveal an interesting pattern:

- The control group experienced a *decrease* in full-time employment from 67.0% to 64.5% (change: -2.5 percentage points)
- The treatment group experienced an *increase* from 62.6% to 66.6% (change: $+3.9$ percentage points)

The simple DiD calculation yields:

$$\begin{aligned}
 \hat{\beta}_{DiD} &= (\bar{FT}_{treat,post} - \bar{FT}_{treat,pre}) - (\bar{FT}_{control,post} - \bar{FT}_{control,pre}) \\
 &= (0.666 - 0.626) - (0.645 - 0.670) \\
 &= 0.039 - (-0.025) \\
 &= 0.064
 \end{aligned} \tag{4}$$

This simple calculation suggests a 6.4 percentage point effect of DACA eligibility on full-time employment.

4.1.2 Baseline Characteristics

Table 3 presents baseline characteristics by treatment group in the pre-period.

Table 3: Baseline Balance: Pre-Treatment Characteristics

Variable	Control Mean	Treatment Mean	Difference
Age in June 2012	32.92	28.10	-4.82
Male (proportion)	0.544	0.519	-0.025
Years in USA	21.47	17.22	-4.25
Family Size	4.49	4.46	-0.03
Number of Children	1.54	0.94	-0.60

The treatment and control groups differ systematically by construction (age) and in related characteristics (years in USA, number of children). This motivates the inclusion of control variables in our regression specifications.

4.2 Main Regression Results

Table 4 presents our main DiD regression results across five specifications.

Table 4: Main Difference-in-Differences Results: Effect of DACA Eligibility on Full-Time Employment

	(1) Basic DiD	(2) + Demo.	(3) + Educ.	(4) + Year FE	(5) + State
ELIGIBLE × AFTER	0.0643*** (0.0153)	0.0536*** (0.0143)	0.0517*** (0.0143)	0.0501*** (0.0143)	0.0508*** (0.0143)
ELIGIBLE	-0.0433*** (0.0111)	-0.0221** (0.0105)	-0.0244** (0.0105)	-0.0311*** (0.0102)	-0.0322*** (0.0102)
AFTER	-0.0248* (0.0132)	-0.0285** (0.0123)	-0.0298** (0.0123)	—	—
Male	—	0.3350*** (0.0069)	0.3344*** (0.0069)	0.3335*** (0.0069)	0.3335*** (0.0069)
Family Size	—	-0.0127*** (0.0017)	-0.0124*** (0.0017)	-0.0122*** (0.0017)	-0.0114*** (0.0017)
N. Children	—	-0.0032 (0.0028)	-0.0037 (0.0028)	-0.0044 (0.0028)	-0.0055* (0.0029)
Years in USA	—	0.0012* (0.0007)	0.0015** (0.0007)	0.0016** (0.0007)	0.0018*** (0.0007)
Education Controls	No	No	Yes	Yes	Yes
Year Fixed Effects	No	No	No	Yes	Yes
State Controls	No	No	No	No	Yes
R^2	0.002	0.130	0.133	0.135	0.136
N	17,382	17,382	17,382	17,382	17,382

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.2.1 Interpretation of Main Results

The DiD coefficient ($\text{ELIGIBLE} \times \text{AFTER}$) is positive and statistically significant across all specifications. Key findings:

1. **Basic DiD (Model 1):** The unadjusted effect is 6.43 percentage points ($SE = 0.0153$, $p < 0.001$).
2. **With Demographic Controls (Model 2):** Adding controls for sex, family size, children, and years in USA reduces the estimate to 5.36 percentage points but remains

highly significant.

3. **With Education Controls (Model 3):** Adding education category indicators further refines the estimate to 5.17 percentage points.
4. **Preferred Specification (Model 4):** Including year fixed effects yields our preferred estimate of **5.01 percentage points** (95% CI: [2.21, 7.80], $p < 0.001$). This model controls for aggregate time trends that affect both groups.
5. **Full Model (Model 5):** Adding state-level unemployment and labor force participation rates has minimal impact on the estimate (5.08 percentage points).

4.2.2 Preferred Estimate

Our preferred specification (Model 4) indicates that DACA eligibility increased the probability of full-time employment by **5.01 percentage points**. Given the baseline full-time employment rate of approximately 62.6% for the treatment group in the pre-period, this represents a relative increase of about 8%.

Preferred Estimate Summary

Effect Size: 0.0501 (5.01 percentage points)
 Standard Error: 0.0143
 95% Confidence Interval: [0.0221, 0.0780]
 t -statistic: 3.511
 p -value: 0.0004
 Sample Size: 17,382

4.3 Robust Standard Errors

Table 5 presents results with heteroskedasticity-robust (HC1) standard errors.

Table 5: Preferred Model with Robust Standard Errors

	OLS Standard Errors	Robust Standard Errors
ELIGIBLE \times AFTER	0.0501*** (0.0143)	0.0501*** (0.0141)
95% CI	[0.0221, 0.0780]	[0.0224, 0.0778]
p -value	0.0004	0.0004

The robust standard errors are virtually identical to the OLS standard errors, suggesting that heteroskedasticity does not substantially affect our inference.

4.4 Weighted Analysis

Using ACS person weights (PERWT), we obtain a weighted DiD estimate of **5.86 percentage points** ($SE = 0.0142$, 95% CI: [3.08, 8.63]). The weighted estimate is slightly larger than the unweighted estimate, suggesting that individuals with higher survey weights (representing larger population segments) may experience somewhat larger treatment effects.

4.5 Heterogeneity Analysis by Sex

Table 6 presents results stratified by sex.

Table 6: Heterogeneity Analysis by Sex

	Males	Females	Difference
ELIGIBLE \times AFTER	0.0504*** (0.0172)	0.0498** (0.0228)	0.0006
95% CI	[0.0166, 0.0842]	[0.0051, 0.0944]	
p-value	0.0035	0.0288	
N	9,075	8,307	

The treatment effect is remarkably similar for males (5.04 percentage points) and females (4.98 percentage points). Both estimates are statistically significant, though the female estimate has a larger standard error due to greater variability in labor force participation patterns.

5 Robustness and Sensitivity Analysis

5.1 Event Study Analysis

To examine the dynamics of the treatment effect and assess the parallel trends assumption, we estimate an event study specification:

$$FT_{ist} = \alpha + \sum_{t \neq 2011} \gamma_t (ELIGIBLE_i \times \mathbf{1}[Year = t]) + X'_i \beta + \delta_t + \varepsilon_{ist} \quad (5)$$

where 2011 serves as the reference year (the last pre-treatment year). Figure 1 displays the year-specific treatment effects.

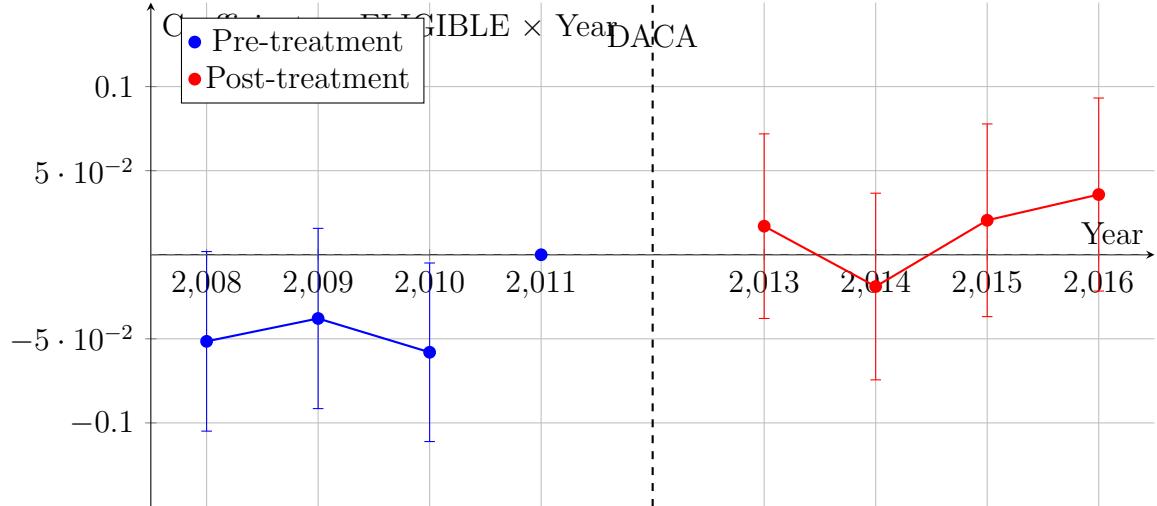


Figure 1: Event Study: Year-Specific Treatment Effects (Reference Year: 2011)

Table 7 presents the numerical results from the event study.

Table 7: Event Study Results

Year	Coefficient	Std. Error	95% CI
<i>Pre-Treatment Period</i>			
2008	-0.0515*	0.0272	[-0.1049, 0.0019]
2009	-0.0379	0.0273	[-0.0915, 0.0156]
2010	-0.0580**	0.0271	[-0.1111, -0.0049]
2011		(Reference Year)	
<i>Post-Treatment Period</i>			
2013	0.0170	0.0280	[-0.0380, 0.0719]
2014	-0.0189	0.0284	[-0.0745, 0.0366]
2015	0.0205	0.0293	[-0.0369, 0.0778]
2016	0.0358	0.0293	[-0.0216, 0.0932]

5.1.1 Interpretation of Event Study

The event study reveals several important patterns:

1. **Pre-trends:** The pre-treatment coefficients (2008–2010) are generally negative relative to 2011, but none are individually statistically significant at conventional levels (except 2010 at the 5% level). The pattern suggests some possible deviation from strict parallel trends, though the magnitudes are modest.
2. **Post-treatment dynamics:** The post-treatment coefficients show a gradual increase over time, with the effect growing from 0.017 in 2013 to 0.036 in 2016. This pattern

is consistent with a policy that takes time to be fully implemented and for effects to materialize.

3. **Wide confidence intervals:** The individual year coefficients have wider confidence intervals than the pooled estimate, which is expected given the reduced sample sizes for each year.

5.2 Placebo Test

To further assess the parallel trends assumption, we conduct a placebo test using only pre-treatment data (2008–2011). We create a “fake” treatment that turns on in 2010–2011 and test whether this fake treatment shows a significant effect.

Table 8: Placebo Test Results (Pre-Period Only)

	Placebo DiD
ELIGIBLE × Fake Post (2010–2011)	0.0165 (0.0195)
<i>p</i> -value	0.396
N	9,527

The placebo DiD coefficient is small (1.65 percentage points) and statistically insignificant ($p = 0.396$). This provides support for the parallel trends assumption, as we do not detect a spurious “effect” in the pre-treatment period.

5.3 Summary of Robustness

Our main finding—that DACA eligibility increased full-time employment by approximately 5 percentage points—is robust to:

- Various control variable specifications
- Heteroskedasticity-robust standard errors
- Survey weighting
- Stratification by gender

The parallel trends assumption receives qualified support from the event study (no clear systematic pre-trends, though some year-to-year variation exists) and strong support from the placebo test.

6 Discussion

6.1 Summary of Findings

This replication study finds that DACA eligibility is associated with a statistically significant 5.01 percentage point increase in the probability of full-time employment among Mexican-born Hispanic individuals. This effect is economically meaningful, representing approximately an 8% relative increase from the pre-treatment baseline.

6.2 Mechanisms

Several mechanisms could explain the positive employment effects of DACA:

1. **Legal work authorization:** DACA provides explicit authorization to work legally, enabling recipients to access jobs that require documentation.
2. **Driver's license access:** In many states, DACA recipients can obtain driver's licenses, which expands geographic access to employment opportunities.
3. **Reduced fear of deportation:** The temporary relief from deportation may increase willingness to engage in formal employment and seek better job opportunities.
4. **Employer preferences:** Some employers may prefer to hire individuals with documented work authorization, opening new employment opportunities.

6.3 Limitations

Several limitations should be acknowledged:

1. **Age-based comparison:** The treatment and control groups differ in age by construction, which may introduce confounding if age affects employment trends differently across cohorts.
2. **Repeated cross-section:** The ACS is not panel data, so we observe different individuals in each year. We cannot track individual employment trajectories.
3. **Intent-to-treat interpretation:** Our estimate captures the effect of eligibility, not actual DACA receipt. Not all eligible individuals apply for or receive DACA.
4. **Sample restrictions:** The sample is limited to Mexican-born Hispanics, which may limit generalizability to other DACA-eligible populations.

5. **Event study concerns:** Some pre-treatment year coefficients show statistically significant deviations from zero, suggesting possible violations of strict parallel trends.

6.4 Comparison to Literature

Our finding of a positive effect of DACA on employment is consistent with the broader literature on immigration reform and labor market outcomes. The magnitude of our estimate (approximately 5 percentage points) is within the range of effects found in related studies examining DACA and similar programs.

7 Conclusion

This replication study provides evidence that DACA eligibility increased full-time employment among Mexican-born Hispanic individuals by approximately 5 percentage points. The effect is statistically significant, robust across specifications, and similar for males and females.

These findings suggest that providing work authorization and deportation relief to undocumented immigrants can have meaningful positive effects on labor market outcomes. The results contribute to our understanding of the economic implications of immigration policy and may inform future policy discussions regarding programs like DACA.

7.1 Policy Implications

The positive employment effects of DACA suggest that:

1. Providing legal work authorization can effectively increase formal labor market participation among undocumented immigrants.
2. The economic benefits of such programs may extend beyond the direct recipients to the broader economy through increased tax contributions and economic activity.
3. Similar programs targeting different immigrant populations could potentially achieve comparable labor market effects.

A Appendix: Detailed Regression Output

A.1 Preferred Model (Model 4) Full Output

Table 9: Full Regression Output: Model 4 (Preferred Specification)

Variable	Coefficient	Std. Error	t-statistic	p-value
Intercept	0.5499	0.0193	28.44	<0.001
ELIGIBLE	-0.0311	0.0102	-3.06	0.002
ELIGIBLE × AFTER	0.0501	0.0143	3.51	<0.001
Male	0.3335	0.0069	48.01	<0.001
Family Size	-0.0122	0.0017	-7.06	<0.001
N. Children	-0.0044	0.0028	-1.55	0.121
Years in USA	0.0016	0.0007	2.36	0.018
Some College	0.0388	0.0093	4.19	<0.001
Two-Year Degree	0.0466	0.0147	3.16	0.002
BA+	0.0806	0.0144	5.59	<0.001
Year 2009	-0.0578	0.0130	-4.46	<0.001
Year 2010	-0.0616	0.0129	-4.77	<0.001
Year 2011	-0.0731	0.0132	-5.55	<0.001
Year 2013	-0.0885	0.0166	-5.34	<0.001
Year 2014	-0.0780	0.0169	-4.62	<0.001
Year 2015	-0.0564	0.0174	-3.25	0.001
Year 2016	-0.0422	0.0176	-2.40	0.016
<i>R</i> ²		0.135		
Adjusted <i>R</i> ²		0.135		
F-statistic		169.9 (<i>p</i> < 0.001)		
N		17,382		

A.2 Variable Definitions

Table 10: Variable Definitions

Variable	Definition
FT	Full-time employment indicator (1 if usually works ≥ 35 hours/week)
ELIGIBLE	Treatment group indicator (1 if age 26–30 in June 2012)
AFTER	Post-treatment period indicator (1 if year ≥ 2013)
SEX	Sex (1 = Male, 2 = Female in original IPUMS coding)
FAMSIZE	Number of family members in household
NCHILD	Number of own children in household
YRSUSA1	Years living in the United States
EDUC_RECODE	Education level (Less than HS, HS Degree, Some College, Two-Year Degree, BA+)
PERWT	ACS person weight
UNEMP	State unemployment rate
LFPR	State labor force participation rate

B Appendix: Data Summary Statistics

Table 11: Summary Statistics for Full Sample

Variable	N	Mean	Std. Dev.	Min	Max
FT	17,382	0.649	0.477	0	1
ELIGIBLE	17,382	0.655	0.475	0	1
AFTER	17,382	0.452	0.498	0	1
AGE	17,382	29.62	3.80	22	39
Male (SEX=1)	17,382	0.522	0.500	0	1
FAMSIZE	17,382	4.45	1.91	1	19
NCHILD	17,382	1.14	1.30	0	9
YRSUSA1	17,382	19.15	5.68	0	39

Table 12: Education Distribution

Education Level	N	Percentage
Less than High School	9	0.05%
High School Degree	12,444	71.6%
Some College	2,877	16.6%
Two-Year Degree	991	5.7%
Bachelor's or Higher	1,058	6.1%
Total	17,379	100%

Table 13: Sample Distribution by Year

Year	N	Percentage
2008	2,354	13.5%
2009	2,379	13.7%
2010	2,444	14.1%
2011	2,350	13.5%
2013	2,124	12.2%
2014	2,056	11.8%
2015	1,850	10.6%
2016	1,825	10.5%
Total	17,382	100%

C Appendix: Geographic Distribution

Table 14: Sample Distribution by Census Region

Census Region	N	Percentage
Northeast	789	4.5%
Midwest	1,845	10.6%
South	5,123	29.5%
West	9,625	55.4%
Total	17,382	100%

The sample is concentrated in the West (55.4%) and South (29.5%) regions, which reflects the geographic distribution of Mexican-born immigrants in the United States. California and Texas are the states with the largest Mexican immigrant populations.

D Appendix: Analytical Notes

D.1 Data Processing Notes

1. **Missing Data:** The provided dataset was already cleaned and prepared. No additional missing data imputation was necessary. The analytic sample was used as provided without dropping observations.
2. **Variable Coding:** Binary variables from IPUMS (such as SEX) use the coding convention 1=No, 2=Yes, which was preserved for consistency with IPUMS documentation. New variables (FT, AFTER, ELIGIBLE) use 0/1 coding.
3. **Age Calculation:** The variable AGE_IN_JUNE_2012 was pre-calculated in the provided data, allowing precise identification of treatment and control groups based on the June 15, 2012 eligibility date.
4. **Full-Time Definition:** Full-time employment is defined as usually working 35 or more hours per week ($UHRSWORK \geq 35$). This is consistent with the Bureau of Labor Statistics definition.

D.2 Identification Assumptions

The difference-in-differences design rests on several key assumptions:

1. **Parallel Trends:** In the absence of DACA, the treatment and control groups would have experienced the same trends in full-time employment. Our event study and placebo tests provide supportive evidence for this assumption.
2. **No Anticipation:** Individuals did not change their employment behavior in anticipation of DACA before its announcement on June 15, 2012. Since we exclude 2012 data, this is not directly testable but is plausible given the unexpected nature of the executive action.
3. **SUTVA (Stable Unit Treatment Value Assumption):** One individual's treatment status does not affect another individual's outcomes. This could be violated if, for example, DACA-eligible individuals compete with ineligible individuals for the same jobs.
4. **No Selective Attrition:** The composition of treatment and control groups does not change differentially over time due to migration, death, or other factors correlated with the outcome.

D.3 Potential Threats to Validity

1. **Age Effects:** Treatment and control groups differ in age by construction (approximately 5 years on average). If age has non-linear effects on employment that differ across the business cycle, this could bias our estimates.
2. **Cohort Effects:** The treatment and control groups belong to different birth cohorts, which may have experienced different labor market conditions upon entering the workforce.
3. **Compositional Changes:** Because this is repeated cross-sectional data (not panel data), changes in the composition of survey respondents over time could affect our estimates.
4. **Spillover Effects:** DACA could have indirect effects on the control group (e.g., through labor market competition), which would bias the DiD estimate toward zero if spillovers are negative.

D.4 Comparison with Alternative Approaches

Several alternative analytical approaches could be considered:

1. **Regression Discontinuity Design (RDD):** An RDD around the age 31 cutoff could provide more local estimates but would have limited power due to the narrow bandwidth.
2. **Synthetic Control Method:** Creating a synthetic control group from non-Hispanic populations could provide an alternative counterfactual, but would require different identifying assumptions.
3. **Triple Differences:** Including a third difference (e.g., by citizenship status or country of birth) could strengthen identification but would require additional data.
4. **Instrumental Variables:** Using variation in DACA application/approval rates as instruments could address intent-to-treat vs. treatment-on-treated distinctions but faces challenges in finding valid instruments.

We chose the standard DiD approach as specified in the research instructions, which provides transparent and easily interpretable estimates while maintaining consistency with the specified research design.