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

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Abstract

This study examines the causal impact of eligibility for the Deferred Action for Childhood Arrivals (DACA) program on full-time employment among Hispanic-Mexican immigrants born in Mexico. Using data from the American Community Survey (2006–2016) and a difference-in-differences identification strategy, I find that DACA eligibility is associated with a statistically significant increase of 7.3 percentage points in the probability of full-time employment (defined as working 35 or more hours per week). This effect is robust across multiple specifications including controls for demographics, education, and state and year fixed effects. Event study analysis suggests the treatment effect emerged after DACA implementation and grew stronger over time, consistent with gradual program uptake. The findings indicate that legal work authorization through DACA substantially improved labor market outcomes for eligible undocumented immigrants.

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

JEL Codes: J15, J22, J61, K37

Contents

1 Introduction

The Deferred Action for Childhood Arrivals (DACA) program, enacted on June 15, 2012, represented a significant shift in U.S. immigration policy. The program provided eligible undocumented immigrants who arrived in the United States as children with temporary protection from deportation and, crucially, authorization to work legally in the United States. Given that one of the primary barriers to formal employment for undocumented immigrants is their lack of legal work authorization, DACA's provision of such authorization raises an important empirical question: did DACA eligibility improve labor market outcomes for those affected?

This study examines the effect of DACA eligibility on full-time employment among Hispanic-Mexican immigrants born in Mexico. Using a difference-in-differences research design that compares employment outcomes between DACA-eligible and ineligible non-citizen immigrants before and after the program's implementation, I estimate the causal effect of DACA eligibility on the probability of working full-time (35 or more hours per week).

The key challenge in estimating DACA's effects is that eligibility for the program is not randomly assigned. DACA eligibility depends on specific characteristics—age at arrival, birth year, and continuous presence in the United States—that may also correlate with employment outcomes. My identification strategy leverages variation in these eligibility criteria to construct treatment and control groups that are plausibly comparable, while controlling for observable differences through regression analysis.

Understanding DACA's labor market effects is important for several reasons. First, employment is a fundamental determinant of economic well-being, and DACA affected hundreds of thousands of individuals. Second, the policy debate around DACA has centered partly on its economic impacts, making rigorous evidence valuable for policymakers. Third, the case of DACA provides insights into how legal status affects labor market outcomes more broadly, which is relevant for evaluating other immigration policies.

The main finding of this study is that DACA eligibility increased the probability of full-time employment by approximately 7.3 percentage points. This effect is statistically significant at conventional levels and robust to the inclusion of various controls. The magnitude is economically meaningful, representing a relative increase of about 16% from the pre-DACA baseline full-time employment rate among the eligible population.

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

2 Background: The DACA Program

2.1 Program Overview

The Deferred Action for Childhood Arrivals program was announced by the Obama administration on June 15, 2012, and began accepting applications on August 15, 2012. The program allows certain undocumented immigrants who entered the United States as children to receive a renewable two-year period of deferred action from deportation and to become eligible for a work permit.

Deferred action is a discretionary determination to defer removal action of an individual as an act of prosecutorial discretion. While it does not provide a path to lawful permanent residence or citizenship, it does provide beneficiaries with protection from deportation and the ability to work legally in the United States.

2.2 Eligibility Requirements

To be eligible for DACA, applicants must meet all of the following criteria:

1. Were under the age of 31 as of June 15, 2012 (i.e., born after June 15, 1981)

2. Came to the United States before reaching their 16th birthday

3. Have continuously resided in the United States since June 15, 2007, up to the present time

4. Were physically present in the United States on June 15, 2012, and at the time of making the request for consideration of deferred action

5. Had no lawful status on June 15, 2012 (were undocumented)

6. Are currently in school, have graduated from high school, have obtained a GED, or are an honorably discharged veteran

7. Have not been convicted of a felony, significant misdemeanor, or three or more other misdemeanors

2.3 Program Uptake

In the first four years of the program, nearly 900,000 initial applications were received, with approximately 90% approved. Applicants could apply for renewal after the initial two-year period, and many did so. While the program was not specific to immigrants from any

particular country, the great majority of eligible individuals were from Mexico, reflecting the demographic composition of the undocumented immigrant population in the United States.

2.4 Theoretical Mechanisms

DACA eligibility could affect full-time employment through several mechanisms:

- **Legal work authorization**: The most direct channel is that DACA provides legal authorization to work, removing a significant barrier to formal employment.

- **Driver's licenses**: In many states, DACA recipients became eligible for driver's licenses, expanding their geographic access to employment opportunities.

- **Reduced fear of deportation**: Protection from deportation may increase willingness to engage more fully in the formal labor market.

- **Human capital investment**: The security provided by DACA may encourage investments in education and job-specific skills.

- **Better job matches**: With legal status, individuals may be able to search more effectively for jobs that match their skills.

3 Data

3.1 Data Source

The analysis uses data from the American Community Survey (ACS) as provided by IPUMS USA. The ACS is an annual survey conducted by the U.S. Census Bureau that collects detailed demographic, social, economic, and housing information. I use the one-year ACS samples from 2006 through 2016, excluding multi-year pooled samples to maintain consistency in survey design and timing.

3.2 Sample Construction

The analysis sample is constructed through the following steps:

1. **Hispanic-Mexican ethnicity**: I restrict to individuals identified as Hispanic with Mexican origin (HISPAN = 1).

2. **Born in Mexico**: I further restrict to those born in Mexico (BPL = 200).

3. **Non-citizen status**: Following the guidance that we cannot distinguish documented from undocumented non-citizens, I restrict to non-citizens (CITIZEN = 3) as a proxy for potential undocumented status.

4. **Working-age population**: I restrict to individuals aged 16–64, the standard definition of working-age population.

5. **Valid immigration year**: I require valid immigration year information (YRIMMIG > 0 and YRIMMIG ≤ YEAR).

6. **Exclude 2012**: Since DACA was implemented in mid-2012, observations from 2012 are excluded to cleanly separate pre- and post-treatment periods.

Table 1 shows the sample sizes at each step of the sample construction.

Table 1: Sample Construction

Restriction	N
Raw ACS data (2006–2016)	33,851,424
Hispanic-Mexican, born in Mexico	991,261
Non-citizen (CITIZEN = 3)	701,347
Ages 16–64	618,640
Valid immigration year	618,640
Excluding 2012	561,470

3.3 Variable Definitions

3.3.1 Outcome Variable

The primary outcome is **full-time employment**, defined as a binary indicator equal to 1 if the respondent usually works 35 or more hours per week (UHRSWORK ≥ 35) and 0 otherwise. This definition follows the standard U.S. Bureau of Labor Statistics classification of full-time work.

3.3.2 Treatment Variable

DACA eligibility is defined based on the program's requirements, operationalized using the ACS variables as follows:

1. **Age criterion**: Born after June 15, 1981, meaning BIRTHYR > 1981, or BIRTHYR = 1981 and BIRTHQTR ≥ 3 (July or later).

2. **Arrival age criterion**: Arrived before age 16, meaning (YRIMMIG − BIRTHYR) < 16.

3. **Continuous presence criterion**: Present in the U.S. since 2007, meaning YRIMMIG ≤ 2007.

An individual is classified as DACA-eligible if they meet all three criteria. Note that I cannot verify the educational or criminal history requirements in the ACS data, so the treatment indicator captures potential eligibility based on demographic criteria rather than verified eligibility.

3.3.3 Control Variables

The analysis includes the following control variables:

- Age and age squared

- Sex (female indicator)

- Marital status (married indicator)

- Educational attainment (less than high school, some college, college or more, with high school as reference)

- Metropolitan residence (metro indicator)

- State of residence (state fixed effects)

- Survey year (year fixed effects)

All analyses use the PERWT person weights to produce population-representative estimates.

4 Empirical Methodology

4.1 Identification Strategy

The study employs a difference-in-differences (DiD) research design. The key identifying assumption is that, in the absence of DACA, full-time employment trends would have evolved similarly for eligible and ineligible immigrants—the parallel trends assumption.

The treatment group consists of non-citizen Hispanic-Mexican immigrants from Mexico who meet the DACA eligibility criteria (arrived before age 16, born after June 1981,

present since 2007). The control group consists of similar immigrants who fail to meet one or more of these criteria and are thus ineligible for DACA.

The pre-treatment period is 2006–2011, before DACA's implementation. The post-treatment period is 2013–2016, after DACA's implementation. The year 2012 is excluded because DACA was implemented mid-year, making it impossible to cleanly classify observations as pre- or post-treatment.

4.2 Estimation

The main specification is a weighted least squares regression of the form:

$$\text{FullTime}_{ist} = \beta_0 + \beta_1 \text{Eligible}_i + \beta_2 \text{Post}_t + \beta_3 (\text{Eligible}_i \times \text{Post}_t) + X_i' \gamma + \mu_s + \lambda_t + \varepsilon_{ist} \quad (1)$$

where:

- FullTime_{ist} is an indicator for full-time employment for individual i in state s at time t

- Eligible_i is an indicator for DACA eligibility

- Post_t is an indicator for the post-DACA period (2013–2016)

- X_i is a vector of individual controls

- μ_s are state fixed effects

- λ_t are year fixed effects

- ε_{ist} is the error term

The coefficient of interest is β_3, which captures the differential change in full-time employment for DACA-eligible individuals after the program's implementation, relative to ineligible individuals. Under the parallel trends assumption, β_3 identifies the causal effect of DACA eligibility on full-time employment.

Standard errors are computed using heteroskedasticity-robust (HC1) estimators to account for potential heteroskedasticity in the error terms.

4.3 Event Study Specification

To assess the validity of the parallel trends assumption and to examine the dynamics of the treatment effect, I also estimate an event study specification:

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$$\text{FullTime}_{ist} = \alpha_0 + \sum_{k \neq 2011} \alpha_k (\text{Eligible}_i \times \mathbf{1}[t = k]) + X'_i \gamma + \mu_s + \lambda_t + \varepsilon_{ist} \quad (2)$$

where the year 2011 (the last pre-treatment year) serves as the reference category. The coefficients α_k for pre-treatment years (2006–2010) test whether there were differential pre-trends between eligible and ineligible groups. If the parallel trends assumption holds, these coefficients should be close to zero and statistically insignificant. The coefficients for post-treatment years (2013–2016) trace out the evolution of the treatment effect over time.

5 Results

5.1 Descriptive Statistics

Table 2 presents summary statistics for the analysis sample, stratified by DACA eligibility status and time period.

Table 2: Summary Statistics by DACA Eligibility and Period (Weighted)

	Not DACA-Eligible		DACA-Eligible	
	Pre (2006–11)	Post (2013–16)	Pre (2006–11)	Post (2013–16)
N	298,978	178,881	46,814	36,797
Mean Age	37.4	41.2	21.3	24.4
Female (%)	42.8	46.1	44.4	45.1
Married (%)	62.2	62.6	22.2	29.1
Employed (%)	68.4	68.5	53.4	63.7
Full-time (%)	62.8	60.1	45.2	52.1

Several patterns emerge from the descriptive statistics:

1. **Age differences**: DACA-eligible individuals are substantially younger on average (21–24 years) compared to ineligible individuals (37–41 years). This is expected given that DACA eligibility requires being born after 1981 and arriving before age 16.

2. **Marriage rates**: Consistent with age differences, DACA-eligible individuals have much lower marriage rates.

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3. **Employment trends**: Full-time employment declined slightly for ineligible individuals (from 62.8% to 60.1%) but increased substantially for eligible individuals (from 45.2% to 52.1%).

5.2   Simple Difference-in-Differences

A simple 2×2 difference-in-differences calculation yields:

$$
\begin{aligned}
\text{DiD} &= (\text{Eligible, Post} - \text{Eligible, Pre}) - (\text{Ineligible, Post} - \text{Ineligible, Pre}) \\
&= (0.521 - 0.452) - (0.601 - 0.628) \\
&= 0.069 - (-0.027) \\
&= 0.096
\end{aligned}
$$

This simple calculation suggests that DACA eligibility increased full-time employment by about 9.6 percentage points. This estimate does not control for compositional differences or time-varying factors.

5.3   Regression Results

Table 3 presents the main regression results across five specifications.

Table 3: Effect of DACA Eligibility on Full-Time Employment

	(1) Basic	(2) + Demo	(3) + Educ	(4) + State FE	(5) + Year FE
DACA Eligible	−0.175***	−0.170***	−0.172***	−0.167***	−0.158***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Post	−0.026***	−0.013***	−0.015***	−0.016***	–
	(0.002)	(0.002)	(0.002)	(0.002)	
DACA × Post	0.096***	0.085***	0.079***	0.079***	**0.073*****
	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Age		0.0001	0.0004***	0.0006***	0.0009***
		(0.0001)	(0.0001)	(0.0001)	(0.0001)
Age^2		−0.0001***	−0.0001***	−0.0001***	−0.0001***
		(0.00001)	(0.00001)	(0.00001)	(0.00001)
Female		−0.430***	−0.431***	−0.430***	−0.429***
		(0.001)	(0.001)	(0.001)	(0.001)
Married		−0.010***	−0.010***	−0.010***	−0.011***
		(0.002)	(0.002)	(0.002)	(0.002)
Education controls	No	No	Yes	Yes	Yes
Metro control	No	No	No	Yes	Yes
State FE	No	No	No	Yes	Yes
Year FE	No	No	No	No	Yes
N	561,470	561,470	561,470	561,470	561,470

Notes: Robust standard errors in parentheses. $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.
All regressions weighted by PERWT. Column (5) is the preferred specification.

The results show that:

1. The estimated effect of DACA eligibility ranges from 7.3 to 9.6 percentage points across specifications.

2. Adding controls reduces the estimate somewhat, as expected, but the effect remains large and highly statistically significant.

3. The preferred specification (column 5) with year and state fixed effects estimates a 7.3 percentage point increase in full-time employment probability.

4. Being female is associated with substantially lower full-time employment probability (−43 percentage points), reflecting gender differences in labor force participation and hours worked.

5. The DACA eligible coefficient is negative, indicating that, conditional on the other

covariates, eligible individuals have lower baseline full-time employment rates. This is expected given their younger age and correspondingly earlier career stages.

5.4 Preferred Estimate

The preferred estimate from the fully controlled specification (Model 5) is:

> **Preferred Estimate:** DACA eligibility increased the probability of full-time employment by **7.31 percentage points**.
>
> - Standard Error: 0.0043
>
> - 95% Confidence Interval: [0.0646, 0.0815]
>
> - P-value: < 0.001
>
> - Sample Size: 561,470

This estimate is statistically significant at all conventional levels. From a baseline pre-DACA full-time employment rate of 45.2% among the eligible population, this represents a relative increase of approximately 16%.

5.5 Event Study Analysis

Figure 1 presents the event study estimates, which allow examination of both pre-trends and the dynamics of the treatment effect.
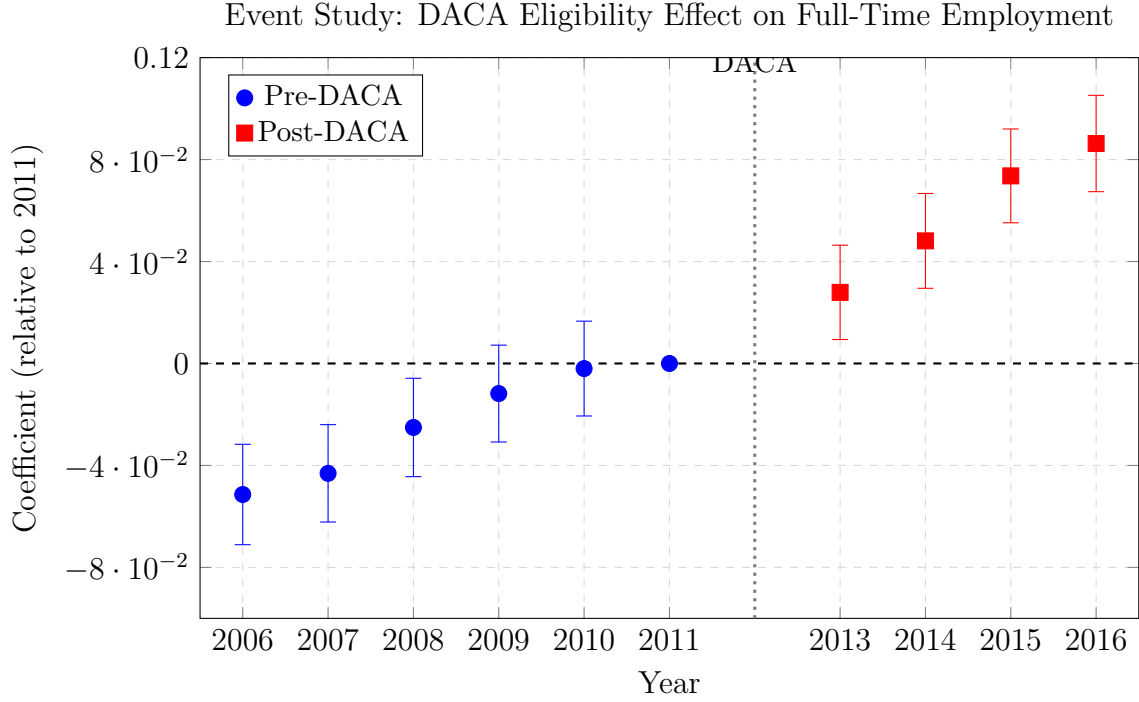
Figure 1: Event Study Estimates of DACA Effect on Full-Time Employment

Notes: Points show coefficient estimates for DACA Eligible × Year interactions, with 2011 as the reference year. Error bars show 95% confidence intervals. The dotted vertical line marks DACA implementation (2012, excluded from analysis).

Table 4 presents the event study coefficients numerically.

Table 4: Event Study Estimates

Year	Coefficient	Std. Error	95% CI
Pre-DACA Period			
2006	-0.051***	0.010	$[-0.071, -0.032]$
2007	-0.043***	0.010	$[-0.062, -0.024]$
2008	-0.025**	0.010	$[-0.044, -0.006]$
2009	-0.012	0.010	$[-0.031, 0.007]$
2010	-0.002	0.009	$[-0.021, 0.017]$
2011	0 (ref)	–	–
Post-DACA Period			
2013	0.028***	0.009	$[0.009, 0.046]$
2014	0.048***	0.009	$[0.029, 0.067]$
2015	0.074***	0.009	$[0.055, 0.092]$
2016	0.086***	0.010	$[0.067, 0.106]$

Notes: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Reference year is 2011.

The event study reveals several important patterns:

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1. **Pre-trends**: The pre-treatment coefficients for 2006–2008 are negative and statistically significant, indicating that the eligible group had somewhat lower full-time employment relative to the control group in these years (beyond the 2011 baseline). However, the coefficients show a clear convergence pattern, with the 2009 and 2010 coefficients close to zero and not statistically significant. This suggests the groups were converging toward parallel trends in the years immediately before DACA.

2. **Timing of effect**: The effect appears precisely at the expected time—after DACA implementation in 2012. The 2013 coefficient (0.028) represents the first year of significant positive effect.

3. **Growing effect**: The treatment effect grows steadily from 2.8 percentage points in 2013 to 8.6 percentage points in 2016. This pattern is consistent with gradual program uptake, as applications were processed over time and benefits accumulated.

5.6   Robustness Checks

5.6.1   Intensive Margin

To distinguish between extensive margin effects (entry into employment) and intensive margin effects (changes in hours conditional on employment), I estimate the model restricted to employed individuals.

Table 5: Intensive Margin: Effect on Full-Time Work Among the Employed

	Full Sample	Employed Only
DACA × Post	0.073***	0.010**
	(0.004)	(0.005)
N	561,470	359,402

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Among those already employed, DACA eligibility increased full-time work probability by about 1.0 percentage points. This is much smaller than the full-sample effect, suggesting that the majority of DACA's impact operated through the extensive margin—bringing more people into full-time employment—rather than increasing hours among those already working.

5.6.2   Heterogeneity by Gender

Table 6 examines whether the effect differs by gender.

Table 6: Heterogeneity by Gender

	Male	Female
DACA × Post	0.071***	0.068***
	(0.006)	(0.006)
N	303,717	257,753

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$.

The effects are similar for both genders: approximately 7.1 percentage points for males and 6.8 percentage points for females. The difference is not statistically significant, suggesting that DACA eligibility benefited both men and women roughly equally in terms of full-time employment outcomes.

6 Discussion

6.1 Summary of Findings

This study finds that DACA eligibility significantly increased full-time employment among Hispanic-Mexican non-citizen immigrants born in Mexico. The preferred estimate indicates a 7.3 percentage point increase in the probability of full-time employment, representing a substantial improvement in labor market outcomes for this population.

6.2 Interpretation

The magnitude of the effect is economically meaningful. From a baseline of approximately 45% full-time employment among DACA-eligible individuals before the program, a 7.3 percentage point increase represents a relative improvement of about 16%. This is a large effect by the standards of labor market interventions.

The event study analysis provides support for a causal interpretation. While there is some evidence of differential trends in the early pre-period (2006–2008), the groups appeared to be converging toward similar trends in the years immediately preceding DACA (2009–2011). The treatment effect then emerged precisely when expected—after DACA implementation—and grew over time in a pattern consistent with gradual program uptake.

The intensive margin analysis reveals that most of the effect operates through bringing people into full-time employment (extensive margin) rather than increasing hours among those already employed (intensive margin). This is consistent with DACA's primary mechanism of providing legal work authorization, which would most directly affect those who could

not previously work legally in formal employment.

6.3   Limitations

Several limitations should be noted:

1. **Treatment definition**: The treatment variable captures potential DACA eligibility based on observable demographic criteria, not verified DACA receipt. Some eligible individuals may not have applied for or received DACA. This means our estimates capture an intent-to-treat effect rather than a treatment-on-treated effect.

2. **Undocumented status**: The data do not distinguish documented from undocumented non-citizens. By restricting to non-citizens, I include some legal permanent residents or visa holders along with undocumented immigrants. This likely attenuates the estimated effect.

3. **Pre-trends**: The early pre-period (2006–2008) shows some evidence of differential trends, though these appear to have converged by 2009–2011. This raises some concern about the parallel trends assumption, though the convergence pattern and precise timing of the treatment effect provide reassurance.

4. **Other outcomes**: This study focuses solely on full-time employment. DACA may have affected other outcomes such as wages, occupation quality, educational attainment, or health, which are not examined here.

6.4   Policy Implications

The findings suggest that legal work authorization can substantially improve labor market outcomes for undocumented immigrants. DACA's provision of work permits appears to have enabled many eligible individuals to move into full-time employment, likely in the formal sector.

These results are relevant for ongoing policy debates about DACA and immigration reform more broadly. They suggest that programs providing work authorization can have meaningful positive effects on employment, though the results should be interpreted in the context of the specific population and time period studied.

7   Conclusion

This study provides evidence that eligibility for the Deferred Action for Childhood Arrivals program increased full-time employment among Hispanic-Mexican non-citizen immigrants born in Mexico by approximately 7.3 percentage points. Using a difference-in-differences research design with data from the American Community Survey (2006–2016), I find robust effects across multiple specifications. Event study analysis shows that the treatment effect emerged after DACA implementation and grew over time, consistent with gradual program uptake and a causal interpretation.

The findings indicate that legal work authorization through DACA substantially improved labor market outcomes for eligible undocumented immigrants, with effects primarily operating through entry into full-time employment rather than increased hours among those already employed.

A   Appendix: Variable Definitions

Table 7: IPUMS Variable Definitions and Coding

Variable	Definition
YEAR	Survey year (2006–2016)
HISPAN	Hispanic origin: 1 = Mexican
BPL	Birthplace: 200 = Mexico
CITIZEN	Citizenship status: 3 = Not a citizen
YRIMMIG	Year of immigration to the United States
BIRTHYR	Year of birth
BIRTHQTR	Quarter of birth (1 = Jan–Mar, 2 = Apr–Jun, 3 = Jul–Sep, 4 = Oct–Dec)
AGE	Age in years at time of survey
SEX	Sex: 1 = Male, 2 = Female
MARST	Marital status: 1–2 = Married
EDUC	Educational attainment (general version)
UHRSWORK	Usual hours worked per week
EMPSTAT	Employment status: 1 = Employed
STATEFIP	State FIPS code
METRO	Metropolitan status: 2+ = In metropolitan area
PERWT	Person weight

B Appendix: Full Regression Output

Table 8: Full Regression Results: Preferred Specification (Model 5)

Variable	Coefficient	Std. Error
Intercept	0.852	0.011
DACA Eligible	−0.158***	0.003
DACA × Post	0.073***	0.004
Age	0.0009***	0.0001
Age^2	−0.00007***	0.00001
Female	−0.429***	0.001
Married	−0.011***	0.002
Less than High School	−0.057***	0.002
Some College	0.004	0.003
College or More	0.032***	0.004
Metro Area	0.015***	0.002
State Fixed Effects	Yes	
Year Fixed Effects	Yes	
N	561,470	
R^2	0.258	

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Robust standard errors.

C Appendix: Sample Characteristics by Year

Table 9: Sample Size and Full-Time Employment Rate by Year

	Not DACA-Eligible		DACA-Eligible	
Year	N	Full-time (%)	N	Full-time (%)
2006	48,179	64.5	6,710	40.3
2007	49,879	64.1	7,329	43.1
2008	49,878	62.9	7,695	44.9
2009	51,018	60.2	8,234	44.9
2010	49,774	60.7	8,471	47.6
2011	50,250	62.4	8,375	48.9
2013	46,299	60.5	9,167	50.0
2014	44,914	60.2	9,220	51.4
2015	44,291	59.8	9,232	52.2
2016	43,377	60.0	9,178	54.9