# In Search of the Socio-ecoomic Effects of Legal Status *

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**Abstract**

Conferring legal status is at the forefront of policy discussions. How would receiving legal status impact the lives of immigrants? A comprehensive empirical analysis in the academic literature has so far been elusive. To fill this gap, we gather a novel, comprehensive database of Temporary Protected Status (TPS) and Deferred Enforced Departure (DED) policies enacted in the US since 1980. We combine these data with the American Community Survey 2000-2019 to estimate the impact of TPS/DED on a wide variety of socio-economic outcomes for immigrants and their families. Using a difference-in-difference design, we compare immigrants who arrived two years before each TPS/DED policy came into effect with those from the same origin country who arrived two years following the policy relative to various control groups of immigrants from other countries. We find that (i) constructing a suitable control group presents a major obstacle to credibly identifying a causal effect, which has not been thoroughly addressed by previous academic studies of TPS/DED, and (ii) evidence for significant heterogeneity of TPS/DED depending on the context.

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# 1 Previous Literature

Previous research on the attainment of legal status through government policy has often found that gaining legal status has a positive effect on a person's economic outcomes, although the effects may vary across immigrant groups. Research into the effects of the Immigration Reform and Control Act (IRCA) found that some immigrants earn more through better-paid occupations, while others reduce their engagement in the labor market (Amuedo-Dorantes et al., 2007; Barcellos, 2010; Lozano and Sorensen, 2011). Studies on Deferred Action for Childhood Arrivals (DACA) have shown that it increased employment, but possibly at the cost of lowering the likelihood of post-secondary education for some immigrants (Amuedo-Dorantes and Antman, 2017; Hsin and Ortega, 2018; Kuka et al., 2020; Ortega et al., 2018; Pope, 2016).[1] Previous studies on recipients of Temporary Protected Status (TPS) and Deferred Enforced Departure (DED) showed short term wage gains of up to 13 percent, but the effects vary by subgroup (Kaushal, 2006; Orrenius and Zavodny, 2015).

While many of these studies provide evidence that both permanent and temporary legal status are positively associated with employment and wages, they suffer from several limitations. First, most studies only look at the short-term effects and they do not generate longer-term or intergenerational estimates of economic and household educational impacts. Second, most studies employ difference-in-differences approaches where treatment and control groups are arbitrarily defined and do not validate their research design with placebo tests or balance checks. Thus, the observed effects may reflect confounding characteristics other than legal status. Third, most studies only select a specific group to study within a broad policy regime. Here, we conduct a systematic review of TPS/DED policies and their impacts.

[1] Also see Hainmueller et al. (2017) for impacts of DACA on inter-generational health.

## 2 TPS/DED Policies

The TPS and DED policies are designed by the United States Citizenship and Immigration Services to provide protection for non-residents from designated countries that are unable to adequately handle their return. These policies provide eligible individuals protection from deportation and immigration detention, enable legal work authorization, and in some cases, provide travel authorization at designated registration periods. The exact benefits and eligibility conditions can vary from one policy to another. For instance, some policies provide a path to naturalization while others do not. TPS was first developed under the Immigration Act of 1990. DED was developed out of Extended Voluntary Departure (EVD), implemented between 1960 and 1990 (USCIS, 2021; Congressional Research Service, 2021).

To identify TPS and DED policies relevant to our analysis, we first build a dataset of all TPS and DED policies enacted by country designated, date of implementation, end date or date of redesignation, if applicable, using Federal Register notices published online from 1990-2021. From this dataset, we identified policies which (i) had individuals identifying as immigrants from the country of origin for which the policy was designated in our outcome data (ACS), (ii) that included at least 5,000 observations of eligible immigrants to construct a sufficient sample in our data for which we could observe outcomes, and (iii) where policies were implemented in a time period for which we could observe outcome data within a four-year window around policy implementation.

This resulted in a set of nine policies by country-year to analyze which we list in Table 1. In some cases, these policies have been redesignated such that eligible individuals have maintained their TPS or DED status, and in other cases, provisions have been passed through additional legislation granting individuals the ability to adjust status and gain lawful permanent residency. Lastly, all policies state that immigrants from the designated country of origin who arrived before the policy enactment are eligible for protection, while

those who arrived afterward are not. Exceptions to this are, for example, immigrants with a criminal record who would not be eligible regardless of arrival date.

Table 1: List of TPS/DED Policies

| Country | Date of Eligibility | Est. Registered | Year of Arrival (T) | Year of Arrival (C) |
|---|---|---|---|---|
| China | 05-Jun-1989 | 80,000 | 1987, 1988 | 1990, 1991 |
| El Salvador | 19-Sep-1990 | 83,000-150,000 | 1988, 1989 | 1991, 1992 |
| El Salvador | 09-Mar-2001 | 150,000 | 1990, 2000 | 2001, 2002 |
| Guatemala | 01-Oct-1990 | - | 1989, 1990 | 1991, 1992 |
| Guatemala | 03-Jan-1995 | - | 1993, 1994 | 1995, 1996 |
| Haiti | 31-Dec-1995 | - | 1994, 1995 | 1996, 1997 |
| Haiti | 21-Jan-2010 | 100,000-200,000 | 2008, 2009 | 2010, 2011 |
| Honduras | 05-Jan-1999 | 100,000 | 1997, 1998 | 1999, 2000 |
| Nicaragua | 31-Dec-1998 | 45,000-75,000 | 1997, 1998 | 1999, 2000 |

This table represents the TPS and DED policies relevant to our analysis. These policies are defined as those who have had immigrants from the country of designation in our outcome data, where there are at least 5,00 observations in our outcome data, and where policies were implemented over a time period which we could observe in our outcome data, with a four-year window around implementation. The estimated number of registered individuals is publicly available data as stated in the Federal Register as estimated beneficiaries at time of policy implementation. Year of arrival (T) identifies years where individuals in the outcome data were impacted by the policy, and year of arrival (C) identifies years where individuals in the outcome data were not impacted by the policy.

# 3 Methodology

## 3.1 Data and Sample

Our primary data sources are the 2000 Census and the 2001-2019 American Community Surveys (ACS) IPUMS microdata (Ruggles et al., 2019). Our approach in using ACS data follows previous research on this topic and is also cost effective. The ACS is an annual demographic household survey administered by the Census Bureau and sent to approximately 3.5 million addresses each year.[2] The ACS provides a representative sample around the various TPS implementation dates, which we expect can identify our treatment and control groups. We focus on individuals aged 16-64 residing in households with at least one immigrant (n=6,548,507). We restrict the age group to this range because we believe this group is most likely to benefit from TPS/DED policies, and because most TPS holders are 19-50 years old. Additionally, we further restrict the sample to those (i) aged 18-45 at the time of policy, (ii) born in the treatment or control origin countries and (iii) who arrived in the US within a four year window around policy enactment. We provide more details on the empirical strategy in the subsections below.

## 3.2 Outcomes

We consider primary outcomes across four categories: social, demographic, labor market, and intergenerational. The variables within each of these categories are defined below:

- Social Outcomes:
  - Poverty status (poverty) – total family income as a percentage of the poverty thresholds. Note that higher numbers indicate higher income.

[2]Given our identification strategy, the sample sizes for the Current Population Survey (CPS) were too small to deliver informative results.

  - Welfare cash (incwelfr) – pre-tax income from various public assistance programs such as Supplemental Security Income (SSI) payments, Aid to Families with Dependent Children (AFDC) and General Assistance (GA) in the past 12 months.
  - Food stamps (foodstmp) – an indicator for whether someone in the household received Supplemental Nutrition Assistance Program (SNAP) benefits in the past 12 months.
  - Health insurance (hcovany) – an indicator for whether the respondent had any health insurance at the time of interview.

- Demographic Outcomes
  - Naturalization (citizen) – an indicator for whether the respondent is a naturalized citizen.
  - Number of Children (nchild) – own children residing with the respondent.
  - Marriage (marst) – whether the respondent is married at the time of interview.
  - In School (school) – whether the respondent attends school.
  - Education (educ) – total years of schooling.

- Labor Market Outcomes
  - Wage (incwage) – log weekly wages adjusted for inflation.
  - Income (inctot) – total income adjusted for inflation.
  - Occupation Score
  - Hours Worked (uhrswork) – usual hours worked per week.
  - Not in Labor Force (empstat) – an indicator for the respondent being outside of the labor force.

- Unemployment (empstat) – an indicator for the respondent being unemployed.

- Intergenerational Outcomes

  - Average Children Years of Education (educ) - average years of schooling for all children aged 6-17 residing in the household.
  - Average Children Age (age)[3]
  - Share of Children in School (school)
  - Share of Children with Health Insurance (hcovany)

### 3.2.1 Placebo

To validate the research design, we consider an additional set of four outcome variables that are pre-determined and could not be plausibly affected by the TPS/DED policy. These include variables identified in the Census and ACS data as: age, female, African American, and white.

Our analysis of these outcome variables show statistically significant coefficients, suggesting that the difference-in-differences design may not be a credible strategy to identify the impact of TPS/DED policies.[4] Lack of statistical significance, however, might indicate either that the difference-in-differences design is sufficient to remove confounding factors or simply a lack of statistical power to detect confounding. Previous literature on this topic typically did not consider research design validation exercises like this one.

[3]This variable controls for compositional differences in fertility across immigrant groups over time which can result in statistically significant effects for average children' education.

[4]For example, a negative effect on the female indicator for a given policy means that there were more male immigrants from the treatment origin before the policy took place relative to before the policy compared to those from the control origin. This might in turn lead us to estimate an overly positive picture of the labor market impact of this policy since, on average, men earn higher wages than women.

### 3.3 Control Variables

We control for pre-determined individual level variables – age, female indicator, and race indicators (African American, Hispanic, White, and Asian), their two-way interactions and two state-year level variables measuring labor market conditions – unemployment rate and (log) average weekly wages. We also include state and year fixed effects.

### 3.4 Difference-in-Differences Design

The main idea behind our identification strategy is to compare outcomes among immigrants targeted by each policy before and after policy enactment relative to the same outcomes for a control group of immigrants. For each policy we focus on immigrants born in the country of interest who arrived in the US in the two years prior and two years following policy enactment.[5]

A crucial aspect of the identification strategy is selecting the control group of immigrants. Ideally, these would be foreign-born otherwise identical to those in the treatment group except not subject to TPS/DED benefits. To generate this from our data, we separately consider four distinct control origins. First, following the previous literature, we use immigrants from Mexico. Second, recognizing the Mexican foreign-born are in many observable and unobservable ways different than immigrants from Central America, we use Belize, Panama, and Costa Rica as a control group. These are the countries in Central America, which were never subject to a TPS/DED policy. Third, we use all immigrants from Central America and the Caribbean as a control group.[6] Lastly, we use South America as a control group. For the China TPS, we generate a control group of foreign-born

[5] If the policy is enacted in the first (last) quarter of a given year, we consider that year as a treatment (control). If the policy is enacted in the second or third quarter, we drop immigrants who arrived in that year and consider the two previous (later) years of arrival as treatment (control).

[6] Because there is temporal overlap between some of the policies, this requires that, for each policy, we exclude countries of origin from Central America which are in the treatment group for a concurrent other TPS/DED policy.

from Japan and Korea.

### 3.5 Estimating Equation

We estimate the following equation:

$$y_{\mathsf{iocst}} = \beta_0 + \beta_1 Treat_{\mathsf{co}} + \beta_2 X_{\mathsf{i}} + \beta_3 W_{\mathsf{st}} + YearArrivalFE_{\mathsf{c}} + OriginFE_{\mathsf{o}} + \delta_{\mathsf{s}} + \gamma_{\mathsf{t}} + \epsilon_{\mathsf{iocst}},$$

where $o$ denotes origin country, $c$ is arrival year, $s$ indexes state, $t$ is calendar year, $i$ is individual. The term $X_{\mathsf{i}}$ contains the individual-level controls while $W_{\mathsf{st}}$ controls for state-year level labor market conditions. We also add dummies for year of arrival ($YearArrivalFE_{\mathsf{c}}$) and origin country ($OriginFE_{\mathsf{o}}$). The coefficient of interest is $\beta_1$ and it is interpreted as the average effect of access to TPS/DED policy on a specific outcome variable. Note that this corresponds to an intent-to-treat effect since we have no information on which respondents received TPS/DED. We control for state fixed ($\delta_{\mathsf{s}}$) effects which capture permanent difference across localities and year fixed effects ($\gamma_{\mathsf{o}}$) accounting for aggregate trends. We cluster standard errors at the state-year level and use the ACS sampling weights for all analyses. We estimate this equation separately for each policy listed in Table 1.

Our analysis is characterized by some limitations. Perhaps most importantly, for some policies we use data from 2000 onward to estimate policy effects during the 1990s. The treatment and control immigrant populations at the time of policy enactment might be significantly different than those in the ACS years later. In other words, our approach is vulnerable to selective attrition via out-migration. For instance, it might be that the most motivated immigrants among the control group remained in the US while the rest returned to their countries of origin. Such behavior might bias our analysis against finding a positive effect of TPS. Moreover, we use eligibility rather than take-up information. Hence, our