

# DEMOGRAPHIC RESEARCH

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*Research Article*

### **Exploring the role of legal status and neighborhood social capital on immigrant economic integration in Los Angeles**

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## **Exploring the role of legal status and neighborhood social capital on immigrant economic integration in Los Angeles**

**Ashley Muchow<sup>1</sup>**

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### **Abstract**

#### **BACKGROUND**

Existing research has emphasized immigration policy and social capital as two crucial elements of reception that influence immigrant labor market outcomes. While much attention has been paid to these two factors in isolation, a limited body of empirical work has examined how they intersect, specifically how social capital influences the economic integration of immigrants legally precluded from the formal labor market.

#### **OBJECTIVE**

Our goal is to examine the extent to which immigrant legal status conditions economic integration in the United States and whether neighborhood social capital moderates this relationship.

#### **METHODS**

This study relies on a large probability sample of individuals residing in Los Angeles County that directly ascertains the legal status of immigrants. We employ inverse probability of treatment-weighted linear regressions to compare the labor market outcomes of undocumented immigrants to those of immigrants with varying forms of legal status and to examine how neighborhood social capital moderates the link between legal status and economic attainment.

#### **CONCLUSIONS**

We find two distinct modes of economic incorporation: one of steady work and higher wages among immigrants with citizenship status, and one of lower earnings and greater reliance on self-employment among immigrants in the country without documentation. Our results suggest that neighborhood social capital does not improve the labor market prospects of undocumented immigrants and in some cases may penalize them.

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## **CONTRIBUTION**

By extending research on immigrant economic integration, this study highlights the labor market penalties experienced by undocumented immigrants, the limitations of neighborhood social capital in facilitating their integration into the American economy, and the potential value of self-employment.

## **1. Introduction**

A core concern in the ongoing policy discussion on immigration reform is the nature and pace of immigrant incorporation into the US labor market. Theoretical and empirical work on the topic has emphasized immigration policy and access to social networks as two crucial elements of reception that influence immigrant integration into the domestic economy (Portes and Rumbaut 2014; Waters and Jimenez 2005). While much attention has been paid to these two factors in isolation, little empirical work has examined how they intersect, specifically how social networks influence the economic integration of immigrants legally precluded from the formal labor market.

We focus on two conditions – legal status and neighborhood social capital – as critical factors that affect immigrants’ foothold in the American economy. We consider the neighborhood to be an important spatial context in facilitating the diffusion of social capital among residents living in close proximity, and we explore whether neighborhood social capital moderates the relationship between legal status and economic integration. Our study contributes to the literature in three ways. First, we draw upon a survey of households in Los Angeles County from the early 2000s in which we are able to distinguish undocumented immigrants from visa holders and those with work authorization, legal permanent residents, naturalized citizens, and second-generation immigrants.<sup>3</sup> Previous research has been constrained by an inability to unequivocally identify legal status, consequently grouping dissimilar undocumented and documented immigrants together. Our comparisons contrast the labor market outcomes of undocumented immigrants with those possessing graduated forms of legal status using data that explicitly differentiate these groups.

Second, we examine the influence of different types of neighborhood social capital on immigrant outcomes. The lack of consensus around the role of social capital in facilitating or impeding economic integration is owed, in part, to the many operationalizations used in prior studies. In our analysis, we consider four interrelated

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<sup>3</sup> We use the term “undocumented” to describe immigrants without valid documents authorizing their presence in the United States. This can include immigrants who have overstayed the terms of their visas as well as those who entered without inspection.

measures of neighborhood social capital: coethnic proximity, family ties, friendship ties, and reciprocated exchange.

Third, we examine whether neighborhood social capital influences the labor market outcomes of undocumented women differently than those of undocumented men. While extant research has identified gendered differences in immigrant labor market outcomes (Donato et al. 2008) and social network reliance (Joassart-Marcelli 2014), our study is the first to empirically consider whether neighborhood social capital differentially moderates the labor market outcomes of undocumented men and women. This is particularly relevant because females have made up a growing share of the undocumented US population in recent years (Passel and Cohn 2018).

We focus our analysis on the early 2000s, when immigration to the United States reached a historical peak (Passel and Suro 2005). This group of immigrants, the majority from Mexico and Central America, entered a robust national economy and were initially unencumbered by the dramatic shocks in immigration policy that followed the 9/11 terrorist attacks. The years after 9/11 featured increased federal funding for border control, expanded local involvement in immigration enforcement (Abrego et al. 2017; Capps et al. 2011), and a flood of state and local legislation attempting to regulate the lives of noncitizens, including their participation in the labor force (Stumpf 2008). Many of these policies or key directives remain in place, along with an array of additional draconian measures implemented during the Trump administration. By focusing on the period before these policy shifts, we are able to establish a baseline estimate of the relationship between legal status and labor market outcomes and assess the compensating effect of neighborhood social capital in a period of economic expansion and immigrant accommodation. While these estimates likely serve as a lower bound, they are particularly useful data points as the Biden administration aims to accelerate economic growth following the COVID-19 pandemic, promote policies more accommodating of immigrants, and determine pathways to citizenship for those living in the country without documentation.

In what follows, we briefly review the existing literature on immigrant economic integration and the role of social capital in patterning economic attainment, which we use to develop hypotheses as they pertain specifically to undocumented immigrants. We then describe our data and methods, present our findings, and conclude with a discussion of heterogeneity in the patterning of immigrant economic integration for men and women with and without legal status.

## **2. Related literature**

Extant research has painted a favorable economic portrait of those who acquire documentation and emphasized the labor market penalty to undocumented status. Studies have estimated a 6%–13% wage benefit to acquiring legal status (Kossoudji and Cobb-Clark 2002; Rivera-Batiz 1999) and linked undocumented status to lower rates of employment and earnings (Donato et al. 2008; Flippen 2012). Though most nationally representative surveys cannot unequivocally identify undocumented immigrants, research using samples of likely undocumented immigrants (e.g., noncitizens, nonveterans, and those not receiving Social Security or other government benefits available to citizens) has identified similar economic penalties for undocumented status. For example, Hall, Greenman, and Farkas (2010) found that those likely to be undocumented, on average, earn 17% less than documented immigrants. Borjas (2017), using a similar approach, estimated a 10%–12% wage gap. While these studies demonstrate the importance of legal status in facilitating economic attainment, they use comparisons that group dissimilar documented and undocumented immigrants together, masking how different forms of legal status distinctly influence labor market outcomes.

The legal barriers to formal employment experienced by undocumented immigrants leave many to rely on social networks to find and secure work (Cranford 2005; Mattingly 1999). Most research on social capital available to immigrants has considered the labor market impact of ethnic enclaves, typically measured as an immigrant's degree of spatial exposure to individuals with a shared ethnic background. Despite long-standing empirical interest among demographers and sociologists, a consensus on the benefits of ethnic enclaves in promoting immigrant economic integration has not been established; some studies associate ethnic enclaves with higher wages and rates of employment (Edin, Fredriksson, and Aslund 2003; Portes and Shafer 2007; Zhou and Logan 1989), while others find null (Logan, Alba, and Stults 2003) or even negative effects (Fong and Hou 2013; Xie and Gough 2011).

Scholars have also considered the extent to which social ties, such as close relationships with family and friends, improve labor market outcomes. Existing research has revealed that social ties in the United States yield economic benefits for undocumented men (Aguilera and Massey 2003; Amuedo-Dorantes and Mundra 2007), but it does not consider the geographic proximity of such ties and excludes the experiences of undocumented women. These are important considerations, as research has highlighted that geographically proximate social networks can facilitate immigrant labor market opportunities (Joassart-Marcelli 2014). Moreover, gendered differences in social network reliance may yield divergent labor market outcomes. For example, immigrant women tend to rely on more proximate ties (e.g., spouses, household members, and neighbors), while men tend to rely on friendship networks outside of the

neighborhood (Hagan 1998; Joassart-Marcelli 2014). Though the research base on gendered differences in immigrant social capital is thin, existing evidence suggests that social capital may not benefit immigrant women. For example, in her analysis of Mexican migrants, Livingston (2006) found that having strong social networks precluded formal employment for immigrant women. Similar patterns were observed within immigrant social networks in Korea (Kim 2016). In our study, we build on this research by exploring whether neighborhood social networks influence labor market outcomes differently for undocumented men and undocumented women.

We anticipate that the level of social capital within an immigrant community will affect the transmission of information regarding job opportunities, labor laws, and immigration policy, but in different ways. To explore variability in immigrant communities, we focus on four interrelated dimensions of neighborhood-level social capital: coethnic proximity, family ties, friendship ties, and reciprocated exchange. For immigrants to take full advantage of the social and economic benefits of the local immigrant community, they must reside in an area where other immigrants live. For newcomers, living near immigrants from the same country of origin (*coethnic proximity*) provides an immediate commonality upon which to establish rapport, relationships, and trust. To learn more about the employment and legal contexts of their new country, newcomers can also utilize the more intimate, immediately accessible relationships of *family and friendship ties* in their neighborhoods. These close relationships are particularly central to integration, as friends and family are critical factors in the decisions to migrate, find work, and attain legal status (Cremaschi and Devillanova 2021; Flores-Yeffal 2015). Lastly, proximity to family, friends, and other immigrants from one's country of origin is likely to matter only if there is a system of informal *reciprocated exchange* among community members in the form of sharing resources and the transmission of trusted, reliable information (e.g., "I help you with child care if you help me learn English").

### 3. Hypotheses

In this study, we test a series of hypotheses related to immigrant legal status, social capital, and economic integration. To do so, we compare the labor market outcomes of undocumented immigrants with those of four distinct comparison groups: (1) immigrants with a visa or work authorization; (2) legal permanent residents; (3) naturalized immigrants; and (4) second-generation immigrants. In accordance with earlier research (Borjas 2017; Donato et al. 2008; Flippen 2012; Hall, Greenman, and Farkas 2010), we anticipate that the multiple barriers experienced by undocumented immigrants will restrict economic integration, which motivates our first hypothesis:

*H<sub>1</sub>: Undocumented status has a negative effect on employment, hours worked, and earnings.*

We predict that undocumented immigrants will experience lower rates of employment, work fewer hours, and earn less than other immigrants. Given the legal barriers to penetrating the formal labor market, we hypothesize that self-employment will be more common among undocumented immigrants. Therefore our second hypothesis is:

*H<sub>2</sub>: Undocumented immigrants will be self-employed at higher rates than immigrants with legal status.*

We expect that immigrants residing in more socially connected neighborhoods will experience better labor market outcomes than their peers in less socially connected neighborhoods, which is the focus of our third hypothesis:

*H<sub>3</sub>: Access to neighborhood social capital will increase the economic integration of all immigrants, but this relationship will be more pronounced among undocumented immigrants.*

It is possible that the spatial context of social capital carries greater weight for undocumented immigrants, who may be unfamiliar with the local labor market and less geographically mobile. Additionally, immigrants with work authorization, legal permanent residents, naturalized immigrants, and second-generation immigrants can utilize formal channels not available to undocumented immigrants (e.g., employers that require verification of legal status, state and federal employment programs) and so may be less reliant on spatially embedded social capital.

The role of social capital in the economic integration strategies of undocumented immigrants was partially explored by Joassart-Marcelli (2014), who found that newly arriving undocumented immigrants tended to rely on friends, acquaintances, and neighbors to find work. We build on this work by directly testing whether neighborhood social capital is more beneficial for undocumented immigrants than for other immigrant groups. Given the dearth of research on social capital utilization among undocumented immigrants in the American context, we have no a priori reason to expect that any one of our four dimensions of social capital has more or less influence on employment outcomes than another (e.g., friendship ties compared to family ties). However, in examining our four dimensions of social capital separately, we will explore the relative efficacy of each.

We test each of our hypotheses using a survey of households that contains a large subsample of undocumented immigrants living in Los Angeles County in the early 2000s. Los Angeles is an ideal study site for this analysis, as it was home to roughly one million



undocumented immigrants at the time of data collection – nearly twice that of any other metropolitan area in the United States – and the economic climate for immigrants was favorable (Fortuny, Capps, and Passel 2007). Additionally, Los Angeles is characterized by a higher-than-average degree of residential segregation in terms of race/ethnicity and a high degree of geographic dispersion, which has amplified the salience of local ethnic enclaves and spatially embedded social relationships in supporting immigrant incorporation into the city’s economy (Light 2006). Recognizing the high degree of gender segregation in the American labor market and gender differences in social network reliance in securing work (Joassart-Marcelli 2014), we explore whether findings in support of our three hypotheses differ by gender.

#### **4. Data**

The data in this analysis come from the first wave of the Los Angeles Family and Neighborhood Survey (LA FANS), a multistage, multilevel survey with two waves. Wave 1 was collected in 2000–2002 and wave 2 in 2006–2008. LA FANS was based on a stratified cluster sampling design in which 65 census tracts were sampled from three strata based on tract-level poverty (Sastry 2006). Within each tract, 50 households were randomly sampled, and within each household, an adult and child were randomly selected for a face-to-face interview conducted in English or Spanish. The response rate among adults interviewed was 85%, a rate that compares favorably to those of major nationally representative surveys (Peterson et al. 2003). LA FANS is well suited to test our hypotheses because it includes direct measures that distinguish different types of immigrants and was explicitly designed to measure neighborhood social capital.

We arrived at our analytic sample by first identifying all randomly selected adults interviewed ( $n = 2,619$ ) and maintained those between the traditional working ages of 18 and 65. After excluding adults who did not provide information on their employment histories, we restricted the sample further to adults who were foreign-born or had at least one foreign-born parent. We excluded adults enrolled in school full-time at the time of the survey, as schooling often precludes employment. However, we maintained a small number of respondents ( $n = 39$ ) who were enrolled part-time in vocational or job training programs, as these are often pursued in addition to, or in anticipation of, employment.

Immigrant legal status was constructed from responses to a sequence of questions related to nativity and immigrant documentation. Those indicating that they were born in the United States were categorized as second-generation. Individuals born outside the United States indicating that they were citizens of the United States were classified as naturalized. Noncitizens who responded yes to the following question were categorized as legal permanent residents: “Do you currently have a permanent residence card or a

green card?” Immigrants with visas or work authorization were categorized as those who responded yes to one of the following questions: “Do you have a valid tourist visa, a student visa, a work visa or permit, or another document that permits you to stay in the US for a limited time?” and “Have you been granted asylum, refugee status, or temporary protected immigrant status?” Those who indicated that their visas had expired or responded no to each of the aforementioned questions were categorized as undocumented.

Our final analytic sample includes 1,400 adults grouped into five immigrant categories: undocumented immigrants (n = 388), immigrants with visas or work authorization (n = 91), legal permanent residents (n = 373), naturalized immigrants (n = 321), and second-generation immigrants (n = 227). Though estimates of the undocumented population produced by LA FANS compare favorably to independent estimates of the undocumented population (Bachmeier, Van Hook, and Bean 2014), our sample of undocumented immigrants consists primarily of Mexican (84%) and Central American (14%) immigrants who entered the United States without inspection (96%).<sup>4</sup>

#### 4.1 Labor market outcomes

Respondents completed an interactive event history calendar, capturing information on spells of employment for the two years that preceded the interview. We used this information to construct four dependent variables. *Weeks employed full-time* is a continuous measure that reflects the number of weeks a respondent worked more than 35 hours in the two years that preceded the interview. *Weekly hours worked* captures the number of hours worked per week in the respondent’s most recent job or jobs held.<sup>5</sup> *Weekly earnings* were calculated from information on the amount and frequency of earnings from the respondent’s most recent job or jobs held.<sup>6</sup> If a respondent held more than one job at a time during their most recent spell of employment, hours and earnings were aggregated to reflect a weekly total. *Self-employment* is a binary variable indicating whether the respondent was self-employed at least once in the two years that preceded the interview.

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<sup>4</sup> Over the same period, 55% of the undocumented population in the United States originated from Mexico and 22% from Central America (Passel 2002); 66% entered without inspection (Warren and Kerwin 2017).

<sup>5</sup> We capped weekly hours at 90. This resulted in the recoding of four entries.

<sup>6</sup> When provided at an hourly rate, wages were multiplied by the number of weekly hours worked. Monthly salaries were divided by four for full-time work and by two for part-time work. Yearly salaries were divided by 52 for full-time work and 26 for part-time work. Daily salaries were multiplied by the estimated number of days worked per week (weekly hours divided by eight). Annual profits and losses from self-employment were divided by 52.

## 4.2 Neighborhood social capital

We operationalize neighborhood social capital in four ways: (1) coethnic proximity, (2) family ties, (3) friendship ties, and (4) reciprocated exchange. We adopt a measure of *coethnic proximity* from a well-developed body of research demonstrated to reasonably detect the probability of contact with immigrants who share the same country of origin (Massey and Denton 1988; Massey, White, and Phua 1996). Using tract-level population counts of foreign-born residents from the 2000 decennial census (US Census Bureau 2000), we construct an index of coethnic proximity that reflects the probability of contact with immigrants from the same country of origin in one's neighborhood (represented here as a census tract). For a randomly selected immigrant from country  $X$ , the coethnic proximity index is defined as:

$$P_i^X = \frac{x_i}{t_i},$$

where  $x_i$  is the number of immigrants from country  $X$  in tract  $i$  and  $t_i$  is the total population of tract  $i$ . The value of the coethnic proximity index,  $P_i^X$ , ranges from 0 to 1, where 0 indicates complete geographic isolation from coethnics and 1 indicates certainty of contact with coethnics.

We take advantage of the rich set of LA FANS questions related to neighborhood dynamics to derive three additional measures of neighborhood social capital. Respondents were asked a series of questions about their neighborhood, which was defined as the six-block radius surrounding their place of residence. First, we construct a binary indicator of *family ties* that captures whether a respondent indicated having relatives or in-laws in their neighborhood. Second, we create a binary indicator for *friendship ties* that reflects whether the respondent indicated having friends in their neighborhood. Third, we measure *reciprocated exchange* with a binary variable reflecting whether the respondent answered "sometimes" or "often" to one of the following questions: (1) "How often do you and other people in the neighborhood ask each other advice about personal things such as child rearing or job openings?" and (2) "About how often do you and people in your neighborhood do favors for each other (e.g., watch each other's children, help with shopping, lend gardening or house tools)?"<sup>7</sup>

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<sup>7</sup> We experimented with disaggregating responses to each question and arrived at comparable results.

### 4.3 Sociodemographic covariates

We include a broad set of individual, family, and neighborhood characteristics associated with labor market outcomes to construct inverse probability of treatment weights (discussed in the subsequent section). At the individual level, we include *age*, *gender*, *marital status* (coded 1 if the respondent was legally married at the time of the survey), and *race/ethnicity* (binary variables for Latino, white, and Asian).<sup>8</sup> *Head of household* is a binary variable indicating whether the respondent identified as the head of the household. *Dependent children* is a count variable that totals the number of dependent children (adopted or biological) under age 18 living with the respondent at the time of the survey. We capture whether an *infant child* was in the household using a binary variable that reflects whether a dependent child (adopted or biological) under the age of 2 lived with the respondent. *English* is a binary variable that indicates whether the respondent completed the interview in English as opposed to Spanish. *Educational attainment* is a set of binary variables indicating the highest level of schooling the respondent had completed at the time of the interview (primary or less, some high school, high school degree, some college, or college degree). *Educational location* is another set of binary variables indicating where the respondent attended school (entirely, partially, or not in the United States). *Enrolled* is a binary variable that reflects whether the respondent was enrolled in a part-time vocational program at the time of the survey. *Work disability* and *spouse/partner work disability* are binary variables that capture whether the respondent indicated that they or their spouse/partner had a physical, psychological, or nervous condition that limited the type or amount of work they could do. *Poor health* and *spouse/partner poor health* are binary variables that capture whether a respondent reported that they or their spouse/partner were in fair or poor health (compared to excellent, very good, or good health). If respondents indicated being foreign-born, they were asked to provide the year they first arrived in the United States. Using this information, we calculate *years in the US* by differencing the year of arrival from the year the respondent was interviewed. Second-generation immigrants were assigned a value equal to their age, indicating that they ‘arrived in the United States’ at birth. We account for differences in stability of residence among the four foreign-born immigrant groups by incorporating two variables that capture patterns of return migration. *Never returned* is a binary variable that captures whether the respondent indicated that they had not returned to their country of origin since arriving in the United States. *Last return* reflects the difference between the year the respondent last visited their country of origin and the year they were interviewed. Those indicating that they had never returned to their country of origin were assigned a value equal to their years in the United States.

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<sup>8</sup> Only 1% of the analytic sample identified as Black.

We also include a series of family characteristics. *Maternal nativity* is a set of binary variables distinguishing respondents with mothers born in Mexico, Central or South America, Asia, and other places (including Europe, Central Asia, Africa, and the Middle East). We use maternal nativity to permit comparisons with second-generation immigrants.<sup>9</sup> *Binational* is a binary variable indicating that the respondent's parents were born in different countries. *Parent education* is a binary variable that captures whether at least one of the respondent's parents completed high school. *Two-parent family* is a binary variable indicating that the respondent lived with both parents at age 14.

In addition to individual and family characteristics, we control for neighborhood economic conditions. *Neighborhood poverty* consists of a series of binary variables reflecting the relative share of residents in the respondent's census tract living in poverty in 1997 (Sastry 2006). While we recognize that this measure does not characterize more nuanced economic characteristics of a local area (e.g., local unemployment rates), we remind readers that our sample is drawn from a narrow geographic region – Los Angeles County – within which most residents commute to work and are exposed to the same labor market conditions.

## 5. Analytic approach

The empirical analysis conducted in this study is largely descriptive, comparing the labor market outcomes of immigrants with varying forms of legal status. However, as legal status is a nonrandom condition, any relationship we detect between legal status and economic outcomes may be confounded by a variety of factors. While traditional covariate-adjusted regression models can control for characteristics relevant to our outcomes of focus, they do so at the risk of model overfit and cost valuable degrees of freedom in the presence of small samples, as is the case with our immigrant subgroups. We are able to reduce observable sources of confounding and preserve degrees of freedom by weighting our comparison groups to resemble undocumented immigrants.

### 5.1 Inverse probability of treatment weights

We use the sociodemographic covariates described in the previous section to create inverse probability of treatment weights (IPTWs). This approach, which is based on propensity score methods (Rosenbaum and Rubin 1983), adjusts for observed

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<sup>9</sup> Among the foreign-born, maternal nativity matched respondent nativity in 99% of cases; 97% of second-generation immigrants had parents originating from the same region.

characteristics by generating a weighted ‘pseudo-population’ comparison group. We develop IPTWs to weight our four immigrant comparison groups so that they more closely resemble the sociodemographic composition of the undocumented immigrants in our sample. This is critical, as undocumented immigrants are disadvantaged across an array of observable characteristics, potentially confounding differences in labor market outcomes attributable to legal status with underlying sociodemographic characteristics.

We begin by balancing our covariates across the four immigrant comparison groups, assigning higher weights to respondents similar to undocumented immigrants and lower weights to dissimilar respondents. We weight respondents using IPTWs estimated using generalized boosted models that utilize automated, nonparametric machine learning techniques. The IPTWs and their associated balance checks were performed using commands that call functions from the *twang* package in R (McCaffrey, Ridgeway, and Morral 2004). We used the sum of effect sizes across the maximum number of covariates for optimization when fitting these models.<sup>10</sup>

The weighted averages of all covariates for the four comparison groups are presented alongside unweighted averages in the appendix, in Tables A-1a through A1-d. Comparing the undocumented group averages with the unweighted averages of our four comparison groups reveals a number of notable differences: Undocumented immigrants are younger, are predominately Mexican, are less likely to speak English, have lower levels of education, live in poorer neighborhoods, and have spent less time in the United States than their documented counterparts.<sup>11</sup> However, once the four comparison groups are weighted using the IPTWs, they more closely resemble the sociodemographic composition of the undocumented group, but with some post-weighting residual differences. We address these remaining differences in our empirical specification.

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<sup>10</sup> The distribution of missing values was used to create IPTWs for the 2% of observations missing input covariate values.

<sup>11</sup> Despite having spent fewer years in the United States, this group possibly consists of a more resilient subset of the undocumented population, as those who initially struggled to find or maintain work may have returned to their countries of origin. To investigate this possibility, we merged records from our analytic sample with those interviewed in the second wave of LA FANS, conducted roughly four years later. Using first-wave outcomes to predict whether the respondent was lost to follow-up, we found no association between respondent attrition and weeks employed full-time, weekly hours worked, or self-employment, but we found a positive association with weekly earnings, suggesting that our sample may consist of more vulnerable immigrants.

## 5.2 Empirical specification

We test our first hypothesis by estimating the following IPT-weighted regression model,

$$Y_i = \beta_0 + \beta_1 \text{undoc}_i + \mathbf{X}'_i \alpha + \varepsilon_i, \quad (1)$$

where  $Y_i$  is the labor market outcome of focus – weeks employed full-time, weekly hours worked, or weekly earnings – for respondent  $i$ . We condition on employment to estimate associations between undocumented status and weekly earnings and weekly hours worked.<sup>12</sup> The variable  $\text{undoc}_i$  indicates whether respondent  $i$  is undocumented,  $\mathbf{X}_i$  is a vector of covariates that remain different (at  $p < 0.10$ ) after the IPT-weighting adjustment,<sup>13</sup> and  $\varepsilon_i$  captures influences not explained by the model. The estimated  $\beta_1$  coefficient measures the association between undocumented status and the outcome using each of the four immigrant comparison groups as contrasts.

We test our second hypothesis – that undocumented immigrants are more likely to be self-employed – by estimating the following IPT-weighted logistic regression model:

$$\ln(\text{odds}(Y_i = 1)) = \beta_0 + \beta_1 \text{undoc}_i, \quad (2)$$

where  $Y_i$  indicates whether respondent  $i$  is self-employed.<sup>14</sup> We condition on employment, but due to the low prevalence of this outcome, we do not control for any post-weighting residual differences to preserve degrees of freedom.

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<sup>12</sup> We transform weekly earnings using the inverse hyperbolic sine function, which preserves zero values and is given by the function  $\text{IHS}(Y) = \log \left[ Y + \sqrt{Y^2 + 1} \right]$ . Its interpretation is similar to a log transformation.

<sup>13</sup> Some statisticians have recommended additional covariate adjustments to control for any post-weighting residual differences in observed covariates (Bang and Robins 2005; Huppler-Hullsiek and Louis 2002). Note that the IPTWs brought the covariate distributions of the four immigrant comparison groups closer to the covariate distribution of the undocumented group (Tables A-1a through A-1d), but some differences remained. For example, undocumented immigrants are notably younger (31.4 years) than each of the unweighted immigrant comparison groups. The weights did a good job of bringing the average age of the comparison immigrant groups closer to 31.4, but distributions of weighted subsamples for naturalized (Table A1-c) and second-generation (Table A1-d) immigrants were still notably different from those of the undocumented subgroup. To account for these remaining differences, we obtain ‘doubly robust’ estimates by both weighting the model using the IPTWs and controlling for any covariates that show evidence of post-weighting residual differences. Where there are missing covariate values, we use mean imputation and include binary variables indicating the presence of missing values.

<sup>14</sup> We use logistic regression for this outcome because of its infrequent occurrence. Only 11% of respondents in our sample reported self-employment. Numbers for some immigrant subgroups are lower still (e.g., only 8% of second-generation immigrants reported self-employment). Linear probability models tend to fit equally well to logistic models when binary outcomes average between 0.20 and 0.80 (Hellevig 2009), but when outcomes are more or less frequent, predictions outside the 0 to 1 interval can occur. To ease interpretation, we report marginal effects in our regression output rather than logit coefficients or odds ratios.

To test our third hypothesis, regarding how neighborhood social capital moderates the relationship between legal status and each labor market outcome, we combine the four immigrant comparison groups and begin by estimating the following equation:

$$Y_i = \beta_0 + \beta_1 undoc_i + \beta_2 NSC_i + \mathbf{X}'_i \alpha + \varepsilon_i. \quad (3)$$

The direction and significance of  $\beta_2$  estimates the association between the neighborhood social capital measure (*NSC*) and the labor market outcome for all immigrants, regardless of legal status. To determine whether neighborhood social capital moderates the relationship between undocumented status and each labor market outcome, we introduce an interaction term to Equation 3:

$$Y_i = \beta_0 + \beta_1 undoc_i + \beta_2 NSC_i + \beta_3 (undoc_i \times NSC_i) + \mathbf{X}'_i \alpha + \varepsilon_i. \quad (4)$$

The significance and direction of the  $\beta_3$  coefficient will inform whether the association between undocumented status and the labor market outcome is moderated by the *NSC* measure under consideration. In these analyses,  $\mathbf{X}_i$  consists of the covariates in Table A-1e that remain different (at  $p < 0.10$ ) after the IPT-weighting. Though this is not formally specified here, we perform similar analyses for self-employment by adding the same terms to Equation 2.

Lastly, to examine whether penalties to undocumented status vary by gender, we introduce two terms to Equation 1:

$$Y_i = \beta_0 + \beta_1 undoc_i + \beta_2 female_i + \beta_3 (undoc_i \times female_i) + \mathbf{X}'_i \alpha + \varepsilon_i. \quad (5)$$

The significance and direction of the  $\beta_3$  coefficient in Equation 5 will inform whether the association between undocumented status and each labor market outcome differs for women relative to men. Though this is not formally specified here, we perform the same gender-sensitive analysis for self-employment by introducing identical terms to Equation 2. To determine whether neighborhood social capital moderates the relationship between legal status and each outcome differently by gender, we estimate Equations 3 and 4 separately for men and women.



## 6. Results

### 6.1 Descriptive results

Table 1 displays unweighted descriptive statistics for each immigrant subsample. As shown therein, undocumented immigrants are qualitatively different than their documented peers. Undocumented immigrants worked, on average, 53.6 weeks full-time in the two years that preceded their interviews, more than immigrants with visas or work authorization (52.3 weeks) but less than legal permanent residents (55.9 weeks), naturalized immigrants (64.5 weeks), and second-generation immigrants (61.1 weeks). Immigrants without legal status averaged 39.9 hours per week, roughly the same as naturalized immigrants and legal permanent residents but more than immigrants with a visa or work authorization (38.4 hours) and less than second-generation immigrants (41.6 hours). Most striking are the earnings differentials. Undocumented immigrants earned less than half what naturalized and second-generation immigrants earned and about two-thirds the weekly earnings of legal permanent residents and immigrants with visas or work authorization. These unweighted statistics also suggest that undocumented immigrants are more likely to be self-employed compared to legal permanent residents, naturalized citizens, and second-generation immigrants, but less so than immigrants with visas or work authorization.

**Table 1: Unweighted descriptive statistics by immigrant group**

	Undocumented (n = 388)		Visa or work authorization (n = 91)		Legal permanent resident (n = 373)		Naturalized (n = 321)		Second- generation (n = 227)		Miss
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
<b>Labor market outcomes</b>											
Weeks employed full-time	53.6	46.8	52.3	46.4	55.9	45.7	64.5	46.2	61.1	43.8	0
Weekly hours worked	39.9	12.2	38.4	13.4	39.9	11.5	39.5	10.4	41.6	13.5	2
Weekly earnings	289	124	448	718	404	268	650	526	663	534	92
Self-employed	0.18	0.39	0.23	0.42	0.11	0.32	0.14	0.34	0.08	0.27	0
<b>Neighborhood social capital</b>											
Coethnic proximity	0.27	0.14	0.14	0.14	0.22	0.16	0.14	0.15	0.14	0.15	0
Family ties	0.44	0.50	0.37	0.49	0.45	0.50	0.40	0.49	0.38	0.49	3
Friendship ties	0.72	0.45	0.76	0.43	0.71	0.45	0.69	0.46	0.73	0.45	3
Social reciprocity	0.68	0.47	0.74	0.44	0.69	0.46	0.71	0.46	0.69	0.46	8

While the unweighted comparisons presented in Table 1 provide tentative support for our first and second hypotheses, we know from Tables A-1a through A-1d that undocumented immigrants differ from other immigrants on key sociodemographic dimensions associated with employment. Without adjusting for these and other background characteristics, we cannot rule out these factors as potential explanations for the differences observed in Table 1.

## 6.2 IPT-weighted regression results

To provide a more rigorous test of our hypotheses, we turn our attention to the estimates produced from our IPT-weighted regression models, reported in Table 2. This table displays four sets of models comparing undocumented immigrants with each immigrant comparison group. The top panel presents results predicting the number of weeks respondents were employed full-time in the two years that preceded their interviews. The second and third panels report results for models estimating weekly hours worked and weekly earnings among those who are employed, respectively. The fourth panel reports the marginal effects derived from our logistic regression models predicting self-employment among those who are employed. We estimate two model specifications: (1) a baseline model and (2) a model that controls for immigrant gender and its interaction with undocumented status. Standard errors in all models are estimated using Taylor-series linearization methods to account for the stratified cluster sampling design of LA FANS.

**Table 2: IPT-weighted regression estimates predicting labor market outcomes by legal status and gender**

	Visa or work authorization		Legal permanent resident		Naturalized		Second-generation	
Model	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
<b>DV: Weeks employed full-time</b>								
Undoc	3.3	-0.3	-0.5	-3.8	-22.1	-17.7	-5.8	-9.0
	[-12.7, 19.3]	[-22.9, 22.2]	[-18.6, 17.5]	[-21.3, 13.8]	[-42.7, -1.5]	[-35.6, 0.2]	[-68.5, 56.9]	[-60.6, 42.6]
Undoc x female		11.0		4.1		-1.5		0.9
		[-23.3, 45.3]		[-16.4, 24.5]		[-35.0, 32.1]		[-30.8, 32.5]
Observations	479		761		709		615	
<b>DV: Weekly hours worked</b>								
Undoc	-1.1	-3.3	-0.9	-1.8	-0.8	-1.4	-6.5	-5.1
	[-6.2, 4.1]	[-9.6, 3.0]	[-4.1, 2.3]	[-6.1, 2.5]	[-6.1, 4.5]	[-7.4, 4.5]	[-16.6, 3.5]	[-19.9, 9.7]
Undoc x female		8.1		1.4		2.3		-2.2
		[-1.3, 17.6]		[-4.6, 7.4]		[-10.6, 15.2]		[-13.6, 9.1]
Observations	363		573		557		488	
<b>DV: Weekly earnings<sup>a</sup></b>								
Undoc	-0.18	-0.17	-0.20	-0.19	-0.28	-0.22	-0.12	-0.16
	[-0.56, 0.20]	[-0.71, 0.37]	[-0.44, 0.03]	[-0.49, 0.10]	[-0.54, -0.02]	[-0.48, 0.04]	[-0.51, 0.28]	[-0.71, 0.39]
Undoc x female		0.08		-0.07		-0.07		0.09
		[-0.57, 0.73]		[-0.45, 0.31]		[-0.58, 0.44]		[-0.40, 0.58]
Observations	345		532		510		456	
<b>DV: Self-employed<sup>b</sup></b>								
Undoc	0.03	0.05	0.10	0.05	0.15	0.28	0.33	0.16
	[-0.14, 0.20]	[-0.18, 0.27]	[-0.05, 0.25]	[-0.15, 0.26]	[-0.05, 0.35]	[0.01, 0.55]	[-0.07, 0.73]	[-0.21, 0.53]
Undoc x female		-0.06		0.12		-0.20		0.82
		[-0.41, 0.30]		[-0.19, 0.42]		[-0.57, 0.17]		[0.27, 1.39]
Observations	363		574		558		488	

Notes: Ninety-five percent Bonferroni-corrected (C = 4) confidence intervals are presented in brackets below point estimates. Model specifications for columns 1 and 2 are outlined in Equation 1 and Equation 5, respectively. We display estimates for our coefficients of focus,  $\beta_1$  and  $\beta_3$ , for ease of presentation. Covariates showing post-weighting residual differences in Tables A-1a through A-1d were included as controls to produce 'doubly robust' estimates.

<sup>a</sup> Weekly earnings were transformed using the inverse hyperbolic sine function:  $IHS(Y) = \log \left[ Y + \sqrt{Y^2 + 1} \right]$ .

<sup>b</sup> Coefficients reflect the marginal effects from IPT-weighted logistic regression outlined in Equation 2.

Focusing first on the baseline model, we see that after adjusting for sociodemographic characteristics via the IPTWs, undocumented immigrants work fewer weeks full-time than naturalized immigrants (95% CI [-42.7, -1.5]) but no less than other immigrant groups. Results presented in the second panel suggest that undocumented immigrants work roughly the same number of hours per week as their documented counterparts.<sup>15</sup> As seen in the third panel, while sociodemographic characteristics account for most of the earnings differentials we saw in Table 1, undocumented immigrants earn less than naturalized immigrants (95% CI [-41%, -3%]).<sup>16</sup> In the fourth panel, we find that undocumented immigrants are no more or less likely to be self-employed relative their documented peers. When we pan to the second model, which introduces an interaction term to test for gender differences, we see that undocumented women are more likely to be self-employed than second-generation women, but we see no other evidence that the labor market outcomes of women respond differently to legal status than do those of men.

To gain a clearer view of differences in outcomes across immigrant groups, we used a variant of the models in Table 2 to calculate differentials in weeks of full-time work (Figure 1), hours worked per week (Figure 2), weekly earnings (Figure 3), and self-employment (Figure 4) between undocumented immigrants and each comparison group. For these predictions, covariates were set at their mean except for age, which we set to 30, allowing us to make comparisons for respondents at similar places in their working careers and in the life course more broadly. Evaluating the findings presented in Table 2 alongside the predicted values in Figures 1 through 4, we note the relative similarities between undocumented immigrants and immigrants with less permanent forms of legal status (i.e., those with visas or work authorization). Diverging slightly from our pooled regression estimates, these marginal estimates reveal that undocumented immigrants worked about the same number of full-time weeks and weekly hours and earned about the same salaries as their documented counterparts at this age. However, these figures echo our earlier findings regarding self-employment, showing that undocumented men tend to rely on self-employment more than their naturalized peers ( $p < 0.001$ ) and, among undocumented women, more than second-generation immigrants ( $p < 0.001$ ).<sup>17</sup>

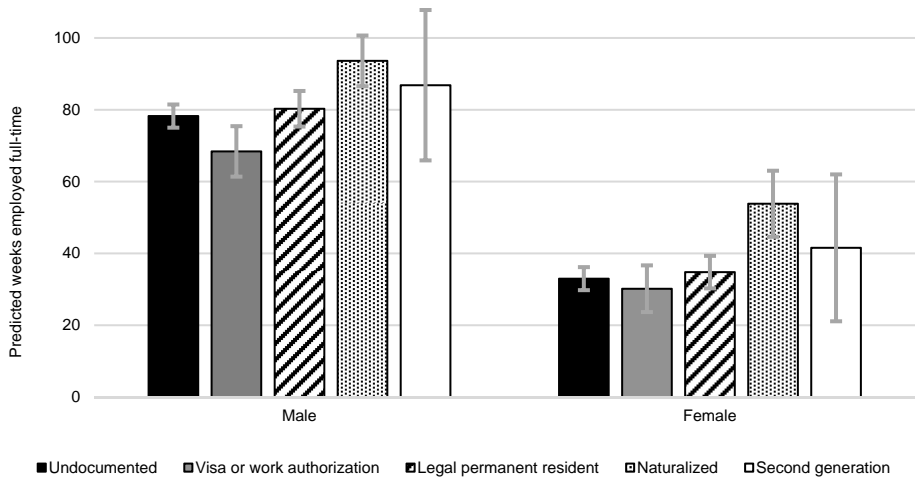
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<sup>15</sup> We performed a supplemental analysis to examine the extent to which age factors into these relationships. This analysis, described and presented in Table A-2, shows that older undocumented immigrants (age 55 to 65) worked more weekly hours than immigrants of the same age with visas or work authorization.

<sup>16</sup> Estimates computed as  $100 \times (e^{\hat{\beta}} - 1)$ . Results in Table A-2 reveal that the negative association between undocumented status and weekly earnings is driven by immigrants aged 25 to 35.

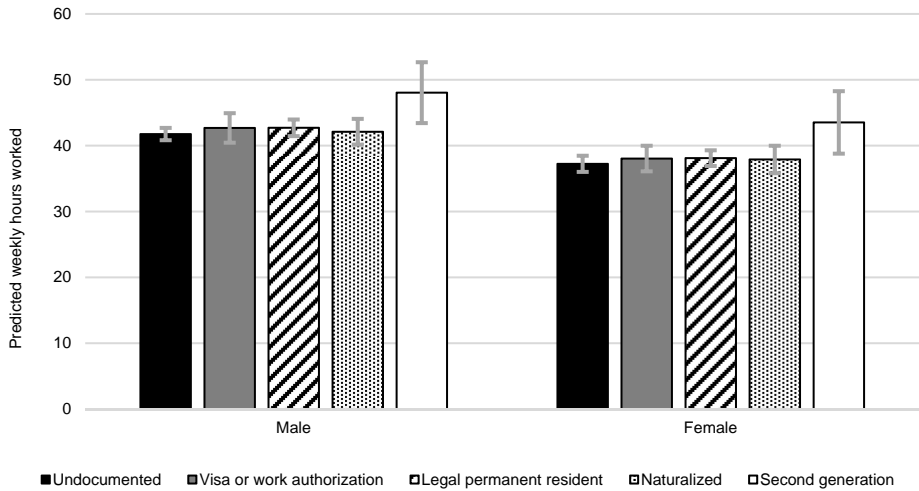
<sup>17</sup> Bonferroni-corrections were applied throughout to account for multiple comparisons ( $C = 4$ ). The supplemental analysis presented in Table A-2 suggests that immigrants between age 18 and 35 are the main drivers of the difference in self-employment between undocumented and naturalized men.

**Figure 1: Predicted weeks employed full-time at age 30 by legal status and gender**



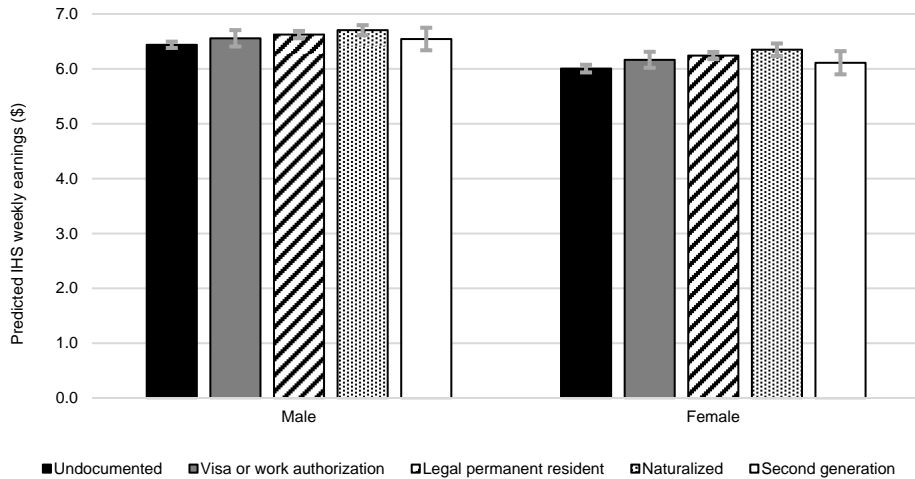
Note: Error bars reflect standard errors.

**Figure 2: Predicted weekly hours worked at age 30 by legal status and gender**



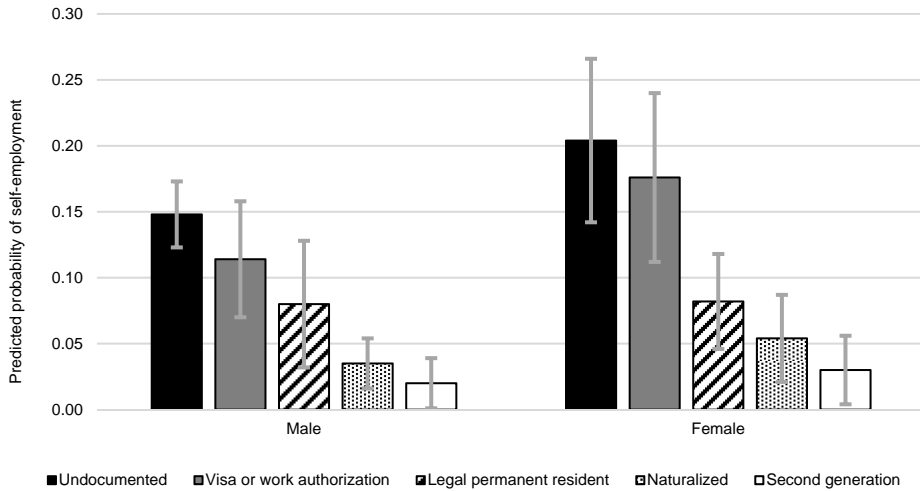
Note: Error bars reflect standard errors.

**Figure 3: Predicted weekly earnings at age 30 by legal status and gender**



Note: Error bars reflect standard errors.

**Figure 4: Predicted probability of self-employment at age 30 by legal status and gender**



Note: Error bars reflect standard errors.

### 6.3 Moderating role of neighborhood social capital

Next we test whether the relationship between undocumented status and labor market outcomes is moderated by neighborhood social capital. Before doing so, we note that undocumented immigrants live in neighborhoods where they are more likely to have contact with other immigrants from their countries of origin than their documented peers (as shown in Table 1), but they are no more or less likely to live in the same neighborhood as family and friends or to engage in reciprocated exchange with their neighbors. With this in mind, we turn our attention to a formal test of our third hypothesis. We replicate the general layout of Table 2 but combine the four immigrant comparison groups and include the main coefficients for each neighborhood social capital measure separately, as well as their interaction with undocumented status. This interaction allows us to assess whether the relationship between legal status and each labor market outcome is moderated by neighborhood social capital. The coefficients from these models are shown in Table 3.

**Table 3: IPT-weighted regression estimates predicting labor market outcomes by neighborhood social capital**

Model	Coethnic proximity		Family ties		Friendship ties		Reciprocated exchange	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
<b>DV: Weeks employed full-time</b>								
NSC	-24.4	-44.4	8.5	12.1	0.3	1.6	10.3	25.6
	[-76.5, 27.7]	[-129.2, 40.4]	[-6.5, 23.6]	[-20.9, 45.1]	[-11.0, 11.6]	[-23.0, 26.2]	[-4.5, 25.0]	[1.8, 49.4]
NSC x undoc		35.8		-6.3		-2.1		-27.5
		[-58.4, 130.1]		[-42.2, 29.6]		[-30.9, 26.6]		[-53.1, -1.9]
Observations	1,400		1,397		1,397		1,392	
<b>DV: Weekly hours worked</b>								
NSC	5.4	4.4	1.6	3.2	-0.5	1.1	0.1	-0.5
	[-4.5, 15.4]	[-10.2, 19.0]	[-0.8, 3.9]	[0.2, 6.2]	[-3.6, 2.7]	[-3.8, 6.0]	[-2.4, 2.6]	[-3.8, 2.8]
NSC x undoc		1.8		-2.8		-2.7		1.1
		[-19.7, 23.4]		[-7.0, 1.5]		[-8.7, 3.4]		[-4.2, 6.4]
Observations	1,117		1,115		1,115		1,111	
<b>DV: Weekly earnings<sup>a</sup></b>								
NSC	-0.16	-0.17	0.09	0.25	-0.002	-0.03	0.07	0.12
	[-0.59, 0.27]	[-0.87, 0.54]	[-0.08, 0.26]	[0.03, 0.46]	[-0.19, 0.18]	[-0.28, 0.21]	[-0.12, 0.26]	[-0.19, 0.43]
NSC x undoc		0.01		-0.28		0.05		-0.09
		[-0.88, 0.91]		[-0.56, -0.01]		[-0.31, 0.42]		[-0.45, 0.28]
Observations	1,027		1,025		1,025		1,022	
<b>DV: Self-employed<sup>b</sup></b>								
NSC	-0.28	-0.01	-0.08	-0.20	0.03	0.05	0.05	0.20
	[-0.65, 0.09]	[-0.88, 0.86]	[-0.18, 0.02]	[-0.40, 0.00]	[-0.07, 0.13]	[-0.15, 0.25]	[-0.05, 0.15]	[-0.02, 0.42]
NSC x undoc		-0.41		0.16		-0.03		-0.20
		[-1.43, 0.61]		[-0.06, 0.38]		[-0.23, 0.17]		[-0.42, 0.02]
Observations	1,119		1,117		1,117		1,113	

Notes: Ninety-five percent Bonferroni-corrected ( $C = 4$ ) confidence intervals are presented in brackets below point estimates. Model specifications for columns 1 and 2 are outlined in Equation 3 and Equation 4, respectively. We display estimates for our coefficients of focus,  $\beta_2$  and  $\beta_3$ , for ease of presentation. Covariates showing post-weighting residual differences in Table A-1e are included as controls to produce 'doubly robust' estimates.

<sup>a</sup> Weekly earnings are transformed using the inverse hyperbolic sine function:  $IHS(Y) = \log \left[ Y + \sqrt{Y^2 + 1} \right]$ .

<sup>b</sup> Coefficients reflect marginal effects from IPT-weighted logistic regression.

Recall that we operationalize neighborhood social capital in four ways: via a coethnic proximity index, the presence of family ties, the presence of friendship ties, and reciprocated exchange. In the first columns of Table 3, which present the relationship between each measure of neighborhood social capital and our outcomes of focus, we find no evidence that neighborhood social capital directly contributes to immigrant labor market outcomes. Shifting to the second columns, which present the relationship between neighborhood social capital and each labor market outcome, we see that coethnic proximity and friendship ties do not moderate the relationship between legal status and labor market outcomes. However, we see differential associations between the presence of family ties and reciprocated exchange on labor market outcomes by legal status. Specifically, the presence of family ties increases the earnings of documented immigrants while decreasing the earnings of undocumented immigrants. Similarly, engaging in reciprocated exchange with neighbors increases the probability of self-employment among documented immigrants but decreases the likelihood for undocumented immigrants.<sup>18</sup>

The gender-sensitive analyses presented in Table 4 help us explore these dynamics further. In this table we focus our attention on family ties and reciprocated exchange, the two forms of neighborhood social capital found to be associated with immigrant labor market outcomes in Table 3. We mimic the models presented in Table 3 but estimate each separately for immigrant men and women. We find little evidence that neighborhood social capital influences or moderates the relationship between legal status and labor market outcomes among immigrant men, as both the main and interactive effects are not statistically different from zero. When we turn to the estimates for women, we see that family ties decrease the probability of self-employment among immigrant women, regardless of legal status. Additionally, we see that documented women who engage in reciprocated exchange work more full-time weeks, and though not statistically different from zero, the sign of the interaction coefficient in this model suggests that the negative relationship between reciprocated exchange and employment we identified in Table 3 is driven by undocumented women. In sum, we do not find overall support for our third hypothesis: that undocumented immigrants are more likely to benefit from neighborhood social capital. In fact, we find that the presence of family ties depresses the earnings of undocumented immigrants (irrespective of gender), decreases the probability of self-

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<sup>18</sup> We explored group-specific relationships between neighborhood social capital and our four labor market outcomes by interacting dummies for each immigrant group with our four neighborhood social capital measures. While immigrants with visas or work authorization worked more full-time weeks if they engaged in reciprocated exchange, we found that undocumented immigrants in neighborhoods with more coethnics were less likely to be self-employed than those in more ethnically heterogeneous neighborhoods. Barring these two exceptions, which echo our main finding – that neighborhood social capital penalizes undocumented immigrants – we find little evidence that neighborhood social capital contributes to within-group variation in labor market outcomes. Results are available upon request.

employment among female immigrants (irrespective of legal status), and that engaging in reciprocated exchange with neighbors reduces the number of weeks undocumented immigrants work full-time.

**Table 4: IPT-weighted regression estimates predicting male labor market outcomes by neighborhood social capital**

Model	Family ties				Reciprocated exchange			
	Male		Female		Male		Female	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
<b>DV: Weeks employed full-time</b>								
NSC	9.5	12.7	3.5	2.3	-5.9	-8.8	13.5	20.8
NSC x undoc	[1.1, 17.9]	[-5.0, 30.3]	[-11.3, 18.2]	[-26.9, 31.4]	[-18.3, 6.4]	[-28.0, 10.5]	[-0.8, 27.8]	[1.5, 40.1]
		-5.1		2.2		4.3		-13.6
		[-28.7, 18.5]		[-32.2, 36.6]		[-16.5, 25.0]		[-37.8, 10.6]
Observations	607		790		603		789	
<b>DV: Weekly hours worked</b>								
NSC	1.2	1.3	0.2	2.5	-1.3	-3.3	1.5	-1.2
NSC x undoc	[-1.4, 3.8]	[-2.6, 5.1]	[-3.8, 4.2]	[-1.9, 6.9]	[-4.6, 2.0]	[-8.3, 1.8]	[-3.1, 6.1]	[-5.9, 3.6]
		-0.2		-4.1		3.0		5.3
		[-5.5, 5.2]		[-11.6, 3.3]		[-2.8, 8.8]		[-5.7, 16.2]
Observations	576		539		573		538	
<b>DV: Weekly earnings<sup>a</sup></b>								
NSC	0.00	0.06	0.09	0.19	-0.09	-0.12	0.16	0.02
NSC x undoc	[-0.22, 0.22]	[-0.14, 0.26]	[-0.11, 0.29]	[-0.06, 0.44]	[-0.24, 0.06]	[-0.34, 0.10]	[-0.16, 0.48]	[-0.28, 0.32]
		-0.10		-0.18		0.04		0.27
		[-0.42, 0.22]		[-0.53, 0.17]		[-0.26, 0.34]		[-0.15, 0.69]
Observations	525		500		523		499	
<b>DV: Self-employed<sup>b</sup></b>								
NSC	-0.05	-0.28	-0.12	-0.11	0.01	0.14	0.10	0.24
NSC x undoc	[-0.20, 0.10]	[-0.58, 0.02]	[-0.22, -0.02]	[-0.36, 0.14]	[-0.11, 0.13]	[-0.16, 0.44]	[-0.05, 0.25]	[-0.03, 0.51]
		0.30		-0.01		-0.16		-0.22
		[-0.05, 0.65]		[-0.23, 0.21]		[-0.46, 0.14]		[-0.52, 0.08]
Observations	576		541		573		540	

Note: Model specifications are described in Table 3.

<sup>a</sup> Weekly earnings are transformed using the inverse hyperbolic sine function:  $IHS(Y) = \log \left[ Y + \sqrt{Y^2 + 1} \right]$ .

<sup>b</sup> Coefficients reflect marginal effects from IPT-weighted logistic regression.

## 7. Discussion

A cornerstone of modern federal immigration policy is increased border security and internal policing to reduce the number of undocumented immigrants in the country. These escalations have elevated the public’s attention, along with the broader policy discourse regarding the economic costs and benefits of immigrants, especially those who enter the country without documentation. Despite intense policy interest on the topic, few large-scale scientifically selected surveys contain information on the legal status of respondents. Therefore research examining how undocumented immigrants fare in the US economy is thin. To advance our understanding of the lives of undocumented immigrants and to expand this research base, we analyzed data from a unique survey of



adults in Los Angeles from the early 2000s that directly ascertains the legal status of respondents. By focusing on the period immediately preceding the adoption of draconian immigration policies following the 9/11 terrorist attacks, we aimed to produce lower-bound estimates of the economic penalties to undocumented status and the compensating role of neighborhood social capital. Our study yielded three distinct findings, which we discuss in turn.

First, the latest research on economic integration of undocumented immigrants finds that likely undocumented immigrants have wages that are, on average, 10%–12% lower than those of documented immigrants (Borjas 2017). Documented immigrants encompass an array of foreign-born residents, including naturalized citizens, those with visas or green cards, refugees, those seeking asylum, and those with temporary protected status. In analyzing data that distinguish various subgroups of noncitizens from one another, we are able to corroborate Borjas’s finding with some important qualifications. While undocumented immigrants resemble their peers with visas or work authorization and green cards, they work and earn less than *naturalized* immigrants. Underlying aspirational, resource, and personality differences between undocumented and naturalized immigrants may contribute to these differences. For example, those with citizenship likely have more resources and a long-term stake in living in the United States, both of which would prove consequential during the lengthy naturalization process. On the other hand, undocumented immigrants may view their residence as temporary, seeking short-term financial gains via employment before returning home. Conversely, the viability of career advancement may shape the professional aspirations of undocumented immigrants, who may be wary of investing in education or training when they are unable to put new skills to use in the formal labor market (Gonzales 2016). Regardless of intent, undocumented immigrants face serious barriers to integration owing to the sensitivity of their legal status, so they may not invest in acculturation as strongly as those who have naturalized. Whatever the underlying causes, our study underscores the value of citizenship and the precarity of the undocumented experience. Our findings corroborate and contextualize previous research that uses data sets with less optimal methods of identifying immigrant legal status (Borjas 2017; Hall, Greenman, and Farkas 2010). Specifically, our results suggest that the labor market penalty to undocumented status is evidenced most clearly in relation to immigrants with citizenship status, suggesting that the relative *benefit* of citizenship may contribute to these gaps as much as the hindrance of undocumented status.

Second, we expected that undocumented immigrants would be more reliant on self-employment than other immigrant groups. We found age to be an important factor in this equation, as undocumented immigrants in their early working careers were more likely to be self-employed than immigrants with visas or work authorization, legal permanent residents, and naturalized citizens. We also identified gender differences in self-

employment. Specifically, undocumented women were more likely to be self-employed compared to second-generation immigrants, and young undocumented men were more likely to be self-employed than naturalized immigrants. We remind readers that the prevalence of self-employment in our sample was low, so these findings should be taken as exploratory rather than definitive. However, this does suggest that self-employment may be a non-negligible source of opportunity for undocumented immigrants facing work restrictions that limit their access to certain types of employment. In sum, we find two distinct modes of economic incorporation: one of steady work and higher wages among immigrants with citizenship status, and one of lower earnings and greater reliance on self-employment among immigrants in the country without documentation.

Lastly, we tested ideas prominent in the immigration literature which contend that social capital facilitates the labor market success of immigrants. As LA FANS was designed to identify key social network properties of neighborhoods, we had access to a rich set of measures that gauge the extent to which immigrants live near and rely on one another. While we found evidence that undocumented immigrants had greater exposure to coethnics in their neighborhoods when compared with other immigrants, living in these neighborhoods did not influence immigrant labor market outcomes; nor did the presence of friendship ties. However, we found that the presence of family ties and reciprocated exchange had decidedly *negative* effects on the employment and earnings of undocumented immigrants and in some cases immigrant women. While the presence of family ties increased the earnings of documented immigrants, it reduced the earnings of immigrants without legal status and decreased the probability of self-employment among immigrant women. Similarly, reciprocated exchange between neighbors increased the employment of documented women but reduced the number of weeks undocumented immigrants worked full-time. These results accord with research that has found mixed or null effects of embedded ethnic social networks on labor market outcomes (Fong and Hou 2013; Logan, Alba, and Stults 2003; Xie and Gough 2011) and substantiate studies finding that social networks suppress the employment of immigrant women (Kim 2016; Livingston 2006).

While we lack the data to precisely ascertain why the presence of family ties reduces the earnings of undocumented immigrants, some research suggests that strong immigrant social networks might impede rates of acculturation (Ream 2003), such as learning English, developing relationships with natives, and attending American schools. Should undocumented immigrants seek the protection and comfort of familial networks, their opportunities in the broader labor market may be limited. The mechanisms behind the negative relationship between family ties and the earnings of undocumented immigrants may differ for men and women. For example, women may be more likely to engage in task sharing (e.g., child care) that may influence the need or ability to work. Indeed, we find that undocumented immigrants who engage in reciprocated exchange with neighbors

work less than documented immigrants, but we find only suggestive evidence that this trend is driven by women.<sup>19</sup> Future research will be needed to identify the mechanisms undergirding the relationships between neighborhood social capital and labor market outcomes that we observe here.

## **8. Limitations**

Despite the strengths of our study, including a sizable sample of undocumented immigrants and strong measures of neighborhood social capital, we note three major limitations. First, in the absence of an experiment (natural or otherwise), assignment to legal status is confounded with a host of characteristics, many of which we are able to measure and adjust for with inverse probability of treatment weights. However, many unobservable factors (e.g., personality, intentions, and ambitions) differentiate documented from undocumented immigrants and contribute to labor market outcomes. Therefore, while we identify certain economic penalties associated with undocumented status, we cannot say that the penalties are solely due to undocumented status. Second, LA FANS was conducted in the early 2000s, when the economy was expanding and the border was relatively porous compared to today. Additionally, California has been accommodating to immigrants in recent decades, as evidenced by its lack of E-Verify mandates, which require that employers verify the legal status of job applicants. While this permits us to rule out some of the more draconian policies as contributors to the differentials we estimate here, our analysis likely reflects a more optimistic portrait of economic integration than might be the case in more recent years or in other localities. Third, our measures of neighborhood social capital are contemporaneous with the first wave of LA FANS, when most undocumented immigrants had already been in the country for approximately ten years. It may be the case that such networks are more important when immigrants first arrive, which is a dynamic we unfortunately cannot observe in the data.

## **9. Conclusion**

In closing, as policymakers grapple with strategies for managing and addressing the needs of the undocumented population, it is incumbent on the scientific community to improve its methods to better understand the social consequences of restrictive immigration

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<sup>19</sup> In supplementary analyses we find no evidence that the presence of infant children moderates the relationship between neighborhood social capital and labor market outcomes. Results are available upon request.

policy. Our study contributes to this research by providing additional insight into how undocumented immigrants fare in the US labor market. Our study highlights the labor market penalties experienced by undocumented immigrants, the limitations of neighborhood social capital in facilitating their integration into the American economy, and the potential value of self-employment. The marginalization of this population warrants further research, as existing barriers to economic incorporation invariably impact the well-being of millions of immigrant families year after year. Future research can build off our work to elucidate how other dimensions of the economy and related policy shape trajectories of economic integration among those who enter the United States without documentation.

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## Appendix

**Table A-1a: Unweighted and IPT-weighted balancing covariates for immigrants with visas or work authorization**

	Undocumented (n = 388)	Visa or work authorization (n = 91)			
		Unweighted	p	Weighted	p
<b>Individual characteristics</b>					
Age	31.4	34.7	<0.001	33.2	0.09
Female	0.55	0.54	0.89	0.51	0.69
Married	0.41	0.46	0.39	0.55	0.14
Race/ethnicity: Latino	0.99	0.85	<0.001	0.99	0.22
Race/ethnicity: white	0.00	0.04	<0.001	0.00	0.18
Race/ethnicity: Asian	0.01	0.11	<0.001	0.01	0.37
Head of household	0.52	0.62	0.11	0.54	0.85
Dependent children	1.64	1.53	0.48	2.20	0.13
Infant child	0.24	0.27	0.49	0.23	0.93
English	0.04	0.22	<0.001	0.09	0.38
Edu attainment: primary or less	0.45	0.28	<0.001	0.50	0.63
Edu attainment: some HS	0.28	0.27	0.90	0.26	0.82
Edu attainment: completed HS	0.21	0.22	0.73	0.15	0.26
Edu attainment: some college	0.03	0.07	0.15	0.05	0.66
Edu attainment: college degree	0.03	0.16	<0.001	0.05	0.46
Edu location: all US	0.01	0.00	0.33	0.00	0.05
Edu location: some US	0.88	0.84	0.26	0.80	0.30
Edu location: no US	0.11	0.16	0.16	0.20	0.24
Enrolled	0.02	0.05	0.11	0.01	0.32
Work disability	0.08	0.08	0.97	0.04	0.07
Work disability (spouse/partner)	0.06	0.06	0.94	0.02	0.13
Poor health	0.67	0.76	0.09	0.68	0.89
Poor health (spouse/partner)	0.73	0.86	0.18	0.94	<0.001
Years in US	10.0	10.4	0.67	10.9	0.24
Never returned	0.62	0.64	0.77	0.64	0.86
Last return	6.42	4.30	0.05	6.11	0.80
Survey year: 2000	0.38	0.42	0.53	0.41	0.76
Survey year: 2001	0.61	0.57	0.46	0.59	0.79
Survey year: 2002	0.01	0.01	0.53	0.00	0.42
<b>Family characteristics</b>					
Maternal nativity: Mexico	0.81	0.30	<0.001	0.70	0.12
Maternal nativity: Latin America	0.19	0.56	<0.001	0.29	0.13
Maternal nativity: Asia	0.01	0.10	<0.001	0.01	0.72
Binational	0.01	0.02	0.52	0.00	0.19
Parent HS graduate	0.10	0.33	<0.001	0.12	0.72
Two-parent household	0.69	0.68	0.94	0.71	0.76
<b>Neighborhood characteristics</b>					
Very poor	0.57	0.44	0.02	0.56	0.90
Poor	0.33	0.41	0.15	0.33	0.99
Not poor	0.10	0.15	0.12	0.11	0.80

Note: Corresponding p-value from two-tailed t-test comparing means to undocumented group is reported alongside group means.

**Table A-1b: Unweighted and IPT-weighted balancing covariates for legal permanent residents**

	Undocumented (n = 388)	Legal permanent resident (n = 373)			
		Unweighted	<i>p</i>	Weighted	<i>p</i>
<b>Individual characteristics</b>					
Age	31.4	38.9	<0.001	32.1	0.44
Female	0.55	0.56	0.65	0.56	0.91
Married	0.41	0.62	<0.001	0.47	0.49
Race/ethnicity: Latino	0.99	0.85	<0.001	0.99	0.05
Race/ethnicity: white	0.00	0.07	<0.001	0.01	<0.001
Race/ethnicity: Asian	0.01	0.08	<0.001	0.01	0.52
Head of household	0.52	0.67	<0.001	0.61	0.23
Dependent children	1.64	1.51	0.20	1.69	0.84
Infant child	0.24	0.16	<0.001	0.19	0.32
English	0.04	0.30	<0.001	0.06	0.25
Edu attainment: primary or less	0.45	0.39	0.10	0.38	0.43
Edu attainment: some HS	0.28	0.22	0.09	0.21	0.18
Edu attainment: completed HS	0.21	0.16	0.06	0.28	0.25
Edu attainment: some college	0.03	0.11	<0.001	0.04	0.81
Edu attainment: college degree	0.03	0.12	<0.001	0.08	0.22
Edu location: all US	0.01	0.05	<0.001	0.02	0.48
Edu location: some US	0.88	0.75	<0.001	0.85	0.44
Edu location: no US	0.11	0.20	<0.001	0.14	0.52
Enrolled	0.02	0.03	0.59	0.01	0.31
Work disability	0.08	0.11	0.16	0.04	0.03
Work disability (spouse/partner)	0.06	0.12	0.05	0.04	0.62
Poor health	0.67	0.69	0.49	0.70	0.69
Poor health (spouse/partner)	0.73	0.69	0.58	0.76	0.66
Years in US	10.0	18.2	<0.001	11.4	0.09
Never returned	0.62	0.29	<0.001	0.38	<0.001
Last return	6.42	5.10	0.03	3.77	<0.001
Survey year: 2000	0.38	0.38	0.98	0.40	0.81
Survey year: 2001	0.61	0.61	0.95	0.59	0.80
Survey year: 2002	0.01	0.01	0.62	0.01	0.83
<b>Family characteristics</b>					
Maternal nativity: Mexico	0.81	0.61	<0.001	0.81	0.93
Maternal nativity: Latin America	0.19	0.25	0.05	0.18	0.79
Maternal nativity: Asia	0.01	0.08	<0.001	0.01	0.57
Binational	0.01	0.02	0.37	0.01	0.58
Parent HS graduate	0.10	0.24	<0.001	0.09	0.82
Two-parent household	0.69	0.68	0.83	0.71	0.69
<b>Neighborhood characteristics</b>					
Very poor	0.57	0.41	<0.001	0.60	0.73
Poor	0.33	0.40	0.04	0.33	0.97
Not poor	0.10	0.19	<0.001	0.08	0.40

Note: Corresponding *p*-value from two-tailed t-test comparing means to undocumented group is reported alongside group means.

**Table A-1c: Unweighted and IPT-weighted balancing covariates for naturalized immigrants**

	Undocumented (n = 388)	Naturalized (n = 321)			
		Unweighted	<i>p</i>	Weighted	<i>p</i>
<b>Individual characteristics</b>					
Age	31.4	43.1	<0.001	38.1	<0.001
Female	0.55	0.59	0.29	0.50	0.77
Married	0.41	0.68	<0.001	0.59	0.32
Race/ethnicity: Latino	0.99	0.56	<0.001	0.96	0.02
Race/ethnicity: white	0.00	0.18	<0.001	0.02	0.01
Race/ethnicity: Asian	0.01	0.23	<0.001	0.02	0.09
Head of household	0.52	0.79	<0.001	0.76	0.04
Dependent children	1.64	1.40	0.02	1.17	0.22
Infant child	0.24	0.13	<0.001	0.11	0.04
English	0.04	0.66	<0.001	0.11	0.09
Edu attainment: primary or less	0.45	0.17	<0.001	0.52	0.69
Edu attainment: some HS	0.28	0.13	<0.001	0.23	0.68
Edu attainment: completed HS	0.21	0.16	0.08	0.09	0.01
Edu attainment: some college	0.03	0.20	<0.001	0.12	0.34
Edu attainment: college degree	0.03	0.35	<0.001	0.04	0.48
Edu location: all US	0.01	0.09	<0.001	0.02	0.31
Edu location: some US	0.88	0.41	<0.001	0.88	0.99
Edu location: no US	0.11	0.50	<0.001	0.10	0.75
Enrolled	0.02	0.03	0.51	0.00	0.01
Work disability	0.08	0.11	0.15	0.06	0.61
Work disability (spouse/partner)	0.06	0.08	0.39	0.02	0.14
Poor health	0.67	0.79	<0.001	0.82	0.03
Poor health (spouse/partner)	0.73	0.81	0.13	0.87	0.09
Years in US	10.0	23.6	<0.001	14.5	<0.001
Never returned	0.62	0.35	<0.001	0.22	<0.001
Last return	6.42	6.67	0.75	4.93	0.18
Survey year: 2000	0.38	0.37	0.77	0.34	0.73
Survey year: 2001	0.61	0.62	0.86	0.66	0.71
Survey year: 2002	0.01	0.01	0.51	0.00	0.22
<b>Family characteristics</b>					
Maternal nativity: Mexico	0.81	0.40	<0.001	0.82	0.85
Maternal nativity: Latin America	0.19	0.16	0.26	0.14	0.42
Maternal nativity: Asia	0.01	0.24	<0.001	0.02	0.07
Binational	0.01	0.04	0.01	0.01	0.32
Parent HS graduate	0.10	0.48	<0.001	0.06	0.21
Two-parent household	0.69	0.76	0.04	0.71	0.81
<b>Neighborhood characteristics</b>					
Very poor	0.57	0.18	<0.001	0.51	0.68
Poor	0.33	0.35	0.55	0.27	0.59
Not poor	0.10	0.47	<0.001	0.22	0.22

Note: Corresponding *p*-value from two-tailed t-test comparing means to undocumented group is reported alongside group means.

**Table A-1d: Unweighted and IPT-weighted balancing covariates for second-generation immigrants**

	Undocumented (n = 388)	Second-generation (n = 227)			
		Unweighted	<i>p</i>	Weighted	<i>p</i>
<b>Individual characteristics</b>					
Age	31.4	34.4	<0.001	26.4	<0.001
Female	0.55	0.59	0.34	0.67	0.21
Married	0.41	0.46	0.23	0.28	0.17
Race/ethnicity: Latino	0.99	0.59	<0.001	0.93	0.15
Race/ethnicity: white	0.00	0.29	<0.001	0.01	0.05
Race/ethnicity: Asian	0.01	0.10	<0.001	0.01	0.49
Head of household	0.52	0.74	<0.001	0.80	<0.001
Dependent children	1.64	1.13	<0.001	1.52	0.71
Infant child	0.24	0.16	0.02	0.14	0.12
English	0.04	0.93	<0.001	0.62	<0.001
Edu attainment: primary or less	0.45	0.01	<0.001	0.00	<0.001
Edu attainment: some HS	0.28	0.17	<0.001	0.54	0.01
Edu attainment: completed HS	0.21	0.20	0.78	0.17	0.60
Edu attainment: some college	0.03	0.34	<0.001	0.22	0.02
Edu attainment: college degree	0.03	0.29	<0.001	0.07	0.28
Edu location: all US	0.01	1.00	<0.001	1.00	<0.001
Edu location: some US	0.88	0.00	<0.001	0.00	<0.001
Edu location: no US	0.11	0.00	<0.001	0.00	<0.001
Enrolled	0.02	0.02	0.64	0.04	0.68
Work disability	0.08	0.10	0.30	0.10	0.66
Work disability (spouse/partner)	0.06	0.09	0.33	0.00	<0.001
Poor health	0.67	0.89	<0.001	0.75	0.38
Poor health (spouse/partner)	0.73	0.90	0.01	0.98	<0.001
Years in US	10.0	34.4	<0.001	26.4	<0.001
Never returned	0.62				
Last return	6.42				
Survey year: 2000	0.38	0.44	0.12	0.39	0.93
Survey year: 2001	0.61	0.55	0.10	0.56	0.61
Survey year: 2002	0.01	0.01	0.59	0.05	0.36
<b>Family characteristics</b>					
Maternal nativity: Mexico	0.81	0.52	<0.001	0.82	0.92
Maternal nativity: Latin America	0.19	0.13	0.05	0.12	0.33
Maternal nativity: Asia	0.01	0.12	<0.001	0.01	0.49
Binational	0.01	0.47	<0.001	0.19	0.03
Parent HS graduate	0.10	0.66	<0.001	0.30	0.04
Two-parent household	0.69	0.70	0.62	0.52	0.12
<b>Neighborhood characteristics</b>					
Very poor	0.57	0.21	<0.001	0.67	0.25
Poor	0.33	0.30	0.41	0.22	0.10
Not poor	0.10	0.50	<0.001	0.11	0.80

Notes: Corresponding *p*-value from two-tailed t-test comparing means to undocumented group is reported alongside group means. Return migration variables are marked "NA" for second-generation immigrants because related questions were asked only of foreign-born respondents.

**Table A-1e: Unweighted and IPT-weighted balancing covariates for documented immigrants**

	Undocumented (n = 388)	Documented immigrants (n = 1,012)			
		Unweighted	<i>p</i>	Weighted	<i>p</i>
<b>Individual characteristics</b>					
Age	31.4	38.8	<0.001	32.9	0.04
Female	0.55	0.57	0.37	0.60	0.40
Married	0.41	0.59	<0.001	0.48	0.40
Race/ethnicity: Latino	0.99	0.70	<0.001	0.97	<0.001
Race/ethnicity: white	0.00	0.15	<0.001	0.01	<0.001
Race/ethnicity: Asian	0.01	0.13	<0.001	0.01	0.11
Head of household	0.52	0.72	<0.001	0.65	0.05
Dependent children	1.64	1.39	<0.001	1.99	0.26
Infant child	0.24	0.16	<0.001	0.17	0.08
English	0.04	0.55	<0.001	0.07	0.04
Edu attainment: primary or less	0.45	0.22	<0.001	0.45	0.94
Edu attainment: some HS	0.28	0.18	<0.001	0.19	0.07
Edu attainment: completed HS	0.21	0.17	0.12	0.22	0.76
Edu attainment: some college	0.03	0.19	<0.001	0.06	0.15
Edu attainment: college degree	0.03	0.23	<0.001	0.07	0.17
Edu location: all US	0.01	0.27	<0.001	0.03	0.03
Edu location: some US	0.88	0.48	<0.001	0.82	0.13
Edu location: no US	0.11	0.25	<0.001	0.16	0.24
Enrolled	0.02	0.03	0.51	0.02	0.49
Work disability	0.08	0.10	0.14	0.06	0.36
Work disability (spouse/partner)	0.06	0.09	0.13	0.06	0.85
Poor health	0.67	0.77	<0.001	0.61	0.52
Poor health (spouse/partner)	0.73	0.78	0.22	0.80	0.23
Years in US	10.0	22.9	<0.001	11.8	<0.001
Never returned	0.62	0.36	<0.001	0.62	0.94
Last return	6.42	5.69	0.24	6.01	0.50
Survey year: 2000	0.38	0.40	0.64	0.45	0.38
Survey year: 2001	0.61	0.60	0.55	0.55	0.40
Survey year: 2002	0.01	0.01	0.48	0.00	0.58
<b>Family characteristics</b>					
Maternal nativity: Mexico	0.81	0.50	<0.001	0.76	0.31
Maternal nativity: Latin America	0.19	0.22	0.20	0.22	0.52
Maternal nativity: Asia	0.01	0.14	<0.001	0.01	0.10
Binational	0.01	0.13	<0.001	0.01	0.75
Parent HS graduate	0.10	0.42	<0.001	0.13	0.43
Two-parent household	0.69	0.71	0.38	0.73	0.40
<b>Neighborhood characteristics</b>					
Very poor	0.57	0.29	<0.001	0.58	0.90
Poor	0.33	0.36	0.24	0.32	0.93
Not poor	0.10	0.35	<0.001	0.09	0.89

Notes: Corresponding *p*-value from two-tailed t-test comparing means to undocumented group is reported alongside group means. Documented immigrants include immigrants with a visa or work authorization, legal permanent residents, naturalized citizens, and second-generation immigrants.

**Table A-2: IPT-weighted regression estimates predicting outcomes by age and legal status**

	Visa or work authorization	Legal permanent resident	Naturalized	Second-generation
<b>DV: Weeks employed full-time</b>				
Undoc	4.0 [-16.0, 24.1]	3.5 [-20.7, 27.7]	-15.0 [-45.4, 15.4]	-12.4 [-82.3, 57.5]
Undoc x age 18–24	32.1 [-8.8, 73.1]	-21.9 [-56.9, 13.1]	18.2 [-49.6, 86.0]	6.1 [-33.8, 45.9]
Undoc. x age 36–54	-5.6 [-40.2, 29.0]	-3.6 [-32.9, 25.8]	-15.7 [-55.7, 24.3]	18.5 [-52.0, 89.0]
Undoc x age 55+	25.5 [-37.3, 88.3]	-4.9 [-72.5, 62.7]	13.8 [-66.6, 94.3]	59.4 [-31.9, 150.7]
Observations	479	761	709	615
<b>DV: Weekly hours worked</b>				
Undoc	-1.2 [-8.2, 5.9]	-0.9 [-5.4, 3.5]	-0.5 [-7.1, 6]	-7.7 [-18.9, 3.5]
Undoc x age 18–24	2.0 [-7.4, 11.4]	2.7 [-5.5, 10.8]	11.4 [-10.8, 33.5]	3.3 [-6.9, 13.6]
Undoc x age 36–54	0.3 [-9.7, 10.3]	-2.3 [-9.8, 5.2]	-1.0 [-10.4, 8.4]	-11.4 [-28.8, 6.1]
Undoc x age 55+	22.7 [5.1, 40.4]	-0.9 [-17.1, 15.3]	-4.9 [-21.8, 12.1]	3.0 [-13.2, 19.3]
Observations	363	573	557	488
<b>DV: Weekly earnings<sup>a</sup></b>				
Undoc	-0.31 [-0.71, 0.09]	-0.20 [-0.50, 0.10]	-0.37 [-0.59, -0.15]	-0.15 [-0.65, 0.35]
Undoc x age 18–24	0.27 [-0.23, 0.77]	0.14 [-0.28, 0.56]	1.07 [-0.40, 2.54]	0.05 [-0.50, 0.60]
Undoc x age 36–54	0.43 [-0.37, 1.23]	-0.13 [-0.53, 0.27]	0.18 [-0.32, 0.68]	-0.25 [-1.25, 0.75]
Undoc x age 55+	0.40 [-0.67, 1.47]	-0.54 [-1.54, 0.46]	-0.24 [-0.99, 0.51]	0.37 [-0.63, 1.37]
Observations	345	532	510	456
<b>DV: Self-employment<sup>b</sup></b>				
Undoc	0.11 [-0.09, 0.31]	0.09 [-0.11, 0.29]	0.43 [0.08, 0.78]	0.27 [-0.15, 0.69]
Undoc x age 18–24	1.53 [0.88, 2.18]	1.64 [0.82, 2.46]	0.94 [0.44, 1.44]	0.17 [-0.35, 0.69]
Undoc x age 36–54	-0.20 [-0.50, 0.10]	-0.05 [-0.30, 0.20]	-0.34 [-0.79, 0.11]	0.30 [-0.22, 0.82]
Undoc x age 55+	1.85 [1.18, 2.52]	0.24 [-0.18, 0.66]	-0.26 [-0.78, 0.26]	0.50 [-0.02, 1.02]
Observations	363	574	558	488

Notes: Estimates derived from the following equation:  $Y_i = \beta_0 + \beta_1 undoc_i + \sum_g \beta_g age_i^g + \sum_g \beta_g (undoc_i \times age_i^g) + X_i' \alpha + \varepsilon_i$ , where  $g = \{18-24, 25-35, 36-54, 55-65\}$ . We display point estimates and 95% Bonferroni-corrected confidence intervals for  $\beta_1$  and the interaction terms, with age 25–35 as reference. Covariates showing post-weighting residual differences in Table A-1e were included as controls to produce 'doubly robust' estimates.

<sup>a</sup> Weekly earnings are transformed using the inverse hyperbolic sine function.

<sup>b</sup> Coefficients reflect marginal effects from the following IPT-weighted logistic regression:  $\log(odds(Y_i = 1)) = \beta_0 + \beta_1 undoc_i + \sum_g \beta_g age_i^g + \sum_g \beta_g (undoc_i \times age_i^g)$ .