# Are low-skilled immigration and coresidence substitutes? Evidence from Secure Communities*

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***Abstract***

This paper studies the effect of Secure Communities, an immigration enforcement program that removed a large number of non-citizens from the United States, on the living arrangements of elderly U.S.-born individuals. Using U.S. Census data and exploiting spatial and temporal variation in the implementation of the program, I estimate a difference-in-differences model with location and time-fixed effects. I find that Secure Communities increased the likelihood of coresidence among single elderly by about 3.6 percent. Furthermore, I provide suggestive evidence that a single elderly person's coresidence with a person out of the labor force increased by 5.4 percent following Secure Communities. Empirical tests suggest that the increased price of household services due to the reduction of immigrants' labor supply is the key mechanism generating these effects. Taken together, these findings suggest that strict immigration enforcement policies could have a large impact on the living arrangements and labor market outcomes of U.S.-born persons.

**Keywords:** Immigration enforcement, caregiving, aging, labor force participation.

**JEL Classification:** J14, J21, J61, I18

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# 1 Introduction

The population of the United States is aging.[1] The number of Americans aged 80 and older is projected to more than double between 2020 and 2060 (U.S. Census Bureau, Figure 1). Aging requires care, with about 60% of individuals between ages 85 and 89 years needing help from others (Freedman and Spillman, 2014). From age 90 years and onward, only around 2% of people are fully able to accommodate their limitations. Traditionally, the needed assistance is provided by family. However, family's caregiving contribution is decreasing due to the declining fertility rate and migration of family members (Redfoot et al., 2013), and the demand for paid support is increasing. Currently, 38% of home health aid workers are immigrants (Kosten, 2021). Therefore, immigration enforcement policy stands to impact the labor supply for elder care and may disrupt family living arrangements and the work decisions of the elderly's adult children.

In this paper, I evaluate the impact of Secure Communities (SC) - a compulsory police-based immigration enforcement program - on the living arrangements of U.S.-born elderly people. Older adults are more likely to outsource private household services. Figure 2 shows that over 17% of workers in the private household sector are likely undocumented immigrants. Previous research found that employment and hours worked by undocumented immigrants declined in response to SC (East et al., 2018; Valdivia, 2019; East and Velásquez, 2022). Thus, decreased labor supply in the household industry through restricted immigration enforcement policy should increase the cost of outsourcing household services. As a consequence, elderly individuals would need to outsource these services to formal agencies at a higher cost or seek assistance from family and friends. While the latter is usually unpaid, being a caregiver for a family member comes at the cost of reduced work hours at a formal job or leads to the exit from the labor force entirely (Van Houtven et al., 2013; Skira, 2015; Fahle and McGarry, 2018; Maestas et al., 2020).

[1] https://www.urban.org/policy-centers/cross-center-initiatives/program-retirement-policy/projects/data-warehouse/what-future-holds/us-population-aging

Exploiting a quasi-experimental staggered rollout of SC across locations from 2009 to 2013, this paper examines the 80-plus-year-old residents' ability to live independently. Specifically, I look into whether these individuals are more likely to live with family, relatives, or friends rather than living alone or with a spouse. I link the timing of the policy's activation across localities with the individual-level data from the American Community Survey (ACS). This allows me to estimate a difference-in-differences model with location and survey year fixed effects. I show that the SC's start date is not correlated with an area's demographic and economic profiles; this lends support to the identification assumption. Additionally, I test the validity of the identification strategy by estimating an event study model which shows no significant trends in the elderly's living arrangement prior to the implementation of SC, providing support for the parallel pre-trends assumptions. To mitigate concern about a biased estimate due to the different treatment timing and different treatment effects, I perform Bacon decomposition (Goodman-Bacon, 2021). I also show that the results are robust to a number of identification tests.

I estimate the spillover effect of the policy by focusing on two samples: single and non-Hispanic white, both 80-plus-year-old, U.S.-born and not employed. I restrict the sample to these demographic groups due to the following reasons. First, single elderly, due to a lack of spousal support, are more likely in need of informal care. Second, non-Hispanic white people are less likely to live in extended-family households than other demographic groups (Burr and Mutchler, 1993; Himes et al., 1996). Thus, these two groups have a higher probability of being impacted by changes in the cost of household services.

The main finding is that the presence of SC in a local area increased the likelihood of an elderly individual's coresidence with somebody else. Specifically, the results indicate that the incidence of coresidence of single elderly with their children increased by 2.8% relative to the mean, and with any family member by 3.6%. As further evidence that single individuals are more sensitive to immigration policies, I identify two comparison groups that should be less impacted by immigrants' labor supply decisions: (1) married U.S.-born elderly, and

(2) foreign-born older adults. I show small and insignificant effect of SC on these groups' incidence of coresidence.

I then move on to analyses of with whom elderly are likely to reside. If SC raised the likelihood of the elderly sharing a home with their adult children (or family members and relatives), it is important to understand its implication on the labor market outcomes of those who switched living with the elderly. Consistent with the findings of the literature on caregiving and work, I find that a single elderly person is more likely to coreside with a working-age individual out of the labor force by 5.4% following SC.

I supplement this analysis by exploring changes in the market of household services. As the private household sector employs a substantial number of immigrant workers, the intensification of SC should decrease the supply of labor, driving the wages of private household workers up. As such, I examine the effect of SC on the labor supply of undocumented immigrant workers in the private household sector which leads me to find a significant decrease in labor supply by these workers. Next, I look into the effect of SC on the wages of workers in this sector. The wage bill is likely to represent the cost of private household services. My findings show that earnings of working-age low-educated workers in the private household industry significantly increased in response to SC exposure. Given that workers in this industry are more likely to be involved in labor-intensive jobs, we are more likely to see the effect of SC on the wages of low-educated workers.

This paper advances the literature in three ways. First, it contributes to the literature on the spillover effects of SC. Prior research confirmed that SC extended beyond directly affected immigrants and had ripple effects on the employment of U.S. citizens (East et al., 2018; East and Velásquez, 2022), safety net participation of documented immigrants (Alsan and Yang, 2018), and worker complaints in Hispanic workplaces (Grittner and Johnson, 2021). Overall, the existing literature indicates that SC had unintended negative consequences on both natives and naturalized immigrants. This paper complements these studies by (1) studying new and unexplored outcome-living arrangements of U.S.-born elderly individuals

and (2) providing evidence that the effect is driven by the declined labor supply among likely undocumented immigrants in the private household industry.

Second, my work also contributes to the literature on immigration and aging. Emerging research has found that an increased supply of low-skilled immigrants has led people aged 65 and up to stay in their own homes for longer (Butcher et al., 2021; Mockus, 2021). In these studies, causal identification of the impact of immigrants on the elderly's living setting comes from exploiting the area's variation in the inflow of immigrants and shift-share approach to identification. In contrast to this research, I study the living arrangements of the elderly due to the outflow of immigrants using SC as a natural experiment. The outcome caused by the outflow versus by inflow of immigrants is likely to be asymmetric. This is because the recently arrived workforce needs time to adjust to the new labor market conditions and thus leads to a different symmetric effect than the removal of adapted labor force (Lee et al., 2022). Furthermore, I show the effect of the policy on the population groups that are most vulnerable to the implementation of immigration enforcement programs - those aged 80 and over and single, as well as those aged 80 and over and non-Hispanic white.

Finally, this paper contributes to the broader literature on the relationship between caregiving and work. Recent evidence from the U.S. suggests that caregiving has an adverse effect on labor supply on both intensive and extensive margins, and is also accompanied by low earnings (Van Houtven et al., 2013; Skira, 2015; Maestas et al., 2020). Studies in European countries explore the consequences of unexpected health shocks. They find a modest decline in earnings following a spouse's severe non-fatal health shock (Fadlon and Nielsen, 2021), and no effect on earnings and employment caused by sudden parental hospitalization (Rellstab et al., 2020). Complementing these studies, I present suggestive evidence of the increased likelihood of the elderly's coresidence with a person who is not in the labor force caused by SC.

The next section provides background on SC and the role of undocumented immigrants in elderly living arrangements. Section 3 describes the data, construction of variables, and

provides summary statistics. Section 4 presents the empirical strategy, and Section 5 reports the results. Section 6 explores mechanisms, and Section 7 concludes.

# 2 Background

## 2.1 Elderly Living Arrangements and the Role of Undocumented Immigrants

The settings in which the elderly live depend on factors such as health, income, the availability of affordable care services, and personal preferences. Most elderly Americans prefer aging in place (AARP, 2021). To age in place, many seniors need not only formal health care assistance but also informal assistance. The latter may be provided by a family member, often an adult child of the elderly, relatives, friends, or a paid support individual. Figure 1 shows the increasing number of the 80-plus population and the declining caregiver support ratio.[2] With declining family care support, the demand for paid care and support services is expected to grow. Studies based on the Health and Retirement Survey (HRS) show that in 2016, over 72 percent of individuals aged 65 and older with limitations in activities of daily living (ADL) or instrumental activities of daily living (IADL) hired paid informal home-based services (Van Houtven et al., 2020).[3] Another piece of supporting evidence for the growing demand for paid care is presented in Figure 3. As the figure shows, during 2012-2021 the employment of home care workers increased 120 percent from 1.2 million to 2.6 million individuals.

Likely undocumented immigrant workers are employed in a wide spectrum of home-based services ranging from home maintenance to basic care services (such as blood pressure readings and medication management). Table 1 (column 2) reports the occupations of undocu-

[2]The caregiver support ratio is defined as the number of people aged 45-64 divided by the number of people 80 and older (Redfoot et al., 2013).

[3]ADLs can include walking, dressing, bathing, eating, getting into or out of bed, and using the toilet. IADLs can include preparing hot meals, shopping for groceries, making telephone calls, taking medications, and managing money

mented immigrants in the private household sector. The undocumented status of immigrants is proxied using key demographic traits. Following the literature, I define an immigrant as undocumented if the immigrant is low-skilled (with less than a high school diploma) and foreign-born (East and Velásquez, 2022). As Table 1 shows, among all undocumented workforce, a substantial share serves as maids and housekeeping cleaners (79%). A smaller share of undocumented immigrant workers in the private household industry is direct care workers (personal care workers (6.2%) and nursing assistants (1.12%)).[4] Services provided by these occupations are vital for aging in place. The private household industry hires 17% of the undocumented workforce (Figure 2). This is notably higher than the share of undocumented workers in construction (9.8%) and only 1% lower than in agriculture (18.3%). Restrictive policies targeting undocumented immigrants are expected to reduce the workforce in the household sector. As found by Butcher et al. (2021) availability of low-educated foreign-born labor helps many elderly people to age at home as they can outsource in-home care services at an affordable cost.

## 2.2 Secure Communities

Secure Communities was a federal immigration-enforcement program administered by Immigration and Customs Enforcement (ICE). It started in October 2008, was temporarily suspended in October 2014, and was reactivated in 2017. The program required local and state law enforcement agencies to collaborate with the Federal Bureau of Investigation (FBI) and the Department of Homeland Security (DHS). Ordinarily, detained individuals' fingerprints were sent to the FBI to check against criminal databases. However, under Secure Communities, the fingerprints were also shared with DHS to verify detainees' immigration history. If these checks reveal an unlawful presence in the U.S., the ICE district office makes a decision on whether to arrest a detainee in order to prioritize removal (Cox and Miles, 2013).

[4] Zallman et al. (2019) classifies direct care workers as personal care workers, home health aides, and nursing assistants.

From 2008 to 2014, ICE deported over 450,000 immigrants under SC. Majority of removed immigrants were men, comprising 96% of all deportees. Additionally, Mexicans (63%) and Central American (23%) citizens were among the largest groups removed through Secure Communities. SC is also known for deportation of people with minor offenses (a non-violent crime) or no offense, which created "chilling effects" among other immigrant groups.[5] Prior research confirmed that SC have affected both undocumented and documented immigrants (Alsan and Yang, 2018; Grittner and Johnson, 2021; Valdivia, 2019).

The way SC is set up makes it an attractive setting to study the effect of the policy. First, due to resource and technological constraints, SC was not implemented throughout the entire United States at once and was rolled out gradually county by county across states over the period of 2008-2013. This timing helps to isolate the impact of the program by comparing the outcomes in areas that adopted SC early to similar areas that activated the policy later. Second, unlike other immigration enforcement programs, SC was mandatory for all jurisdictions. Moreover, the start date was determined by the federal government, and local authorities had minimal or no control over the launching time. Figure 4 shows the program's activation across the counties between 2008 and 2014. Early adopting counties are located in proximity to the U.S.-Mexico border, and had 287(g) agreements in place.[6] Cox and Miles (2013) argue that the early operation of SC is not linked to the county's economic conditions, crime rate, and the local attitude toward immigration enforcement. The timing of counties later adopting the policy is more random (in 2010 and later). In the main specifications, I include all counties. However, to test whether selection into the program biased the results, I exclude early-adopter areas in robustness checks.

The identification strategy that is described below in more detail requires that the timing of the policy adoption in a local area can not be predicted by the area's demographic and

[5]Visit https://trac.syr.edu/phptools/immigration/secure/ for detailed information on demographic and criminal background

[6]287(g) programs which included two components jail and tasks were similar in design but optional state and local enforcement programs. 287(g) Memorandum of Agreement details and authorizes local law enforcement officers to perform certain functions to enhance federal immigration law, including interviewing immigration status, detaining non-citizens, and investigating information on individuals.

economic characteristics, including the outcome of interest. To assess if that is likely the case, I examine whether changes in "pre-characteristics" are correlated with the start date of SC at the Public Use Microdata Area (PUMA) level. Table A.1 column 3 reports the estimates of the relationship between the first year of the policy activation in the PUMA and the change in PUMA's relevant characteristics between 2000 and 2005. Columns 1 and 2 of Table A.1 display mean and standard deviations of changes in characteristics. The results show that the first year of the program is not correlated with the change in the share of elderly and also the share of the elderly residing with their children. Similarly, other demographic and economic characteristics of PUMA do not predict the year of SC activation. However, two variables – the percentage change in non-citizens and the percentage change in housing prices - correlate with the program's starting year. The relationship is statistically significant but has very low quantitative importance. The results imply that one standard deviation increase in housing price is associated with a 2.7 months earlier adoption of SC (-0.009×25.5×12). Similarly, one standard deviation increase in the non-citizen population is correlated with a 1.4 months earlier activation (-4.665×0.0251×12). Thus, I conclude that these results support that the implementation of the policy likely occurred randomly.

# 3 Data Source and Descriptive Statistics

In this section, I provide an overview of the data sources, describe the construction of key variables, and report summary statistics.

## 3.1 American Community Survey and Coresidence of Elderly

The primary data source is American Community Survey (ACS) Integrated Public Use Microdata Series (Ruggles et al., 2019). The ACS is a repeated cross-sectional dataset covering a 1% random sample of the U.S. population. The smallest geographical area in the public version of the ACS is PUMA. There are about 1,000 PUMAs. PUMAs could be

comprised of several small contiguous counties, while large urban counties are subdivided into multiple PUMAs, and a PUMA could be equivalent to a single county. It is important to note that a PUMA does not cross state boundaries. The analysis covers the years 2005-2014 due to two reasons. First, the PUMA variable has been available in the ACS starting from 2005. Second, the SC program temporarily ended on October 2014. One caveat with limiting the sample period to 2005-2014 is that the ACS did not sample institutionalized individuals in 2005, thus omitting the elderly in nursing homes. To the extent that the activation of SC resulted in the transition from home living to nursing home living, the use of the survey years 2005-2014 without individuals living in nursing homes might induce sample selection bias. I show that the results are not sensitive to dropping the sample of 2005 and including elderly living in institutions. I discuss this in detail in Section 5.4.

I construct two samples: (1) single U.S.-born 80-plus years old and not employed individuals, and (2) non-Hispanic white U.S.-born individuals aged 80 and over and also not employed. One concern with restricting the sample to single elderly individuals is that single people might not have children. However, as data from the Health and Retirement Survey shows, 87% of single individuals aged 65 and over have children. Moreover, in my sample, only 5.5% of single individuals were never married, while about 81% are widowed.

To define a person residing with an elderly individual, I focus on household members and their relationship with an elderly person. The ACS reports the status of each household member relative to the head of the household. For example, in a household setting where a single elderly individual is the head of the family, the remaining members are listed as a child, child-in-law, grandchild, sibling, friend, visitor, or other non-relatives. The other common household type is the head of the household is either child or child-in-law, and an elderly person's status is listed as a parent or parent-in-law. Finally, an elderly person could also be reported as other relative or non-relative. Following the different statuses of an elderly individual within the household, I define the status of members residing with an elderly person. Using this information, I construct four binary variables: (a) an elderly person

coresiding with an adult child or children, (b) an elderly person coresiding with an adult child or child-in-law, (c) an elderly person coresiding with any family member or relative(s), or (d) an elderly person coresiding with either a family member, relative(s) or non-relative(s). I restrict the sample of coresiding members to 30-65 years of age to capture individuals who represent potential caregivers.[7]

Since the primary goal of this paper is to test the indirect effect of SC and its impact on coresidence among the elderly, I restrict the sample to households with U.S.-born elderly individuals. To give some sense with whom an elderly person resides, Figure 5, based on the ACS 2005-2014, plots the percentage of household members living with an elderly individual by relationship status. This sample is restricted to households with 80-plus U.S.-born individuals and also omits elderly who reside alone. Most elderly share a home with their adult child or children (63.7%) and child-in-law (23.3%). Although spouses are not counted as coresiding members, about a third of elderly live with a spouse. Given the sample age of 80 and over, grandchildren could be potential caregivers, and they represent about 23.1% of coresiding group. Lastly, a substantial number of relatives and nonrelatives reside with the elderly person (over 8%), while only in 1.6% of the households the elderly live with siblings.

Summary statistics for the samples of single and white elderly are presented in Table 2. All results are weighted using the ACS person weight variable. The two samples are alike only in terms of age and education, with the mean age of the elderly being 85 and about 17% of individuals having a high school education. The marital status varies across samples. The single sample is represented by 81% of widowed, 10% of divorced, and 5.5% of never married. In contrast, the non-Hispanic white sample contains about 52% widowed, 39% married, 3% never married and 6% divorced. There are more women among the singles (77% vs. 63%). More females reflect the fact that women often outlive their spouses. The ACS asks respondents about six disability types: hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, and independent living difficulty. Respondents who

[7] According to the American Association of Retired Persons (2020) 54 percent of family caregivers are aged 50 or older with an average age is 49.4 years old.

report at least one out of the six disability types is considered to have a disability. As such, about 60% of the single and 58% of the non-Hispanic white elderly report at least one form of disability. Moreover, 39% of the single respondents report not being able to live alone, with slightly smaller percentage of the non-Hispanic white (33%), which is captured by variables "self-care difficulty" or "independent living difficulty". Lastly, a higher percentage of non-Hispanic white people have college or advanced degrees compared to single elderly people (18% vs. 14%).

## 3.2 Coresidence and Informal Care

Studying coresidence is an interesting outcome because coresidence may be a convenient arrangement through which elderly receive care from their adult children or other relatives. However, elderly do not necessarily get care only through coresidence. Informal care could be provided in a variety of settings, including in separate living arrangements. Similarly, the decision to coreside may not be driven only by the desire to provide care. There could be other economic factors behind such a decision. For example, families may coreside to save on housing costs. To better understand the relationship between coresidence and informal care, I analyze data from the Health and Retirement Survey. Table 3 contrasts how often coresiding and non-coresiding elderly get informal care. Column 1 of Table 3 shows that 47% individuals aged 80 and over who coreside received at least one hour of informal care in the previous month versus 16% of individuals who do not coreside. The gap between the two groups increases when I look into longer hours of informal care, which shows that 42% of coresiding elderly received at least 20 hours of care in the past month versus 10% of those who do not coreside. This simple analysis suggests that coresiding elderly are more likely to get informal care than non-coresiding. Thus, I conclude that the coresidence of adult children or relatives with an elderly person is directly linked with the intention to provide caregiving support.

## 3.3 Data on Secure Communities

The information on the presence of Secure Communities is reported on a county level and is derived from the Freedom of Information Act (FOIA) Library. Since SC was activated on the county level, it could cover only a portion of a PUMA. Hence, I construct a population-weighted SC variable for each PUMA for every year. Consider PUMA $p$ at time $t$ formed by several counties $c_i$ for i=1,..N, then SC at PUMA-level takes the following form:

$$SC_{pt} = \sum_{i=1}^{N} \frac{CountyPop_{ct}}{PUMAPop_{pt}} \mathbf{1}\{SecCom_{it}\} \tag{1}$$

$SecCom_{it}$ is equal to one if Secure Communities program is implemented in county $i$ at year $t$. $CountyPop_{it}$ is the population of the county $i$ that adopted the policy at time $t$. $PUMAPop_{pt}$ is the population of PUMA $p$ at year $t$. For example, if 20% of the overall population in PUMA $p$ resides in county $i$, and county $i$ is the only county within PUMA $p$ activated the policy in 2010, then SC will take a value of 0.2 in PUMA $p$ in the year 2010. The Secure Communities activation is reported by month-year-county. However, in the ACS I do not observe when the respondents were surveyed. Therefore, I assign the SC policy to each observation if the policy was in effect for at least six months. Once all counties within PUMA adopt the policy, SC takes a value of one for the rest of the survey years. Therefore $SC_{pt} \in [0,1]$ is a continuous treatment variable

As discussed in section 2.2, during the sample period of 2005-2014, some jurisdictions also implemented 287(g) agreements. 287(g) Memorandum of Agreement data is collected by examining current and historical agreements posted on the ICE website.[8]

## 3.4 Undocumented Immigrants in Private Households Industry

The ACS does not ask about the respondent's visa status, but the survey reports whether a foreign-born individual is a naturalized citizen or not. I focus on low-skilled (less than a

[8]https://www.ice.gov/identify-and-arrest/287g

high-school degree) and foreign-born individuals. This demographic group captures a large share of undocumented individuals that would have been targeted by SC. This definition of documentation status is also consistent with the literature's approach (Van Hook and Bachmeier, 2013; East et al., 2018; Borjas and Cassidy, 2019; East and Velásquez, 2022). Additionally, to better capiture undocumented status, I also limit the sample to low-skilled Hispanic foreign-born individuals (East and Velásquez, 2022).

I hypothesize that SC will push family members and relatives of the elderly person to become caregivers or extend caregiving time. I proxy family caregiving through the coresidence (Mommaerts, 2018). I expect that the incidence of coresidence should increase in areas impacted by SC due to the increased cost of domestic services caused by the decline of labor supply in the private household sector. The reduction of labor supply in the private household industry is caused by: (1) forced removal of undocumented immigrants, (2) voluntary out-migration of immigrants, and (3) decreased labor supply by immigrants due to "chilling effects".

To measure whether changes in the private household industry are driving a positive effect on coresidence among elderly, I examine the labor supply decisions of likely undocumented immigrants in the household industry. I construct a sample of working age (18-64) immigrants in this industry and estimate the direct effect of SC on the total number of work hours provided by likely undocumented immigrants in the sector by PUMA and year. Next, I estimate the effect of SC on the cost of household services. I proxy the cost of household services with the real hourly earnings of workers in the private household industry.

# 4 Empirical Analysis

The identification strategy exploits the staggered rollout of SC activation across PUMAs over time to identify its effect on the living arrangement of U.S.-born elderly individuals. Using the ACS repeated individual-level cross-sectional data, I run the following model

specification:

$$Y_{ipt} = \beta_1 SC_{pt} + X'_{ipt}\delta + Z'_{pt}\gamma + \mu_p + \theta_t + \lambda W'_p * t + \varepsilon_{ipt} \quad (2)$$

where $Y_{ipt}$ is one of the four measures of coresidence for an individual $i$, living in PUMA $p$ and at year $t$. The key regressor is $SC_{pt}$, which ranges between 0 and 1. SC is zero if none of the counties within PUMA $p$ implemented the policy for at least six months at year $t$. SC takes a value one once all counties within PUMA have an active policy for six months (or more) of the survey year. Once the entire PUMA has adopted the policy, the value of one remains for the rest survey years. The coefficient of interest is $\beta_1$ should be interpreted as the effect of SC on coresidence when the entire PUMA is exposed to SC for a minimum of six months.

Equation 2 includes the vector of individual controls $X_{ipt}$. Specifically, $X_{ipt}$ includes gender, age, age squared, marital status, education in two categories (high school, college graduate and up), race (Black and Hispanic), and a dummy variable for disabled status. $Z_{pt}$ controls for the presence of 287(g) local immigration enforcement programs. The specifications are adjusted using the ACS person-level weights, and standard errors are clustered at the PUMA level.

Additionally, equation 2 controls for PUMA and year fixed effects. PUMA fixed effects $\mu_p$ absorbs differences in observable and unobservable time-invariant characteristics between PUMAs. For example, $\mu_p$ controls for proximity to the U.S.-Mexico border, which is one of the concerns that counties located close to the border selected into program based on observable characteristics. Year fixed effects capture national trends common to all PUMAs, such as national shock that impacts people's decision to live in extended families.

The validity of the research design requires the assumption of no time-varying PUMA-specific factors correlated with the timing of the SC implementation. This was tested directly earlier (Table A.1). In addition, I follow Wolfers (2006) and Neumark et al. (2014) and control for pre-trends by including the vector $\lambda W'_p * t$. In particular, $\lambda W'_p * t$ contains 2000 PUMA-

level unemployment rate, share of elderly, share of working-age citizens, share of working-age noncitizens, share of working age Black, share of working-age college-educated population, share of working-age low-educated population, housing price index interacted with linear time trends.

Recent advances in the difference-in-differences (DiD) literature suggest that when the research setting incorporates staggered timing of treatment and two-way fixed effects, the DiD estimate is likely to be biased (Goodman-Bacon, 2021). The model generates a DiD coefficient which is a weighted average of all possible two-group/two-period DiD estimators. In the case of SC, all PUMAs were eventually treated, so the design involves a comparison of early-treated units with later, and also, early-treated units become a comparison group to the later-treated units. As discussed in the literature, the potential for bias estimate is greatest when a portion of the average treatment effect on the treated (ATT) is estimated using the second grouping. To test whether heterogeneous treatment effects are causing a biased estimate, I implement the Goodman-Bacon decomposition. The results presented in Figure 6 show that 62% of the overall $\beta_1$ for the sample of singles and the outcome variable "coresides with a family or relative" is driven by comparison in which early-treated units are the treatment group and later-treated units are the control group.

To further test the validity of the identification strategy, I estimate an event study model with PUMA and year fixed effects. The equation follows below:

$$Y_{ipt} = \sum_{k \neq -1, k \neq -3} \beta^k (SC_{p,t=k}) + X'_{ipt}\delta + Z'_{pt}\gamma + \mu_p + \delta_t + \varepsilon_{ipt} \tag{3}$$

The main difference between equation 3 and equation 2 is that the SC variable is binary and not continuous. I follow Sun and Abraham (2021) and Borusyak and Jaravel (2017) and include the full set of relative event indicators. In the staggered treatment design with no never-treated units, it is recommended to omit two pre-periods in order to avoid issues of perfect collinearity with the event time dummies, year fixed effects, and PUMA fixed effects. As a result, I drop two indicator variables for the years prior to treatment: $t-1$ and $t-3$.

# 5 Results

## 5.1 Baseline Results

This paper aims to study the impact of SC on the incidence of coresidence among U.S.-born elderly. Table 4 presents the main coefficient of interest $\beta_1$ from equation 2 for the sample of single individuals who are 80-plus years old and not employed. In columns 1-4, the dependent variable is one of four measures of coresidence: coresidence with an adult child, coresidence with an adult child or child-in-law, coresidence with either a family member or relatives (including an adult child or child-in-law), and coresidence with any individuals listed in columns 1-3 or with non-relatives. For each outcome variable, I estimate two specifications, with the first specification controlling for demographics, the presence of local 287(g) programs, and PUMA and year dummies (panel A). The second specification adds PUMA characteristics in 2000 interacted with a linear time trend (panel B). The estimates in all four columns are positive and statistically significant, indicating that Secure Communities increased the likelihood of coresidence of single elderly who are aged 80 and over and not employed. As for effect, SC increased the probability of coresidence with an adult child by over 3.15% and with family members or relatives by 3.7% (relative to the sample mean). This is not surprising that single individuals who are largely represented by widowed and divorced individuals, are more likely in need of caregiving support, and this support might come from an elderly individual's adult child or other relatives.

Panel B of Table 4 additionally controls for the pre-policy PUMA-specific characteristics interacted with linear time trends. The inclusion of these controls did not change the magnitude of estimates and their statistical significance. These results provide further support that the timing of SC adoption is plausibly exogenous.

In Table 5, I report estimates of the effect of SC on the incidence of coresidence for individuals aged 80 and over, not employed, and non-Hispanic white. All estimates are

statistically significant, though coefficients in columns 1 and 2 are imprecise (p-value is larger than 0.05). There is an increase of 3.2% in the likelihood of older individuals to coreside with family members and relatives. Comparing coefficients in Table 5 with estimates in Table 4, one can see that the estimates in Table 4 are larger, showing that the living arrangement of single individuals is more sensitive to immigration enforcement.

Figure 7 presents the event study estimates along with 95% confidence intervals from equation 3 for the sample of single 80-plus years old and not employed (panel A) and for the sample of non-Hispanic white individuals (panel B). The graphs plot the effect of SC on the probability of the elderly individual's coresidence with a family or a relative. As mentioned above, I include the full set of event dummies and treat a year and three years before activation of SC as the reference years. However, since I observe fewer than one-third of PUMAs six years or earlier before and four years or later after SC adoption, I report the estimates within the time window from -6 to +2 in the figures. As the figures show, no differential trends in the elderly individual's coresidence are evident prior to the immigration enforcement. The estimates turn positive in the year of the policy adoption and continue to increase afterward.

## 5.2 Labor Force Participation of Working Age Coresiding Family Members

The results presented above indicate that SC affected the living arrangements of elderly by sharing a home with a family member or relatives who are of working-age (30-65 years old). As discussed earlier, the decision to reside with an elderly person is likely explained by the intention to provide care. At the same time, extending caregiving time or entering a caregiving role may come at the cost of formal work hours, which has a further effect on financial well-being and retirement saving. Recognizing the importance of the relationship between work and informal care, substantial research finds an adverse effect of caregiving on labor market outcomes (Van Houtven et al., 2013; Skira, 2015; Maestas et al., 2020). From

the policy perspective, it is crucial to understand the unintended consequences of SC on coresiding family members' labor decision.

The ideal data to study the effect of SC on the labor supply behavior of caregivers is individual-level longitudinal data with rich information on demographics and economic characteristics. Moreover, the dataset should also contain information on all individuals, including those who do not live with the elderly person. Although the ACS covers a long list of topics, it is limited in several aspects. First, the ACS is a cross-sectional dataset, which means it is impossible to track an individual's employment path and transition to coresidence. Second, in the ACS researchers only observe children residing with the elderly individual in the same household. This limits my ability to construct a research design that would compare the labor market outcomes of children who live with their parents to those who do not live. A few alternative potential panel datasets in the U.S., such as the Panel Study of Income Dynamics (PSID) and the Health and Retirement Survey, suffer from small sample sizes and larger geographic units that are not valid for my research design. Nevertheless, to circumvent these limitations and to provide evidence on relationship between SC and the labor market outcomes of the individuals sharing a home with the elderly person, I estimate the effect of SC on whether the elderly individual lives with a person who is not in the labor force. The results from this exercise are presented in Table 6 for the sample of single (column 1) and non-Hispanic white (column 2) elderly. The SC coefficients are positive and statistically significant, suggesting that the implementation of SC was positively related to the likelihood of single elderly living with a person out of the labor force by 5.4% relative to the mean and for the non-Hispanic white individuals by 5.7%. These results are consistent with the literature finding of informal care's negative effect on caregivers' labor market outcomes (Van Houtven et al., 2013).

My results indicate that the effect of SC on coresidence is driven by individuals who do not work, which is consistent with the hypothesis that the policy drew working-age individuals from the labor force. To provide more evidence that coresidence with an aging

parent is associated with the poor labor market outcome of adult children, I turn to the PSID. Figure A.1 reports the average employment (panel A) and annual hours worked (panel B) of 30-60 years old individuals before and after coresidence with a parent (75-plus-years-old).[9] The takeaway from these figures is that residing with an elderly parent leads to a decrease in employment and labor supply hours. To sum up, the results based on the ACS and the PSID provide suggestive evidence that coresiding with the elderly caused by the immigration deportations has a detrimental labor market outcome on the elderly's children and families.

## 5.3 Robustness Checks

To assess the reliability of the findings, I conduct several other specification checks. First, I assess the sensitivity of the results to the exclusion of PUMAs that adopted SC before 2010. Cox and Miles (2013) show that early adopters were selected into the program based on proximity to the Mexican border, the share of the Hispanic population, and the presence of 287(g) programs. Second, I examine the robustness of the main results to the exclusion of PUMAs located in Arizona state. In 2010 the State of Arizona passed measure SB 1070 - one of the country's most stringent immigration enforcement programs. The positive and significant estimates in Table 7 (columns 1-2) show that the results hold in these two sub-samples, reassuring that the results are not driven by endogenous selection into immigration enforcement programs.

The sample period in these studies overlaps with the timing of the Great Recession. This raises the concern that the main results may be impacted by local area's economic conditions. Following East et al. (2018) I include the quadratic trend in the 2002-2006 change in local housing prices in the PUMA into the main specification.[10] The results prove robust to this modification too (column 3). Lastly, I use the alternative strategy to account for pre-trends in elderly's living arrangements across PUMAs by estimating equation 2 with PUMA-specific

[9] Due to PSID's small sample size, I limited the sample to 75-plus-year-old individuals

[10] The index is reported based on the year 2000. Therefore I estimate the change in housing prices between 2002 and 2006

linear time-trends ($t\delta_p$) instead of PUMA characteristics in 2000 interacted with the linear time trend ($\lambda W_p' * t$). Column 4 of Table 7 show that the estimates stay stable.

Next, I examine the validity of the identification strategy using placebo tests. I reproduce the analysis by focusing on two samples that I believe ex ante should be less sensitive to the immigrants' deportations: married elderly and foreign-born older people. First, looking at the results for foreign-born individuals, Table 8 displays positive estimates of the effect of SC on coresidence with an adult child, and with a family and relatives, but the estimates are not statistically significant (pvalue is above 0.10). This echoes previous literature findings that immigrants (especially those from Mexico and Central America) are more likely to live with family later in life (Wilmoth, 2001). Thus, the implementation of SC was expected to have minimal to no effects on the living arrangements of this group of the population, who are already used to living in multigenerational family households. Second, turning to Table 9, one can see the policy's small and statistically insignificant effect on coresidence of married elderly. Obviously, this makes sense, the old couples may maintain their independence by compensating for one another. This is also consistent with the fact that spouses are often the first in line to help frail or ill partner (Wolff and Kasper, 2006; Pinquart and Sörensen, 2011).

To sum up, a variety of robustness checks support my main results supporting the validity of the identification strategy. In addition, the placebo tests reveal precise null effects, confirming that the positive impact of immigration enforcement on coresidence does not simply seem to arise by chance.

## 5.4 Testing for Sample Selection Bias

As discussed earlier, the sample of elderly does not include individuals residing in nursing homes. Although the ACS surveys institutionalized people, there are two drawbacks to this data. First, the ACS does not specify whether people living in group quarters are residing in nursing homes or in other types of living arrangements, such as correctional facilities.

Second, the ACS started to sample group quarters only in 2006. Since I want to have a more extended pre-treatment period for my analysis, I keep the sample from 2005 and omit individuals living in group quarters. This approach might raise concerns about sample selection bias and measurement error. Specifically, one might be concerned that estimates reported in Table 4 and Table 5 are upward-biased if the immigration enforcement caused elderly to live in nursing homes, but the coresidence rate was not affected. To rule out this possibility, I estimate the equation 2 for the period 2006-2014 and include people who reside in group quarters. The results from this exercise for the outcome variable "coresides with a family/relatives" are presented in Table 10 for the sample of individuals aged 80 and over and not employed (column 1); and for the single individuals, aged 80 and up and not employed (column 2). The estimates on the effect of SC on the likelihood of coresidence show positive and significant coefficients in both columns. Additionally, I also report results on the impact of SC on institutionalization. Living in a nursing home could be a substitute for hiring a home health aide. I find that SC had statistically insignificant effects on the incidence of institutionalization (Table 11). The results hold even after restricting the sample to single elderly (Table 11, column 2).

# 6 Mechanism

## 6.1 Impact of Secure Communities on Private Household Industry

Thus far, I have documented that the intensification of SC contributed to the increasing likelihood of elderly's coresidence, where an elderly person lives with someone rather than living alone or with a spouse. This finding also appears robust to a number of identification tests. One potential explanation for this is declined labor supply and, thus, increased cost of services in the private household industry. As SC increases the risk of deportation and raises apprehension, the labor supply of undocumented workers in the private household industry is expected to decline. By basic microeconomic theory, the reduced labor supply should

push wages up, thus increasing the price of services. As the services become less affordable, elderly who are in need of caregiving and household maintenance support may start looking for alternative options. They might consider living with their children or other relatives who can help them with their daily routine.

To investigate this hypothesis, I measure the effect of SC on the labor market of likely undocumented immigrants in the private household industry. I follow a similar empirical strategy to the one in East and Velásquez (2022). They study the impact of SC on the labor market outcomes of high-skilled women with young children. Their findings suggest that the declined labor supply of these women is driven by the reduced labor supply of undocumented female workers in two household service occupations: maids, housekeepers, and childcare workers. This paper finds that the incidence of coresidence among elderly people has increased in response to SC. This leads to the question: which channel drives this result? As argued in the background, a complex spectrum of support is needed to support aging in place. To that end, I examine the labor market outcome of workers in the private household industry. I start by quantifying the impact of SC on the hours worked by likely undocumented immigrants hired by this industry. Like other researchers, I define undocumented immigrants as those with less than a high-school education and foreign-born. To better target undocumented status, I also quantify the impact of SC on low-educated Hispanic foreign-born workers (Hoefer et al., 2012). I estimate the difference-in-differences model of the following form:

$$Y_{pt} = \beta_1 SC_{pt} + X'_{pt}\delta + \mu_p + \theta_t + \lambda W'_p * t + \varepsilon_{ipt} \tag{4}$$

The difference between equation 4 and equation 2 is that the dependent variable is aggregated to the PUMA level. To construct $Y_{pt}$, I sum the total hours worked by undocumented immigrants of working-age (18-64) in the private household sector in PUMA $p$ and year $t$. Then I divide the PUMA by year total hours of work by the total population in PUMA and year and then multiply by 100. Constructing analysis at the PUMA level rather than at the

individual level helps assess SC's effect on changes in the private household market. The vector $X'_{pt}$ includes the PUMA-level Bartik style measures of labor demand that are based on five working-age groups: the sample of immigrants, the sample of low-skilled individuals, the sample of high-skilled individuals, the sample of foreign-born adults, and the sample of low-skilled foreign-born people. $X'_{pt}$ also includes controls for the presence of local 287(g) programs in PUMA.

Table 12 presents the results on the effect of SC on the total hours worked for the sample of low-educated foreign-born (column 1) and low-educated Hispanic foreign-born individuals (column 2). There are negative and significant effects across both samples. The results indicate that SC reduced hours worked by low-skilled foreign-born by about 0.34 hours and by low-skilled Hispanic foreign-born workers by 0.29 hours.

The estimates presented in Table 12 are unbiased under a standard parallel trends assumption: that the labor supply of likely undocumented immigrants in the private household industry should have evolved similarly across PUMAs in the absence of SC. I test the parallel trend assumption with an event-study specification. I run the following model:

$$Y_{pt} = \sum_{k \neq -1, k \neq -3} \beta_k (SC_{p,t=k}) + \mu_p + \theta_t + \varepsilon_{pt} \tag{5}$$

where again $Y_{pt}$ is total hours worked in PUMA $p$, and year $t$, $\mu_p$ and $\theta_t$ are PUMA and year fixed effects, $SC_p$ is the year when SC was first active in PUMA, and $SC_{p,t=k}$ is an indicator for being k years far from the policy activation. The specification includes the full set of relative time indicator variables, excluding $t = -1$ and $t = -3$ to avoid multicollinearity.

Figure 8 reports the $\beta_k$ coefficients and their standard errors. I report the event studies estimates for the labor supply of low-skilled foreign-born in Panel A and the same estimates for low-skilled Hispanic foreign-born in Panel B. As discussed earlier, the specification includes all event dummies, but I only report estimates from six years before and two years after SC enactment. Figure 8 suggests no pre-trends and evidence of a significant decrease in labor supply following SC.

Given the reduction of immigrants' labor supply in the private household sector, we expect the wages of workers in this industry to increase. To find out whether SC impacted wages, I estimate equation 2 with dependent variable real hourly earnings of worker $i$ in the private household industry, living in PUMA $p$ and year $t$. In Table 13, I present the results of the relation between SC and wages of workers in the private household sector. I find positive point estimates for the sample of all workers in this sector (column 1) and also for the low-skilled workers (column 2), both significant at the 10 percent level. Column 3 further restricts the sample to workers aged 25-60, who are known to have a high labor force participation rate. Restricting the sample to this age group increases the point estimate and also makes it more precise (pvalue=0.04). I find a significant increase in hourly earnings of 11.5% among low-skilled workers aged 25-60. My results suggest that 1% decline in the working hours of likely undocumented workers in the private households leads to a 0.83% increase in hourly wages of the low-educated workforce in this industry (11.5/13.88). These results are closely comparable to the finding of prior literature. East and Velásquez (2022) suggest that a 1% decrease in the working hours of likely undocumented females leads to roughly 1% increase in hourly wages of low-educated females working in household services. Similarly, Cortes (2008) shows that a 1% increase in the low-skilled immigrant labor force decreases the price of immigrant-intensive services, including domestic services by 0.2%.

Next, I test the parallel pre-trend assumption. Figure 9 depicts estimates of event study corresponding to the results in column 3 of Table 13. Supporting the results of difference-in-differences model, the event study estimates reveal no differential pre-trends before SC and a significant treatment effect.

# 7 Conclusion

The necessity of Secure Communities (SC) was justified as a tool to reduce crime and make communities safer. However, its implementation led to a number of unintended consequences.

In this paper, I look at one implication for U.S.-born individuals – namely, SC's impact on the structure of families with an elderly relative. Exploiting spatial and temporal variation introduced by SC along with the person-level data from the American Community Survey, I estimate difference-in-differences and event study models with location and time fixed effects. I find that activation of the policy has raised the incidence of U.S-born elderly living with their children, families, or relatives. The effect of the policy is strong on single elderly, who are largely represented by widowed persons. Elderly people who are aged 80 and older have a great demand for a wide range of home-based services. The prevalence of an immigrant workforce in the private household sector allows families with an elderly individual to outsource household services at affordable costs. The negative shock on the labor supply of immigrants caused by SC disturbed the life routines of people who rely on immigrants' services as they are not able to maintain their households independently or do basic activities on their own. The empirical analysis in this paper supports this hypothesis.

To provide support that changes in the private household sector are an important mechanism behind the coresidence of elderly, I estimate the effect of the policy on the labor supply of undocumented immigrants in this sector. I find that SC reduced the total hours of work supplied by undocumented immigrant workers and thus increased the wages of low-skilled workers in this sector. Expensive household services may affect decisions over living arrangements. Coresidence allows families to save on household and caregiving services. However, coresidence also has further economic consequences on adult children of the elderly, reducing their labor force participation due to time spent on informal care. Given the growing demand for caregiving services caused by increasing life expectancy, the findings of this paper call for further research into the unintended consequences of immigration enforcement policies on elderly Americans and their families.

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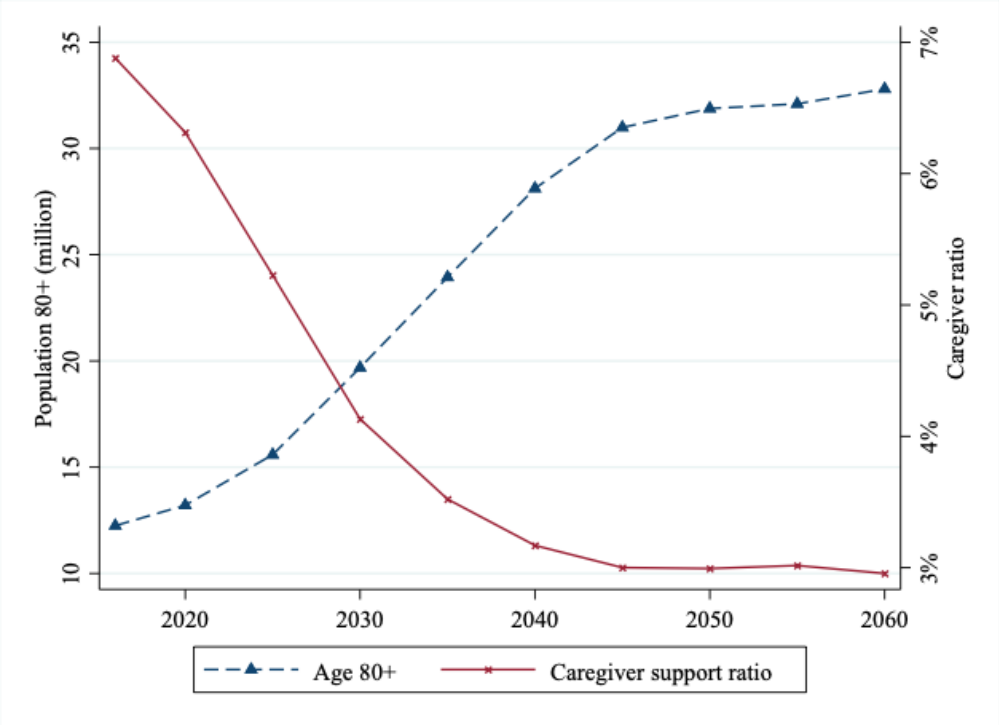
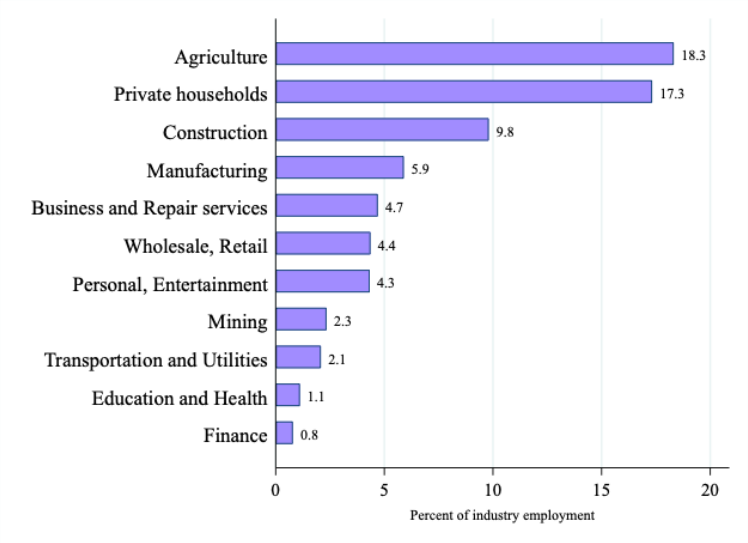
# 8 Figures

Figure 1: Projected growth of elderly population and declining caregiver support ratio



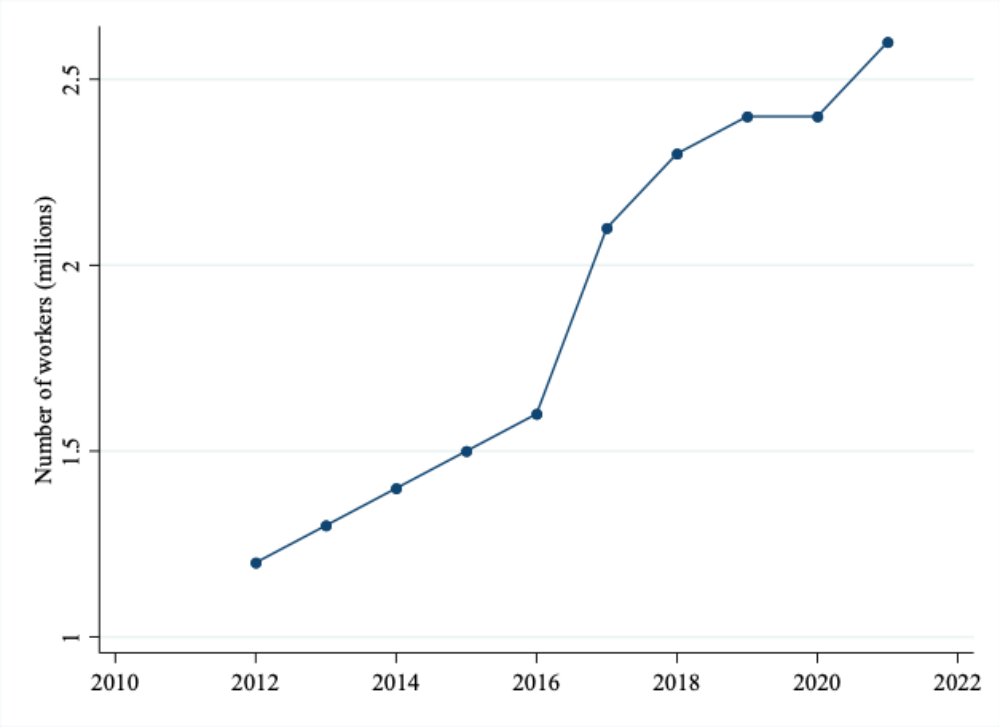

***Notes:*** *The figure plots projection of 80+ population (navy dashed line), and projection of caregiver support ratio (solid red line). The caregiver support ratio is defined by the population aged 45-64 divided by the population aged 80 and over.* ***Data source:*** *U.S. Census 2017 National Population Projections Tables. https://www.census.gov/data/tables/2017/demo/popproj/2017-summary-tables.html*

Figure 2: Percent of industry workers that are likely undocumented immigrants, 2005



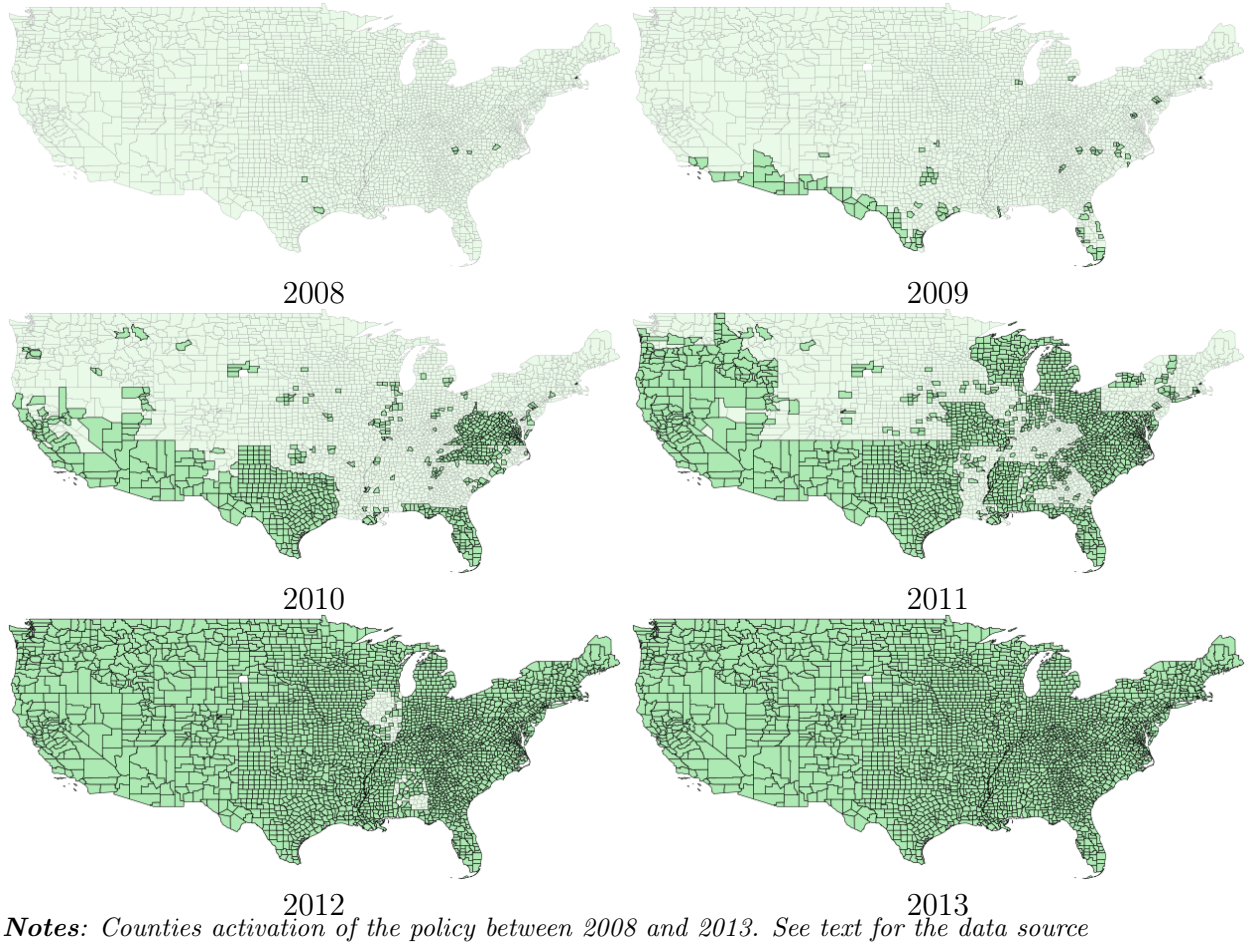

***Notes:*** *ACS 2005. The graph plots percentage of likely undocumented immigrants by industry. Undocumented immigrants are defined as low-educated (less than high-school) and foreign-born. Results are weighted using ACS person weight.*

Figure 3: Employment of home care workers



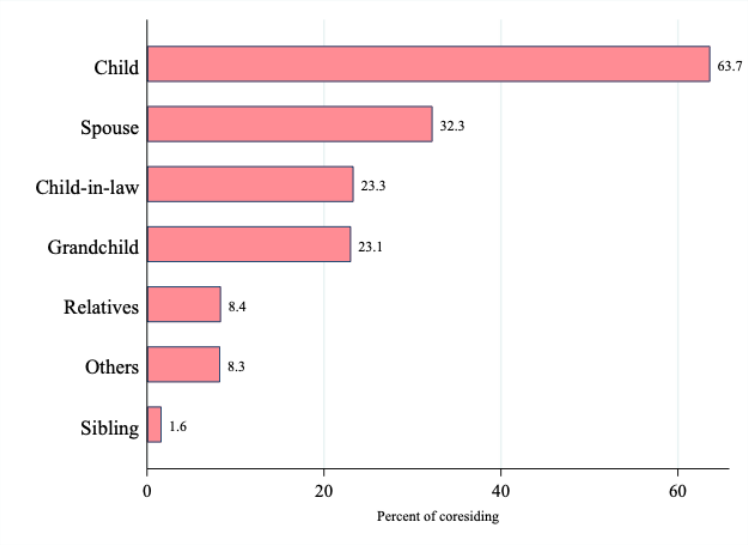

***Notes:****The figure plots employment of home care workers between 2012-2021. Home care workers include all direct care workers (personal care aides, home health aides, and nursing assistants. Home care workers include direct care workers who work in two industries: Home Health Care Services and Services for the Elderly and People with Disabilities. Data is derived from http://www.phinational.org/policy-research/workforce-data-center/.*

Figure 4: Secure Communities activation between 2008 and 2013




***Notes**: Counties activation of the policy between 2008 and 2013. See text for the data source*

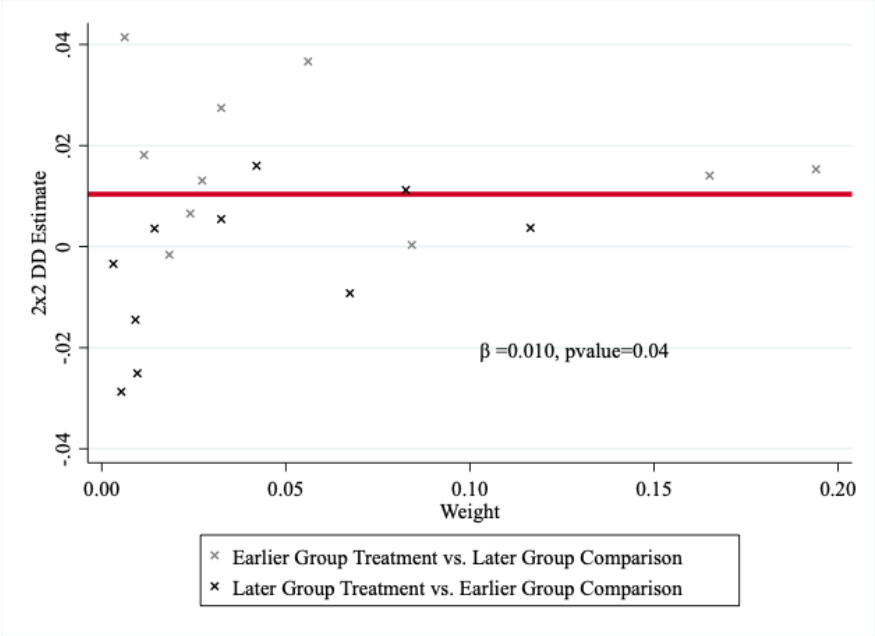
Figure 5: Household member's relationship to the elderly




***Notes:*** *ACS 2005-2014. Sample is restricted to the households with at least one elderly. The elderly living alone is excluded from analysis. The youngest household member is 16 years old.*

Figure 6: Goodman-Bacon Decomposition Diagnostic

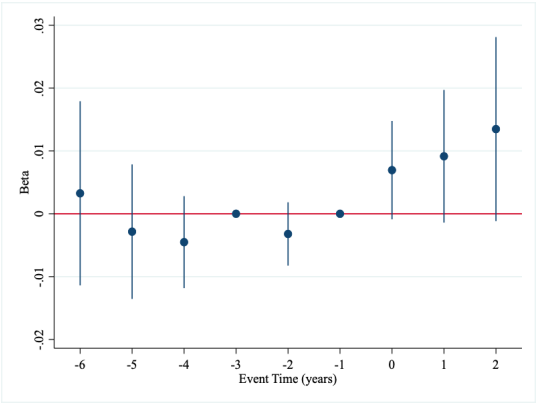
| | Avg DD | Weight |
|---|---|---|
| Earlier vs Later Treated | 0.015 | 0.618 |
| Later vs Earlier Treated | 0.003 | 0.382 |



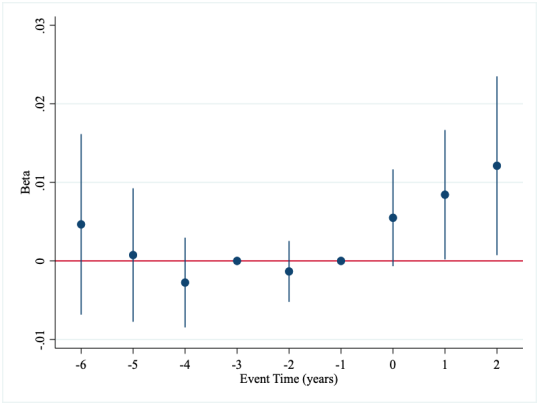

***Notes:*** *ACS 2005-2014. Sample is restricted to the single elderly individuals. The table decomposes oveall DD estimate and total weights contributed by earlier vs. later treated comparisons and later vs.earlier treated comparisons. Figure visually portrays 2x2 estimates for earlier vs late, and late vs earlier treated PUMAs.*

Figure 7: Event-study estimates of SC effect on probability of coresidence of elderly individuals aged 80 and over

(a) Single: coresides with a family/relative



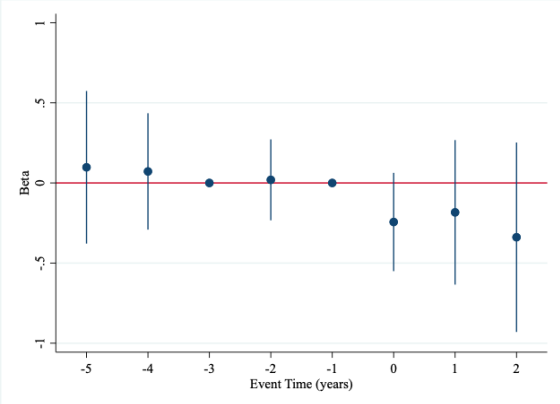

(b) White: coresides with a family/relative



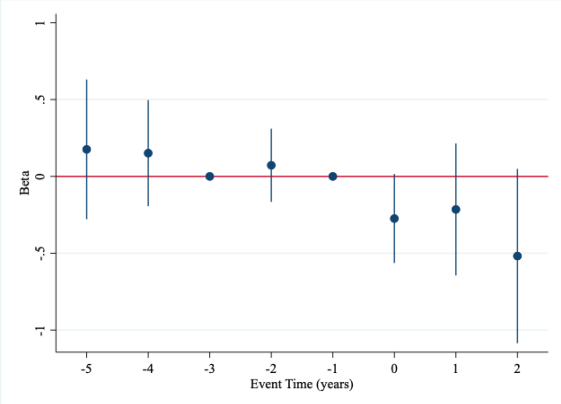

*ACS 2005-2014. The event studies model is estimated for all available years and dropped two pre-period to avoid multicollinearity with the event dummies, year and PUMA fixed effects (Schmidheiny and Siegloch, 2020; Burusyak et al 2022). I report estimates from period -6 to +2, because I observe only 368 PUMAs in the event time -7, and 324 PUMAs in the event time +4. The regressions include PUMA fixed effect, year fixed effect, vector of demographic controls, and standard errors are clustered at the PUMA level. Results are weighted using ACS person weight.*

Figure 8: Event-study estimates of SC effect on labor supply of likely undocumented immigrants in private households sector

(a) Low-skilled foreign-born

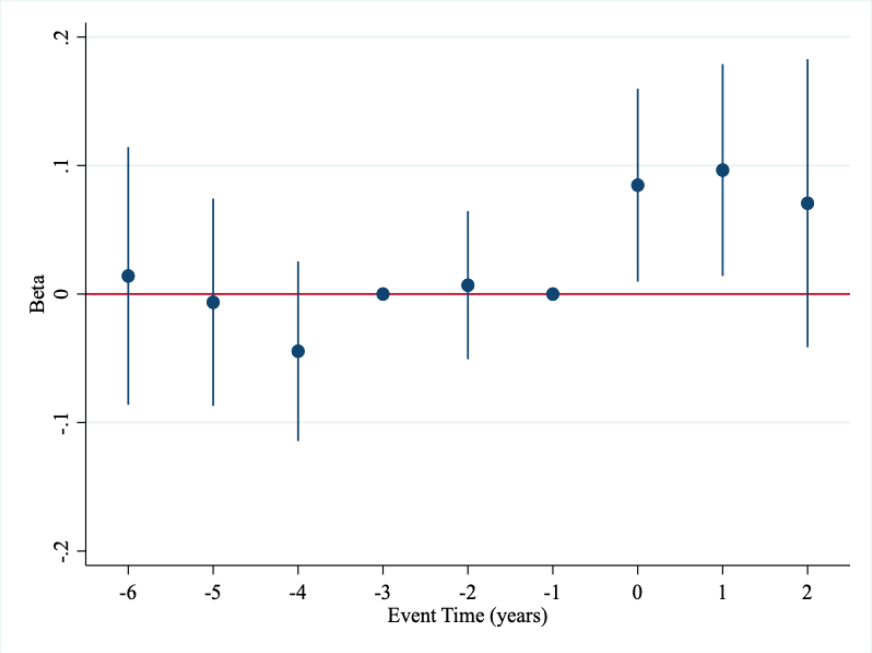



(b) Low-skilled Hispanic foreign-born




*Data for 2005-2014. The figure presents event-studies estimates for SC program. The event studies regression is estimated for all available years, and I use t=-1 and t=-3 as base years. The yearly hours worked of all low-skilled foreign-born Hispanic workers are divided by PUMA population and multiplied by 100. The regression is weighted using PUMA 2000 population. The regressions includes PUMA fixed effect and year fixed effects.*

Figure 9: Event-study estimates of SC effect on hourly wages of low-skilled workers




*Data for 2005-2014. The figure presents event-studies estimates on the effect SC program from a regression of the natural log of real hourly wages of individuals in private households sectors. The low-skilled labor force is all low-skilled (high school education or less) working-age (20- 64) individuals who are in the labor force, not in school, and do not live in group quarters. The event studies regression is estimated for all available years, and I use t=-1 and t=-3 as base years. The regression is weighted using survey person weight. The regression also includes PUMA fixed effect and year fixed effects.*

# 9 Tables

Table 1: Occupations of low-educated workers in private households industry. ACS 2005

| | U.S. born (%) | Likely undocumented immigrants (%) |
|---|---|---|
| Maids and housekeeping cleaners | 44.04 | 78.6 |
| Childcare workers | 33.85 | 9.86 |
| Personal care workers | 12.86 | 6.20 |
| Nursing, psychiatric, and home health aides | 2.00 | 1.12 |
| Laborers (except construction) | 1.14 | 1.95 |
| Other | 6.11 | 2.27 |
| Direct care workers | 14.86 | 7.32 |

***Notes:*** *Data source: ACS 2005. Column 1 reports percentage of low-educated (less than high-school education) U.S. born workers employed in occupations in private household industry. Column 2 reports same outcome for likely undocumented immigrants who are foreign born and with less than high-school education. Direct care workers are Nursing, psychiatric, and home health aid, and Personal care workers (Zallman et al., 2019). The outcomes are weighted using ACS indivudual weight.*

Table 2: Summary statistics for U.S.-born elderly individuals

| | Single | | Non-Hispanic White | |
|---|---|---|---|---|
| | Mean | SD | Mean | SD |
| Age | 85.677 | 4.325 | 85.014 | 4.137 |
| Female | 0.770 | 0.421 | 0.625 | 0.484 |
| Widowed | 0.813 | 0.390 | 0.515 | 0.500 |
| Married | - | - | 0.387 | 0.487 |
| Never married | 0.055 | 0.228 | 0.033 | 0.179 |
| Divorced | 0.101 | 0.301 | 0.061 | 0.239 |
| Disable | 0.631 | 0.482 | 0.582 | 0.493 |
| Difficulty to live independent | 0.394 | 0.489 | 0.329 | 0.470 |
| Less than high school | 0.263 | 0.440 | 0.210 | 0.407 |
| High school only | 0.470 | 0.499 | 0.473 | 0.499 |
| College and more | 0.139 | 0.346 | 0.179 | 0.383 |
| Black | 0.093 | 0.290 | - | - |
| White | 0.882 | 0.322 | 1.000 | 0.00 |
| Hispanic | 0.031 | 0.174 | - | - |
| Employed | 0.029 | 0.168 | 0.035 | 0.185 |
| *Coresides with:* | | | | |
| Alone | 0.685 | 0.464 | 0.443 | 0.497 |
| Only spouse | - | - | 0.335 | 0.472 |
| Child | 0.234 | 0.423 | 0.172 | 0.377 |
| Coreside (any, except spouse) | 0.274 | 0.446 | 0.19 | 0.391 |
| Observations | 654255 | | 961540 | |

***Notes:*** *Data are from ACS 2005-2014. The sample includes U.S.-born individuals aged 80 and up, and not residing in group quarters. The results are weighted using ACS individual-level weights.*

Table 3: Relationship between coresidence and informal care of 80-plus years old individuals in the HRS

| | Coreside | Not coreside |
|---|---|---|
| At least one hour of care in the past month | 0.47 | 0.16 |
| At least 20 hours of care in the past month | 0.42 | 0.10 |
| Mean hours of care in the past month | 117 | 13 |
| Observations | 12740 | |

***Notes:*** *Data are from the Health and Retirement Survey 1994-2010. The sample includes unmarried individuals aged 80 and over.*

Table 4: Effect of SC on the probability of coresidence. Age 80+ and single

| 80+ elderly coresides with: | An adult child | + A child-in-law | +Family/relatives | + Non-relatives |
|---|---|---|---|---|
| *A. Demographics, controls for 287(g) program, PUMA FE, Year FE* | | | | |
| Secure Communities | 0.008** | 0.008** | 0.010*** | 0.009** |
| | (0.004) | (0.004) | (0.003) | (0.003) |
| Mean Y | 0.24 | 0.24 | 0.27 | 0.28 |
| P-Value SC | 0.03 | 0.03 | 0.00 | 0.01 |
| % Effect | 3.15 | 3.11 | 3.76 | 3.11 |
| N | 641971 | 641971 | 641971 | 641971 |
| *B. Add PUMA characteristics trends* | | | | |
| Secure Communities | 0.008** | 0.008** | 0.010*** | 0.009** |
| | (0.004) | (0.004) | (0.003) | (0.003) |
| Mean Y | 0.24 | 0.24 | 0.27 | 0.28 |
| P-Value SC | 0.03 | 0.03 | 0.00 | 0.01 |
| % Effect | 3.13 | 3.08 | 3.73 | 3.07 |
| N | 641971 | 641971 | 641971 | 641971 |

***Notes:*** *All regressions include year fixed effect, PUMA fixed effect, controls for 287(g) programs, Demographic controls are age, age squared, female, widower, disable, high school education, college and more education, Black and Hispanic. Panel B additionally controls for PUMA 2000 characteristics interacted with linear time trend. PUMA 2000 characteristics include unemployment rate, share of elderly, share of working age citizens, share of working age noncitizens, share of working age Black, share of working age college educated population, share of working age low-educated population, housing price index.*

Table 5: Effect of SC on the probability of coresidence. Age 80+ and Non-Hispanic White

| 80+ elderly coresides with: | An adult child | + A child-in-law | +Family/relatives | + Non-relatives |
|---|---|---|---|---|
| *Demographics, controls for 287(g) program, PUMA FE, Year FE* | | | | |
| SC | 0.005* | 0.004* | 0.006** | 0.006** |
| | (0.002) | (0.002) | (0.003) | (0.003) |
| Mean Y | 0.18 | 0.18 | 0.19 | 0.20 |
| P-Value SC | 0.07 | 0.07 | 0.01 | 0.02 |
| % Effect | 2.55 | 2.50 | 3.21 | 3.04 |
| N | 945546 | 945546 | 945546 | 945546 |
| *Add PUMA characteristics trends* | | | | |
| Secure Communities | 0.004* | 0.004* | 0.006** | 0.006** |
| | (0.002) | (0.002) | (0.003) | (0.003) |
| Mean Y | 0.18 | 0.18 | 0.19 | 0.20 |
| P-Value SC | 0.08 | 0.08 | 0.02 | 0.02 |
| % Effect | 2.49 | 2.43 | 3.14 | 2.97 |
| N | 945546 | 945546 | 945546 | 945546 |

***Notes:*** *All regressions include year fixed effect, PUMA fixed effect, and controls for presence of 287(g) local programs. Demographic controls are age, age squared, female, widower, disable, high school education, college and more education. Panel B additionally controls for PUMA 2000 characteristics interacted with linear time trend. PUMA 2000 characteristics include unemployment rate, share of elderly, share of working age citizens, share of working age noncitizens, share of working age Black, share of working age college educated population, share of working age low-educated population, housing price index.*

Table 6: Effect of SC on probability of coresidence with a person who is not in labor force

| | Single | White |
|---|---|---|
| SC | 0.005** | 0.004** |
| | (0.002) | (0.002) |
| Mean Y | 0.09 | 0.06 |
| P-Value SC | 0.03 | 0.03 |
| % Effect | 5.36 | 5.69 |
| N | 641971 | 945546 |

***Notes:*** *Data: ACS 2005-2014. The dependent variable is whether an 80-plus years old elderly coresides with a person who is within age range of 30-62 and the person is not in labor force. The regressions include year fixed effect, PUMA fixed effect, the elderly's demographic controls (age, age squared, female, widower, disable, high school education, college and more education, Black and Hispanic (only for column 1)). Column 1 presents the results for single elderly individuals. Column 2 estimates the effect on white elderly individuals. Results are weighted using ACS person weight and standard errors are clustered at PUMA level.*

Table 7: Robustness check: Dependent variable is elderly coresides with a family or relative(s). Age 80+ and single

| | Drop early adopt | Drop Arizona | Quadratic trend HPI | Linear time trend |
|---|---|---|---|---|
| SC | 0.008** | 0.010*** | 0.009*** | 0.009** |
| | (0.004) | (0.003) | (0.004) | (0.004) |
| Mean Y | 0.27 | 0.27 | 0.27 | 0.27 |
| P-Value SC | 0.03 | 0.00 | 0.01 | 0.02 |
| % Effect | 2.95 | 3.82 | 3.44 | 3.17 |
| N | 634816 | 630012 | 641971 | 641971 |

***Notes:*** *Data: ACS 2005-2014. All regressions include year fixed effect, PUMA fixed effect, controls for 287(g) programs, individual controls (age, age squared, female, widower, disable, high school education, college and more education, Black and Hispanic). Column 1 excludes PUMAs activated policy in 2008-2009. Column 2 excludes PUMAs located in Arizona. Column 3 adds quadratic trends multiplied by the pre-period change in housing prices. Results are weighted using ACS person weight and standard errors are clustered at PUMA level.*

Table 8: Effect of SC on the probability of coresidence. Foreign-born and single

| | Age 75+ | | Age 80+ | |
|---|---|---|---|---|
| | An adult child | +Family and relatives | An adult child | +Family and relatives |
| SC | 0.006 | 0.008 | 0.002 | 0.003 |
| | (0.008) | (0.009) | (0.010) | (0.011) |
| Mean Y | 0.44 | 0.49 | 0.44 | 0.49 |
| P-Value SC | 0.47 | 0.38 | 0.85 | 0.82 |
| % Effect | 1.39 | 1.60 | 0.43 | 0.51 |
| N | 114881 | 114881 | 74176 | 74176 |

***Notes:*** *The sample is limited to foreign-born 75+ and 80+ years old individuals. All regressions include year fixed effect, PUMA fixed effect, controls for 287(g) programs, individual controls (age, age squared, female, married, widower, disable, high school education, college and more education, Black and Hispanic), and controls for PUMA 2000 characteristics interacted with linear time trend. PUMA 2000 characteristics include unemployment rate, share of elderly, share of working age citizens, share of working age noncitizens, share of working age Black, share of working age college educated population, share of working age low-educated population, housing price index. Results are weighted using ACS person weight and standard errors are clustered at PUMA level.*

Table 9: Effect of SC on the probability of coresidence. U.S.-born married

| | An adult child | +Family and relatives | An adult child | +Family and relatives |
|---|---|---|---|---|
| SC | -0.001 | -0.001 | 0.000 | 0.001 |
| | (0.004) | (0.004) | (0.004) | (0.004) |
| Mean Y | 0.10 | 0.10 | 0.10 | 0.11 |
| P-Value SC | 0.89 | 0.86 | 0.96 | 0.87 |
| % Effect | -0.56 | -0.69 | 0.21 | 0.64 |
| N | 385778 | 385778 | 385778 | 385778 |

***Notes:*** *The sample is limited to 80+ years old U.S.-born married individuals who are not employed. All regressions include year fixed effect, PUMA fixed effect, controls for 287(g) programs, individual controls (age, age squared, female, disable, high school education, college and more education, Black and Hispanic), and controls for PUMA 2000 characteristics interacted with linear time trend. PUMA 2000 characteristics include unemployment rate, share of elderly, share of working age citizens, share of working age noncitizens, share of working age Black, share of working age college educated population, share of working age low-educated population, housing price index. Results are weighted using ACS person weight and standard errors are clustered at PUMA level.*

Table 10: Effect of SC on the probability of coresidence (including individuals who reside in group quarters).

| | All | Single |
|---|---|---|
| *A. Demographics, PUMA controls, PUMA FE, Year FE* | | |
| Secure Communities | 0.004* | 0.007** |
| | (0.002) | (0.003) |
| Mean Y | 0.19 | 0.23 |
| P-Value SC | 0.08 | 0.04 |
| % Effect | 0.42 | 0.67 |
| N | 1050058 | 699522 |

***Notes:*** *ACS 2006-2014. The sample includes individuals who reside in communities as well as in group quarters. All regressions include year fixed effect, PUMA fixed effect, controls for 287(g) programs. Demographic controls are age, age squared, female, married (column 1), widower (column 1 and column 2), disable, high school education, college and more education, Black and Hispanic.*

Table 11: Effect of SC on the probability of living in nursing home. Age 80+

| | All | Single |
|---|---|---|
| *A. Demographics, PUMA controls, PUMA FE, Year FE* | | |
| Secure Communities | 0.002 | 0.003 |
| | (0.002) | (0.002) |
| Mean Y | 0.09 | 0.14 |
| P-Value SC | 0.17 | 0.24 |
| N | 1107377 | 724866 |
| *B. Add PUMA time trend* | | |
| Secure Communities | 0.002 | 0.003 |
| | (0.002) | (0.002) |
| Mean Y | 0.09 | 0.14 |
| P-Value SC | 0.16 | 0.22 |
| N | 1107377 | 724866 |

***Notes:*** *ACS 2006-2014. The outcome variable is binary and measures whether an individual lives in nursing home. All regressions include year fixed effect, PUMA fixed effect, controls for 287(g) programs, PUMA unemployment rate, and housing price index. Demographic controls are age, age squared, female, married (column 1), widower (column 1), disable, high school education, college and more education, Black and Hispanic. Panel B additionally controls for PUMA 2000 characteristics interacted with linear time trend. PUMA 2000 characteristics include unemployment rate, share of elderly, share of working age citizens, share of working age noncitizens, share of working age Black, share of working age college educated population, share of working age low-educated population, housing price index.*

Table 12: Effect of SC on labor supply of undocumented workers in private households sector

| | LS Foreign-born | LS Hispanic Foreign-born |
|---|---|---|
| *(Total # Work in Household Services / Total PUMA Population) *100* | | |
| Secure Communities | -0.339** | -0.287* |
| | (0.161) | (0.148) |
| Mean Y | 2.44 | 2.13 |
| P-Value SC | 0.04 | 0.05 |
| % Effect | -13.88 | -13.48 |
| Observations | 10765 | 10765 |

***Notes:*** *Data: ACS 2005-2014. The sample includes individuals aged 18-64, who are foreign-born and with less than a high school education, and also report their industry of work as private household. The dependent variable is total hours of work by low-skilled foreign-born (column 1) and low-skilled Hispanic foreign-born in the private household by PUMA and by year. The outcomes are scaled by contemporaneous PUMA population and multiplied by 100. All regressions include year fixed effect, PUMA fixed effect, controls for 287(g) programs, and Bartik measures of labor demand. Results are weighted using PUMA population in 2000, and standard errors are clustered at PUMA level.*

Table 13: Effect of SC on hourly wages of workers in private household sector

| | All | Low-skilled workers | Low-skilled workers aged 25-60 |
|---|---|---|---|
| *Log hourly wages* | | | |
| SC | 0.050* | 0.067* | 0.115** |
| | (0.030) | (0.039) | (0.055) |
| Mean Y | 2.39 | 2.33 | 2.25 |
| P-Value SC | 0.10 | 0.08 | 0.04 |
| N | 24001 | 15144 | 4985 |

***Notes:*** *Data: ACS 2005-2014. The sample includes individuals aged 20-64, who report their industry of work as private household. The dependent variable is real hourly earnings of all workers (column 1), workers with high school education and less (column 2), and workers with a high-school degree or less, and aged 25-60 (column 3). All regressions include year fixed effect, PUMA fixed effect, demographic controls (age, age squared, marital status, Hispanic, dummy for having a child (children), dummy for female, and education), controls for 287(g) programs, and Bartik measures of labor demand. Results are weighted using ACS person-level weight, and standard errors are clustered at PUMA level.*

# Appendix A Additional Results

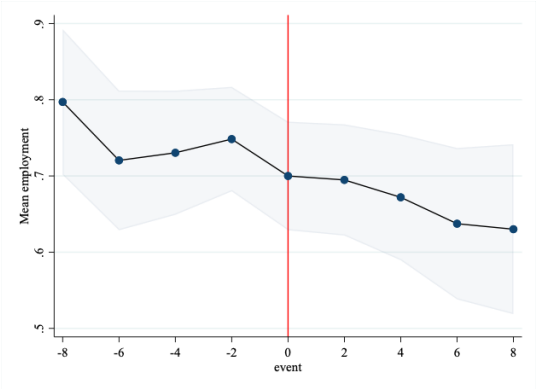
Table A.1: Correlation of 2000-2005 changes in PUMA characteristics and SC start date

| | Mean change in characteristics | Standard deviation | Estimate |
|---|---|---|---|
| Change % with college | 0.014 | 0.0209 | 1.971 |
| | | | (2.297) |
| Change % women with college | 0.0086 | 0.0139 | -0.807 |
| | | | (3.382) |
| Change % with children | -0.0209 | 0.0293 | -0.886 |
| | | | (1.007) |
| Change % citizen | 0.0063 | 0.0372 | -0.999 |
| | | | (1.004) |
| Change % non-citizen | 0.0084 | 0.0251 | -4.665*** |
| | | | (1.399) |
| Change % elderly living with a child | -0.0047 | 0.0737 | -0.536 |
| | | | (0.838) |
| Change % elderly people | 0.0043 | 0.008 | 14.47 |
| | | | (10.346) |
| Change % U.S.-born elderly | 0.0036 | 0.0073 | -10.618 |
| | | | (10.818) |
| Change % U.S.-born elderly living with a child | -0.0042 | 0.0684 | 0.680 |
| | | | (0.913) |
| Change housing prices | 34.82 | 25.5 | -0.009*** |
| | | | (0.001) |
| Change unemployment rate | 1.087 | 1.1167 | -0.003 |
| | | | (0.031) |
| Change % labor force participation | 0.7644 | 3.016 | -0.003 |
| | | | (0.010) |
| Mean Y | | | 2010.99 |
| R-Squared | | | 0.07 |
| N | | | 1077 |

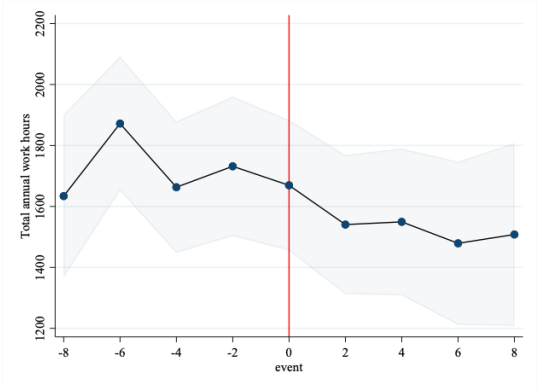
***Notes:*** *Data: ACS 2005, 2000 Census, Bureau of Labor Statistics (county unemployment rate), Federal Housing Finance Agency (housing price index). I report $\beta$ coefficients from the regression $SCyear_p = \alpha + \beta \Delta W'_p + \varepsilon_p$. $SCyear_p$ is the first year SC was activated in PUMA p. $\Delta W_p$ is 2000-2005 change in PUMA-level characteristics.*

Figure A.1: Labor market outcomes following caregiving

(a) Employment




(b) Annual hours worked




*Data from PSID for 2001-2019. The sample is restricted to individuals who are 30-60 years old and whose parents are aged 75 and up. The event zero indicates the year when an individual has started to reside with an elderly parent. The sample is restricted to the individuals with at least 2 years of pre and post observations. The graph plots the average outcomes reported in graphs (a) and (b).*